LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 16

2023

Bate Stamp Numbers
01162143 – 01164142

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2023

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

VOLUME 16

2023

A.	Title:	(Cont'd) Report—**cont'd** Appendix D, **File 1**—Level IV DoD, Draft Final Second Annual Remedial Action Operation Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, March 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	March 17, 2023
	Bate Stamp:	01162143 – 01164142

The above Level IV DoD labs were omitted in the previous Admin Record, so that is why they are out of date sequence and added to this April thru June 2023 Admin Record.

ALS Houston, US Date: 10-May-21

Sample Receipt Checklist

Work Order ID: HS21041132 **Date/Time Received:** 21-Apr-2021 10:40

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

Completed By:	/S/ Nilesh D. Ranchod	21-Apr-2021 18:34	**Reviewed by:**	/S/ RJ Modashia	22-Apr-2021 10:07
	eSignature	Date/Time		eSignature	Date/Time

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

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

Temperature(s)/Thermometer(s):	2.1°C UC/C	IR31
Cooler(s)/Kit(s):	46335	
Date/Time sample(s) sent to storage:	04/21/2021 20:00	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. 501032

Job: **LHAAP 16 April 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)
16EW02-210419	WG	4/19/21/0735		4	X					X					
16EW04-210419	WG	4/19/21/0820		4	X					X					
16EW08-210419	WG	4/19/21/0905		4	X					X					
16WW13-210419	WG	4/19/21/0950		4	X					X					
16WW42-210419	WG	4/19/21/1030		9	X	X	X			X					
16RW05-210419	WG	4/19/21/1115		4	X	[redacted] SB	[redacted] SB			X					
16RW06-210419	WG	4/19/21/1200		4	X					X					
16RW07-210419	WG	4/19/21/1240		4	X					X					

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	4/20/21	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
[illegible]	4/21/21	[illegible]							

Remarks:
[illegible]

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

Aptim Environmental & Infrastructure, Inc.
Longhorn Army Ammunition Plant LHAAP 16 April 202

HS21041132

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

CUSTODY SEAL

Date: 4/20/12 Time: 1430
Name: Scott Brasington
Company: Shell

Seal Broken By:

Date:

10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530 - 5856
REF: LHAAP - 80 77443 - RJ
RMA:

NC
04/21/12

FedEx Express

FedEx
TRK# 0221 9473 0841 7400

WED - 21 APR AA
PRIORITY OVERNIGHT

77090

May 10, 2021 Service Request No:E2100460

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

Laboratory Results for: HS21041132

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 21, 2021
For your reference, these analyses have been assigned our service request number **E2100460.**

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.:**	E2100460
Project:	HS21041132	**Date Received:**	04/21/21
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

Eight samples were received for analysis at ALS Environmental in Houston on 04/21/21.

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:

EQ2100262: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch; MS/MSD was performed on an unrelated sample. 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:**E2100460
Project: HS21041132

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100460-001	16EW02-210419	4/19/2021	0735
E2100460-002	16EW04-210419	4/19/2021	0820
E2100460-003	16EW08-210419	4/19/2021	0905
E2100460-004	16WW13-210419	4/19/2021	0950
E2100460-005	16WW42-210419	4/19/2021	1030
E2100460-006	16RW05-210419	4/19/2021	1115
E2100460-007	16RW06-210419	4/19/2021	1200
E2100460-008	16RW07-210419	4/19/2021	1240

Service Request Summary

Folder #: **E2100460**
Client Name: ALS Environmental - US
Project Name: HS21041132
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: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041132
EDD: No EDD Specified

8 125 mL-Plastic Bottle Plastic
Location: SMO
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100460-001	16EW02-210419	Ground Water	04/19/21 0735	**IV**
E2100460-002	16EW04-210419	Ground Water	04/19/21 0820	**IV**
E2100460-003	16EW08-210419	Ground Water	04/19/21 0905	**IV**
E2100460-004	16WW13-210419	Ground Water	04/19/21 0950	**IV**
E2100460-005	16WW42-210419	Ground Water	04/19/21 1030	**IV**
E2100460-006	16RW05-210419	Ground Water	04/19/21 1115	**IV**
E2100460-007	16RW06-210419	Ground Water	04/19/21 1200	**IV**
E2100460-008	16RW07-210419	Ground Water	04/19/21 1240	**IV**

Service Request Summary

Folder #: **E2100460**
Client Name: ALS Environmental - US
Project Name: HS21041132
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: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041132
EDD: No EDD Specified

8 125 mL-Plastic Bottle Plastic
Location: SMO
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	8	Level II due 5/5, IV due 5/12

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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration 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	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
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: 15965**

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:	HS21041132
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041132-01**	**16EW02-210419**	**Groundwater**	**19 Apr 2021 07:35**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
2.	**HS21041132-02**	**16EW04-210419**	**Groundwater**	**19 Apr 2021 08:20**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
3.	**HS21041132-03**	**16EW08-210419**	**Groundwater**	**19 Apr 2021 09:05**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
4.	**HS21041132-04**	**16WW13-210419**	**Groundwater**	**19 Apr 2021 09:50**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
5.	**HS21041132-05**	**16WW42-210419**	**Groundwater**	**19 Apr 2021 10:30**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
6.	**HS21041132-06**	**16RW05-210419**	**Groundwater**	**19 Apr 2021 11:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
7.	**HS21041132-07**	**16RW06-210419**	**Groundwater**	**19 Apr 2021 12:00**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
8.	**HS21041132-08**	**16RW07-210419**	**Groundwater**	**19 Apr 2021 12:40**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 15965**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

Cooler Receipt Form

ALS Environmental

Project Chemist CA

Client/Project ALS-H

Thermometer ID 1051

Date/Time Received: 4/12/21 Initials: CA Date/Time Logged in: 4/12/21 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client
2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ✓ No — 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		4/12/21	1440	CA	0.8	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100460-001	16EW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100460-002	16EW04-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100460-003	16EW08-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100460-004	16WW13-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100460-005	16WW42-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100460-006	16RW05-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100460-007	16RW06-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100460-008	16RW07-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100461-001	16SW01-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100461-002	16SW01-210419-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100461-003	16SW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100461-004	16SW03-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100464-001	16EW01-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100464-002	16EW03-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100464-003	16IW10-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100464-004	16RW11-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2100464-005	16RW11-210421-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2100464-006	16IW20-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
19	EQ2100262-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100262-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2100262-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2100262-04	16SW02-210419 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2100262-05	16SW02-210419 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100262-02	1.00µL	EQ2100262-03	1.00µL	EQ2100262-04	1.00µL	EQ2100262-05	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100460-001	100.00µL	E2100460-002	100.00µL	E2100460-003	100.00µL	E2100460-004	100.00µL	E2100460-005	100.00µL	E2100460-006	100.00µL
E2100460-007	100.00µL	E2100460-008	100.00µL	E2100461-001	100.00µL	E2100461-002	100.00µL	E2100461-003	100.00µL	E2100461-004	100.00µL
E2100464-001	100.00µL	E2100464-002	100.00µL	E2100464-003	100.00µL	E2100464-004	100.00µL	E2100464-005	100.00µL	E2100464-006	100.00µL
EQ2100262-01	100.00µL	EQ2100262-02	100.00µL	EQ2100262-03	100.00µL	EQ2100262-04	100.00µL	EQ2100262-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

Preparation Steps

Step: Preparation
Started: 4/30/21 12:02
Finished: 4/30/21 14:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

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:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0735
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16EW02-210419	**Units:**	µg/L
Lab Code:	E2100460-001	**Basis:**	As Received

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	**0.530**		0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:55	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0820
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16EW04-210419	**Units:**	µg/L
Lab Code:	E2100460-002	**Basis:**	As Received

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	4/30/21	4/30/21 20:05	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0905
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16EW08-210419	**Units:**	µg/L
Lab Code:	E2100460-003	**Basis:**	As Received

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	4/30/21	4/30/21 20:14	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0950
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16WW13-210419	**Units:**	µg/L
Lab Code:	E2100460-004	**Basis:**	As Received

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	**0.292**		0.100	0.0500	0.0250	1	4/30/21	4/30/21 20:23	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1030
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16WW42-210419	**Units:**	µg/L
Lab Code:	E2100460-005	**Basis:**	As Received

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	4/30/21	4/30/21 20:33	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1115
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16RW05-210419	**Units:**	µg/L
Lab Code:	E2100460-006	**Basis:**	As Received

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	0.200	0.100	0.0500	2	4/30/21	5/1/21 14:29	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1200
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16RW06-210419	**Units:**	µg/L
Lab Code:	E2100460-007	**Basis:**	As Received

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	1.00	0.500	0.250	10	4/30/21	5/10/21 10:49	378426	722771	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1240
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16RW07-210419	**Units:**	µg/L
Lab Code:	E2100460-008	**Basis:**	As Received

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	**1.00**		0.100	0.0500	0.0250	1	4/30/21	4/30/21 21:10	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100262-01	**Basis:**	As Received

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	4/30/21	4/30/21 19:08	378426	722218	

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: HS21041132
Sample Matrix: Ground Water

Service Request: E2100460
Date Analyzed: 4/30/21

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: As Received

Extraction Lot: 378426

	Lab Control Sample EQ2100262-02			Duplicate Lab Control Sample EQ2100262-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0976	0.100	98	0.0984	0.100	98	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:**	E2100460
Project:	HS21041132	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-02	**Basis:**	As Received

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	**0.0976**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:18	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-03	**Basis:**	As Received

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	**0.0984**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:27	378426	722218	

HS21041132 8260_W_DOD Raw Data

ALS WO# HS21041132

MSVOA06 -Logbook

Batch: 44312 **Analyst:** Presenta Cabascango

Date: 04-02-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-02-2021 10:32 am	1.00	50 mL	50 mL	X040201.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	04-02-2021 10:53 am	1.00	50 mL	50 mL	X040202.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	04-02-2021 11:35 am	1.00	50 mL	50 mL	X040203.D	Liquid	Y	NA
4	VSTD001	ICAL3	04-02-2021 11:56 am	1.00	50 mL	50 mL	X040204.D	Liquid	Y	NA
5	VSTD002	ICAL4	04-02-2021 12:17 pm	1.00	50 mL	50 mL	X040205.D	Liquid	Y	NA
6	VSTD005	ICAL5	04-02-2021 12:38 pm	1.00	50 mL	50 mL	X040206.D	Liquid	Y	NA
7	VSTD020	ICAL6	04-02-2021 12:59 pm	1.00	50 mL	50 mL	X040207.D	Liquid	Y	NA
8	VSTD050	ICAL7	04-02-2021 01:20 pm	1.00	50 mL	50 mL	X040208.D	Liquid	Y	NA
9	VSTD100	ICAL8	04-02-2021 01:41 pm	1.00	50 mL	50 mL	X040209.D	Liquid	Y	NA
10	VSTD150	ICAL9	04-02-2021 02:02 pm	1.00	50 mL	50 mL	X040210.D	Liquid	Y	NA
11	VSTD200	ICAL	04-02-2021 02:23 pm	1.00	50 mL	50 mL	X040211.D	Liquid	Y	NA
12	BLANK	SAMP	04-02-2021 02:44 pm	1.00	50 mL	50 mL	X040212.D	Liquid	Y	NA
13	CCV	SAMP	04-02-2021 03:05 pm	1.00	50 mL	50 mL	X040213.D	Liquid	Y	NA
14	CCV	CCV	04-02-2021 03:26 pm	1.00	50 mL	50 mL	X040214.D	Liquid	Y	NA
15	CCB	SAMP	04-02-2021 03:47 pm	1.00	50 mL	50 mL	X040215.D	Liquid	Y	NA
16	VLCSW-210402	LCS	04-02-2021 04:08 pm	1.00	50 mL	50 mL	X040216.D	Liquid	Y	NA
17	BLANK	SAMP	04-02-2021 04:29 pm	1.00	50 mL	50 mL	X040217.D	Liquid	Y	NA
18	BLANK	SAMP	04-02-2021 04:50 pm	1.00	50 mL	50 mL	X040218.D	Liquid	Y	NA
19	VBLKW-210402	MBLK	04-02-2021 05:11 pm	1.00	50 mL	50 mL	X040219.D	Liquid	Y	NA
20	HS21031390-28	SAMP	04-02-2021 05:32 pm	1.00	50 mL	50 mL	X040220.D	Liquid	Y	NA
21	HS21031390-01	SAMP	04-02-2021 05:53 pm	1.00	50 mL	50 mL	X040221.D	Liquid	Y	NA
22	HS21031390-02	SAMP	04-02-2021 06:14 pm	1.00	50 mL	50 mL	X040222.D	Liquid	Y	NA
23	HS21031390-08	SAMP	04-02-2021 06:35 pm	1.00	50 mL	50 mL	X040223.D	Liquid	Y	NA
24	HS21031390-14	SAMP	04-02-2021 06:56 pm	1.00	50 mL	50 mL	X040224.D	Liquid	Y	NA
25	HS21031390-06	SAMP	04-02-2021 07:17 pm	10.00	5 mL	50 mL	X040225.D	Liquid	Y	NA
26	HS21031390-09	SAMP	04-02-2021 07:38 pm	5.00	10 mL	50 mL	X040226.D	Liquid	Y	NA
27	HS21031390-28MS	MS	04-02-2021 07:59 pm	1.00	50 mL	50 mL	X040227.D	Liquid	Y	NA
28	HS21031390-28MSD	MSD	04-02-2021 08:20 pm	1.00	50 mL	50 mL	X040228.D	Liquid	Y	NA
29	HS21031390-06	SAMP	04-02-2021 08:41 pm	100.0(	500 µL	50 mL	X040229.D	Liquid	Y	NA
30	HS21031390-09	SAMP	04-02-2021 09:03 pm	25.00	2 mL	50 mL	X040230.D	Liquid	Y	NA
31	HS21031318-29	SAMP	04-02-2021 09:24 pm	1.00	50 mL	50 mL	X040231.D	Liquid	Y	NA
32	HS21040032-03	SAMP	04-02-2021 09:45 pm	1.00	50 mL	50 mL	X040232.D	Liquid	Y	NA
33	BFB	TUNE	04-02-2021 10:06 pm	1.00	50 mL	50 mL	Y040201.D	Liquid	Y	NA
34	CCV	CCV	04-02-2021 10:27 pm	1.00	50 mL	50 mL	Y040202a.D	Liquid	Y	NA
35	CCV	CCV	04-02-2021 10:48 pm	1.00	50 mL	50 mL	Y040203.D	Liquid	Y	NA
36	CCB	SAMP	04-02-2021 11:09 pm	1.00	50 mL	50 mL	Y040204.D	Liquid	Y	NA
37	VLCSW-210402	LCS	04-02-2021 11:30 pm	1.00	50 mL	50 mL	Y040205.D	Liquid	Y	NA
38	BLANK	SAMP	04-02-2021 11:51 pm	1.00	50 mL	50 mL	Y040206.D	Liquid	Y	NA
39	VBLKW-210402	MBLK	04-03-2021 12:12 am	1.00	50 mL	50 mL	Y040207.D	Liquid	Y	NA
40	HS21031399-49	SAMP	04-03-2021 12:33 am	1.00	50 mL	50 mL	Y040208.D	Liquid	Y	NA
41	HS21031390-31	SAMP	04-03-2021 12:54 am	1.00	50 mL	50 mL	Y040209.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS21031390-33	SAMP	04-03-2021 01:15 am	1.00	50 mL	50 mL	Y040210.D	Liquid	Y	NA
43	HS21031390-31MS	MS	04-03-2021 01:36 am	1.00	50 mL	50 mL	Y040211.D	Liquid	Y	NA
44	HS21031390-31MSD	MSD	04-03-2021 01:57 am	1.00	50 mL	50 mL	Y040212.D	Liquid	Y	NA
45	BLANK	SAMP	04-03-2021 02:18 am	1.00	50 mL	50 mL	Y040213.D	Liquid	Y	NA
46	BLANK	SAMP	04-03-2021 02:39 am	1.00	50 mL	50 mL	Y040214.D	Liquid	Y	NA
47	HS21031399-38	SAMP	04-03-2021 03:00 am	1.00	50 mL	50 mL	Y040215.D	Liquid	Y	NA
48	HS21031399-39	SAMP	04-03-2021 03:21 am	1.00	50 mL	50 mL	Y040216.D	Liquid	Y	NA
49	HS21031399-41	SAMP	04-03-2021 03:43 am	1.00	50 mL	50 mL	Y040217.D	Liquid	Y	NA
50	HS21031399-42	SAMP	04-03-2021 04:04 am	1.00	50 mL	50 mL	Y040218.D	Liquid	Y	NA
51	HS21031399-43	SAMP	04-03-2021 04:25 am	1.00	50 mL	50 mL	Y040219.D	Liquid	Y	NA
52	HS21031399-44	SAMP	04-03-2021 04:46 am	1.00	50 mL	50 mL	Y040220.D	Liquid	Y	NA
53	HS21031399-45	SAMP	04-03-2021 05:07 am	1.00	50 mL	50 mL	Y040221.D	Liquid	Y	NA
54	HS21031399-46	SAMP	04-03-2021 05:28 am	1.00	50 mL	50 mL	Y040222.D	Liquid	Y	NA
55	HS21031565-01	SAMP	04-03-2021 05:49 am	1.00	50 mL	50 mL	Y040223.D	Liquid	Y	NA
56	HS21031565-05	SAMP	04-03-2021 06:10 am	1.00	50 mL	50 mL	Y040224.D	Liquid	Y	NA
57	HS21031565-06	SAMP	04-03-2021 06:31 am	1.00	50 mL	50 mL	Y040225.D	Liquid	Y	NA
58	HS21031565-07	SAMP	04-03-2021 06:52 am	1.00	50 mL	50 mL	Y040226.D	Liquid	Y	NA
59	HS21031565-08	SAMP	04-03-2021 07:13 am	1.00	50 mL	50 mL	Y040227.D	Liquid	Y	NA
60	HS21031565-11	SAMP	04-03-2021 07:35 am	1.00	50 mL	50 mL	Y040228.D	Liquid	Y	NA
61	HS21031565-14	SAMP	04-03-2021 07:56 am	1.00	50 mL	50 mL	Y040229.D	Liquid	Y	NA
62	HS21031565-15	SAMP	04-03-2021 08:17 am	1.00	50 mL	50 mL	Y040230.D	Liquid	Y	NA
63	HS21031390-32	SAMP	04-03-2021 08:38 am	1.00	50 mL	50 mL	Y040231.D	Liquid	Y	NA
64	BLANJ	SAMP	04-03-2021 08:59 am	1.00	50 mL	50 mL	Y040240.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	46.17	92	80-120
Methylene Chloride	50.00	45.57	91	80-120
1,1-Dichloroethene	50.00	46.21	92	80-120
1,2-Dichloroethane	50.00	47.48	95	80-120
cis-1,2-Dichloroethene	50.00	46.33	93	80-120
1,1,2-Trichloroethane	50.00	48.15	96	80-120
Trichloroethene	50.00	50.43	101	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Lab File ID: X040201 BFB Injection Date: 04/02/21

Instrument ID: VOA6 BFB Injection Time: 1032

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	22.5
75	30.0 - 60.0% of mass 95	53.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	Greater than 50.0% of mass 95	83.8
175	5.0 - 9.0% of mass 174	6.3 (7.6)1
176	95.0 - 101.0% of mass 174	81.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.4 (5.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X040202	04/02/21	1053
02	VSTD000.5	VSTD000.5	X040203	04/02/21	1135
03	VSTD001	VSTD001	X040204	04/02/21	1156
04	VSTD002	VSTD002	X040205	04/02/21	1217
05	VSTD005	VSTD005	X040206	04/02/21	1238
06	VSTD020	VSTD020	X040207	04/02/21	1259
07	VSTD050	VSTD050	X040208	04/02/21	1320
08	VSTD100	VSTD100	X040209	04/02/21	1341
09	VSTD150	VSTD150	X040210	04/02/21	1402
10	VSTD200	VSTD200	X040211	04/02/21	1423
11	ICV	ICV	X040214	04/02/21	1526
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF0.25: X040202 RF0.5: X040203 RF1: X040204
RF2: X040205 RF5: X040206 RF20: X040207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.844	0.943	0.758	0.756	0.736
Methylene Chloride		2167	4155	7271	17205	63925
1,1-Dichloroethene		0.748	0.754	0.752	0.776	0.659
1,2-Dichloroethane		0.560	0.634	0.506	0.530	0.475
cis-1,2-Dichloroethene		0.588	0.711	0.624	0.604	0.542
1,1,2-Trichloroethane		0.276	0.355	0.300	0.320	0.251
Trichloroethene		0.263	0.401	0.364	0.376	0.308
Dibromofluoromethane		1934	3862	6870	17824	68668
1,2-Dichloroethane-d4		2323	4438	7506	20809	80475
Toluene-d8		6330	12313	22274	56112	218999
4-Bromofluorobenzene		2889	4647	7732	19193	81621

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104113

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF50: X040208 RF100: X040209 RF150: X040210
RF200: X040211

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.712	0.681	0.664	0.652
Methylene Chloride	173954	420832	703062	1013494
1,1-Dichloroethene	0.668	0.684	0.663	0.702
1,2-Dichloroethane	0.517	0.525	0.513	0.503
cis-1,2-Dichloroethene	0.580	0.612	0.608	0.631
1,1,2-Trichloroethane	0.265	0.281	0.281	0.284
Trichloroethene	0.345	0.350	0.337	0.337
Dibromofluoromethane	201590	476731	758989	1061294
1,2-Dichloroethane-d4	243778	568806	919399	1266674
Toluene-d8	658700	1733824	2714142	3949224
4-Bromofluorobenzene	267013	624362	1011725	1473828

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104113

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.74959896	12.472	15.000
Methylene Chloride	LINR	2.966e-002	1.78818120	0.9978871	0.9900000
1,1-Dichloroethene	AVRG		0.71193342	6.418	15.000
1,2-Dichloroethane	AVRG		0.52923847	8.569	15.000
cis-1,2-Dichloroethene	AVRG		0.61120734	7.506	15.000
1,1,2-Trichloroethane	AVRG		0.29044925	10.722	15.000
Trichloroethene	AVRG		0.34228157	11.637	15.000
Dibromofluoromethane	LINR	8.656e-003	1.68407127	0.9996746	0.9900000
1,2-Dichloroethane-d4	LINR	9.666e-003	1.40410549	0.9998489	0.9900000
Toluene-d8	LINR	3.71e-002	0.74922718	0.9979532	0.9900000
4-Bromofluorobenzene	LINR	3.301e-002	2.01663185	0.9986184	0.9900000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

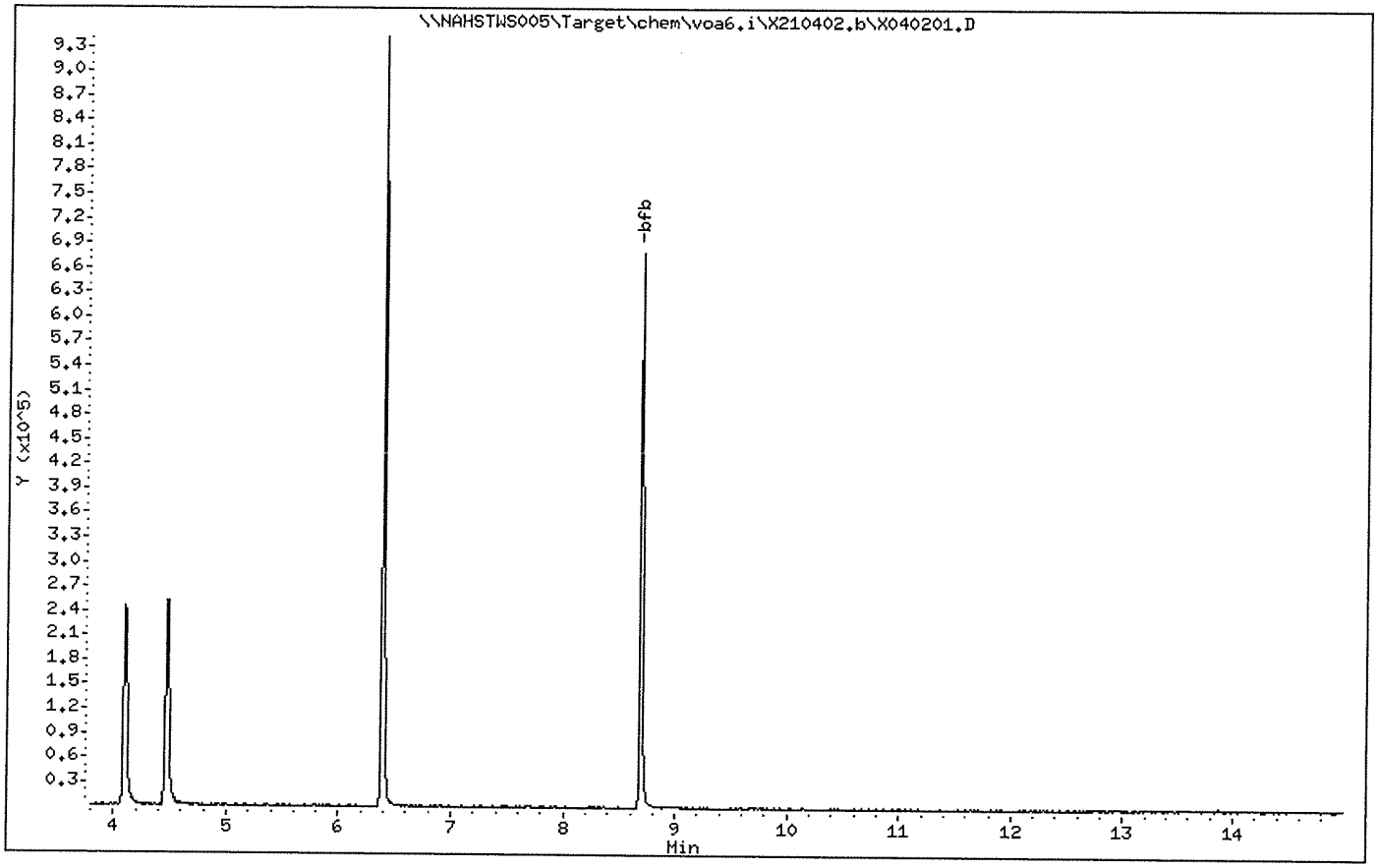
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

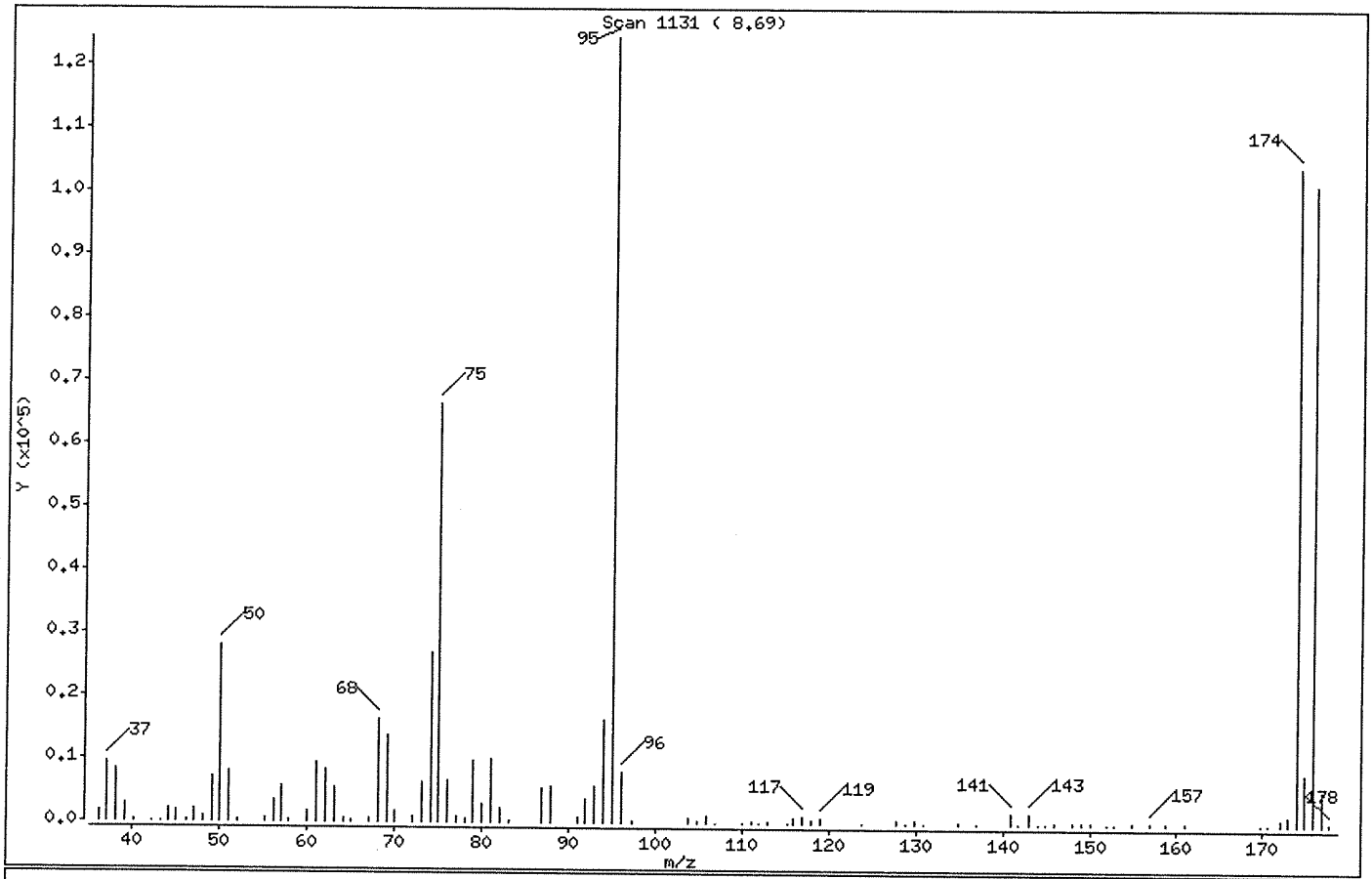
Volume Injected (uL): 2.0

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	22.51
75	30.00 - 60.00% of mass 95	53.31
96	5.00 - 9.00% of mass 95	6.51
173	Less than 2.00% of mass 174	1.06 (1.26)
174	Greater than 50.00% of mass 95	83.79
175	5.00 - 9.00% of mass 174	6.34 (7.56)
176	95.00 - 101.00% of mass 174	81.37 (97.11)
177	5.00 - 9.00% of mass 176	4.40 (5.40)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

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: X040201.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1732	64.00	599	95.00	124200	141.70	84
37.00	9290	65.00	153	96.00	8090	142.90	1576
38.00	8308	67.00	500	97.20	217	143.90	75
39.00	2929	68.00	16384	103.70	740	144.80	94
40.10	424	69.00	13717	104.80	164	145.90	148
42.20	74	70.00	1785	105.80	1029	147.90	250
43.20	72	72.10	777	106.90	112	148.90	155
44.00	2050	73.00	6328	109.90	136	150.00	286
45.00	1795	74.00	26912	111.00	268	151.80	52
46.10	242	75.00	66216	111.90	85	152.70	124
47.00	1874	76.00	6620	112.90	237	154.80	284
48.00	988	77.10	800	115.10	59	156.80	312
49.00	7094	78.10	446	115.80	811	158.80	260
50.00	27952	78.90	9818	116.90	1154	161.00	258
51.00	7947	79.90	2794	117.80	635	169.80	139
51.90	391	80.90	10133	118.90	930	170.60	140
55.20	631	82.00	2269	123.70	57	172.20	893
56.10	3391	83.00	193	127.70	679	172.90	1311
57.00	5690	86.90	5298	128.70	113	173.90	104064
57.90	400	87.90	5776	129.70	519	174.90	7871
59.90	1604	90.90	805	130.80	68	175.90	101056
61.00	9323	91.90	3707	134.80	220	176.90	5459
62.00	8245	92.90	5610	136.80	123	177.80	373
63.00	5418	94.00	16192	140.90	1678		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-APR-2021 10:53
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

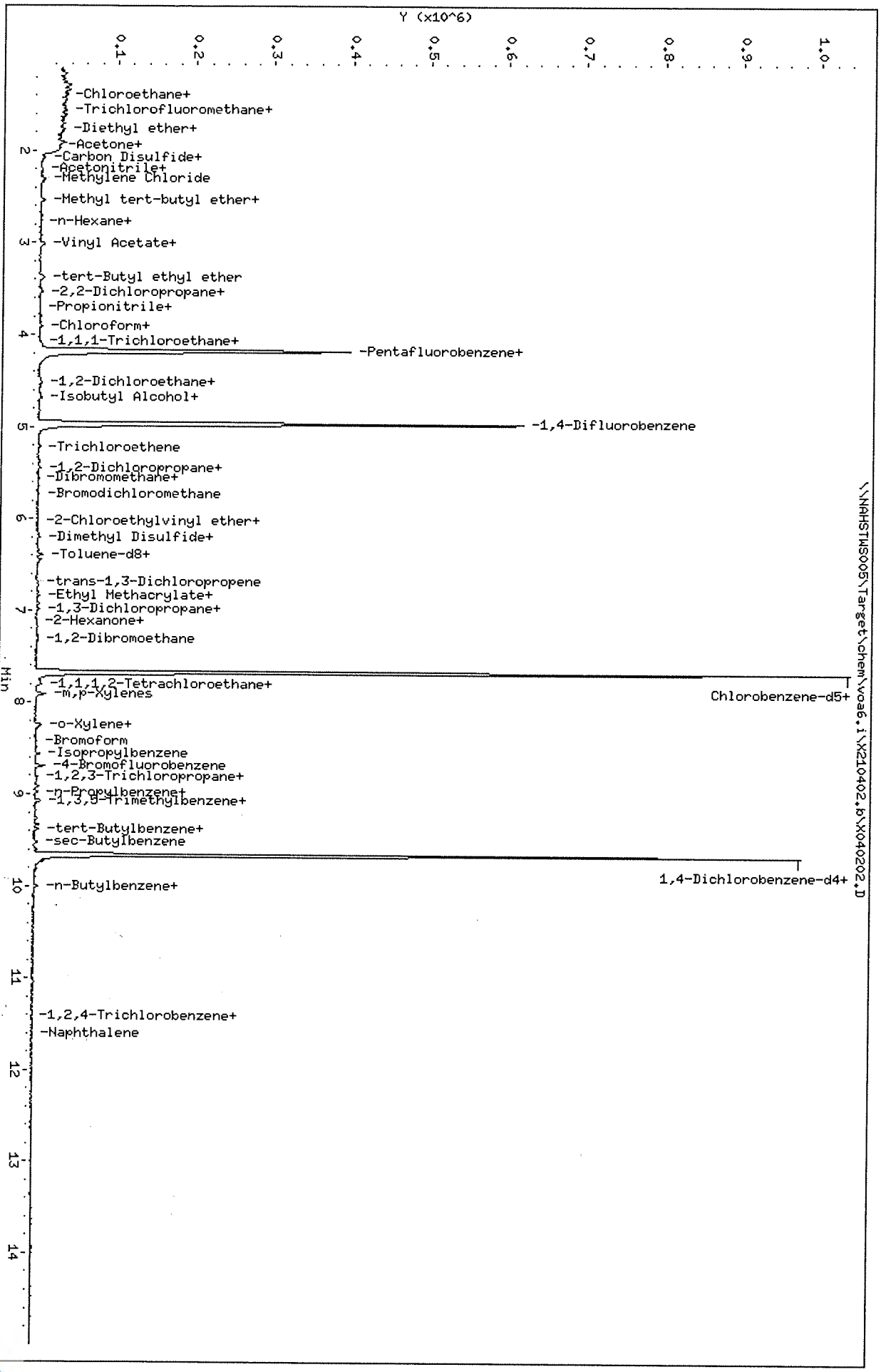
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	311555	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	505232	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	450629	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197083	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	968	0.25000	0.69(M)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1238	0.25000	0.76(TM)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	4819	0.25000	2.25
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3592	0.25000	2.45
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	995	0.25000	0.38(a)
11 1,1-Dichloroethene	96	1.904	1.904	(0.455)	1567	0.25000	0.35(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	1597	0.25000	0.29(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	893	0.25000	0.23(M)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2054	0.25000	2.07(aM)
38 Trichloroethene	130	5.221	5.221	(1.052)	988	0.25000	0.28(M)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1614	0.25000	0.34(M)

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\X210402.b\X040202.D
Date : 02-APR-2021 10:53
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\X210402.b\X040203.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-APR-2021 11:35
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 10:53 Cal File: X040202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

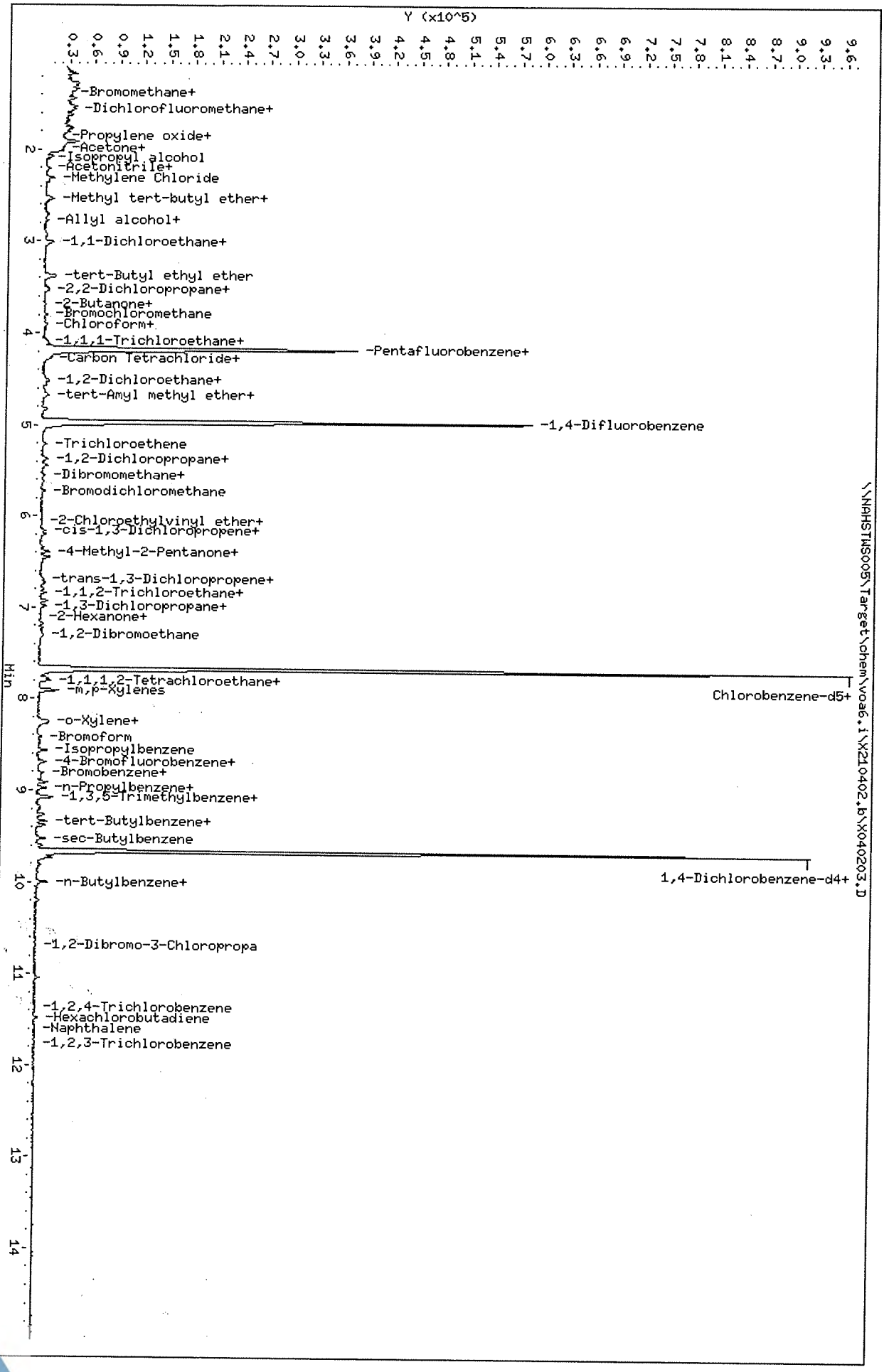
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	292480	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	476531	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	420545	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	191809	50.0000	
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1934	0.50000	0.98
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2323	0.50000	1.04(T)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	6330	0.50000	2.41(T)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2889	0.50000	2.34
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1162	0.50000	0.47(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2188	0.50000	0.52(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	2669	0.50000	0.52(aM)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.848)	1721	0.50000	0.48
17 Methylene Chloride	84	2.306	2.306	(0.551)	2167	0.50000	2.14(aM)
38 Trichloroethene	130	5.214	5.214	(1.049)	1254	0.50000	0.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2470	0.50000	0.56

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.

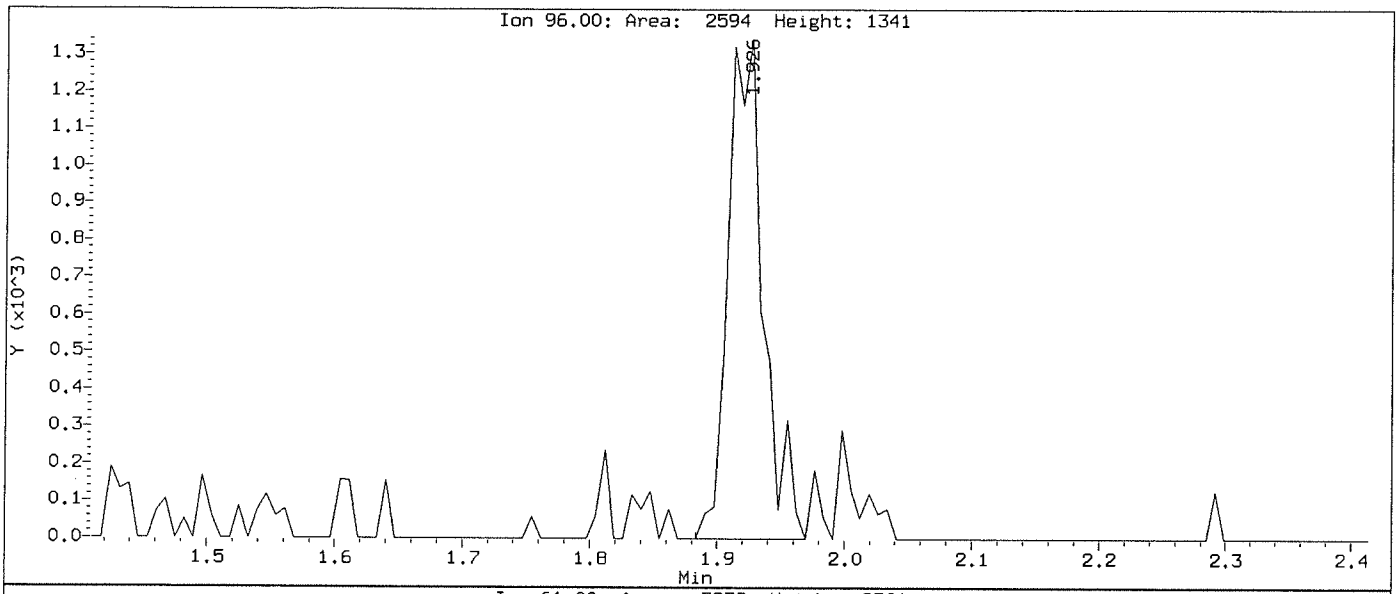


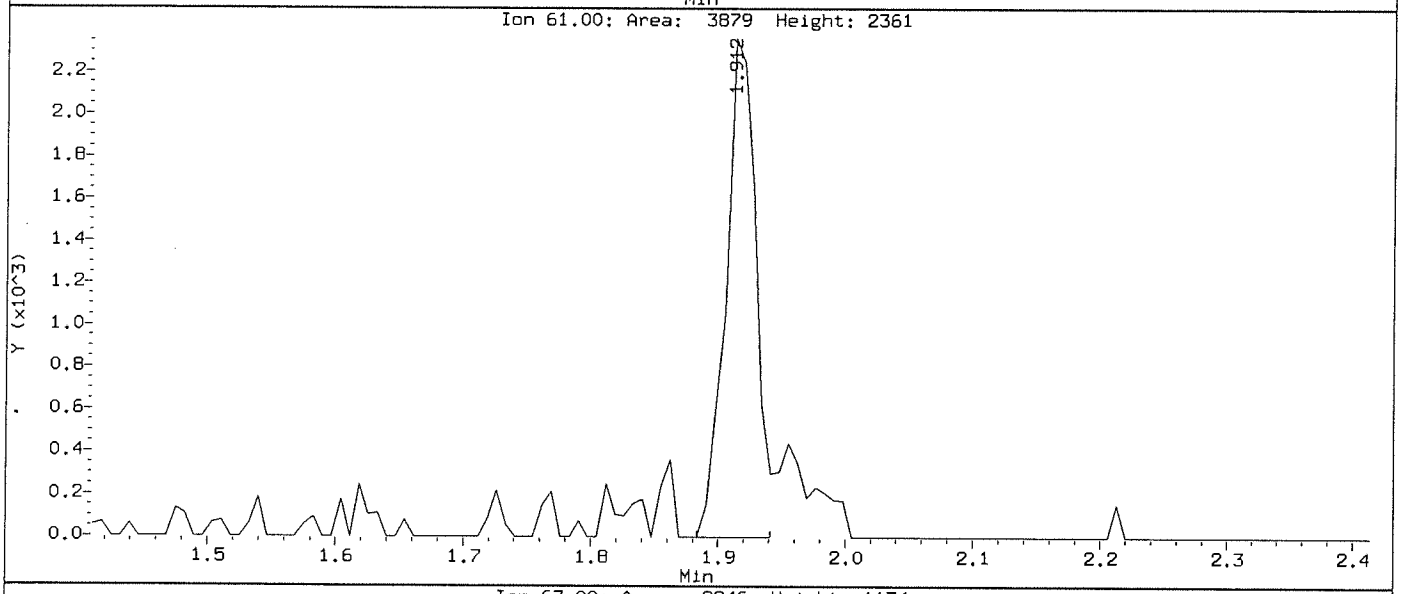
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Date : 02-APR-2021 11:35
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Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

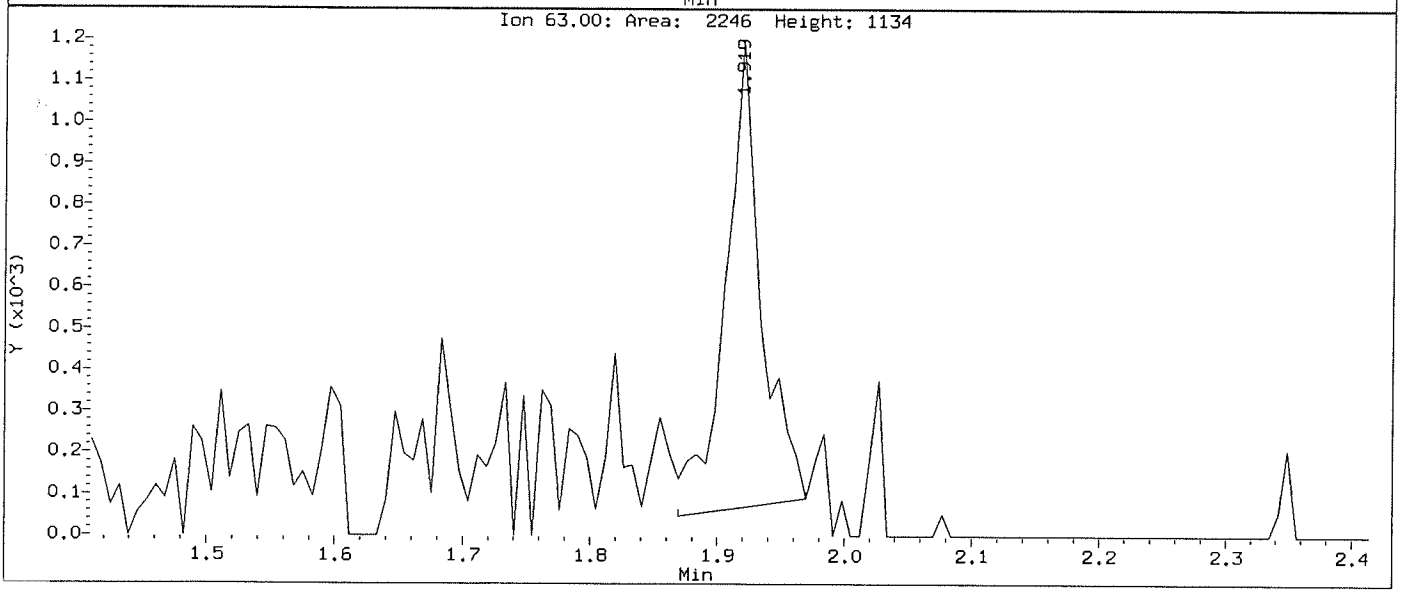
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

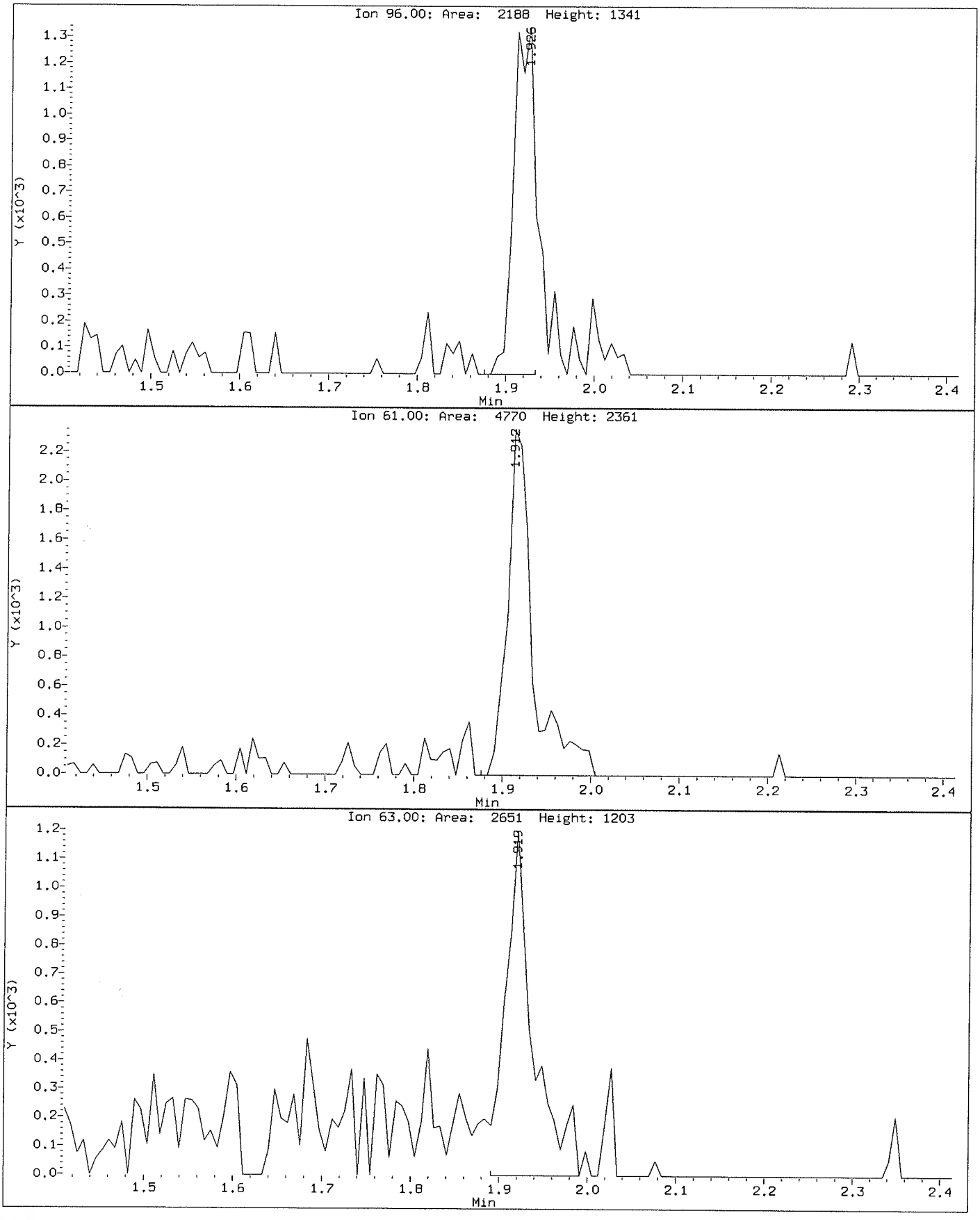






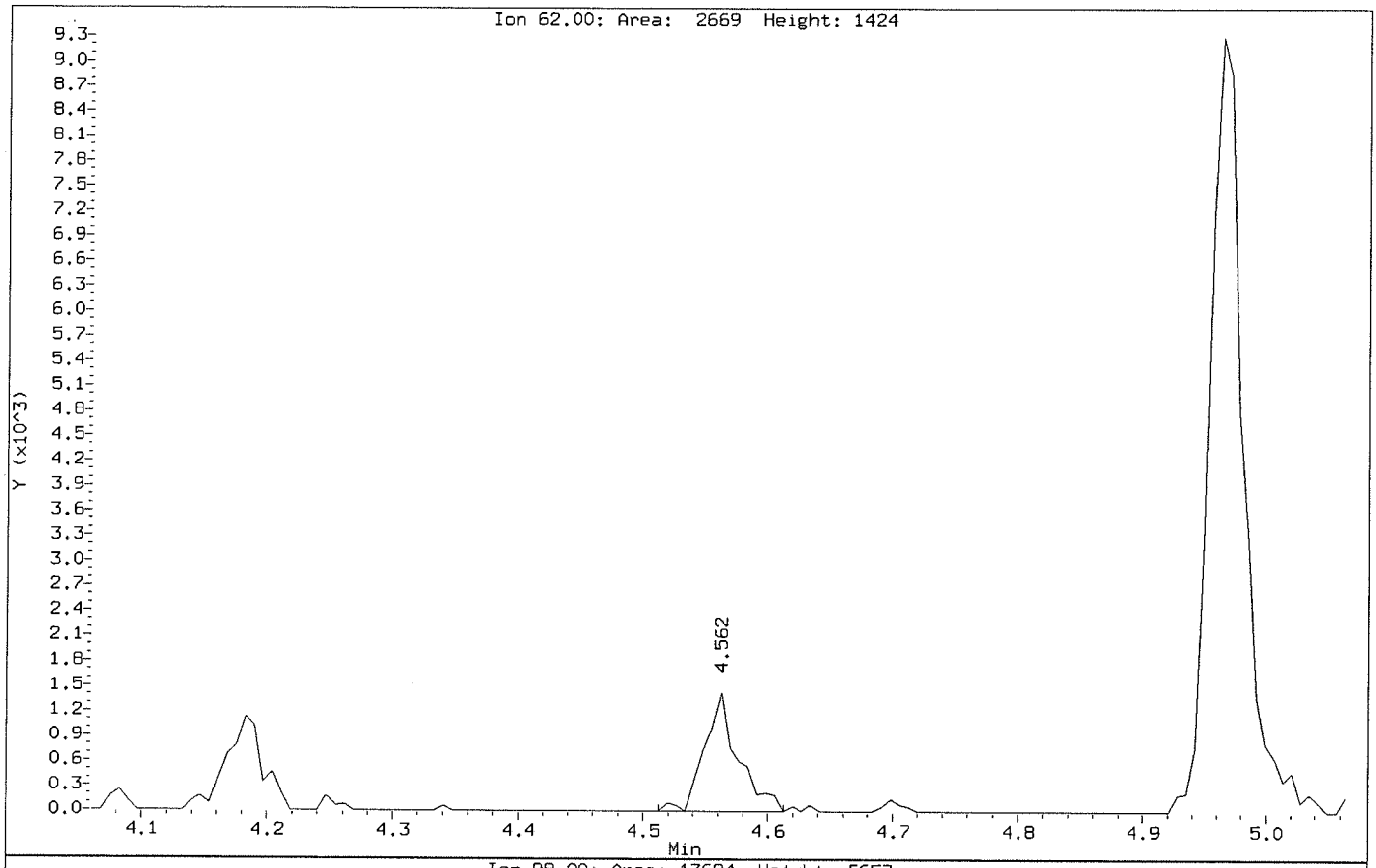
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

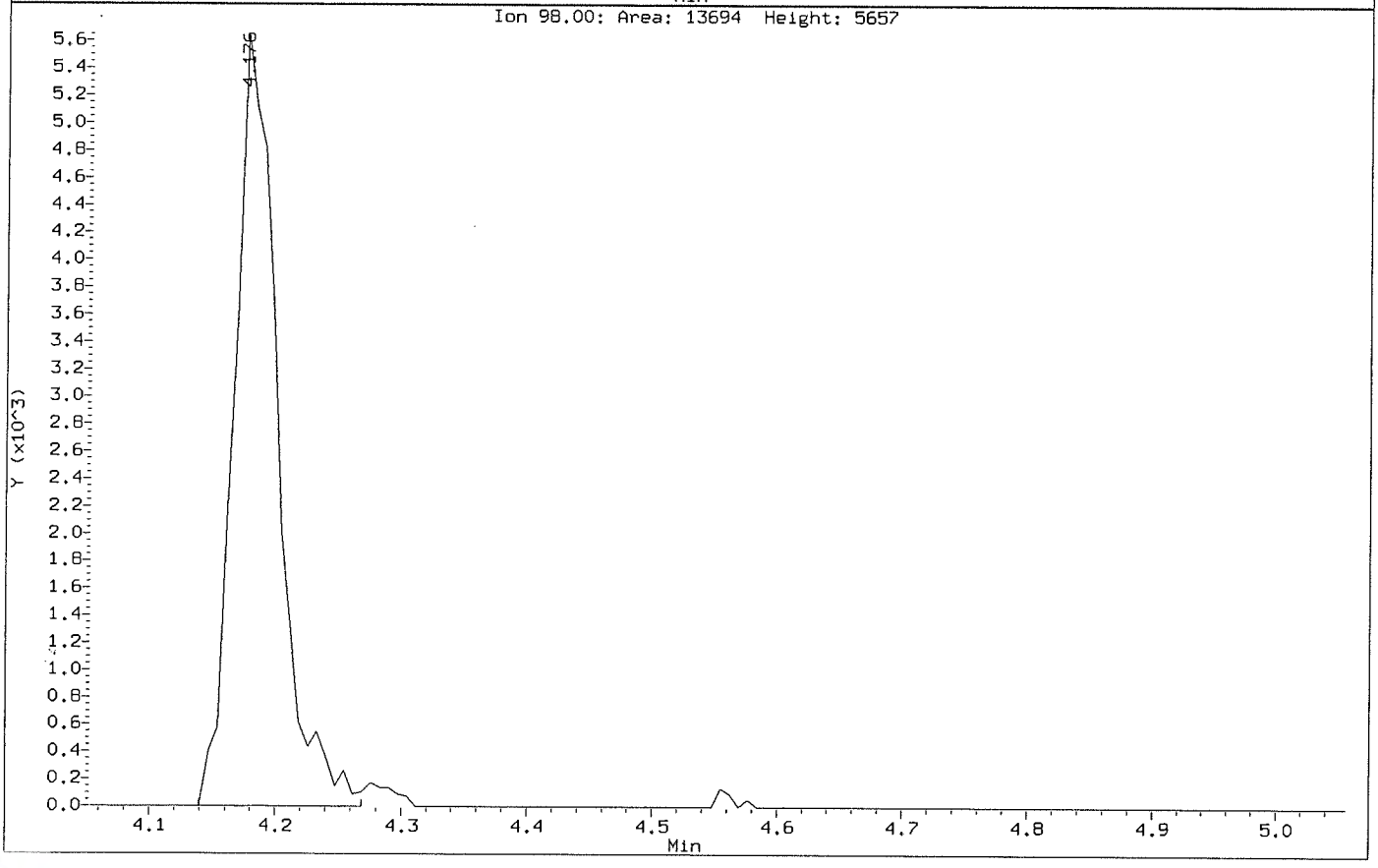
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

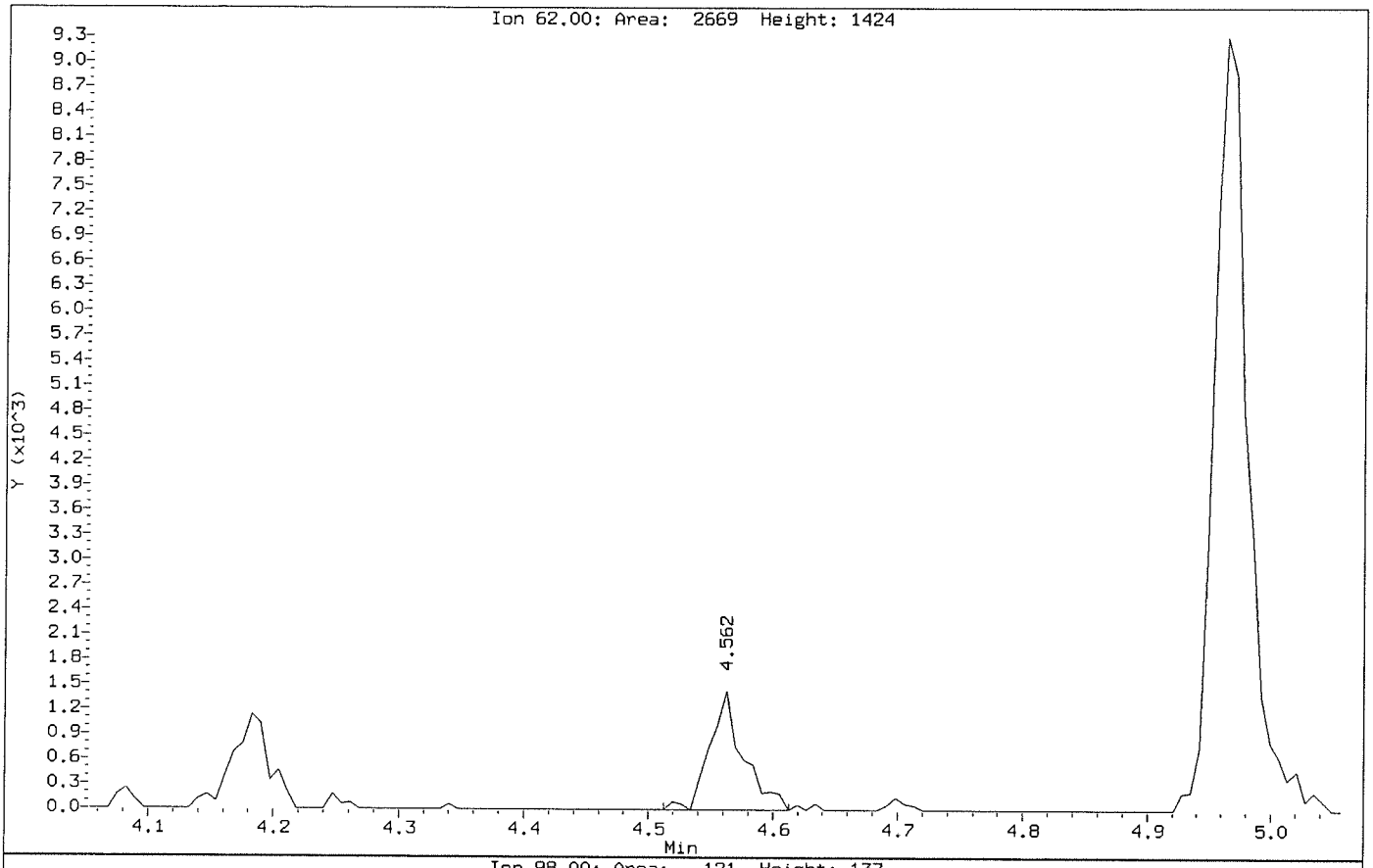
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

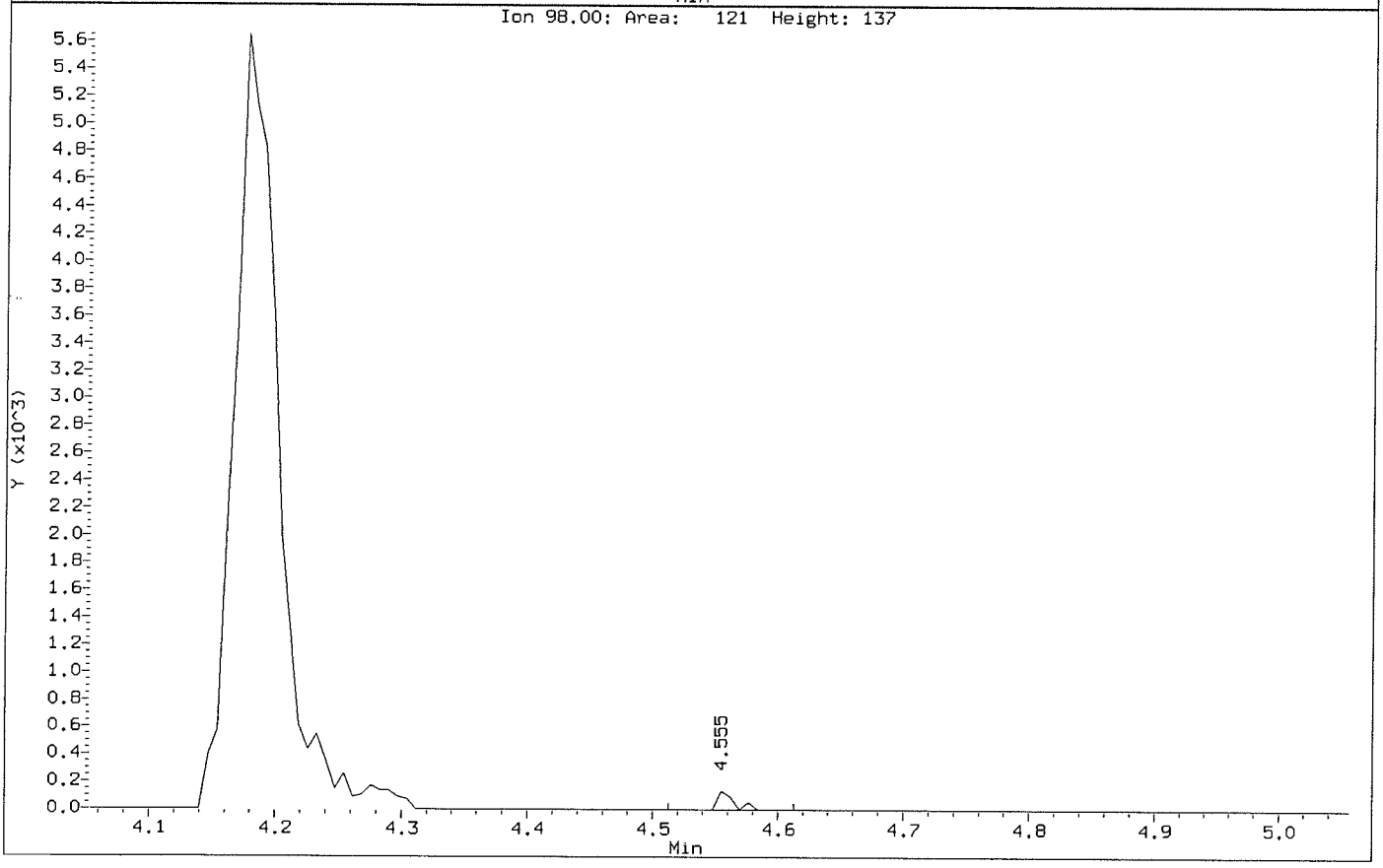




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

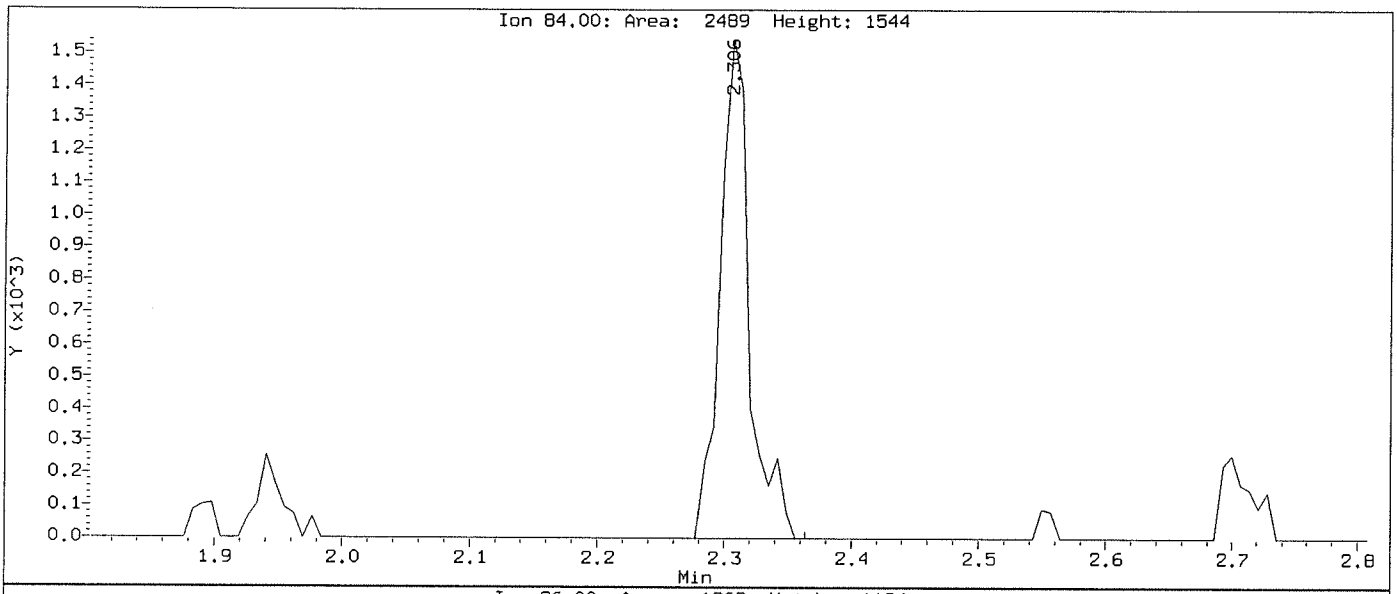
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

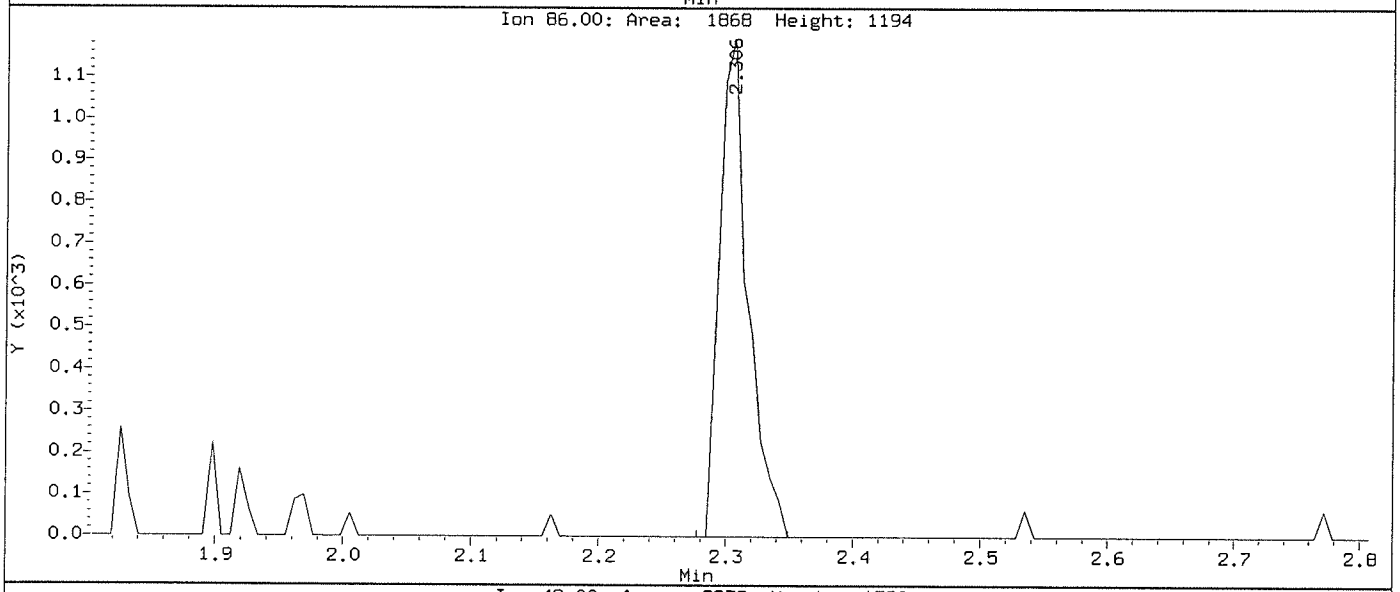


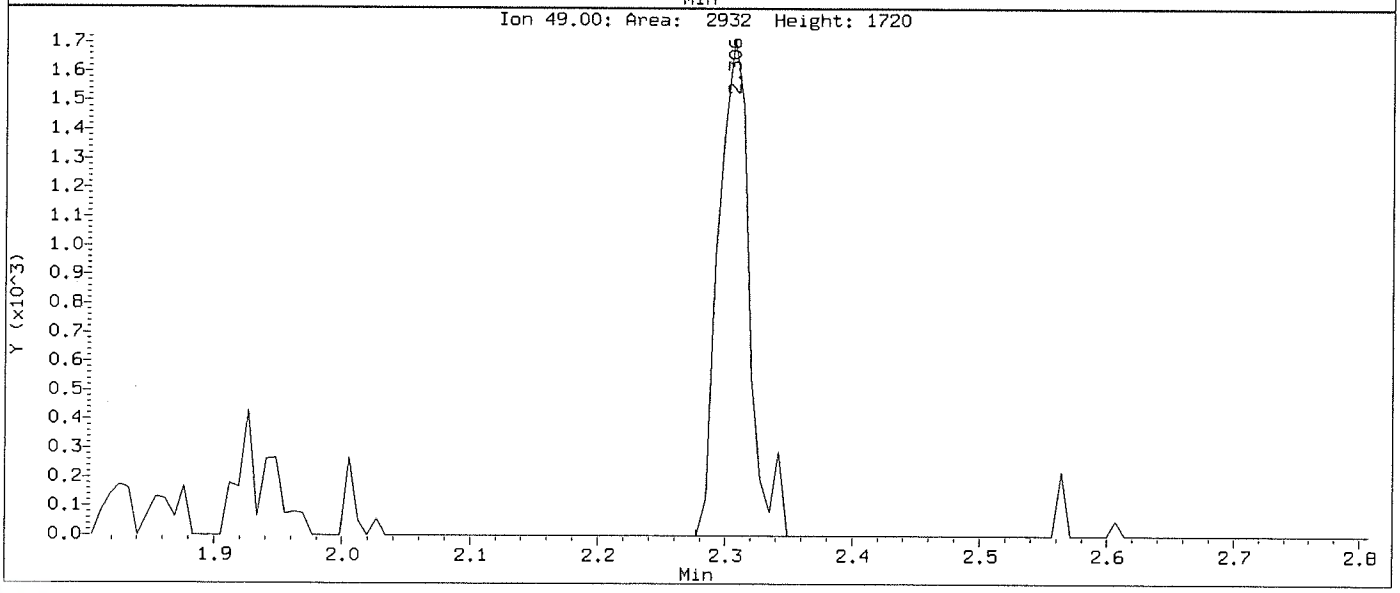


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

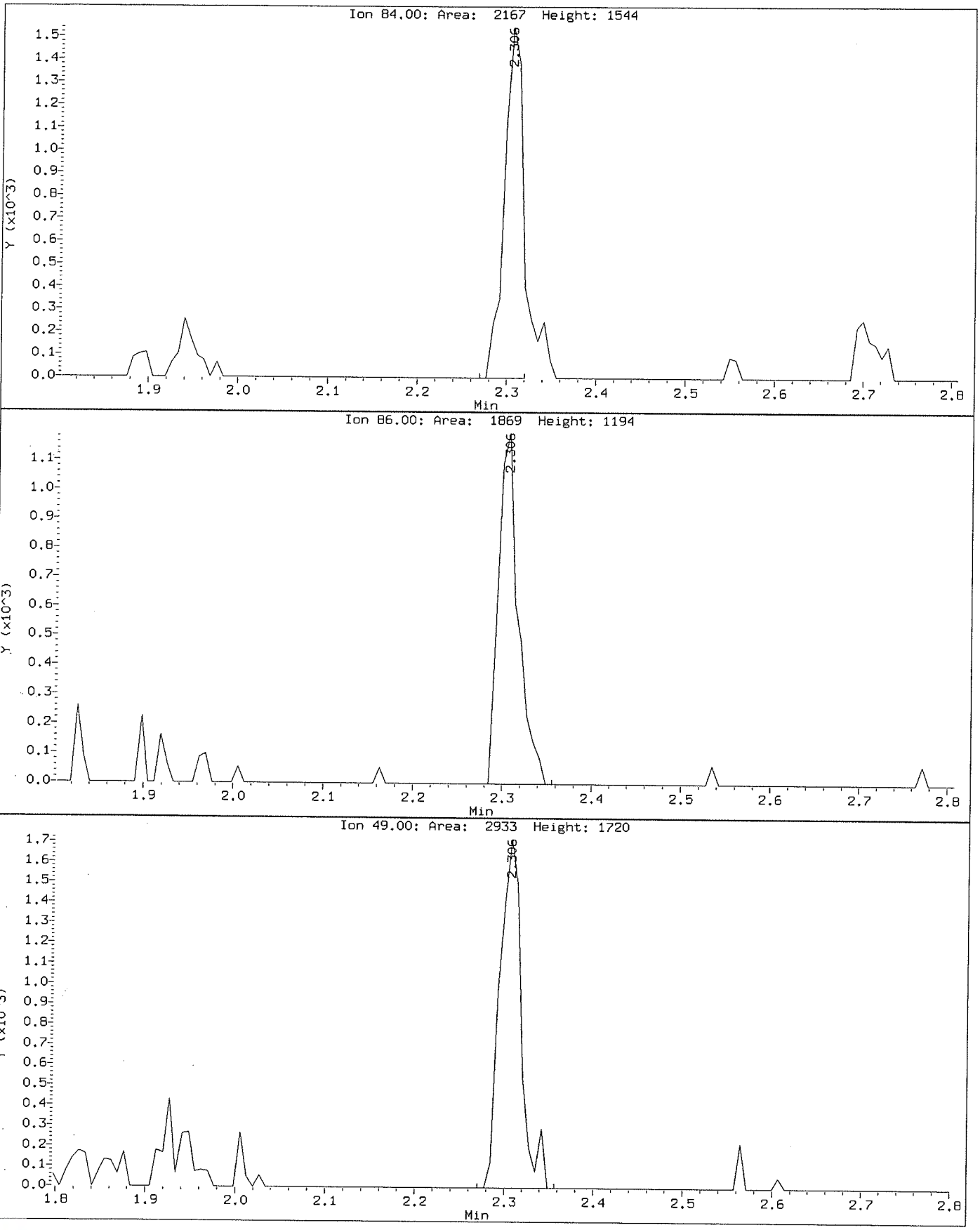






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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-APR-2021 11:56
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:35 Cal File: X040203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

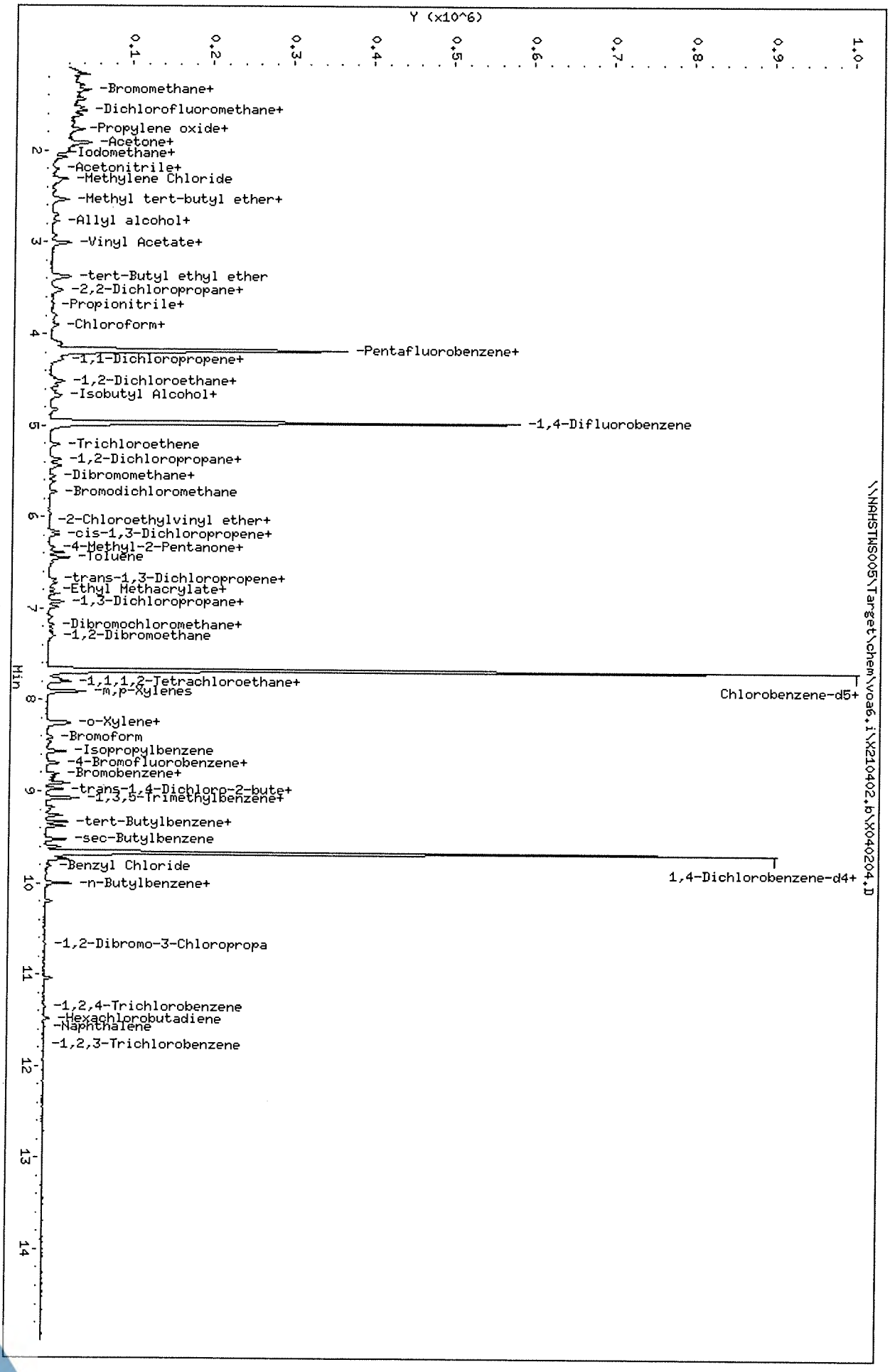
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278422	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	467952	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	425730	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	185938	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3862	1.00000	1.60
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4438	1.00000	1.60
$	48 Toluene-d8	98	6.388	6.388	(0.833)	12313	1.00000	2.93
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4647	1.00000	2.75
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	3024	1.00000	1.22(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4199	1.00000	1.05(aM)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	5931	1.00000	1.19(aM)
	27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3959	1.00000	1.16
	17 Methylene Chloride	84	2.298	2.298	(0.550)	4155	1.00000	2.81(aM)
	38 Trichloroethene	130	5.207	5.207	(1.049)	3757	1.00000	1.17(M)
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	5253	1.00000	1.25(M)

QC Flag Legend

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

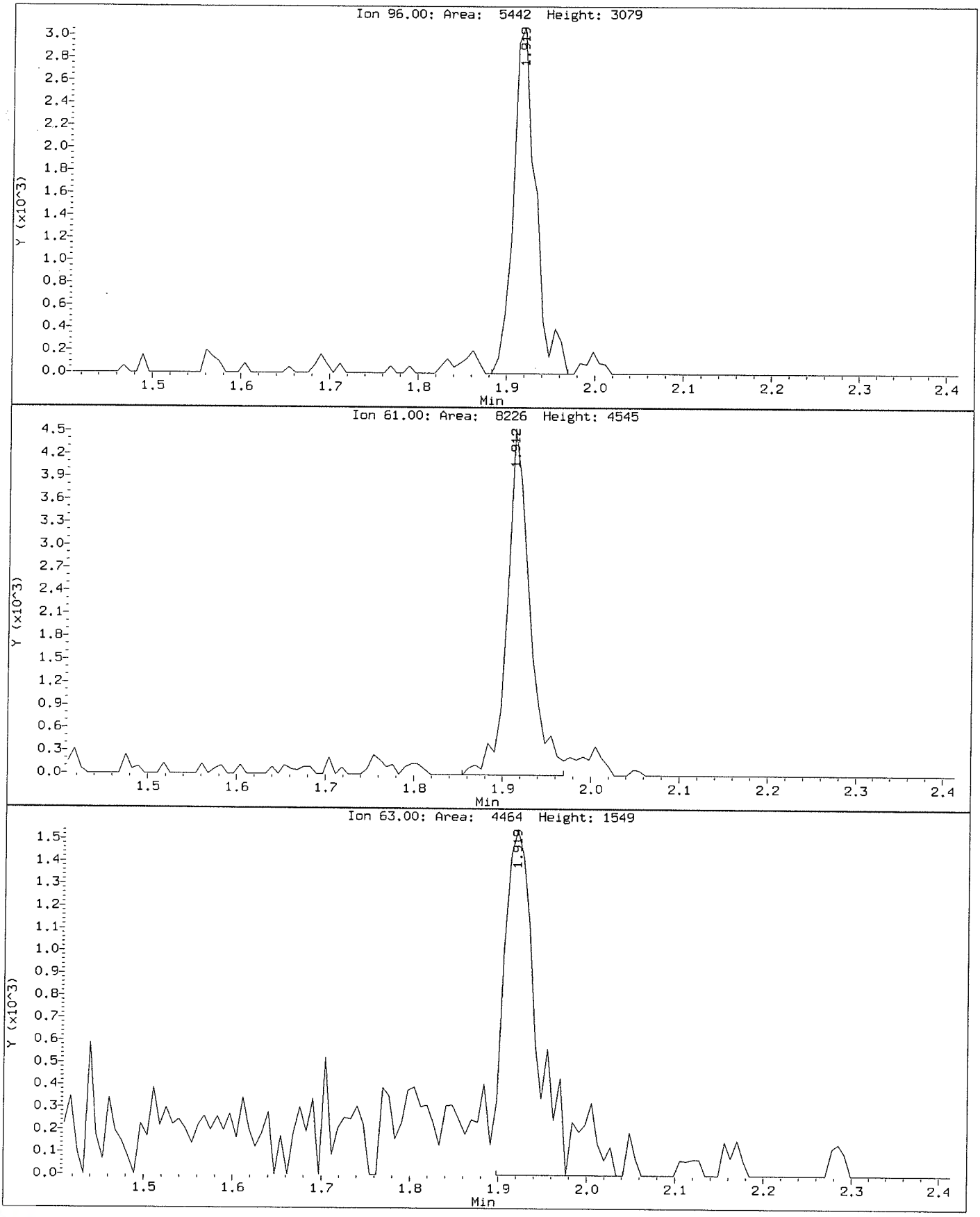


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Date : 02-APR-2021 11:56
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

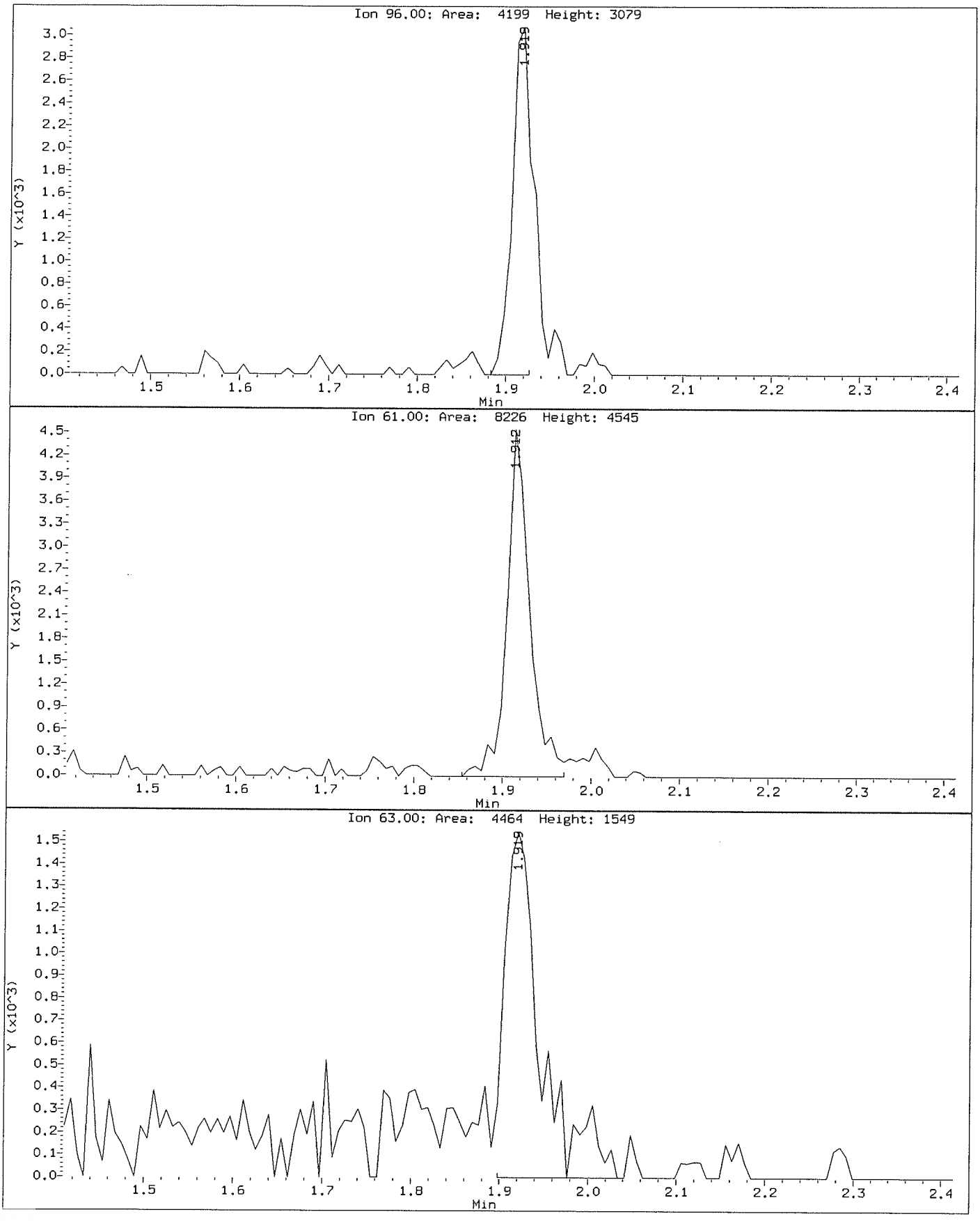
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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



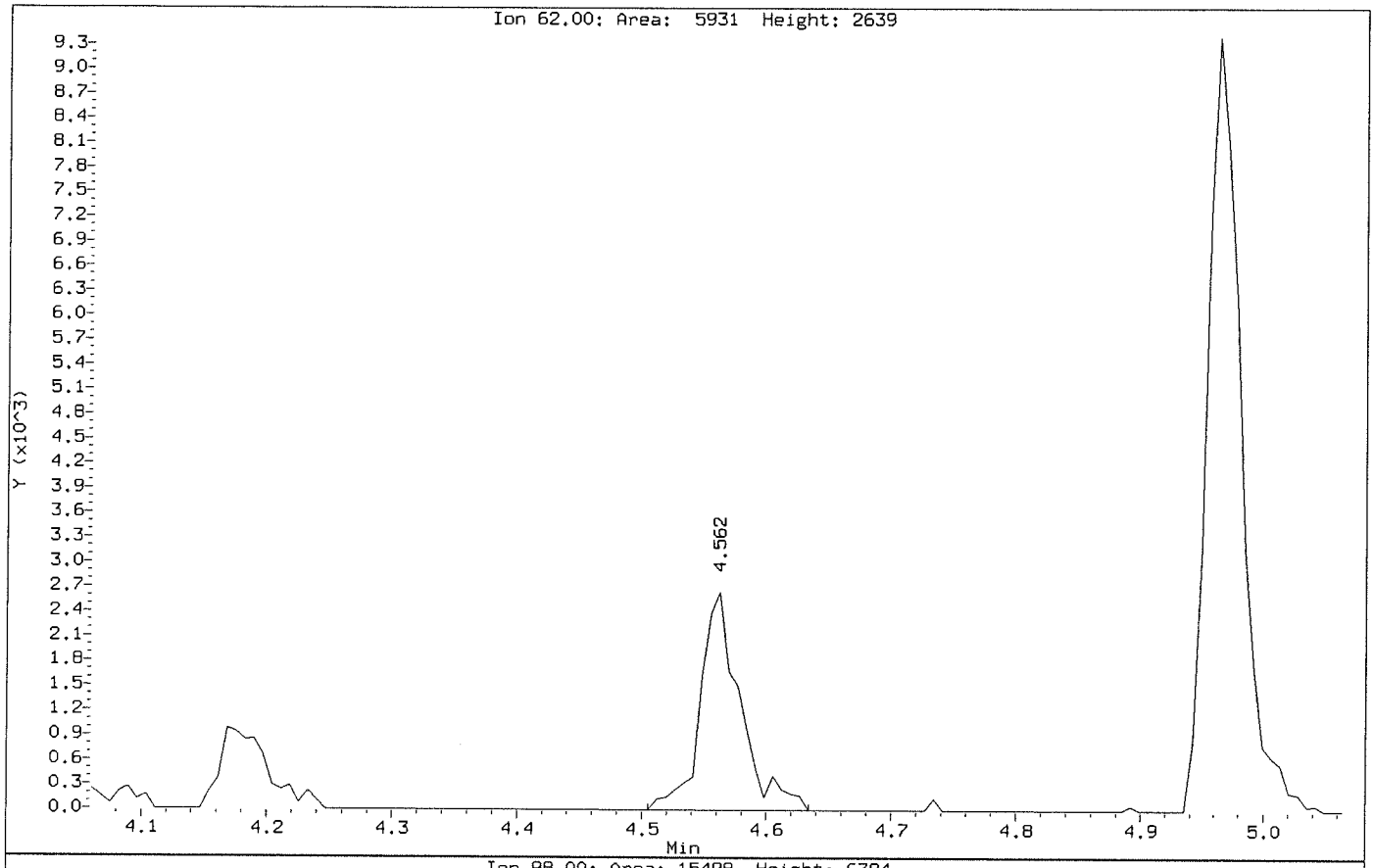
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

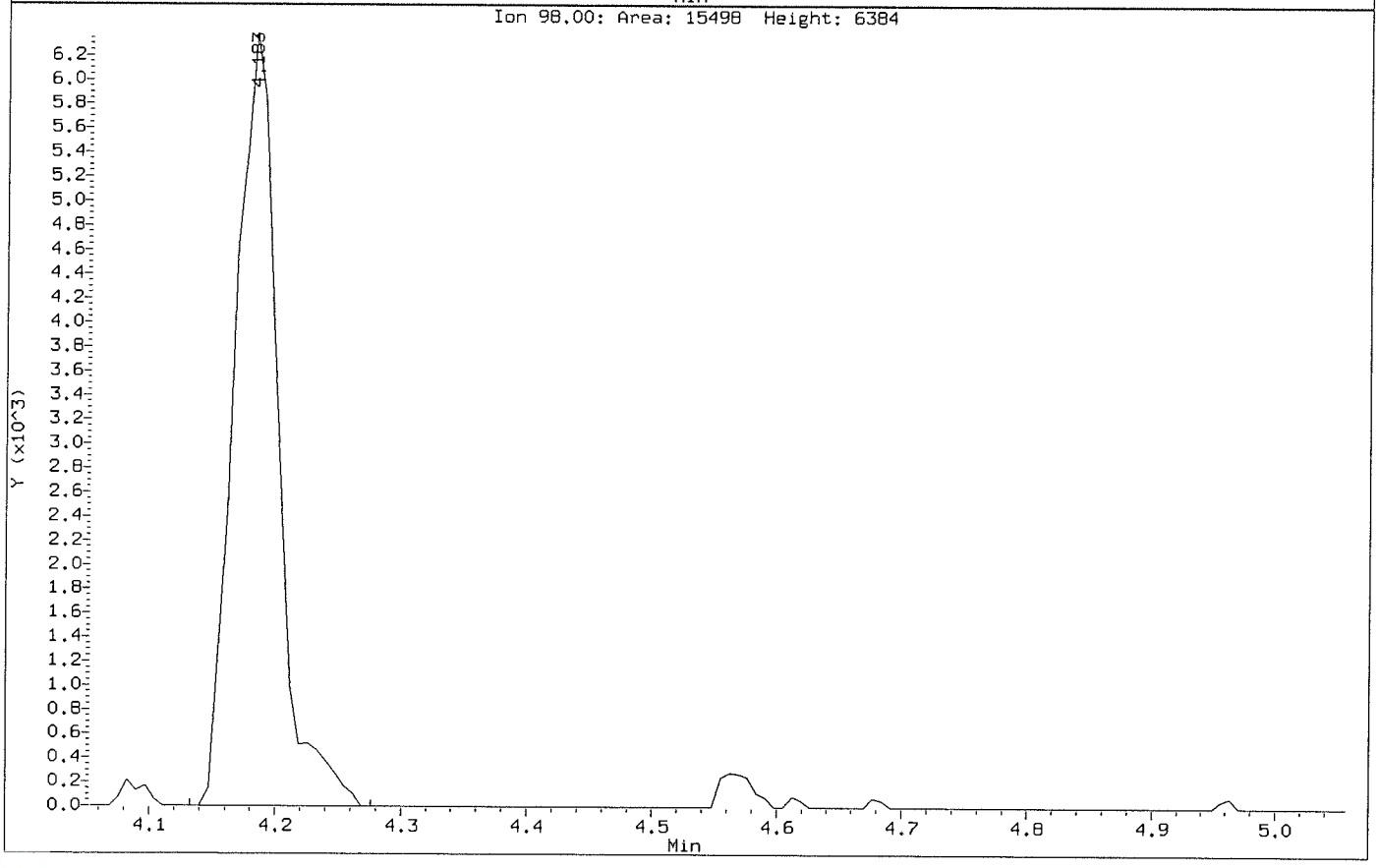
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

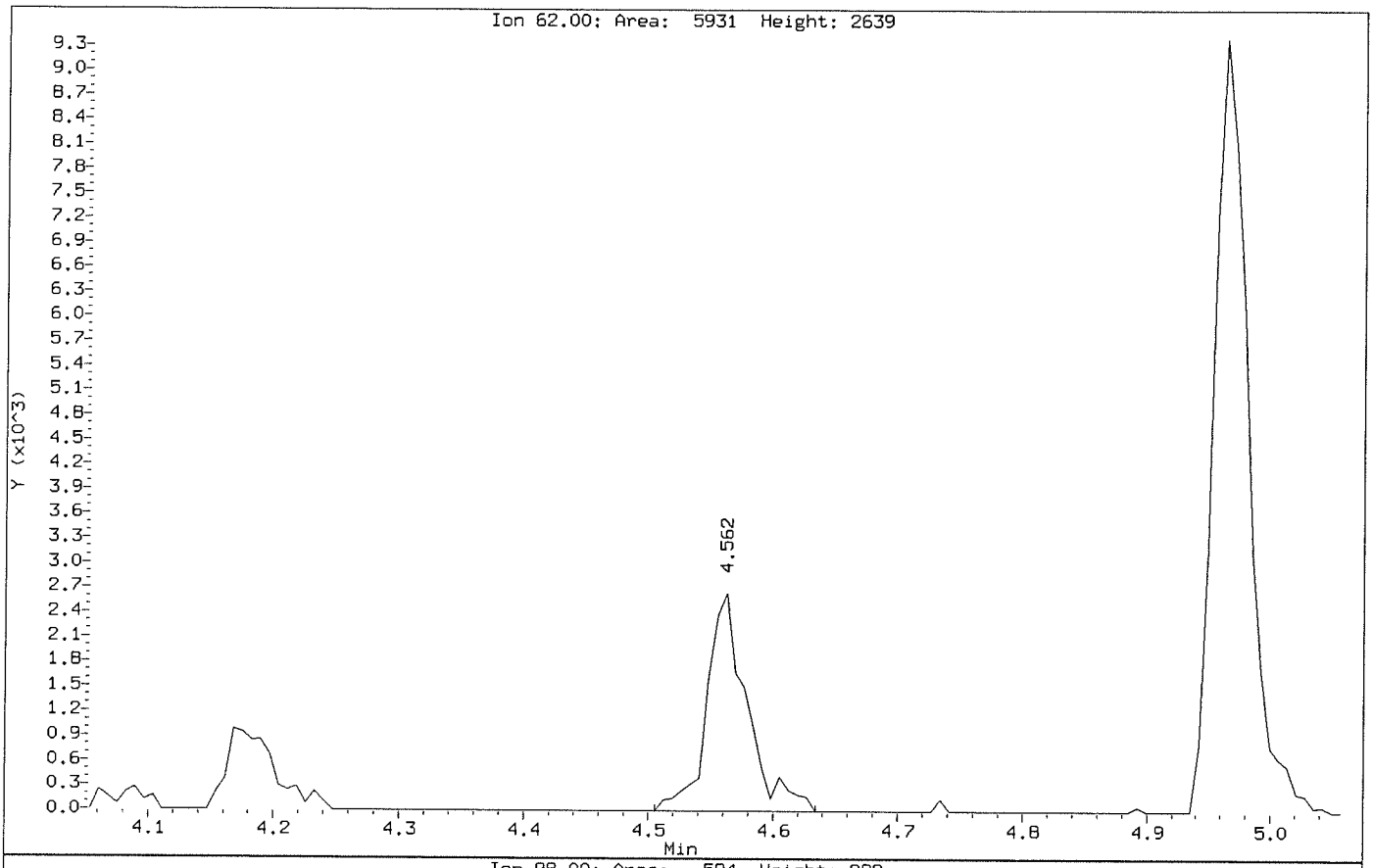
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

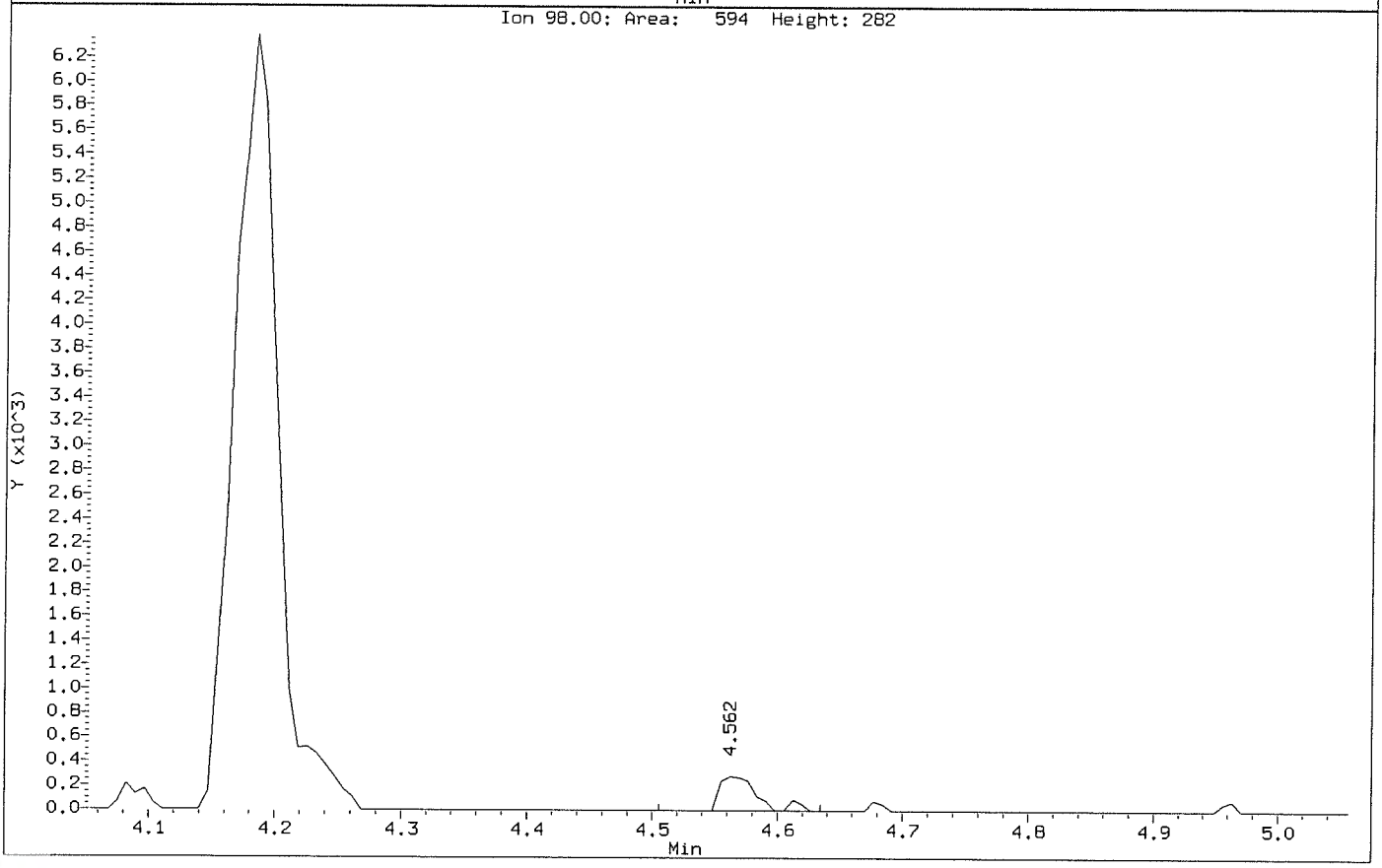




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

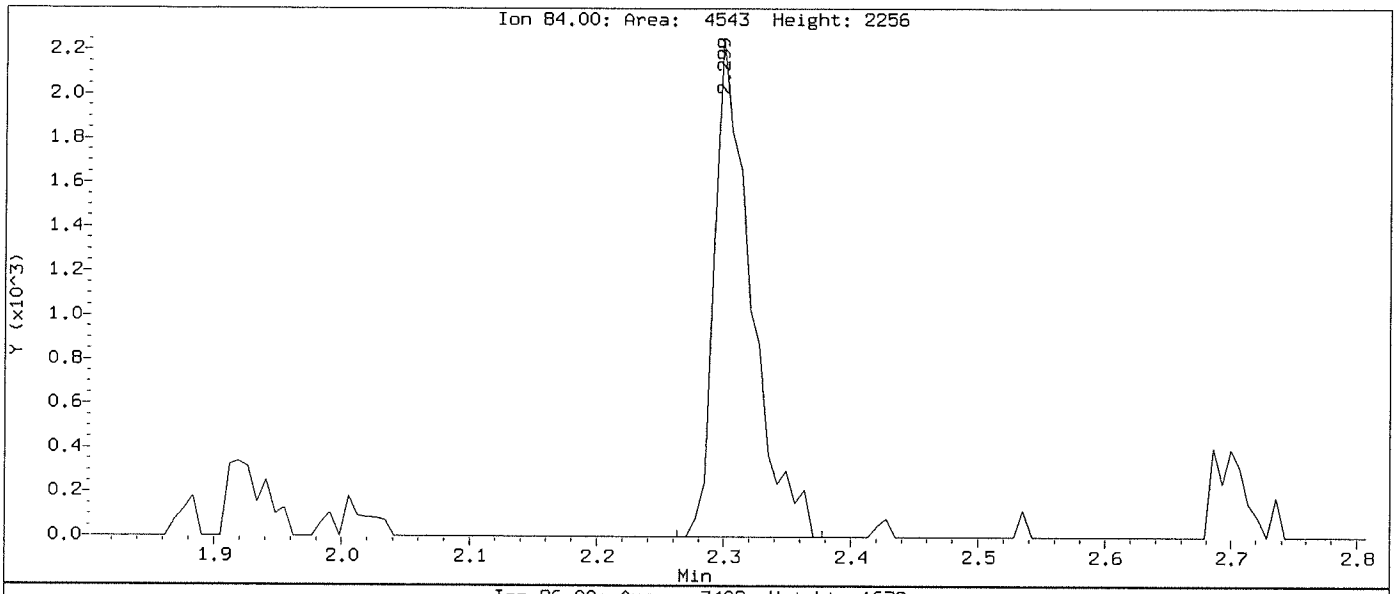
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

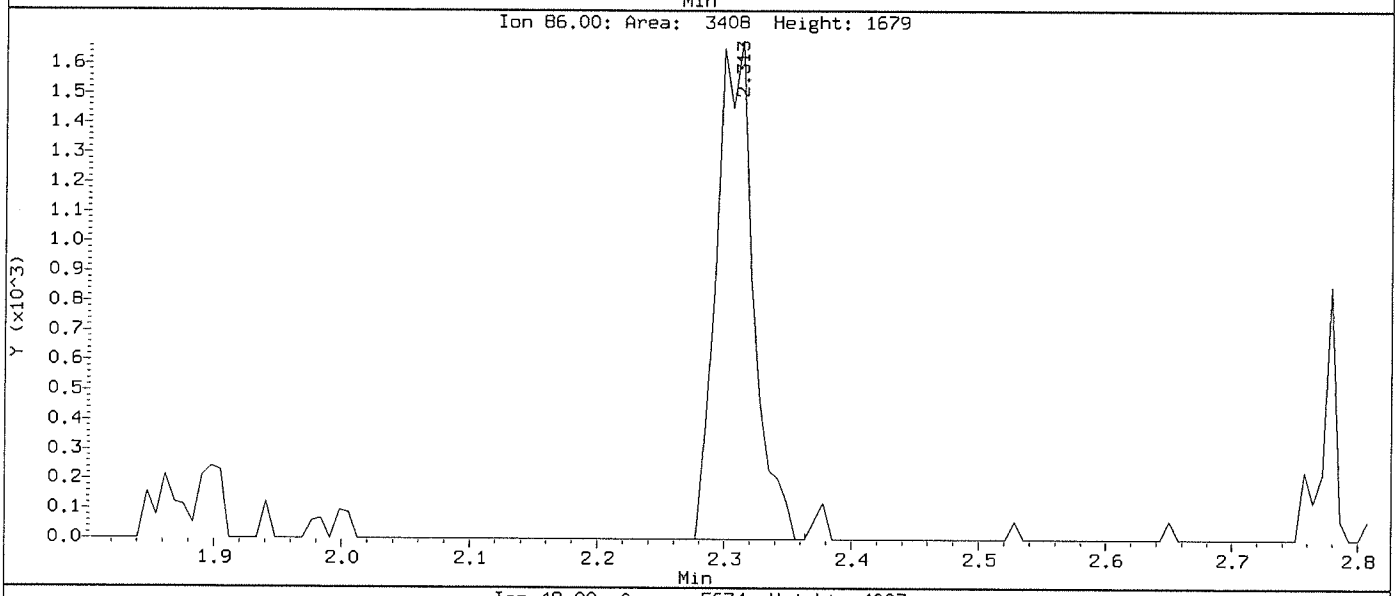


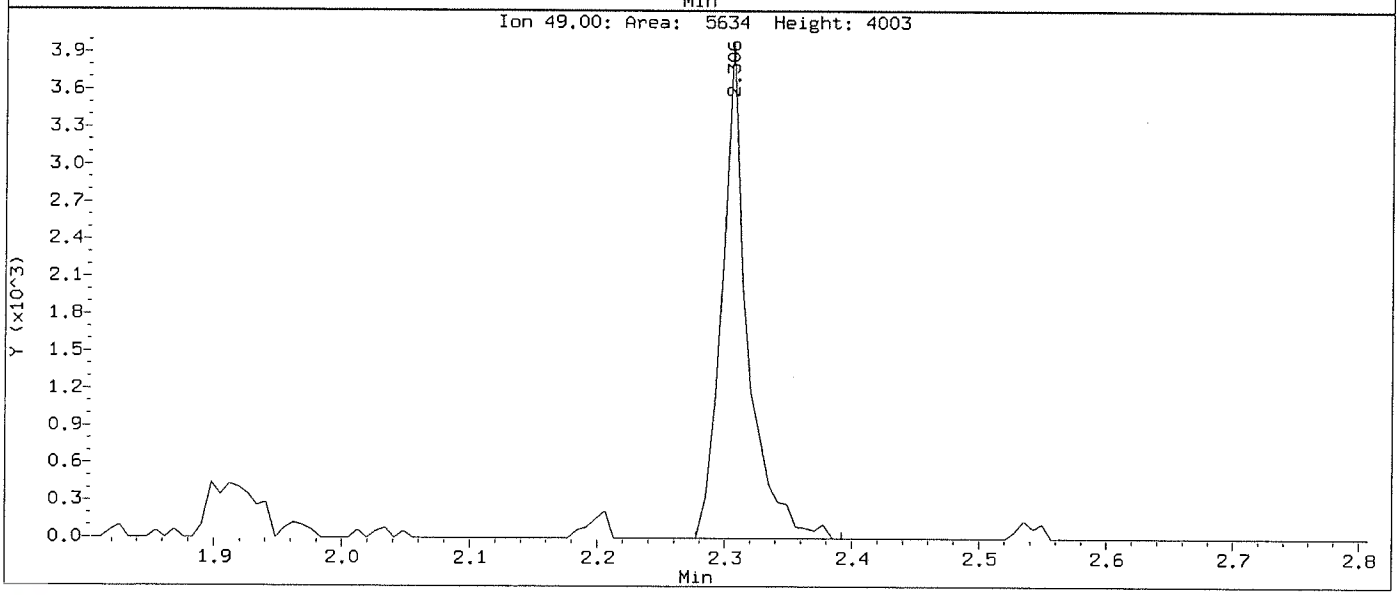


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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

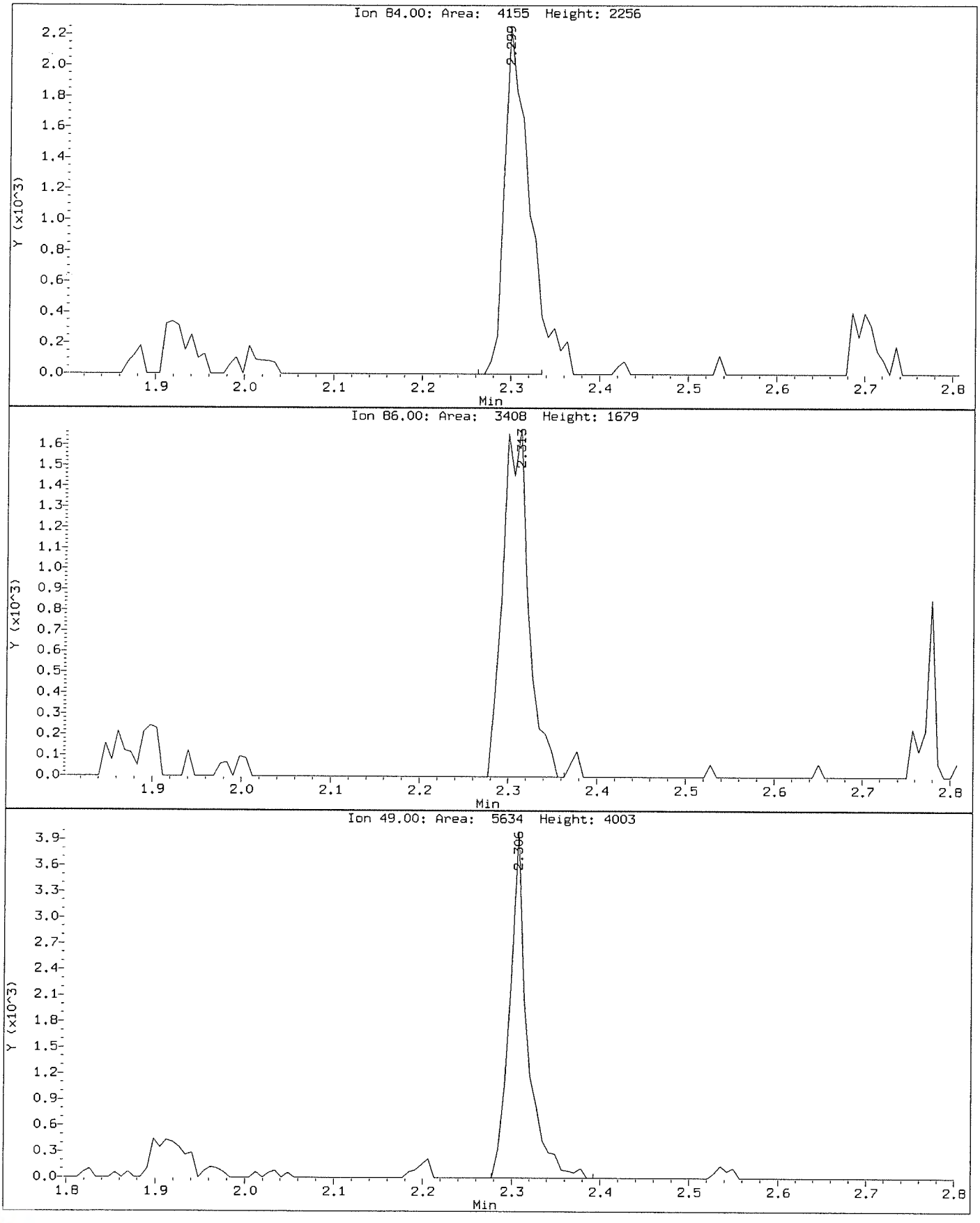






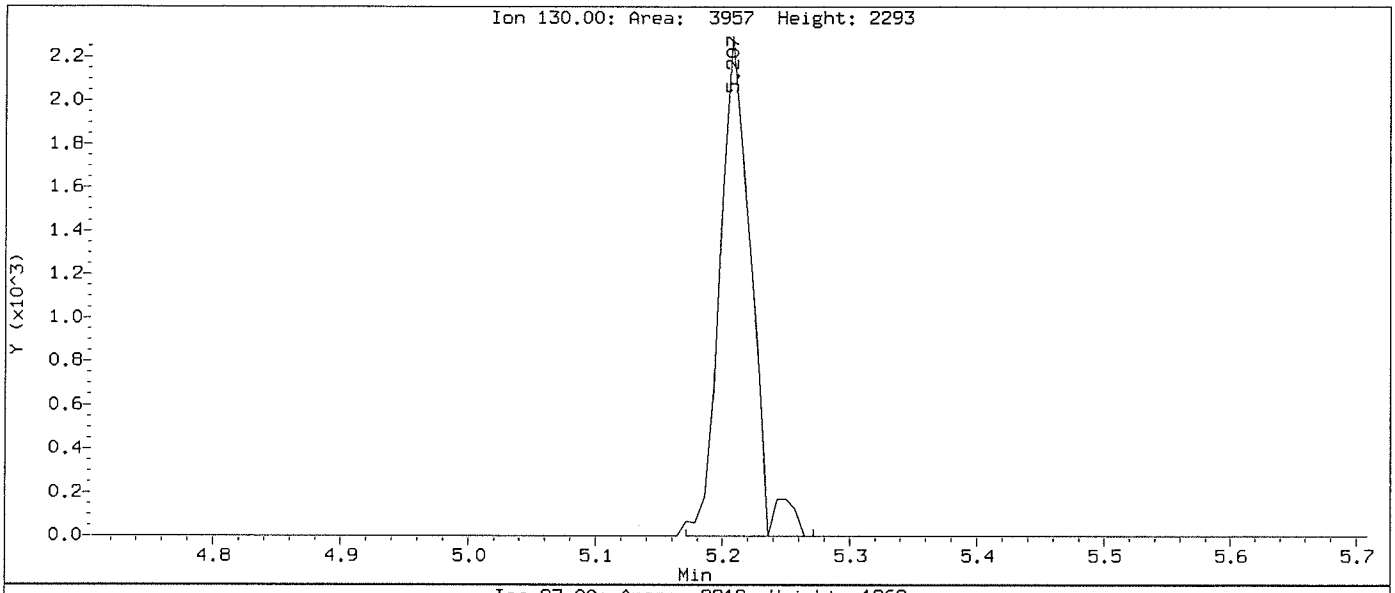
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

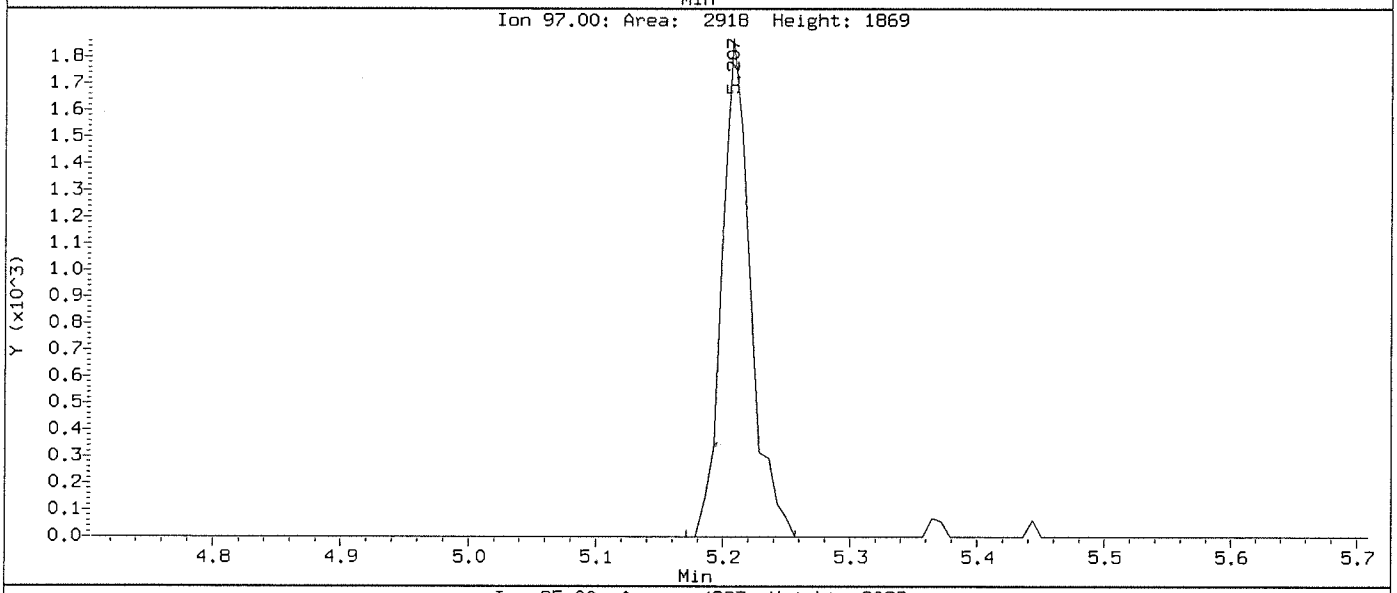
Compound: Methylene Chloride
CAS Number: 75-09-2

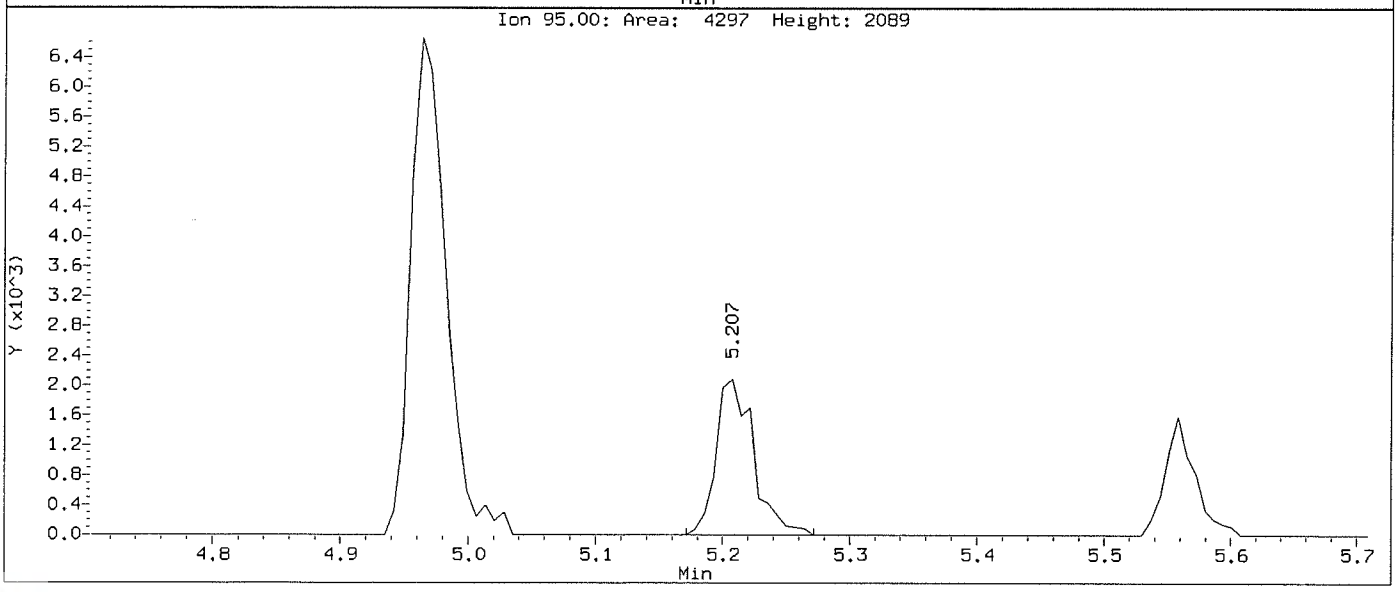


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

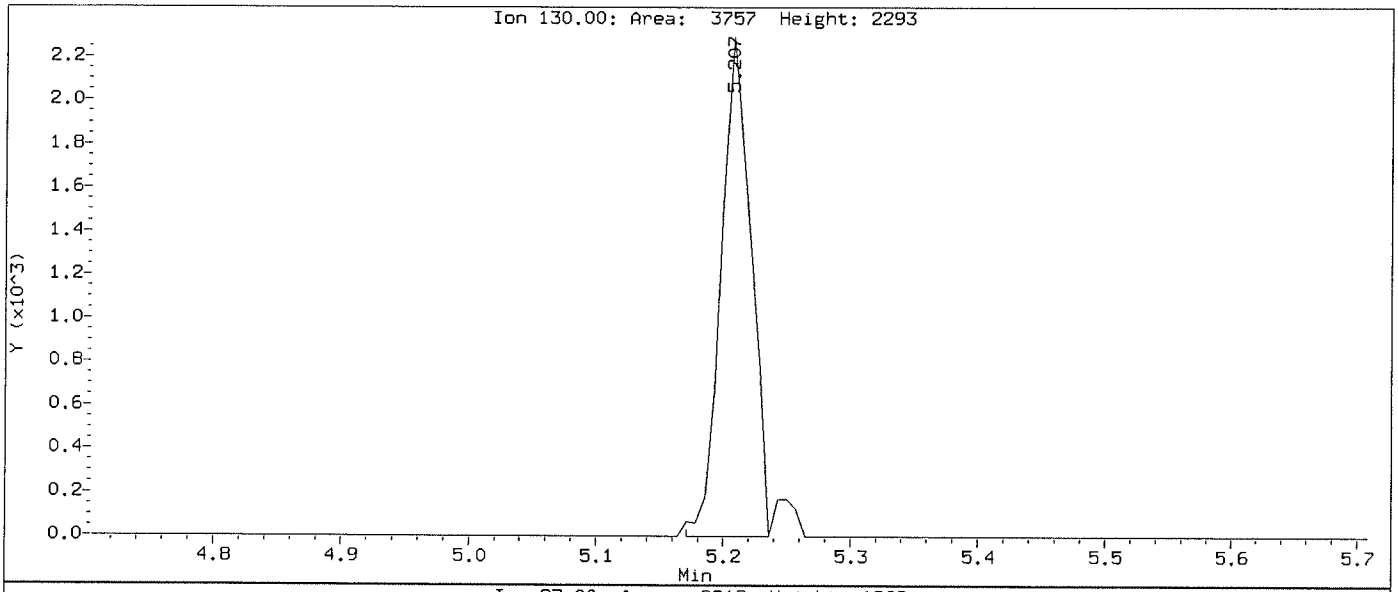


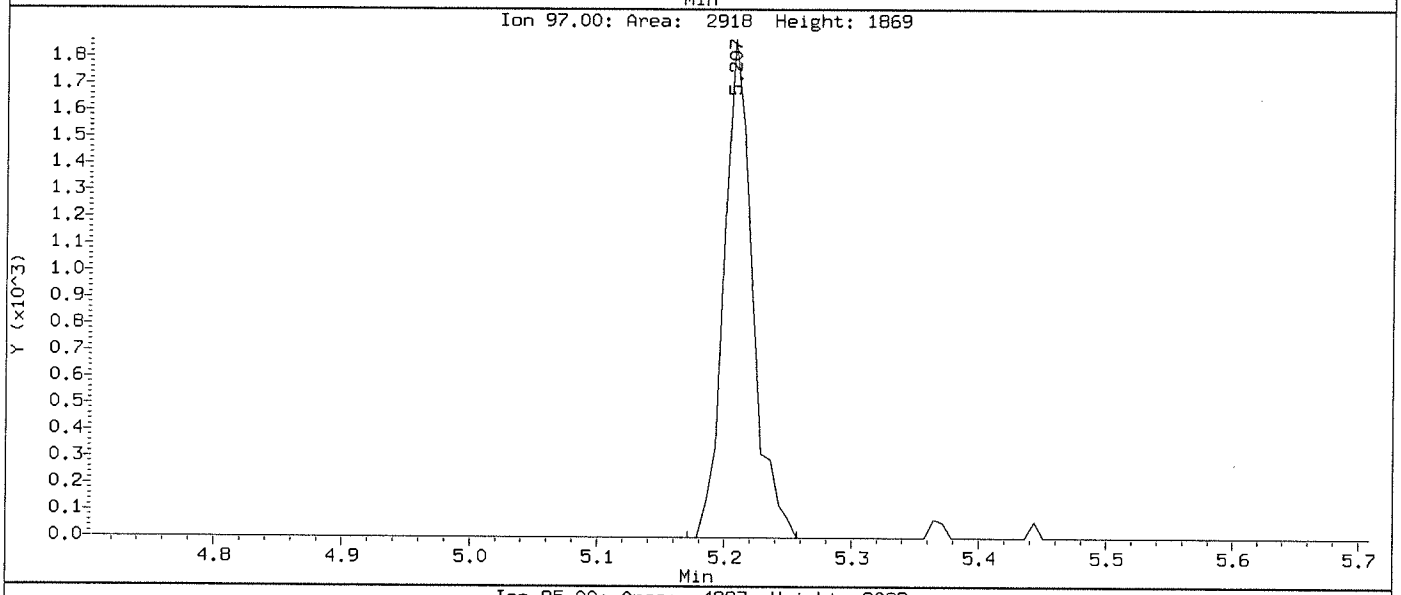


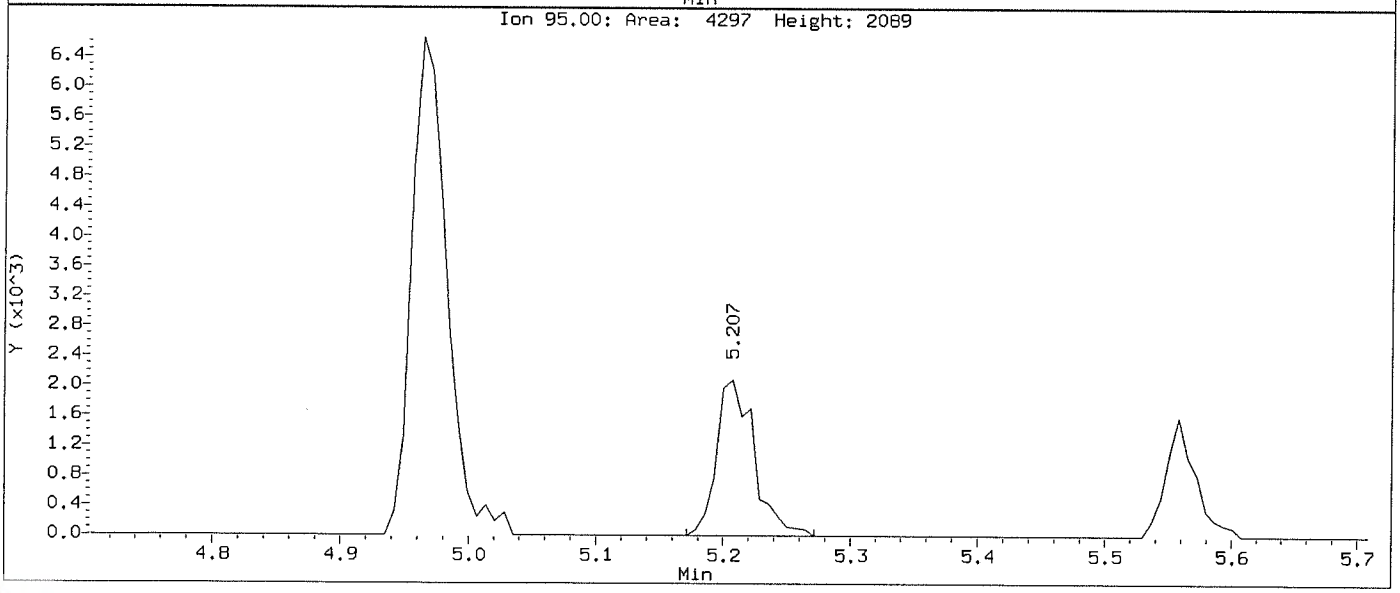


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

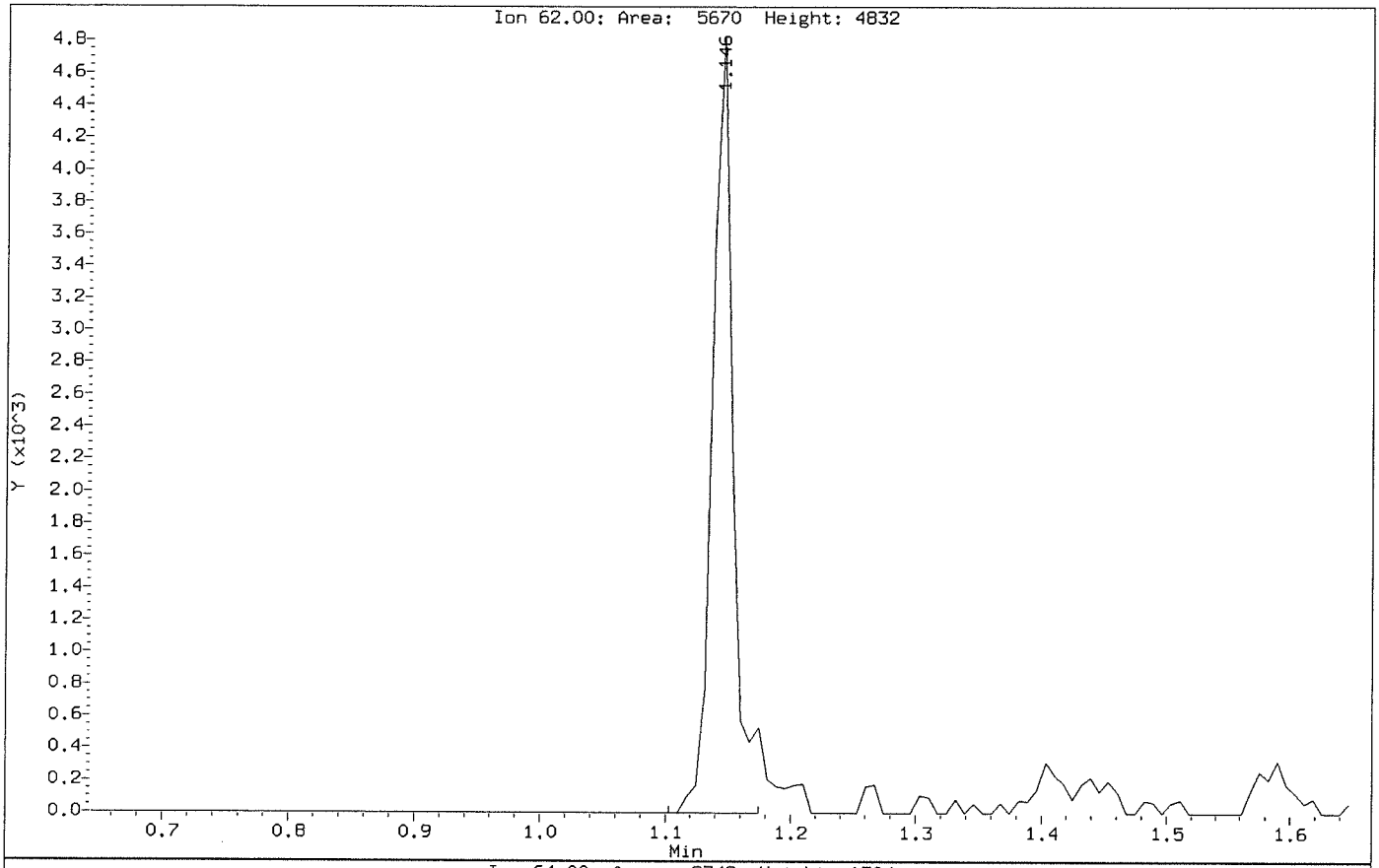


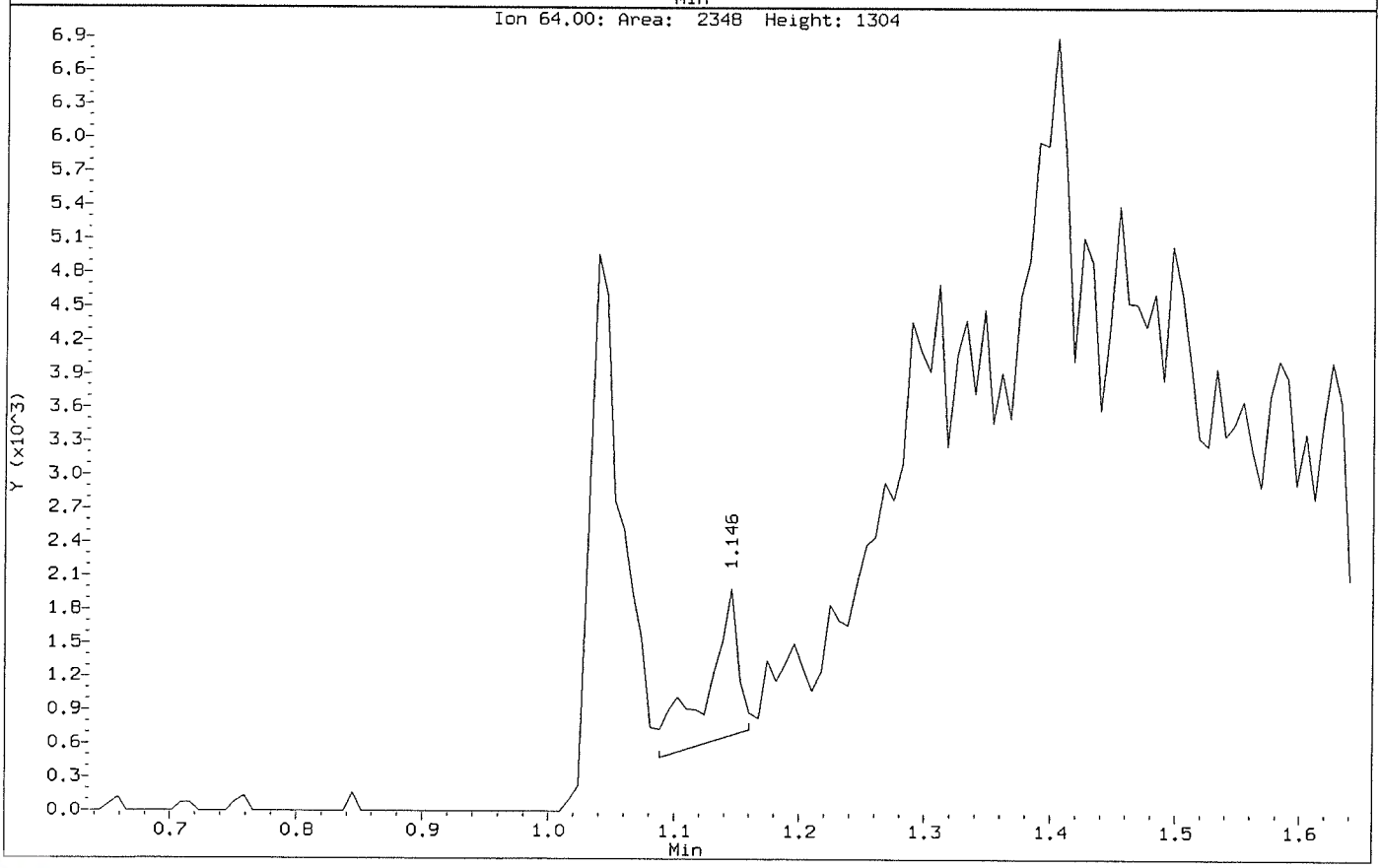




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

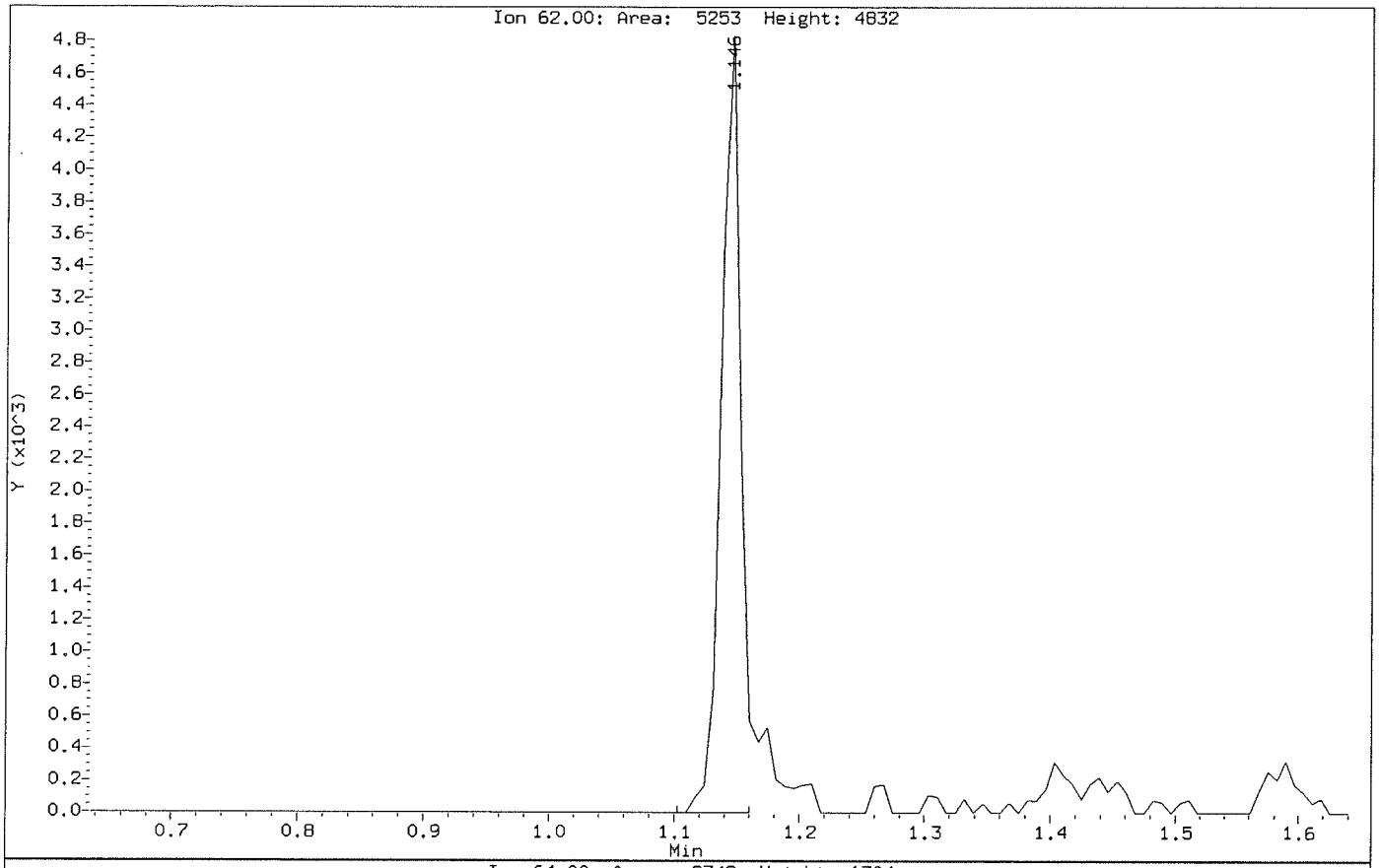
Compound: Vinyl Chloride
CAS Number: 75-01-4

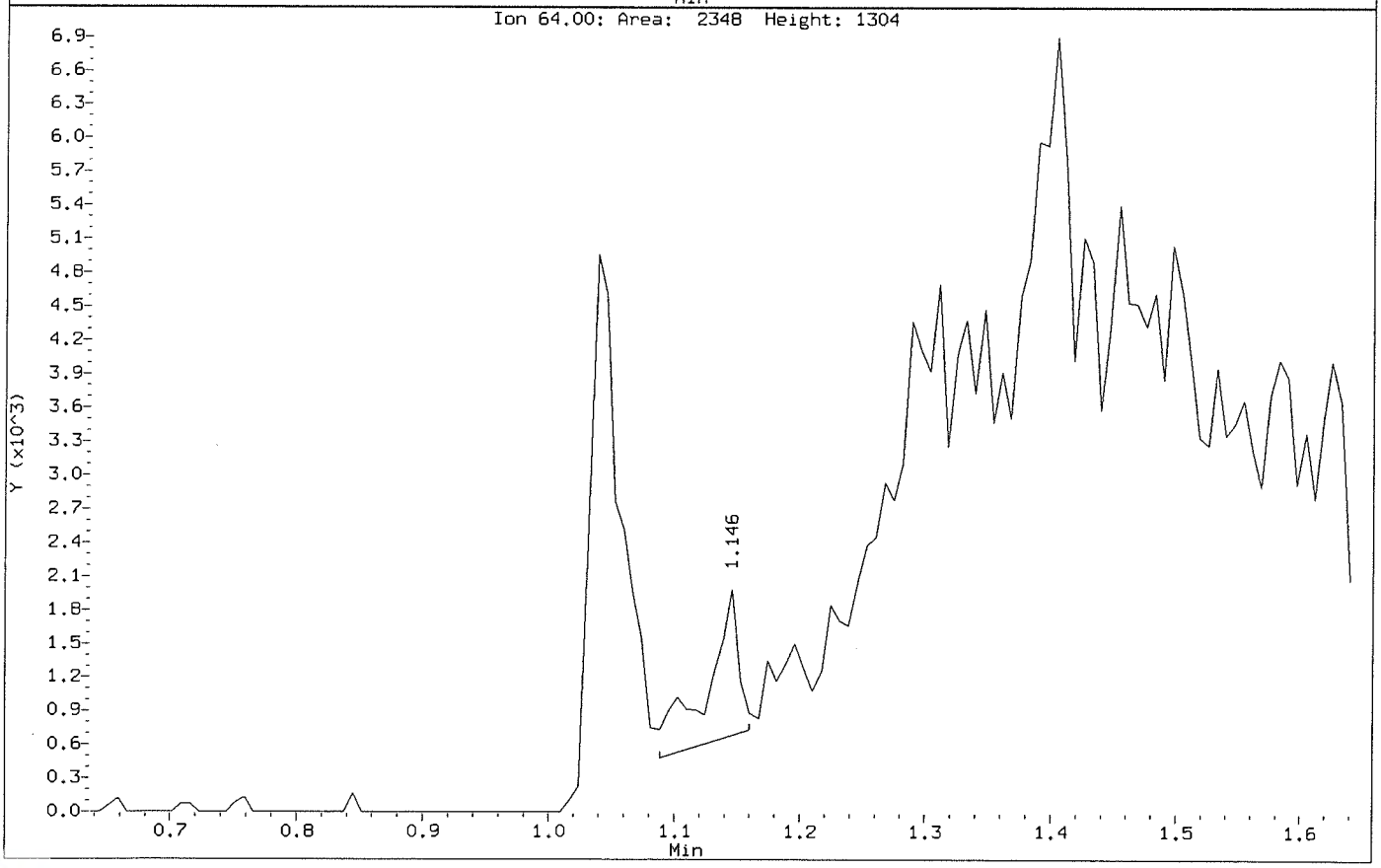




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-APR-2021 12:17
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:56 Cal File: X040204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

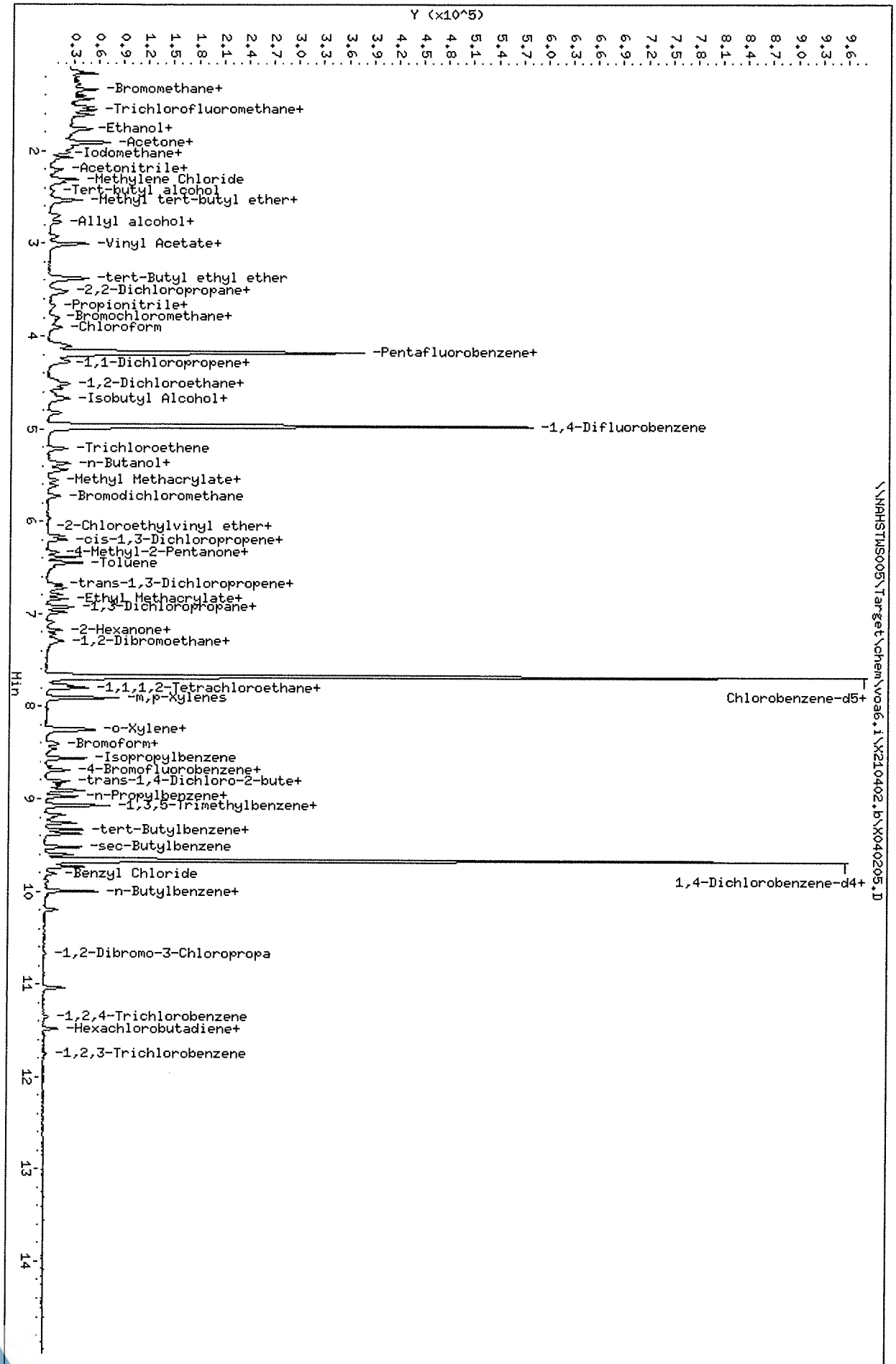
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278535	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	469682	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	424642	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	187429	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	6870	2.00000	2.50
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7506	2.00000	2.37
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	22274	2.00000	3.81
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7732	2.00000	3.48
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5102	2.00000	2.06(a)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	8383	2.00000	2.11(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	9508	2.00000	1.91(aM)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6948	2.00000	2.04
17 Methylene Chloride	84	2.305	2.305	(0.551)	7271	2.00000	3.81(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	6830	2.00000	2.12
5 Vinyl Chloride	62	1.145	1.145	(0.274)	8442	2.00000	2.02(M)

QC Flag Legend

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

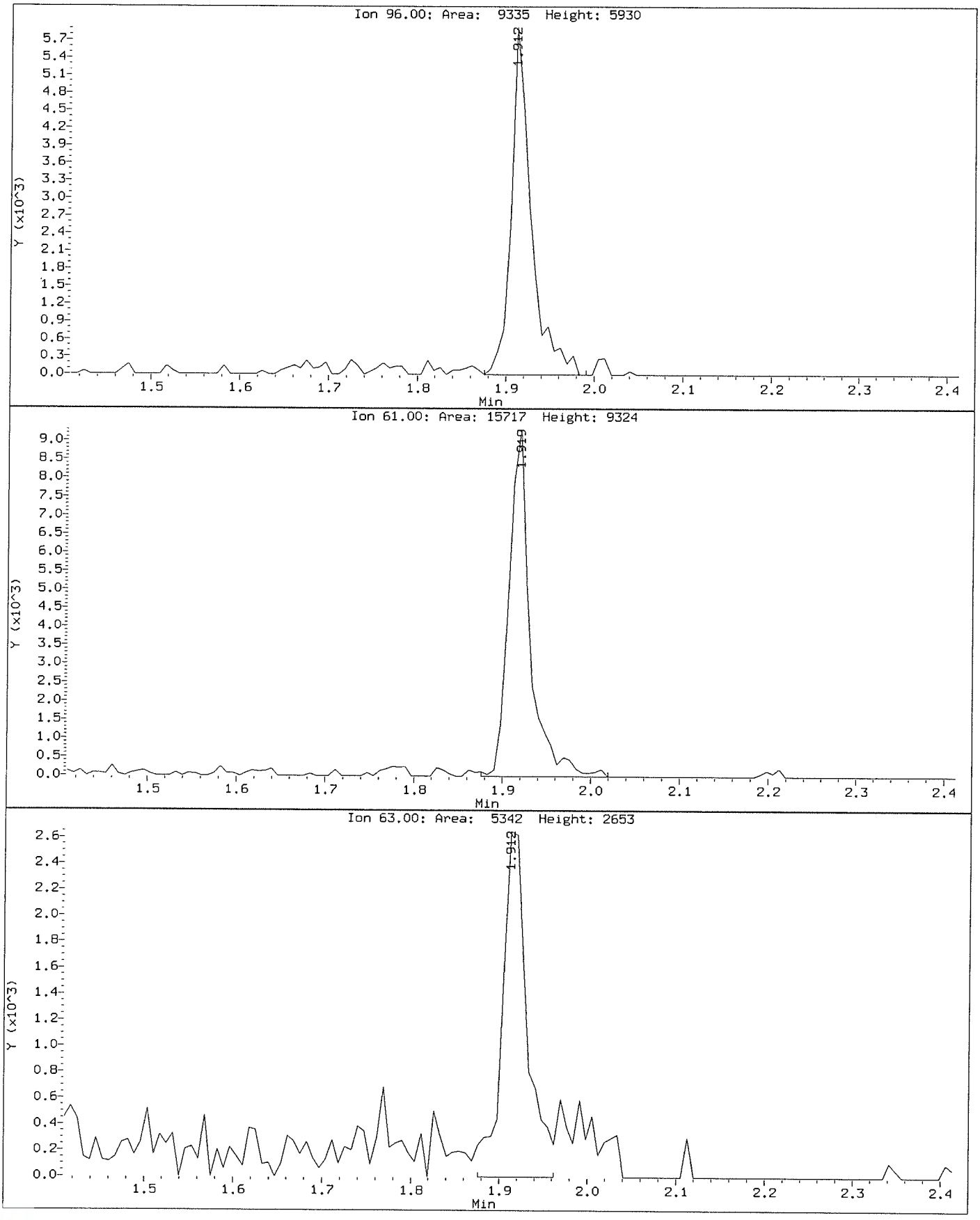


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Date : 02-APR-2021 12:17
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

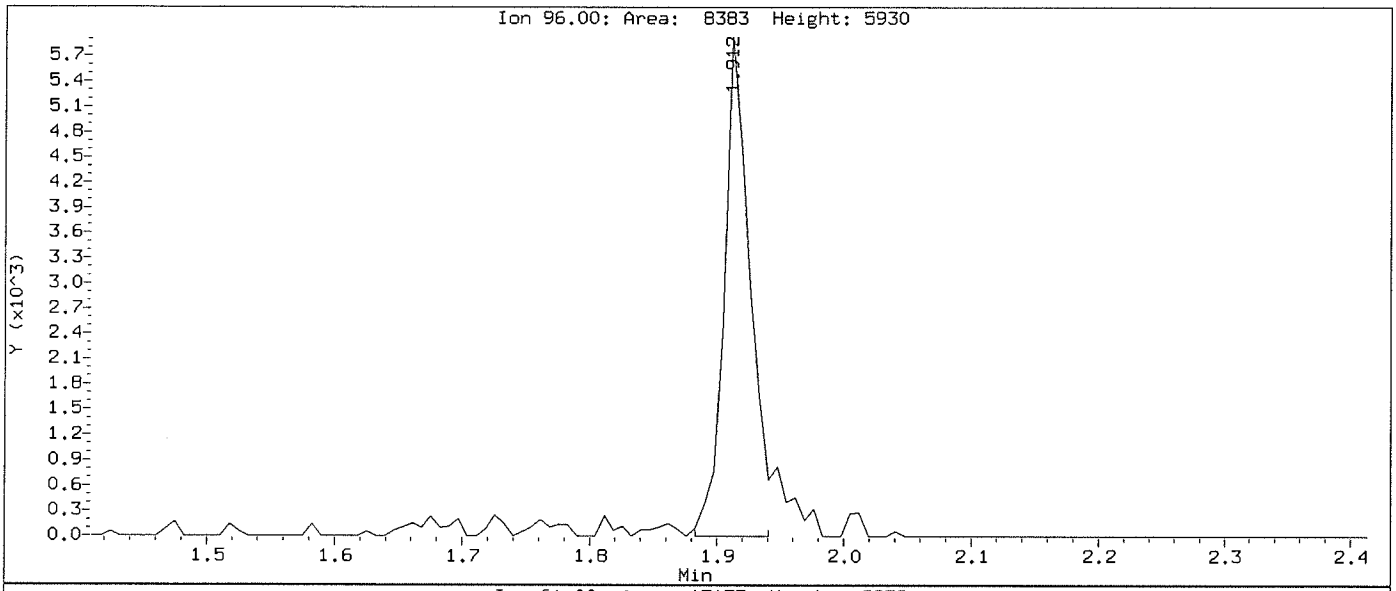
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

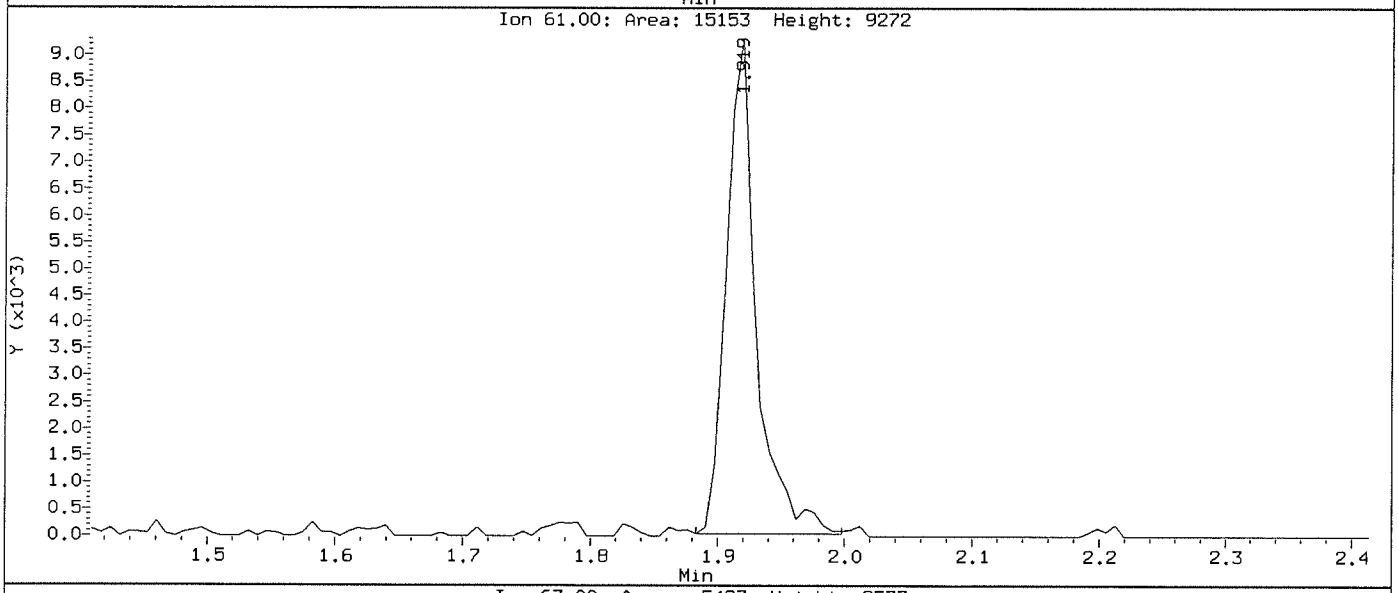
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

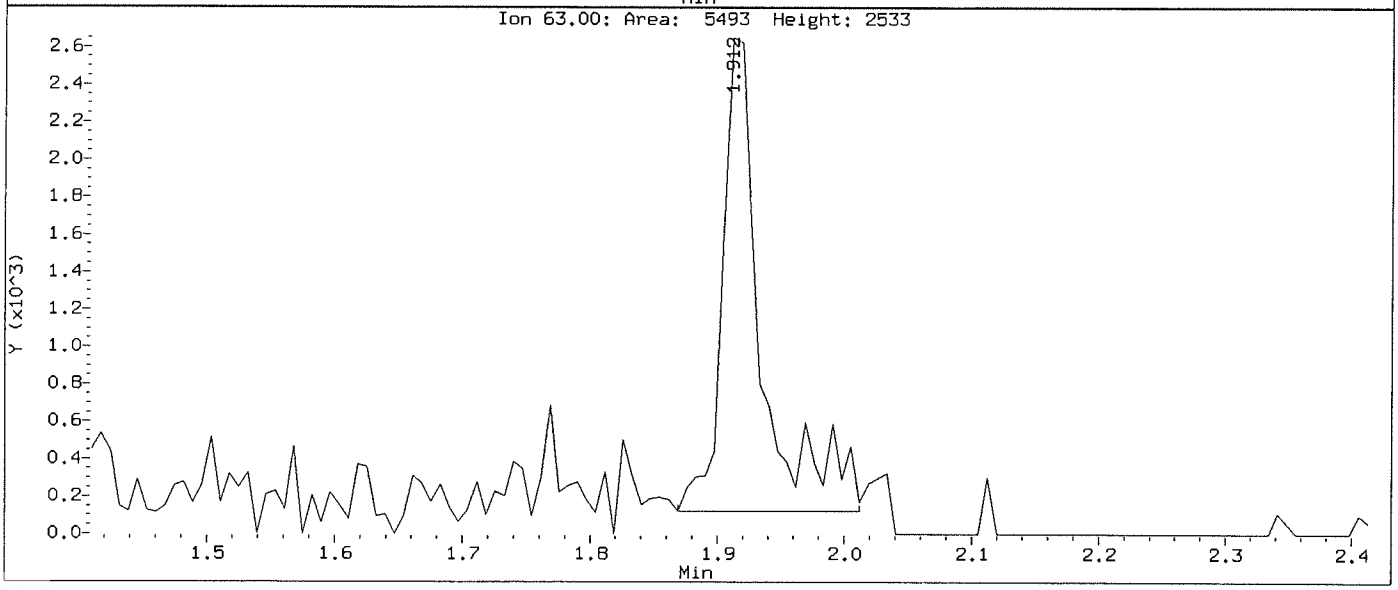


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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

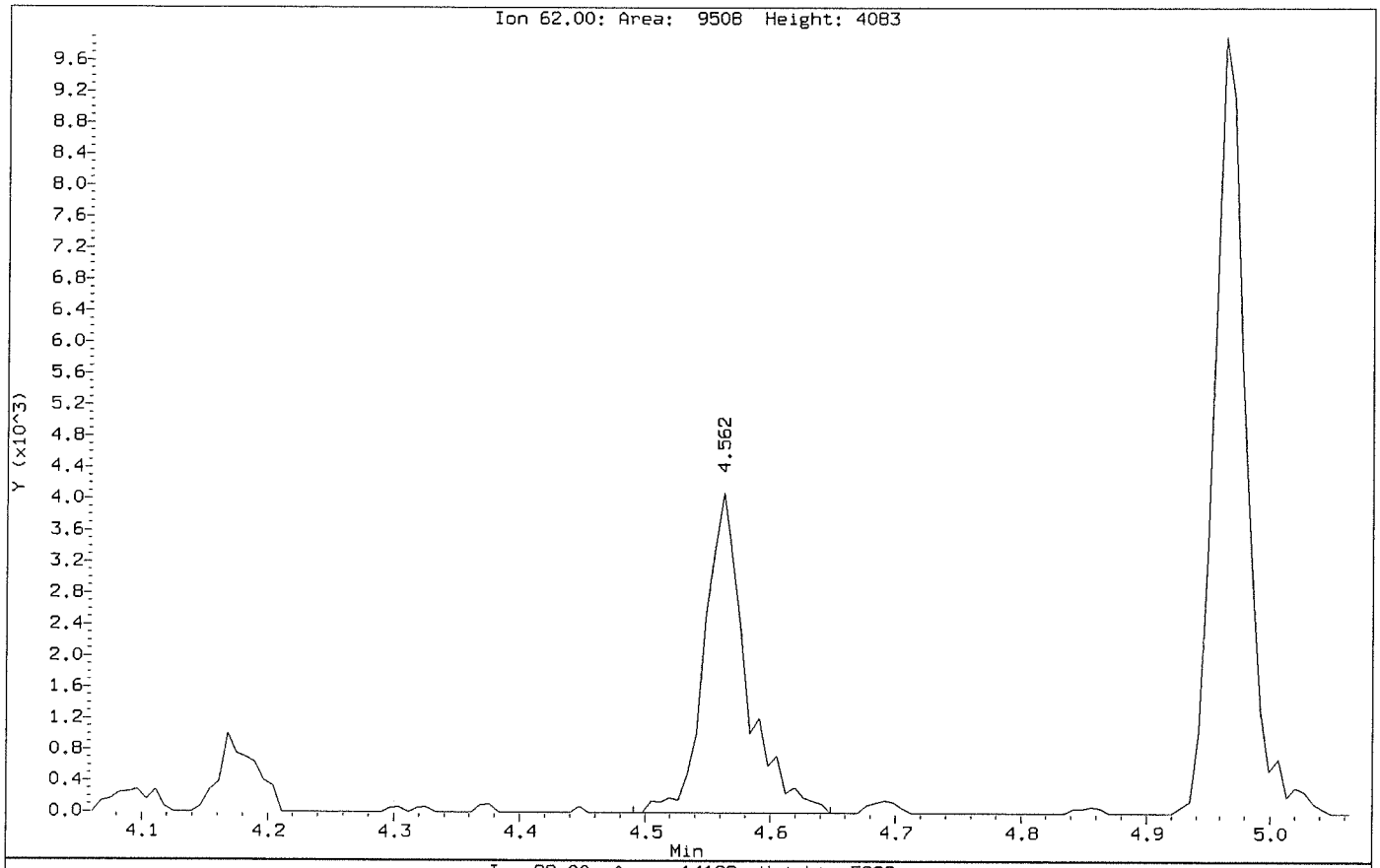


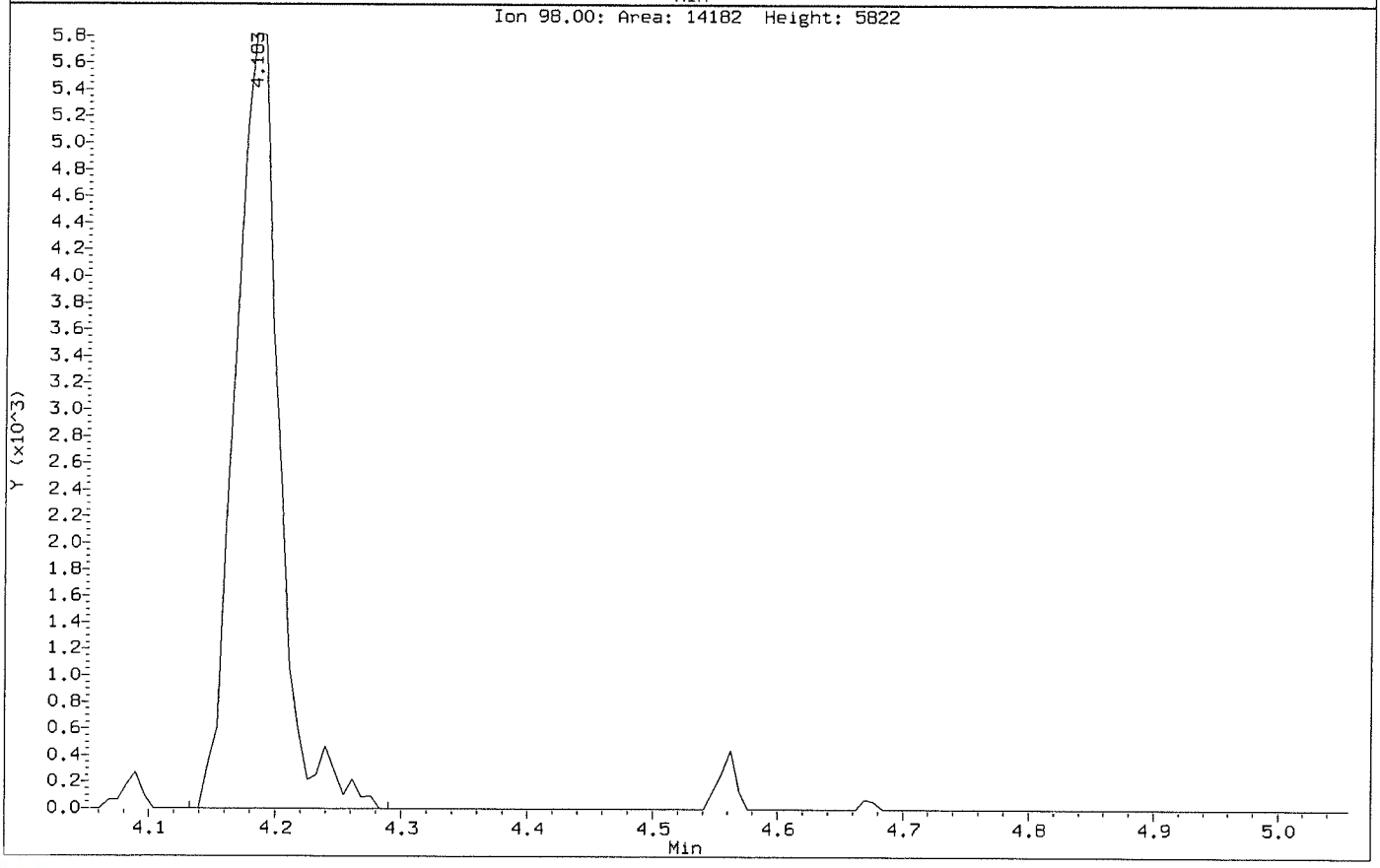




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

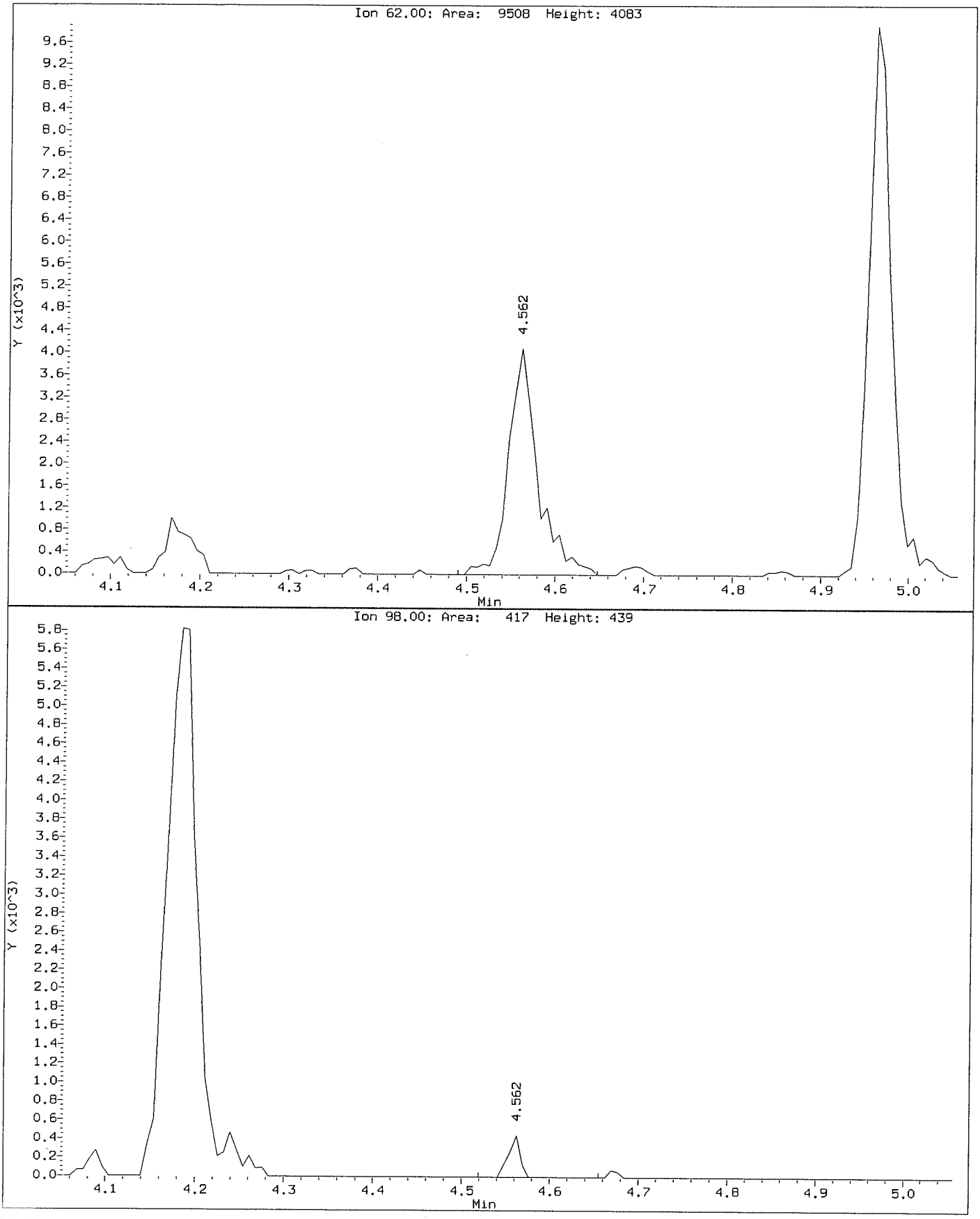
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2





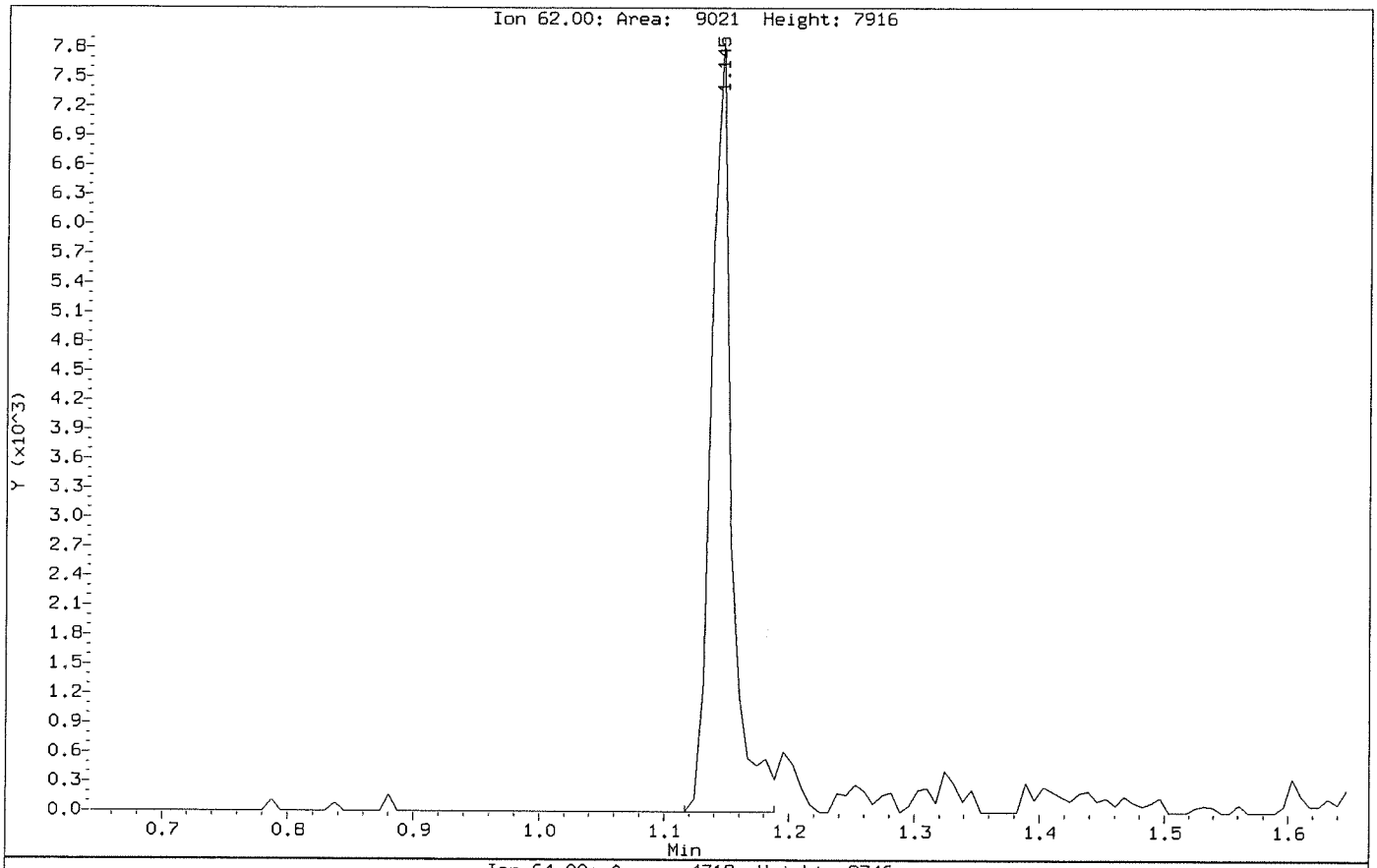
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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

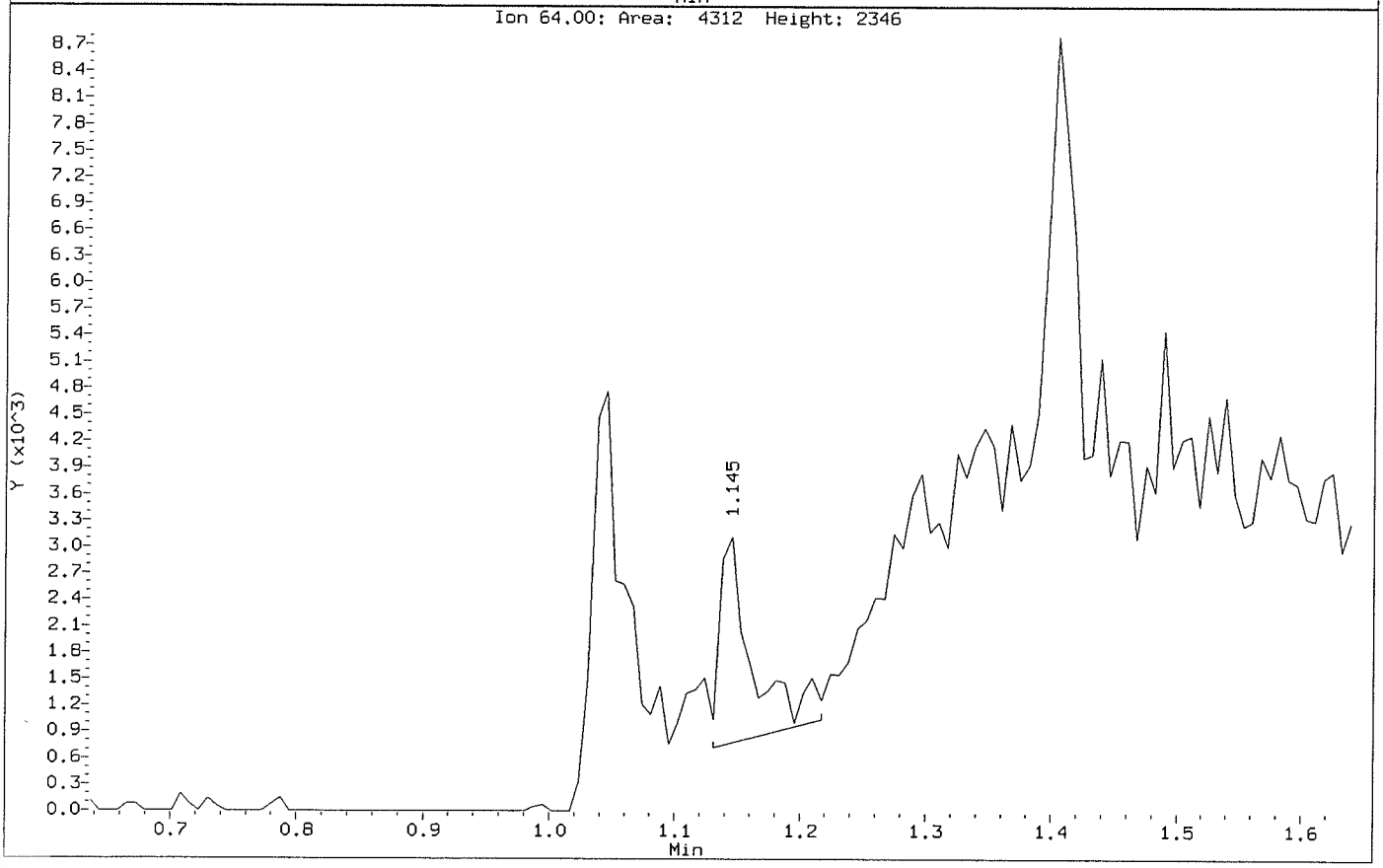
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2



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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

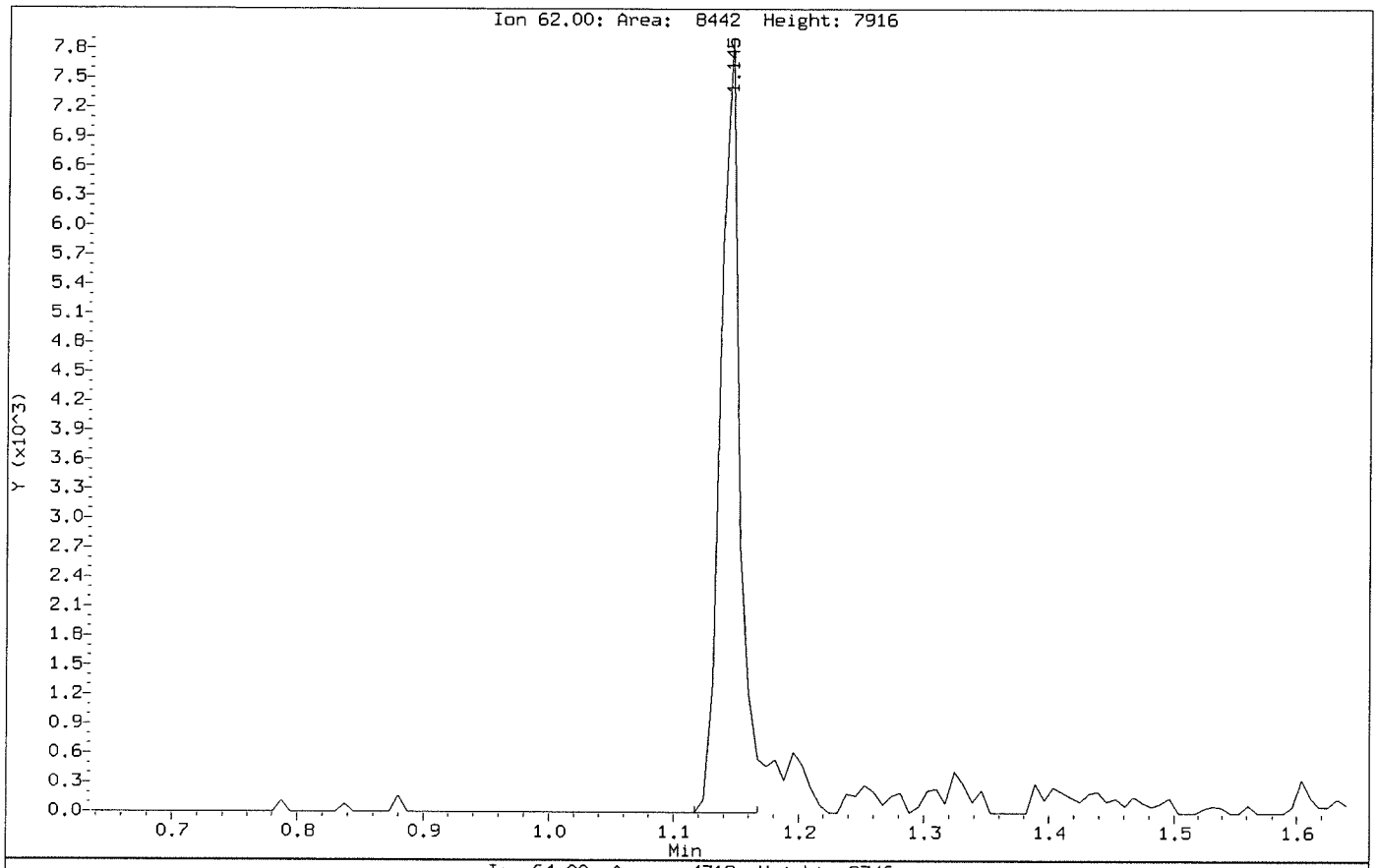
Compound: Vinyl Chloride
CAS Number: 75-01-4

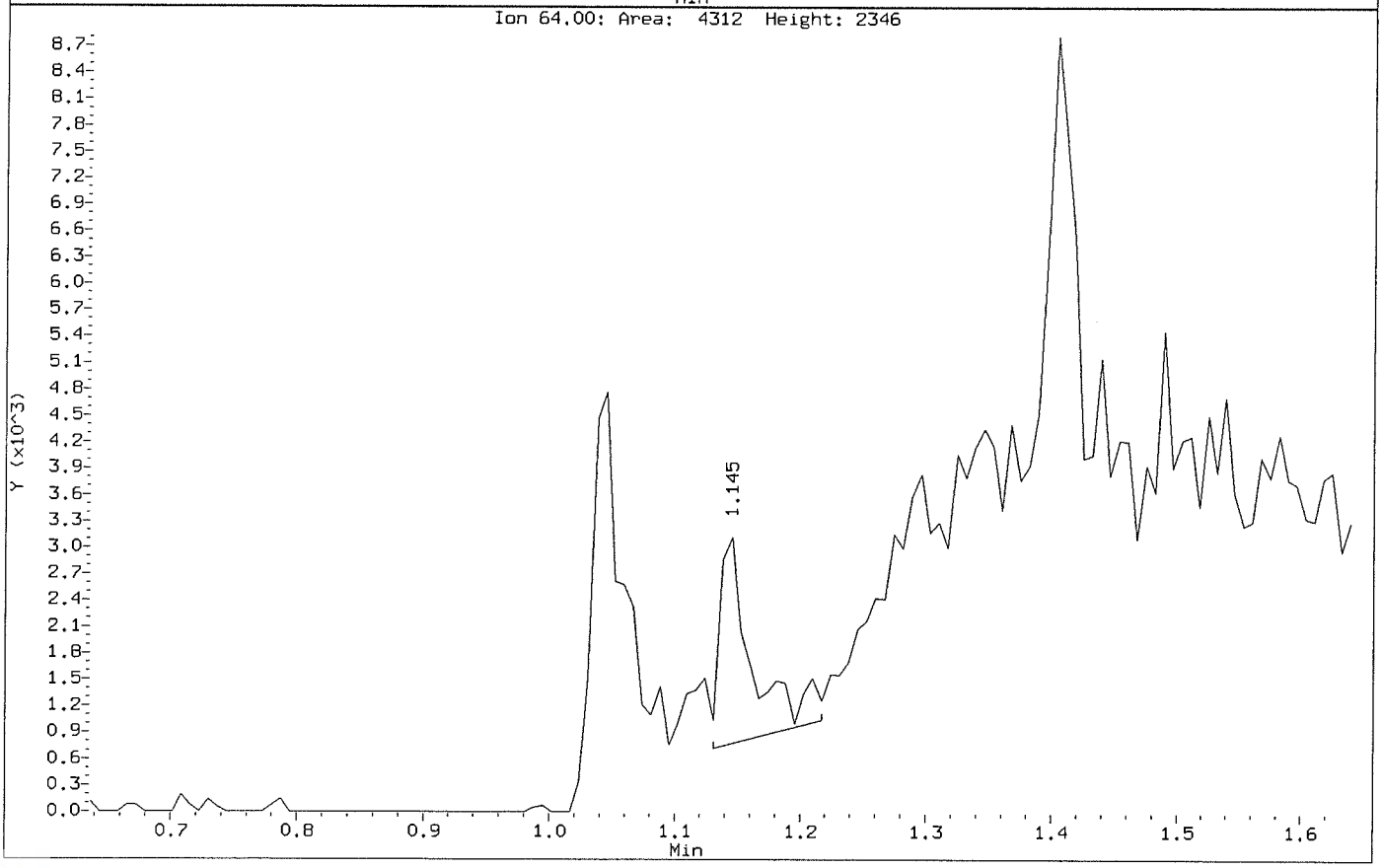




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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D Page 1
Report Date: 04-May-2021 11:39

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-APR-2021 12:38
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:17 Cal File: X040205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

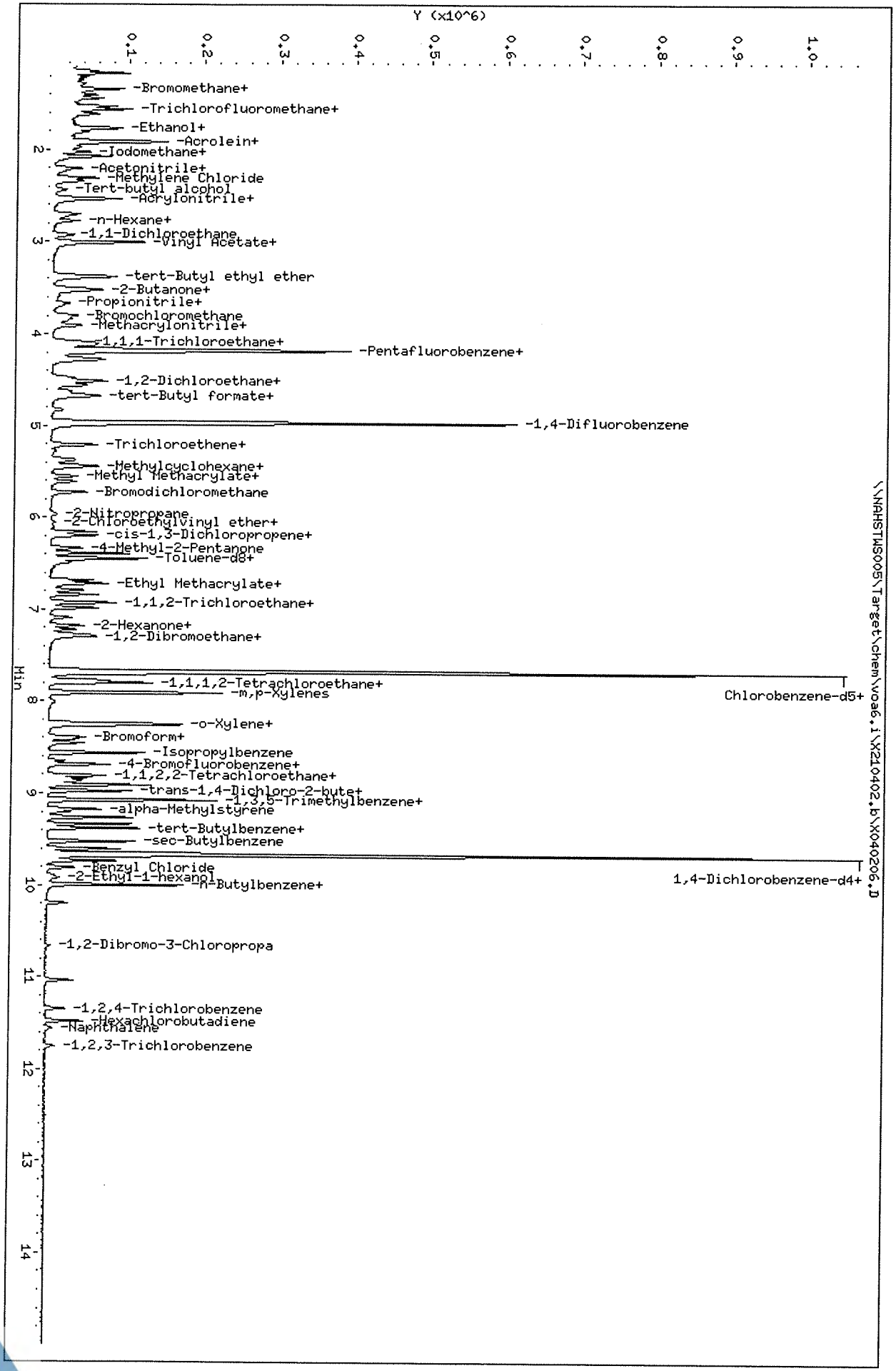
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	291823	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	482057	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	440939	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	205433	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	17824	5.00000	5.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	20809	5.00000	5.48
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	56112	5.00000	6.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	19193	5.00000	6.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	14112	5.00000	5.50
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	22632	5.00000	5.44
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	25538	5.00000	5.00
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17639	5.00000	4.94
17 Methylene Chloride	84	2.306	2.306	(0.551)	17205	5.00000	6.75
38 Trichloroethene	130	5.207	5.207	(1.049)	18140	5.00000	5.49
5 Vinyl Chloride	62	1.145	1.145	(0.274)	22066	5.00000	5.04(M)

QC Flag Legend

M - Compound response manually integrated.

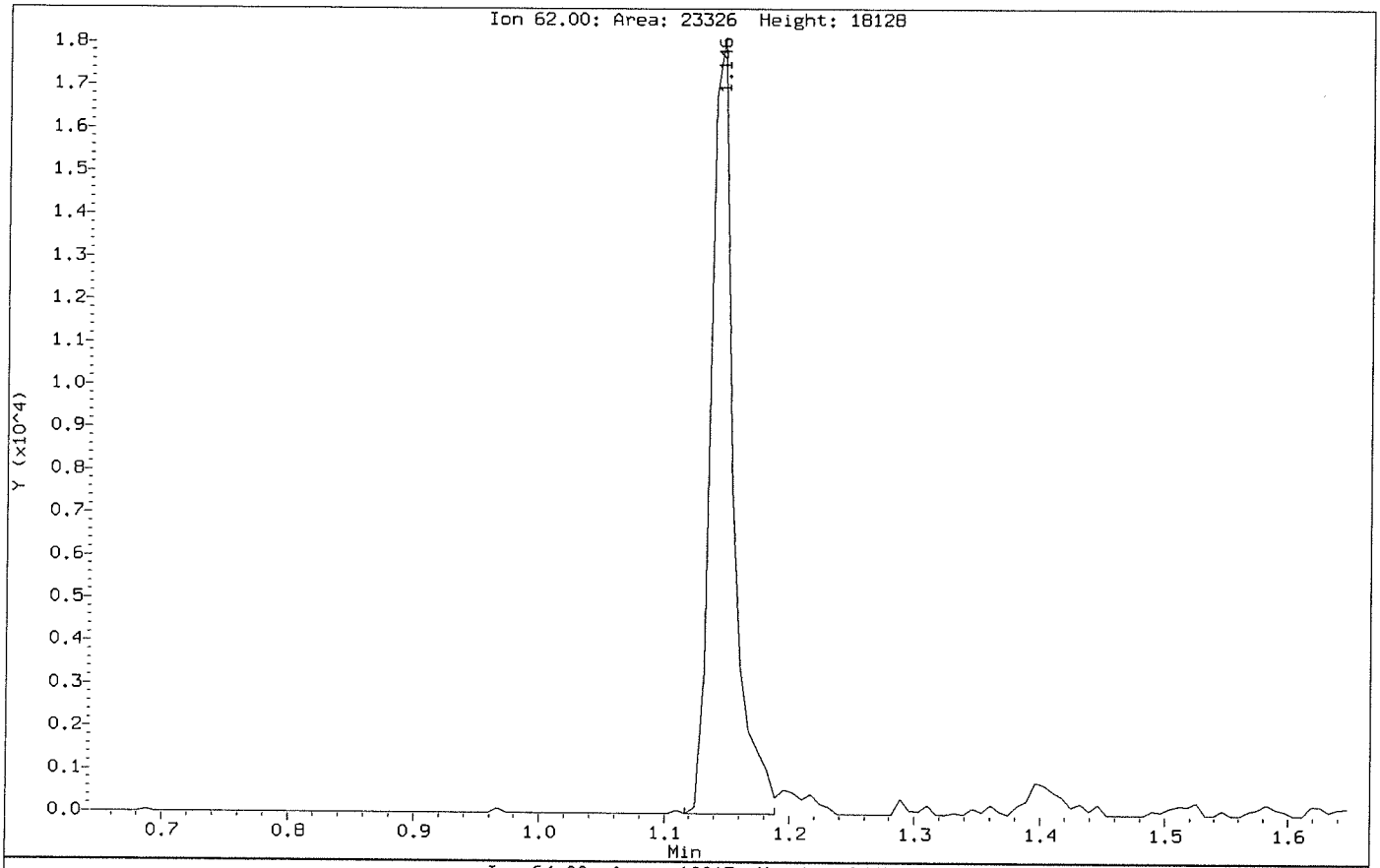


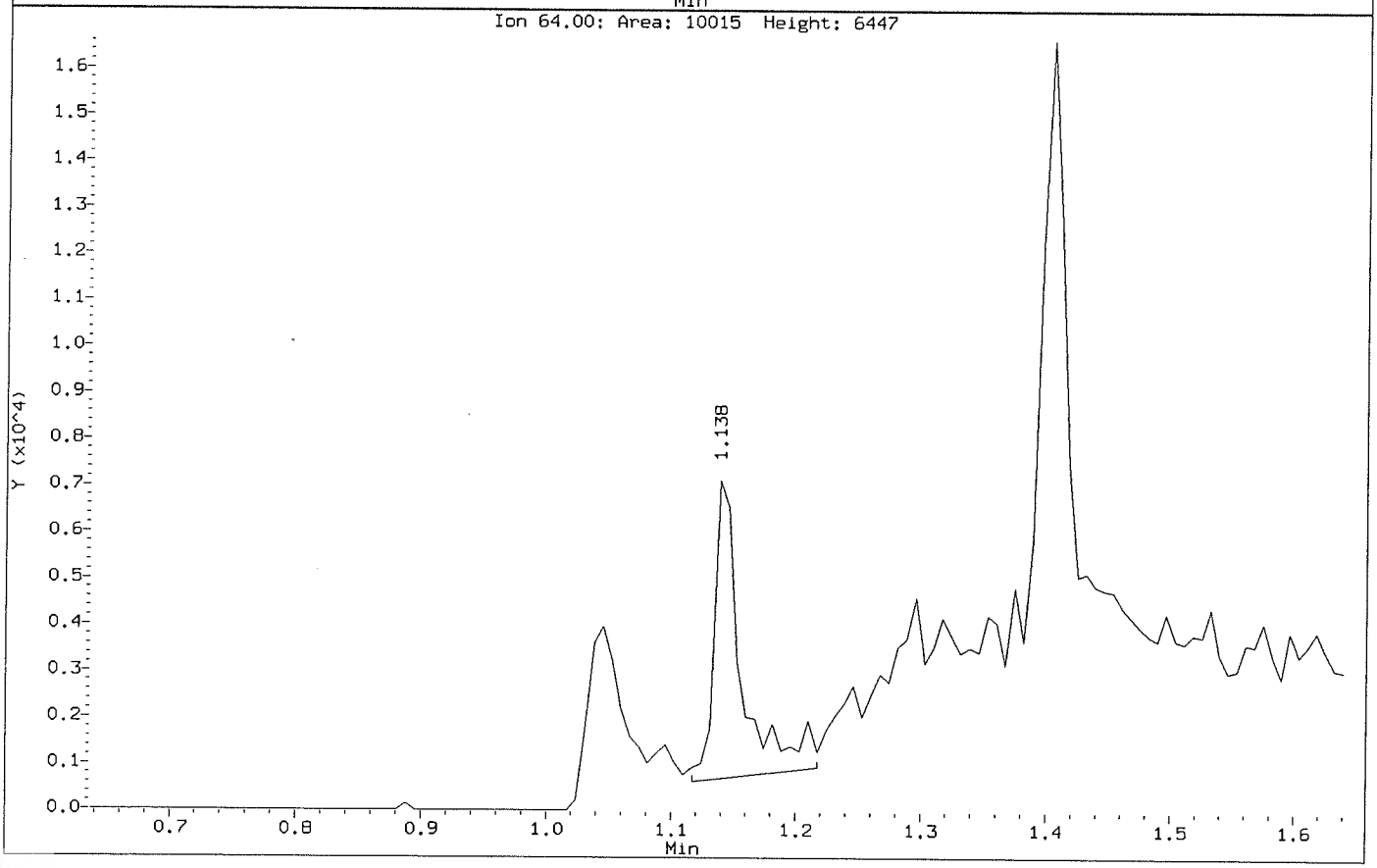
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Date : 02-APR-2021 12:38
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

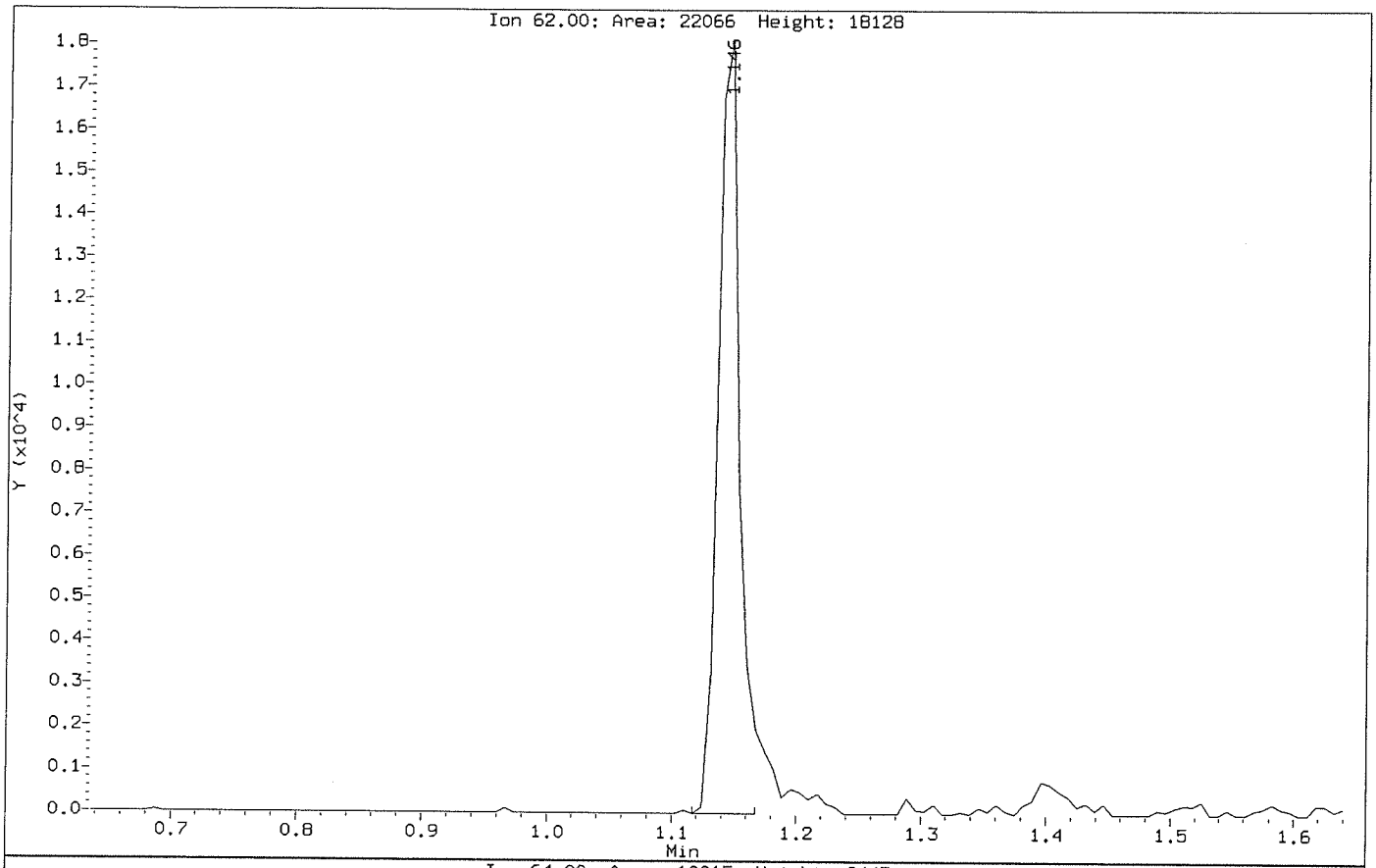
Compound: Vinyl Chloride
CAS Number: 75-01-4

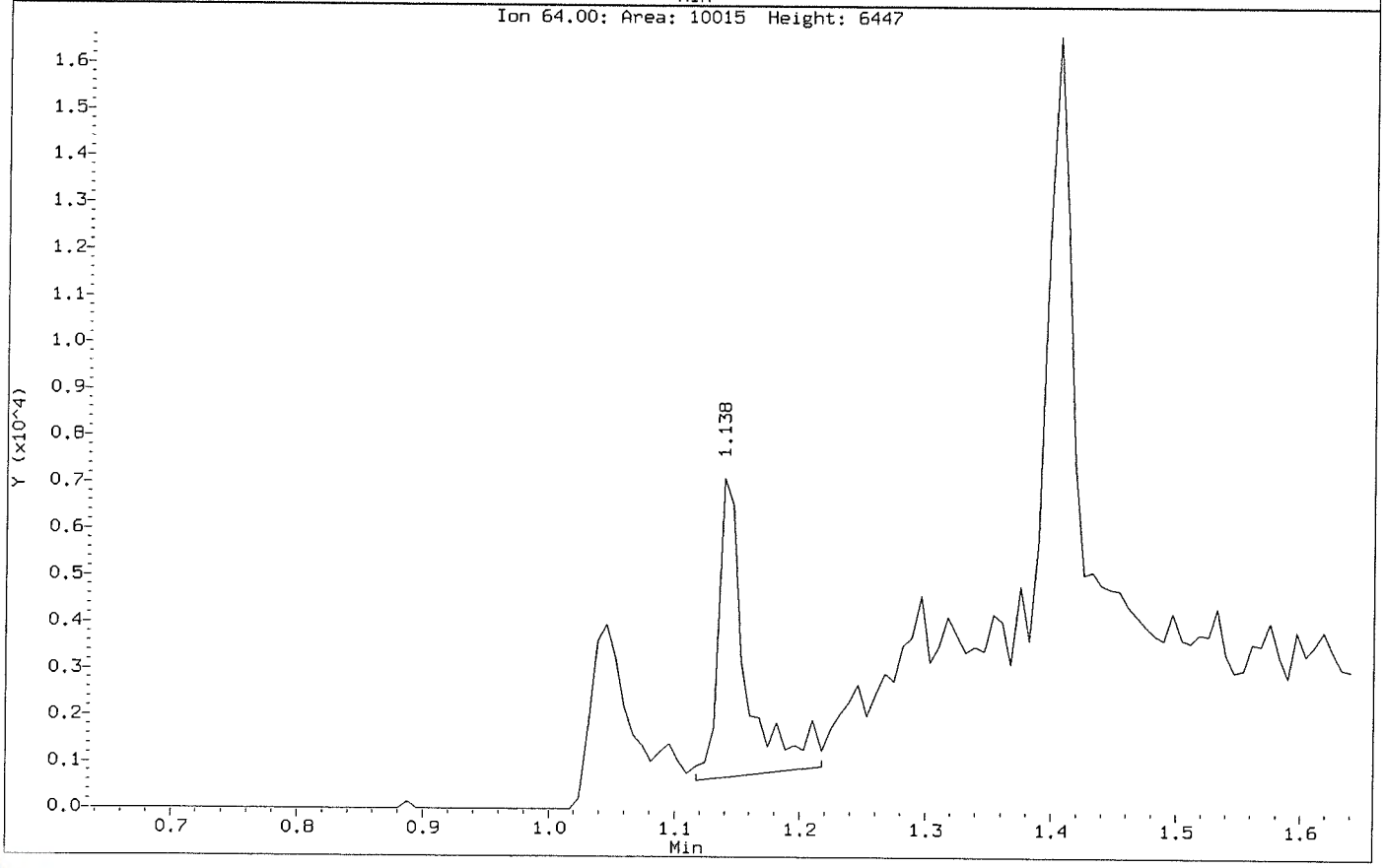




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Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

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





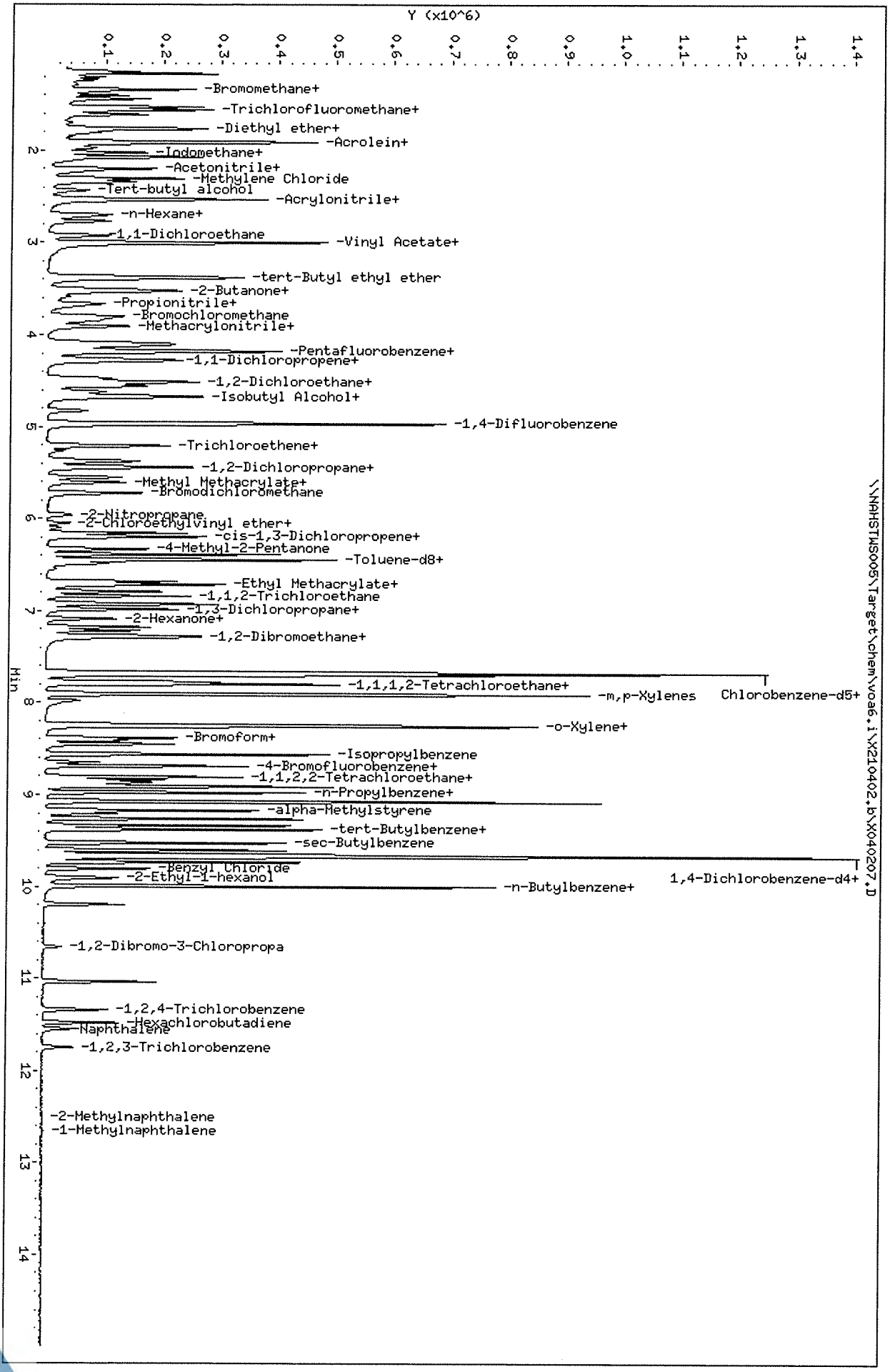
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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
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Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:38 Cal File: X040206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	303845	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	500849	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	505360	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244406	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	68668	20.0000	19.46
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	80475	20.0000	19.07
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	218999	20.0000	18.08
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	81621	20.0000	17.93
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	50828	20.0000	17.31
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	80105	20.0000	18.51
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	95203	20.0000	17.95
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	65903	20.0000	17.74
17 Methylene Chloride	84	2.305	2.305	(0.551)	63925	20.0000	20.29
38 Trichloroethene	130	5.206	5.206	(1.049)	61652	20.0000	17.98
5 Vinyl Chloride	62	1.145	1.145	(0.274)	89514	20.0000	19.65



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Date : 02-APR-2021 12:59
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

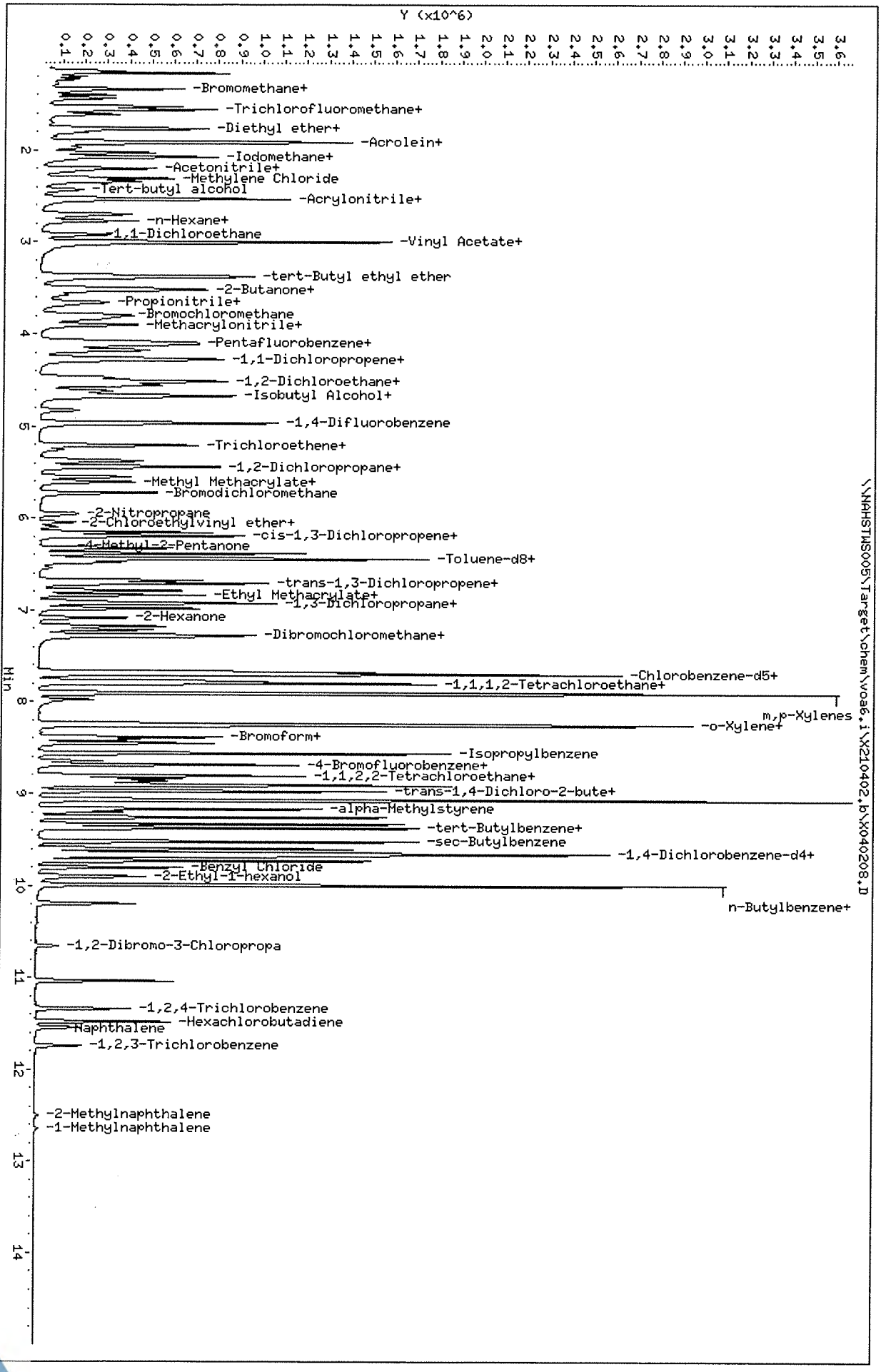
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 02-APR-2021 13:20
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:59 Cal File: X040207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	359684	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	598485	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	588191	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	309539	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	201590	50.0000	47.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243778	50.0000	48.06
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	658700	50.0000	43.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	267013	50.0000	47.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	155825	50.0000	45.60
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	240341	50.0000	46.92
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	309702	50.0000	48.88
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	208514	50.0000	47.42
17 Methylene Chloride	84	2.305	2.305	(0.551)	173954	50.0000	44.72
38 Trichloroethene	130	5.206	5.206	(1.049)	206412	50.0000	50.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	256013	50.0000	47.47



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Date : 02-APR-2021 13:20
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

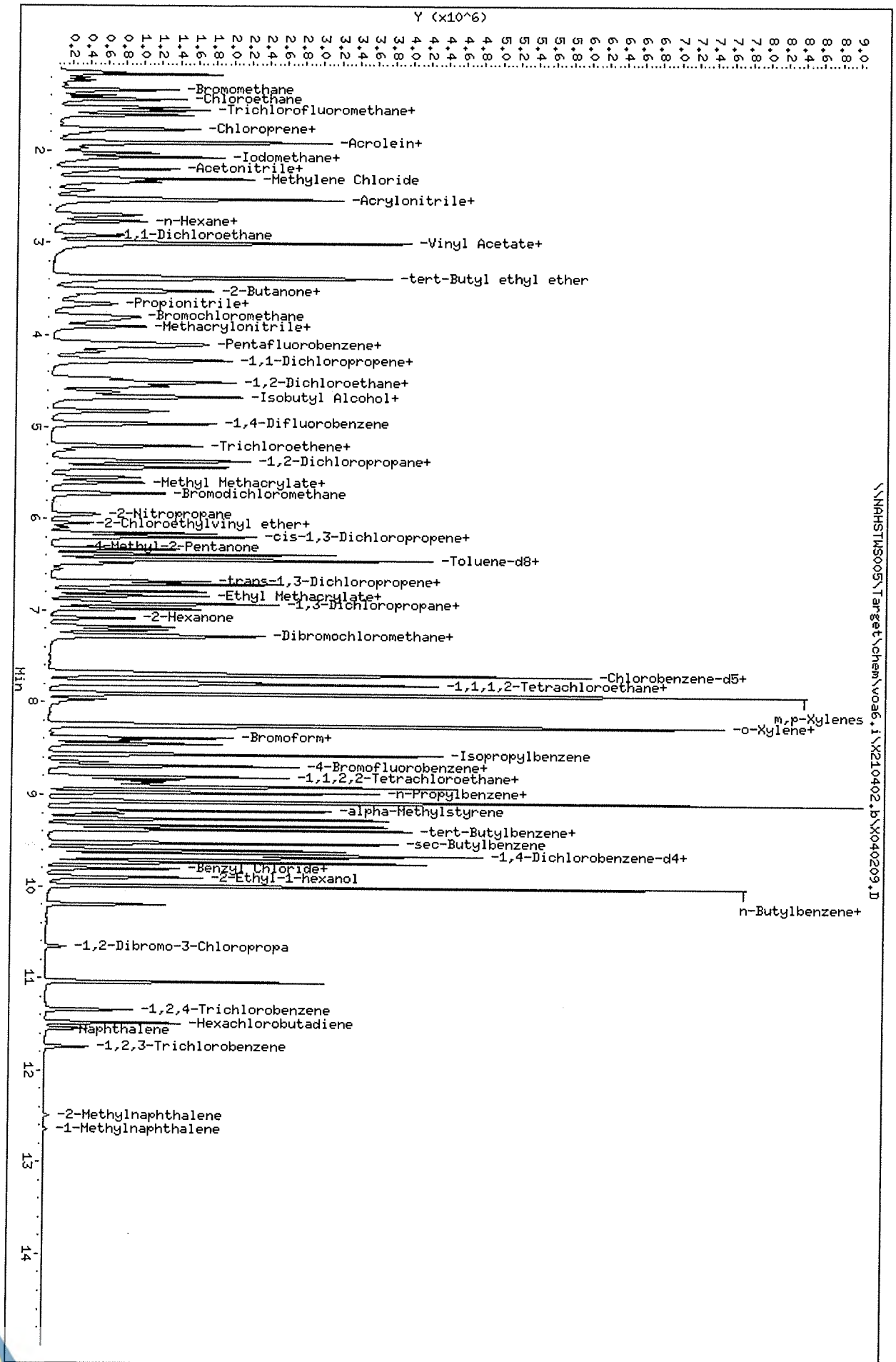
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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-APR-2021 13:41
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	397825	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	683502	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	652649	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	339759	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	476731	100.000	101.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	568806	100.000	100.86
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1733824	100.000	101.37
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	624362	100.000	98.11
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	366869	100.000	96.76
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	544587	100.000	96.14
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	718135	100.000	99.26
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	487101	100.000	100.16
17 Methylene Chloride	84	2.305	2.305	(0.551)	420832	100.000	96.06
38 Trichloroethene	130	5.206	5.206	(1.049)	478548	100.000	102.27
5 Vinyl Chloride	62	1.145	1.145	(0.274)	541798	100.000	90.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Date : 02-APR-2021 13:41
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

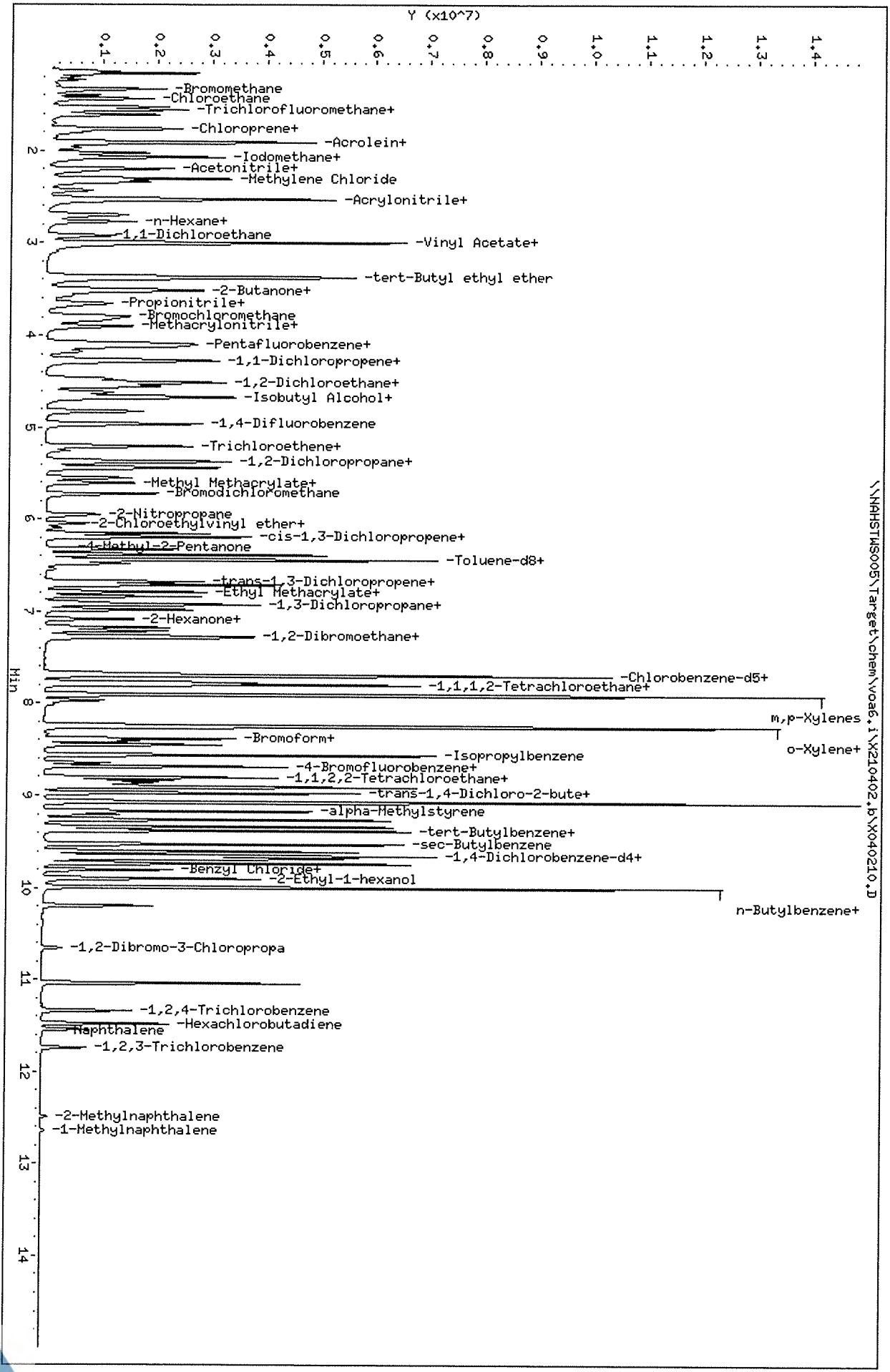
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-APR-2021 14:02
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:41 Cal File: X040209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432906	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	745206	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	707197	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	375287	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	758989	150.000	148.06
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	919399	150.000	149.58
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2714142	150.000	145.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1011725	150.000	145.90
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	595658	150.000	144.99
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	861197	150.000	139.71
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	1146217	150.000	145.31
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	789545	150.000	149.19
17 Methylene Chloride	84	2.298	2.298	(0.550)	703062	150.000	146.68
38 Trichloroethene	130	5.207	5.207	(1.049)	752757	150.000	147.55
5 Vinyl Chloride	62	1.138	1.138	(0.272)	862204	150.000	132.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Date : 02-APR-2021 14:02
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\X210402.b\X040211.D Page 1
Report Date: 04-May-2021 11:39

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-APR-2021 14:23
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:02 Cal File: X040210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

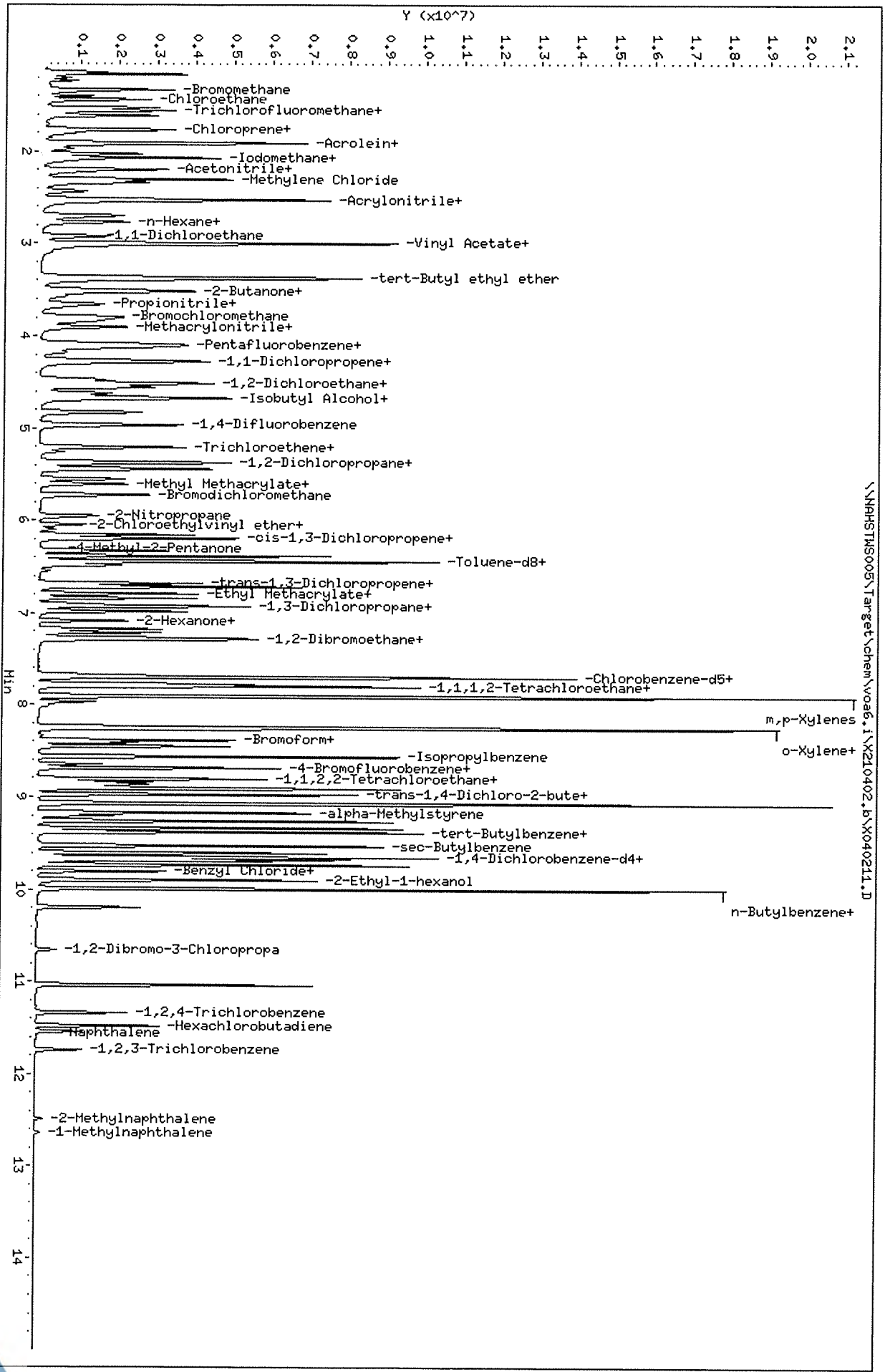
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	444815	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	788136	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	732576	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	399401	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1061294	200.000	201.33(A)
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	1266674	200.000	200.40(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	3949224	200.000	203.80(A)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1473828	200.000	204.50(A)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	832139	200.000	195.54
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1249794	200.000	197.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	1584950	200.000	189.99
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	1123271	200.000	206.57(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	1013494	200.000	205.19(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	1061444	200.000	196.73
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1159290	200.000	173.84

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Date : 02-APR-2021 14:23
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\X210402.b\X040214.D Page 1
Report Date: 04-May-2021 11:39

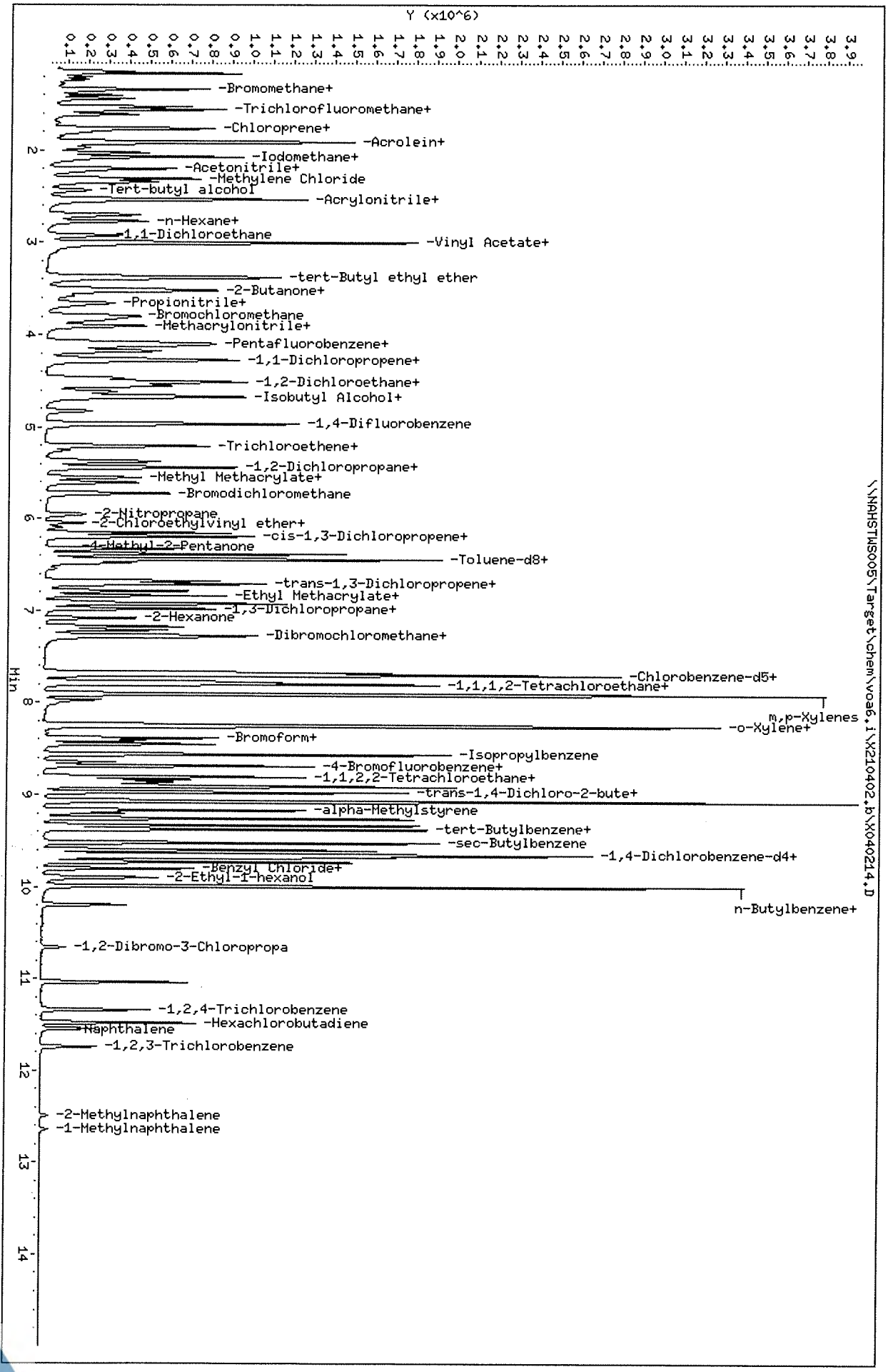
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-APR-2021 15:26
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	403237	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	674704	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	639311	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	322985	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	233448	49.1812	49.18
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	278339	48.9433	48.94
$	48 Toluene-d8	98	6.388	6.388	(0.833)	812891	49.4873	49.48
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	292882	47.8435	47.84
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178830	48.1535	48.15
	11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	265347	46.2152	46.21
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	339122	47.4855	47.48
	27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	228412	46.3383	46.33
	17 Methylene Chloride	84	2.305	2.305	(0.551)	198869	45.5779	45.57
	38 Trichloroethene	130	5.206	5.206	(1.049)	232943	50.4339	50.43
	5 Vinyl Chloride	62	1.145	1.138	(0.274)	279152	46.1765	46.17



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210402,b\X040214,D
Date : 02-APR-2021 15:26
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: 44544 **Analyst:** Presenta Cabascango

Date: 04-23-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-23-2021 10:40 am	1.00	50 mL	50 mL	X042301.D	Liquid	Y	NA
2	CCV	CCV	04-23-2021 11:01 am	1.00	50 mL	50 mL	X042302a.D	Liquid	Y	NA
3	CCV	CCV	04-23-2021 11:22 am	1.00	50 mL	50 mL	X042303.D	Liquid	Y	NA
4	CCB	SAMP	04-23-2021 11:43 am	1.00	50 mL	50 mL	X042304.D	Liquid	Y	NA
5	VLCSW-210423	LCS	04-23-2021 12:12 pm	1.00	50 mL	50 mL	X042305.D	Liquid	Y	NA
6	BLANK	SAMP	04-23-2021 12:33 pm	1.00	50 mL	50 mL	X042306.D	Liquid	Y	NA
7	VBLKW-210423	MBLK	04-23-2021 12:54 pm	1.00	50 mL	50 mL	X042307.D	Liquid	Y	NA
8	HS21041135-05	SAMP	04-23-2021 01:15 pm	1.00	50 mL	50 mL	X042308.D	Liquid	Y	NA
9	HS21041135-03	SAMP	04-23-2021 01:36 pm	1.00	50 mL	50 mL	X042309.D	Liquid	Y	NA
10	HS21041135-01	SAMP	04-23-2021 01:58 pm	1.00	50 mL	50 mL	X042310.D	Liquid	Y	NA
11	HS21041135-02	SAMP	04-23-2021 02:19 pm	1.00	50 mL	50 mL	X042311.D	Liquid	Y	NA
12	HS21041135-04	SAMP	04-23-2021 02:40 pm	1.00	50 mL	50 mL	X042312.D	Liquid	Y	NA
13	HS21041132-03	SAMP	04-23-2021 03:01 pm	1.00	50 mL	50 mL	X042313.D	Liquid	Y	NA
14	HS21041132-04	SAMP	04-23-2021 03:22 pm	1.00	50 mL	50 mL	X042314.D	Liquid	Y	NA
15	HS21041132-05	SAMP	04-23-2021 03:43 pm	1.00	50 mL	50 mL	X042315.D	Liquid	Y	NA
16	HS21041102-08	SAMP	04-23-2021 04:04 pm	5.00	10 mL	50 mL	X042316.D	Liquid	Y	NA
17	HS21041135-03MS	MS	04-23-2021 04:25 pm	1.00	50 mL	50 mL	X042317.D	Liquid	Y	NA
18	HS21041135-03MSD	MSD	04-23-2021 04:46 pm	1.00	50 mL	50 mL	X042318.D	Liquid	Y	NA
19	HS21041102-08	SAMP	04-23-2021 05:07 pm	50.00	1 mL	50 mL	X042319.D	Liquid	Y	NA
20	HS21041102-09	SAMP	04-23-2021 05:28 pm	25.00	2 mL	50 mL	X042320.D	Liquid	Y	NA
21	HS21041132-06	SAMP	04-23-2021 05:49 pm	1.00	50 mL	50 mL	X042321.D	Liquid	Y	NA
22	HS21041132-07	SAMP	04-23-2021 06:10 pm	1.00	50 mL	50 mL	X042322.D	Liquid	Y	NA
23	HS21041169-06	SAMP	04-23-2021 06:31 pm	1.00	50 mL	50 mL	X042323.D	Liquid	Y	NA
24	HS21041132-08	SAMP	04-23-2021 06:52 pm	1.00	50 mL	50 mL	X042324.D	Liquid	Y	NA
25	HS21041132-08	SAMP	04-23-2021 07:13 pm	25.00	2 mL	50 mL	X042325.D	Liquid	Y	NA
26	HS21041132-02	SAMP	04-23-2021 07:35 pm	10.00	5 mL	50 mL	X042326.D	Liquid	Y	NA
27	HS21041132-02	SAMP	04-23-2021 07:56 pm	100.0(	500 µL	50 mL	X042327.D	Liquid	Y	NA
28	HS21041132-01	SAMP	04-23-2021 08:17 pm	25.00	2 mL	50 mL	X042328.D	Liquid	Y	NA
29	HS21041132-01	SAMP	04-23-2021 08:38 pm	250.0(	200 µL	50 mL	X042329.D	Liquid	Y	NA
30	CCV-END	CCV	04-23-2021 08:59 pm	1.00	50 mL	50 mL	X042330.D	Liquid	Y	NA
31	BLANK	SAMP	04-23-2021 09:20 pm	1.00	50 mL	50 mL	X042340.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-210423	106	109	105	107	0
02	VBLKW-210423	92	97	108	90	0
03	HS21041132-03	93	99	107	96	0
04	HS21041132-04	92	98	105	90	0
05	HS21041132-05	93	99	104	96	0
06	HS21041135-03MS	92	93	102	101	0
07	HS21041135-03MSD	91	96	103	99	0
08	HS21041132-06	92	96	107	95	0
09	HS21041132-07	90	98	107	95	0
10	HS21041132-08	94	99	109	94	0
11	HS21041132-08	93	98	107	94	0
12	HS21041132-02	93	99	108	94	0
13	HS21041132-02	94	100	108	93	0
14	HS21041132-01	93	97	108	95	0
15	HS21041132-01	91	96	106	92	0
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(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-210423

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Lab File ID: X042307 Lab Sample ID: VBLKW-210423

Date Analyzed: 04/23/21 Time Analyzed: 1254

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-210423	VLCSW-210423	X042305	1212
02	HS21041132-03	HS21041132-03	X042313	1501
03	HS21041132-04	HS21041132-04	X042314	1522
04	HS21041132-05	HS21041132-05	X042315	1543
05	HS21041135-03MS	HS21041135-03MS	X042317	1625
06	HS21041135-03MSD	HS21041135-03MSD	X042318	1646
07	HS21041132-06	HS21041132-06	X042321	1749
08	HS21041132-07	HS21041132-07	X042322	1810
09	HS21041132-08	HS21041132-08	X042324	1852
10	HS21041132-08	HS21041132-08	X042325	1913
11	HS21041132-02	HS21041132-02	X042326	1935
12	HS21041132-02	HS21041132-02	X042327	1956
13	HS21041132-01	HS21041132-01	X042328	2017
14	HS21041132-01	HS21041132-01	X042329	2038
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Lab File ID: X042301 BFB Injection Date: 04/23/21

Instrument ID: VOA6 BFB Injection Time: 1040

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	18.3
75	30.0 - 60.0% of mass 95	46.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	5.7
173	Less than 2.0% of mass 174	1.0 (1.2)1
174	Greater than 50.0% of mass 95	80.9
175	5.0 - 9.0% of mass 174	6.4 (7.9)1
176	95.0 - 101.0% of mass 174	81.0 (100.1)1
177	5.0 - 9.0% of mass 176	5.0 (6.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X042303	04/23/21	1122
02	VLCSW-210423	VLCSW-210423	X042305	04/23/21	1212
03	VBLKW-210423	VBLKW-210423	X042307	04/23/21	1254
04	HS21041132-03	HS21041132-03	X042313	04/23/21	1501
05	HS21041132-04	HS21041132-04	X042314	04/23/21	1522
06	HS21041132-05	HS21041132-05	X042315	04/23/21	1543
07	HS21041135-03MS	HS21041135-03MS	X042317	04/23/21	1625
08	HS21041135-03MSD	HS21041135-03MSD	X042318	04/23/21	1646
09	HS21041132-06	HS21041132-06	X042321	04/23/21	1749
10	HS21041132-07	HS21041132-07	X042322	04/23/21	1810
11	HS21041132-08	HS21041132-08	X042324	04/23/21	1852
12	HS21041132-08	HS21041132-08	X042325	04/23/21	1913
13	HS21041132-02	HS21041132-02	X042326	04/23/21	1935
14	HS21041132-02	HS21041132-02	X042327	04/23/21	1956
15	HS21041132-01	HS21041132-01	X042328	04/23/21	2017
16	HS21041132-01	HS21041132-01	X042329	04/23/21	2038
17	CCV-END	CCV-END	X042330	04/23/21	2059
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Instrument ID: VOA6 Calibration Date: 04/23/21 Time: 1122

Lab File ID: X042303 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.7001918	0.7001918	0.1	6.64	20.00	AVRG
Methylene Chloride	51.071347	50.000000	0.5546236	0.1	-2.14	20.00	LINR
1,1-Dichloroethene	0.7120000	0.6009898	0.6009898	0.1	15.59	20.00	AVRG
1,2-Dichloroethane	0.5290000	0.5157407	0.5157407	0.1	2.51	20.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6212177	0.6212177	0.1	-1.67	20.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.2816699	0.2816699	0.1	2.87	20.00	AVRG
Trichloroethene	0.3420000	0.3334702	0.3334702	0.2	2.49	20.00	AVRG
Dibromofluoromethane	53.554194	50.000000	0.6308685	0.1	-7.11	20.00	LINR
1,2-Dichloroethane-d4	55.278480	50.000000	0.7804992	0.1	-10.56	20.00	LINR
Toluene-d8	51.331948	50.000000	1.3207521	0.1	-2.66	20.00	LINR
4-Bromofluorobenzene	55.429836	50.000000	0.5333590	0.1	-10.86	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Instrument ID: VOA6 Calibration Date: 04/23/21 Time: 2059

Lab File ID: X042330 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.8171111	0.8171111	0.1	-8.95	50.00	AVRG
Methylene Chloride	52.875514	50.000000	0.5748024	0.1	-5.75	50.00	LINR
1,1-Dichloroethene	0.7120000	0.7128928	0.7128928	0.1	-0.12	50.00	AVRG
1,2-Dichloroethane	0.5290000	0.5464335	0.5464335	0.1	-3.30	50.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6501990	0.6501990	0.1	-6.42	50.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3180305	0.3180305	0.1	-9.66	50.00	AVRG
Trichloroethene	0.3420000	0.3401588	0.3401588	0.2	0.54	50.00	AVRG
Dibromofluoromethane	59.574229	50.000000	0.7023623	0.1	-19.15	50.00	LINR
1,2-Dichloroethane-d4	59.629610	50.000000	0.8424764	0.1	-19.26	50.00	LINR
Toluene-d8	54.576488	50.000000	1.4073624	0.1	-9.15	50.00	LINR
4-Bromofluorobenzene	56.179253	50.000000	0.5407913	0.1	-12.36	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Lab File ID (Standard): X042303 Date Analyzed: 04/23/21

Instrument ID: VOA6 Time Analyzed: 1122

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	400486	4.18	674651	4.97	644744	7.67
	UPPER LIMIT	800972	4.68	1349302	5.47	1289488	8.17
	LOWER LIMIT	200243	3.68	337326	4.47	322372	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-210423	334958	4.18	589014	4.96	564684	7.67
02	VBLKW-210423	410293	4.18	656250	4.97	591009	7.67
03	HS21041132-03	399073	4.18	644811	4.96	571663	7.67
04	HS21041132-04	411407	4.18	643631	4.96	574081	7.67
05	HS21041132-05	400894	4.18	645649	4.96	574310	7.67
06	HS21041135-03MS	426612	4.18	684424	4.96	663475	7.67
07	HS21041135-03MSD	432945	4.18	697264	4.97	666027	7.67
08	HS21041132-06	401756	4.18	635407	4.96	568852	7.67
09	HS21041132-07	409601	4.18	639757	4.96	578336	7.67
10	HS21041132-08	395789	4.18	631030	4.96	550731	7.67
11	HS21041132-08	395993	4.18	636194	4.96	556682	7.67
12	HS21041132-02	395018	4.18	618777	4.97	548114	7.67
13	HS21041132-02	389821	4.18	622297	4.97	540877	7.67
14	HS21041132-01	401010	4.18	632027	4.97	564984	7.67
15	HS21041132-01	392184	4.18	615095	4.96	541050	7.67
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

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

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Lab File ID (Standard): X042303 Date Analyzed: 04/23/21

Instrument ID: VOA6 Time Analyzed: 1122

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	312454	9.66				
	UPPER LIMIT	624908	10.16				
	LOWER LIMIT	156227	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-210423	258969	9.66				
02	VBLKW-210423	249819	9.66				
03	HS21041132-03	255928	9.66				
04	HS21041132-04	229369	9.66				
05	HS21041132-05	244725	9.66				
06	HS21041135-03MS	305215	9.66				
07	HS21041135-03MSD	298080	9.66				
08	HS21041132-06	259670	9.66				
09	HS21041132-07	248444	9.66				
10	HS21041132-08	234867	9.66				
11	HS21041132-08	243192	9.66				
12	HS21041132-02	222838	9.66				
13	HS21041132-02	232728	9.66				
14	HS21041132-01	242054	9.66				
15	HS21041132-01	240660	9.66				
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

Client ID: BFB

Instrument: voa6.i

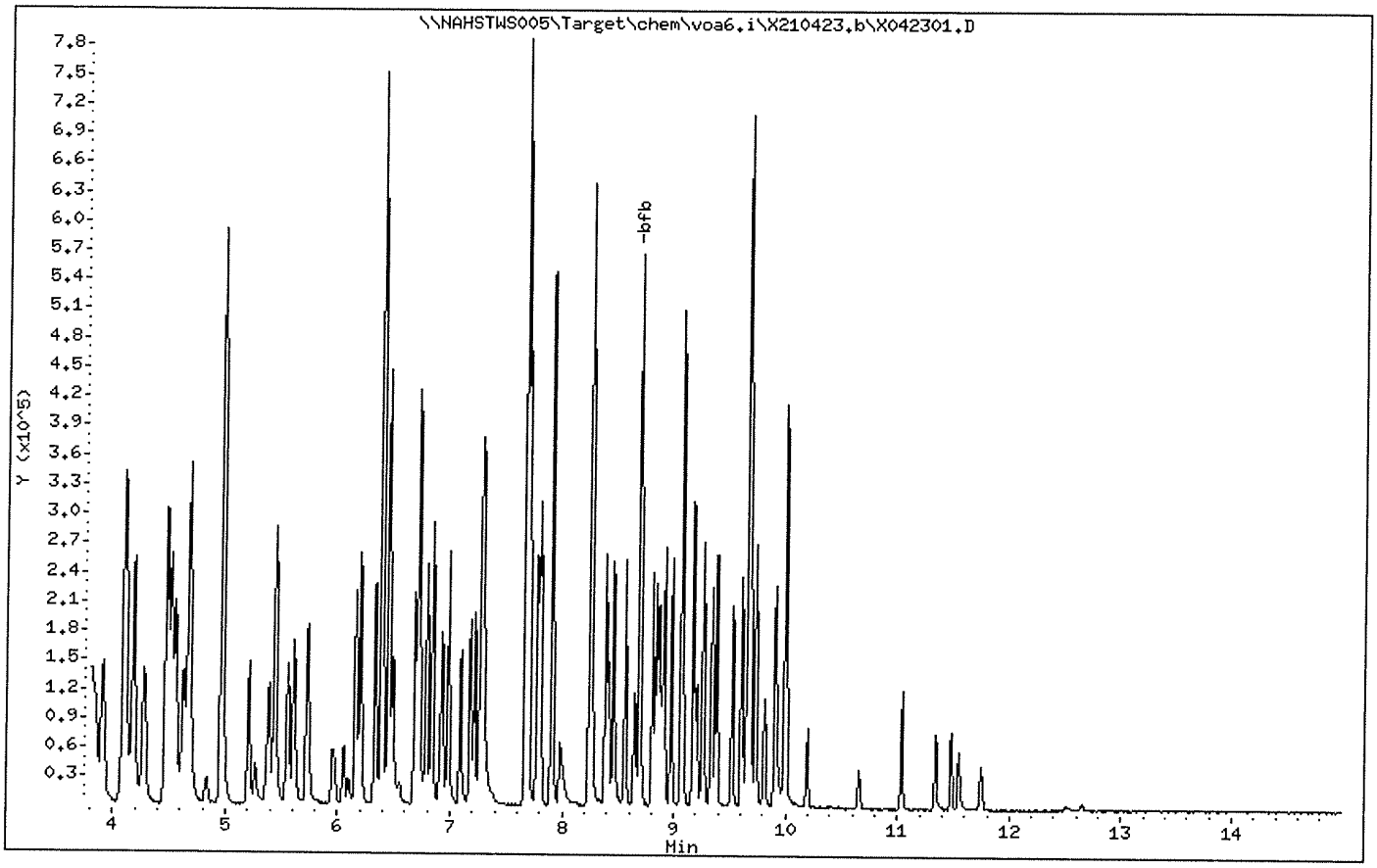
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

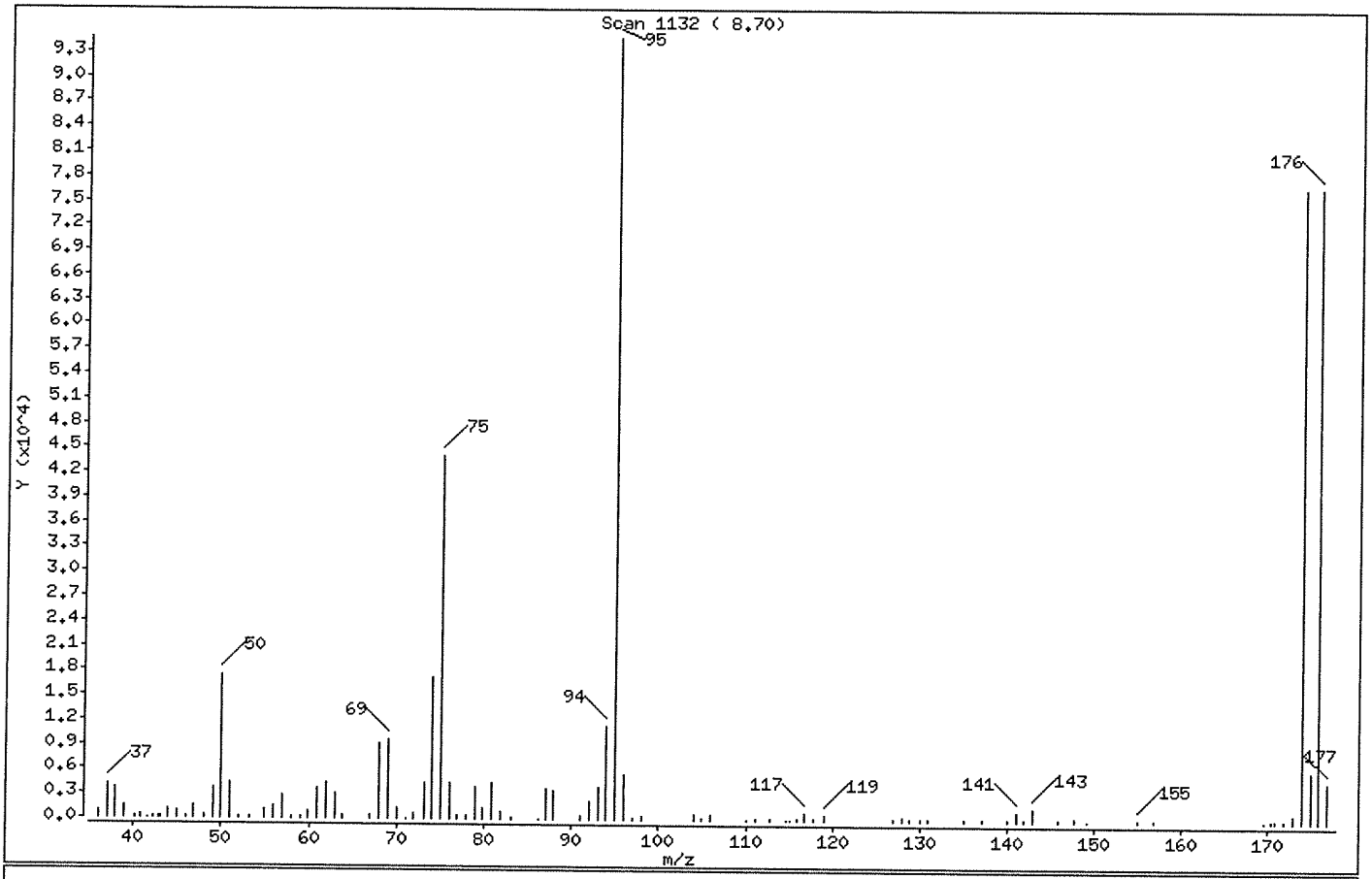
Volume Injected (uL): 2.0

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	18.34
75	30.00 - 60.00% of mass 95	46.36
96	5.00 - 9.00% of mass 95	5.70
173	Less than 2.00% of mass 174	0.96 (1.18)
174	Greater than 50.00% of mass 95	80.86
175	5.00 - 9.00% of mass 174	6.41 (7.92)
176	95.00 - 101.00% of mass 174	80.97 (100.14)
177	5.00 - 9.00% of mass 176	5.05 (6.23)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

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: X042301.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	799	59.00	190	87.00	3716	128.80	144
37.00	4109	59.90	859	87.90	3417	129.90	296
38.00	3758	61.00	3800	91.00	406	130.90	149
39.00	1543	62.00	4356	92.00	2110	134.90	173
40.10	281	63.00	2980	93.00	3935	137.00	121
40.90	451	63.90	383	93.90	11332	140.00	149
41.70	66	67.00	487	95.00	94728	141.00	1108
42.20	124	68.00	9063	96.00	5404	141.80	143
42.90	203	69.00	9667	97.00	219	142.90	1418
43.10	202	70.00	1275	98.10	331	145.70	147
44.00	1074	71.10	71	104.00	724	147.70	336
44.90	975	72.00	682	104.90	192	149.00	81
46.00	123	73.10	4276	105.90	733	154.80	134
46.90	1431	74.00	17304	110.00	100	156.80	122
48.00	494	75.00	43912	111.10	132	169.70	63
49.00	3728	76.00	4248	112.80	181	170.50	138
50.00	17376	76.90	459	114.70	61	170.90	144
51.00	4321	78.00	470	115.10	52	171.80	175
52.00	290	78.90	4004	115.80	302	173.00	906
53.20	123	79.90	1335	116.70	849	173.90	76600
55.00	1005	80.90	4280	117.80	206	174.90	6070
56.00	1421	81.90	763	118.90	557	175.90	76704
57.00	2789	83.10	124	126.80	201	176.90	4782
58.10	125	86.20	80	128.00	474		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D Page 1
Report Date: 12-May-2021 15:05

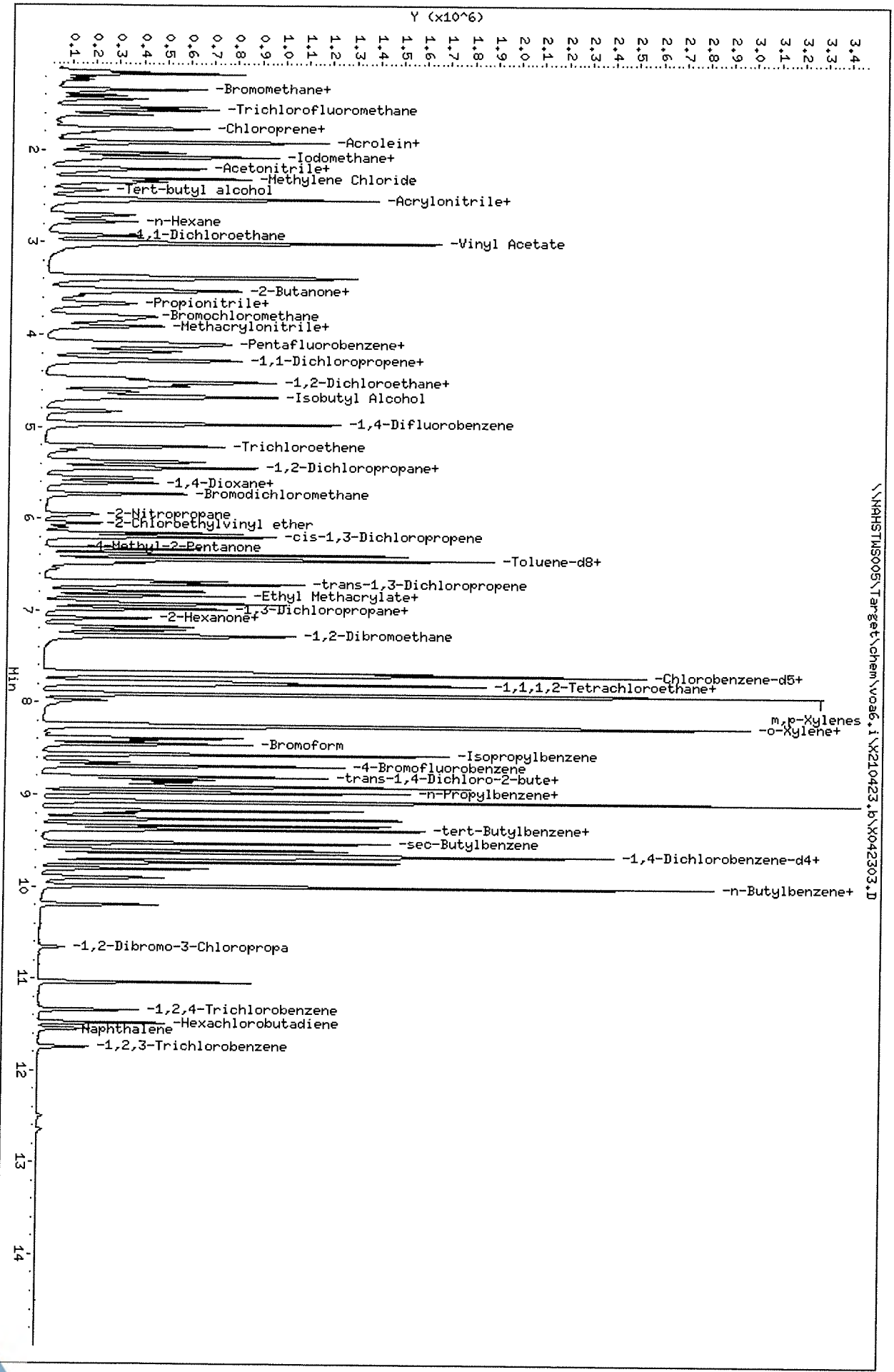
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 23-APR-2021 11:22
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:05 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	400486	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	674651	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	644744	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	312454	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	252654	50.0000	53.55
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	312579	50.0000	55.27
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	851547	50.0000	51.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	343880	50.0000	55.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	181605	50.0000	48.48
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	240688	50.0000	42.20
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	347945	50.0000	48.72
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	248789	50.0000	50.81
17 Methylene Chloride	84	2.306	2.306	(0.551)	222119	50.0000	51.07
38 Trichloroethene	130	5.207	5.207	(1.048)	224976	50.0000	48.71
5 Vinyl Chloride	62	1.145	1.145	(0.274)	280417	50.0000	46.70



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210423,b\X042303.D
Date : 23-APR-2021 11:22
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\X210423.b\X042305.D Page 1
Report Date: 12-May-2021 15:05

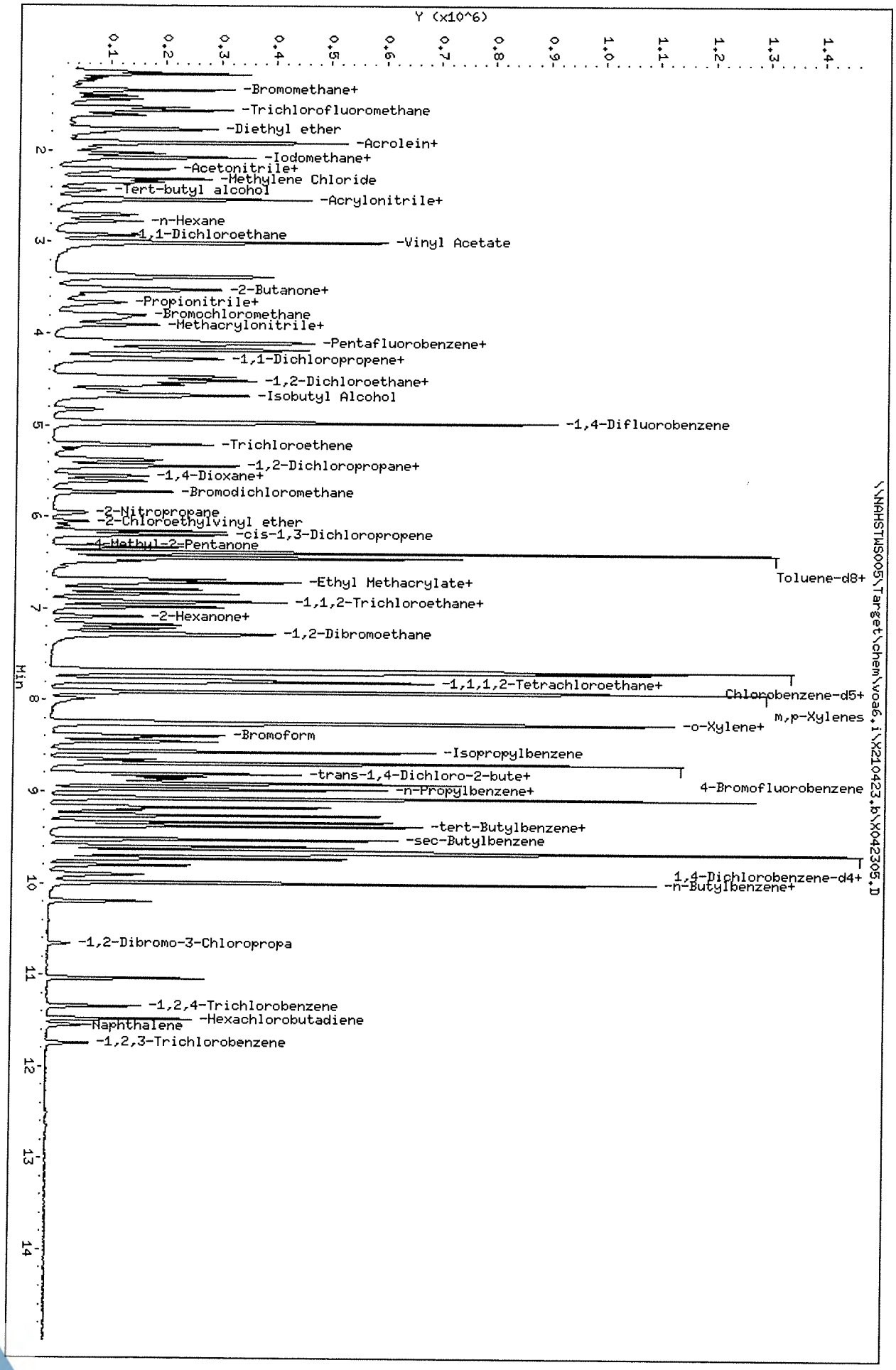
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042305.D
Lab Smp Id: VLCSW-210423 Client Smp ID: VLCSW-210423
Inj Date : 23-APR-2021 12:12
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210423;VLCSW-210423;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:05 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	334958	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	589014	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	564684	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	258969	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	209698	53.1478	53.14
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	257389	54.4306	54.43
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	766805	52.7249	52.72
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	290578	53.5368	53.53
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	73641	22.4499	22.44
11 1,1-Dichloroethene	96	1.912	1.919	(0.457)	103799	21.7637	21.76
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	131313	21.0621	21.06
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	91706	22.3969	22.39
17 Methylene Chloride	84	2.306	2.306	(0.551)	83158	23.6800	23.68
38 Trichloroethene	130	5.207	5.207	(1.049)	88438	21.9331	21.93
5 Vinyl Chloride	62	1.145	1.145	(0.274)	119780	23.8526	23.85



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042305.D
Date : 23-APR-2021 12:12
Client ID: VLCSW-210423
Sample Info: VLCSW-210423;VLCSW-210423;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\X210423.b\X042307.D Page 1
Report Date: 12-May-2021 15:05

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042307.D
Lab Smp Id: VBLKW-210423 Client Smp ID: VBLKW-210423
Inj Date : 23-APR-2021 12:54
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210423;VBLKW-210423;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:05 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

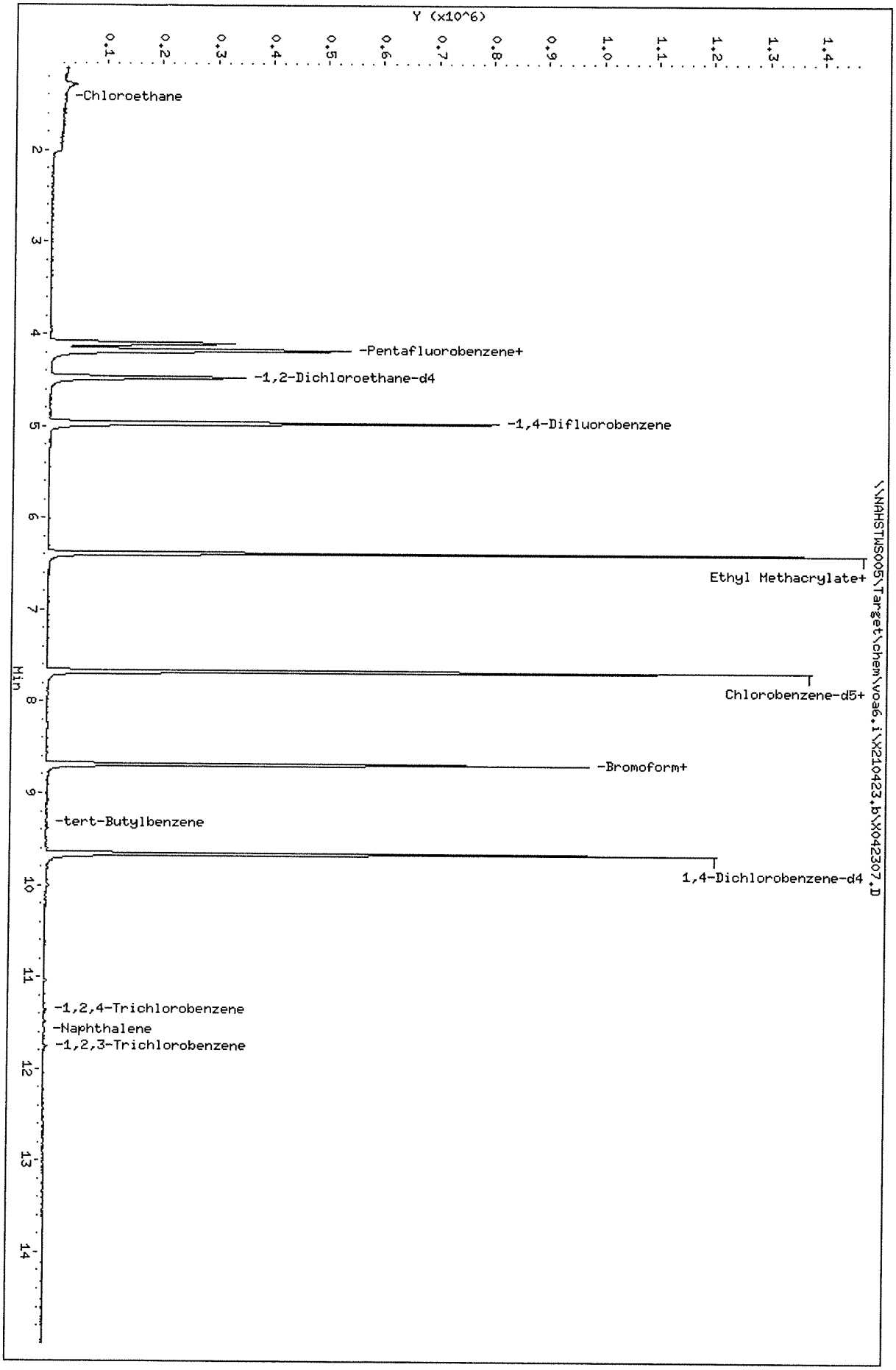
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	410293	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	656250	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	591009	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	249819	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	221934	45.9799	45.97
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281168	48.5940	48.59
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	819568	53.8034	53.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	255661	45.2685	45.26

Data File: \\NAHSTWS005\Target\chem\voa6,i\X210423,b\X042307.D
Date : 23-APR-2021 12:54
Client ID: VBLKW-210423
Sample Info: VBLKW-210423;VBLKW-210423;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\X210423.b\X042313.D Page 1
Report Date: 12-May-2021 15:06

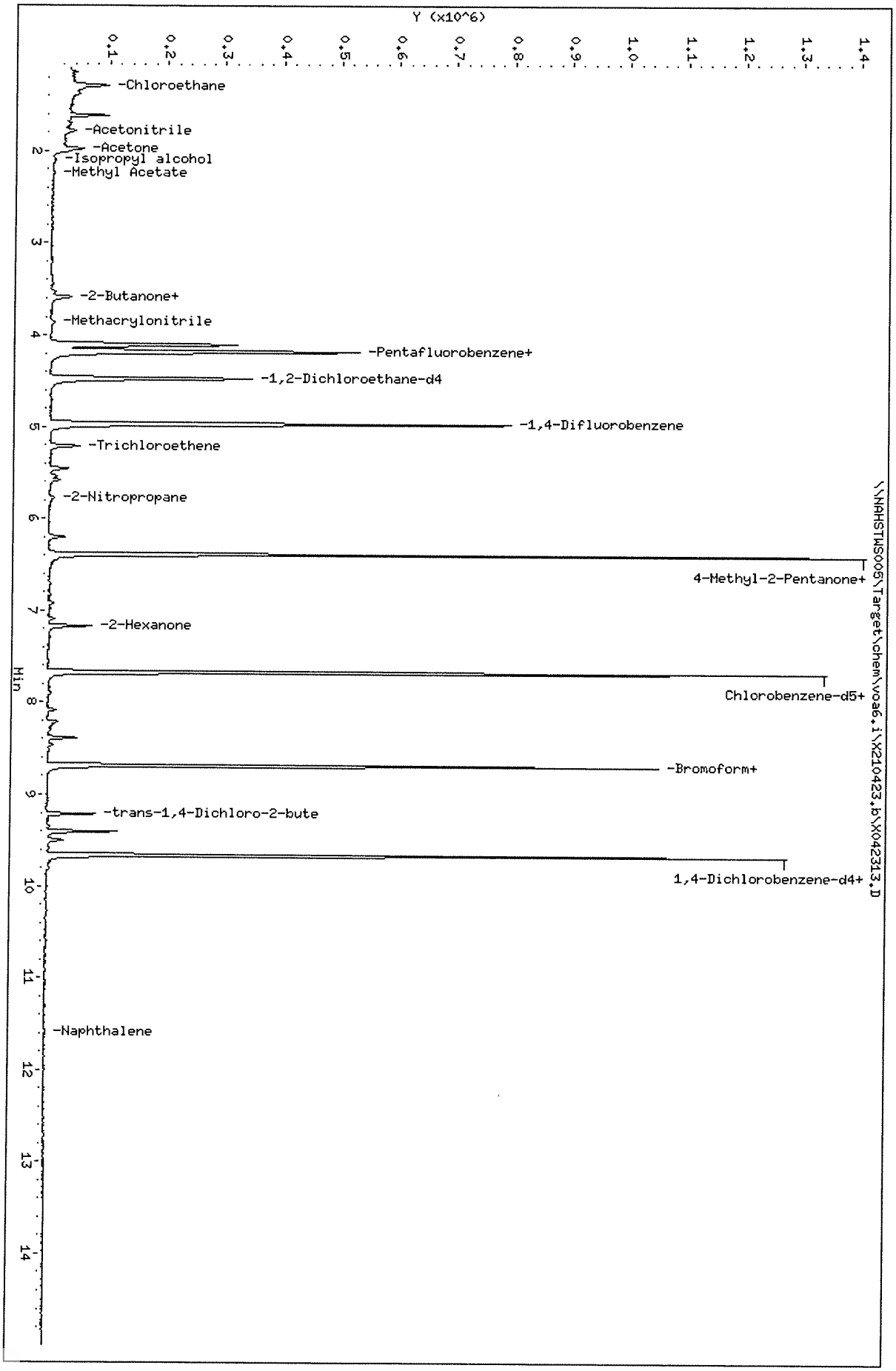
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042313.D
Lab Smp Id: HS21041132-03 Client Smp ID: HS21041132-03
Inj Date : 23-APR-2021 15:01
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-03;HS21041132-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	399073	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	644811	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	571663	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	255928	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	219279	46.7002	46.70
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	278567	49.4891	49.48
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	788073	53.4976	53.49
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	261617	47.7952	47.79
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	4104	0.84127	0.84
38 Trichloroethene	130	5.207	5.206	(1.049)	11267	2.55248	2.55



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042313.D
Date : 23-APR-2021 15:01
Client ID: HS21041132-03
Sample Info: HS21041132-03;HS21041132-03;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042313.D

Date : 23-APR-2021 15:01

Client ID: HS21041132-03

Instrument: voa6.i

Sample Info: HS21041132-03;HS21041132-03;;;

Purge Volume: 5.0

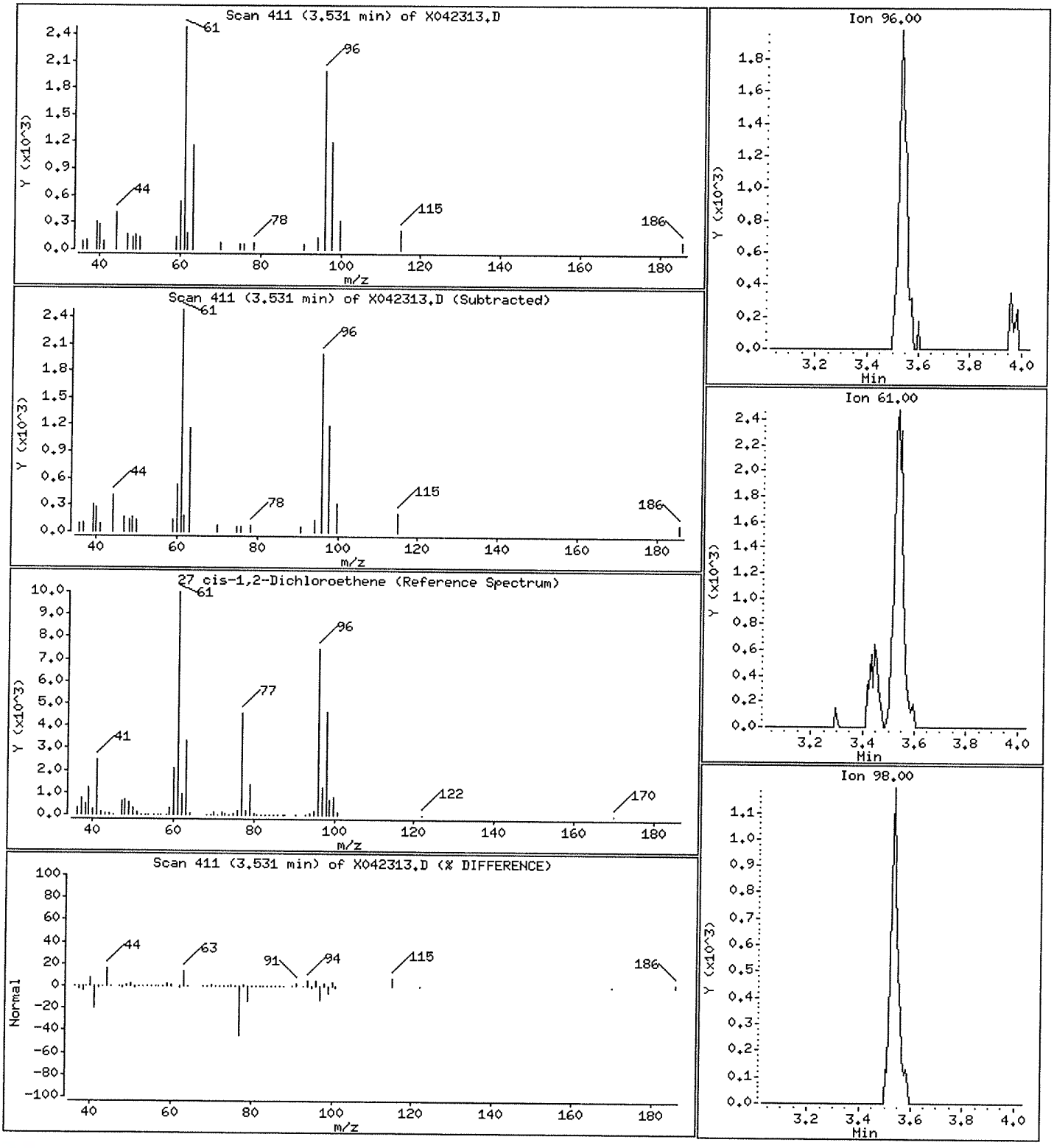
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 0.84 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042313.D

Date : 23-APR-2021 15:01

Client ID: HS21041132-03

Instrument: voa6.i

Sample Info: HS21041132-03;HS21041132-03;;;

Purge Volume: 5.0

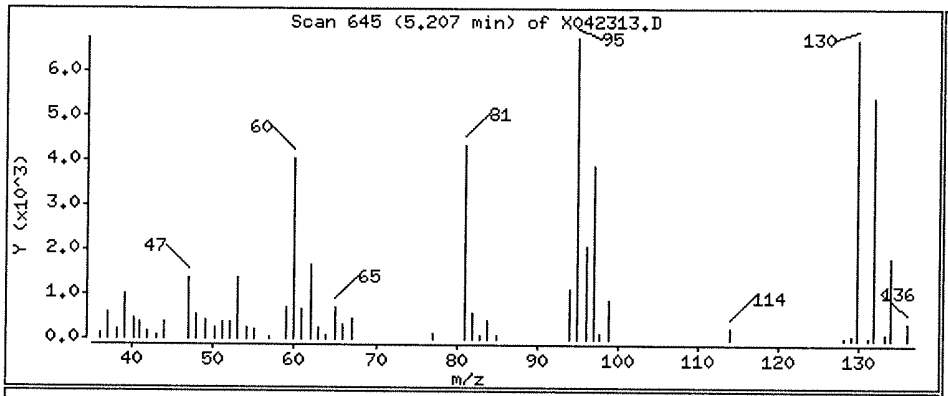
Operator: PC

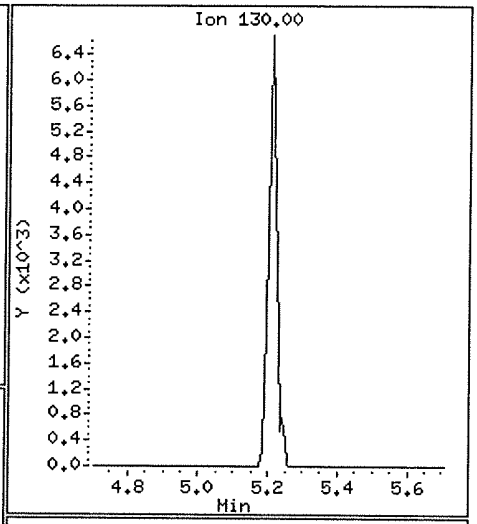
Column phase: DB624

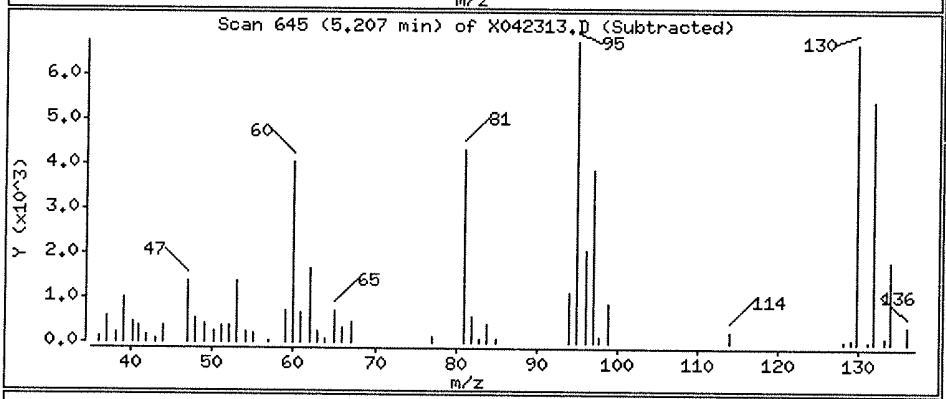
Column diameter: 0.18

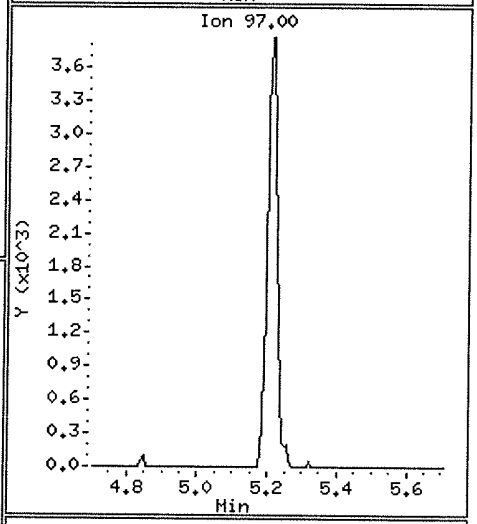
38 Trichloroethene

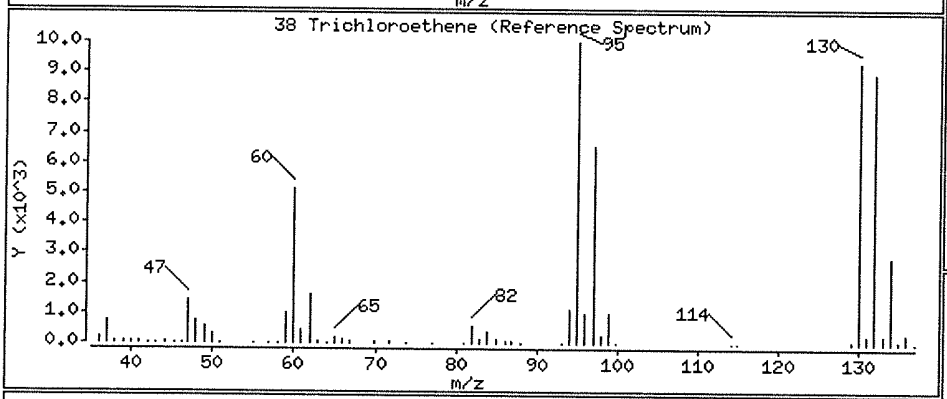
Concentration: 2.55 ug/l

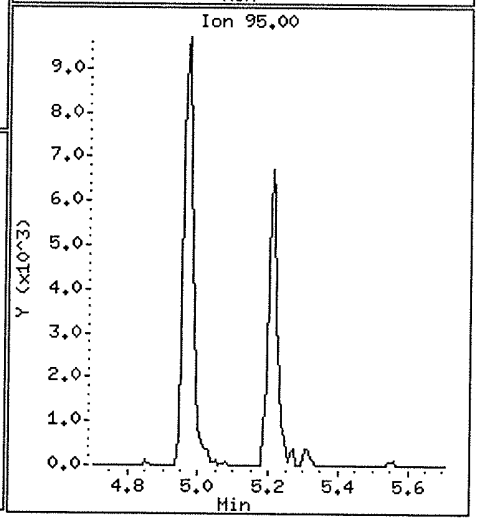


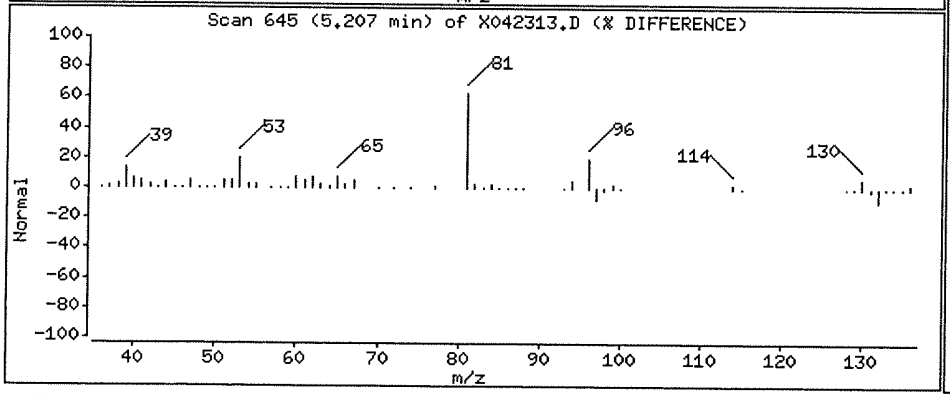












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042314.D Page 1
Report Date: 12-May-2021 15:06

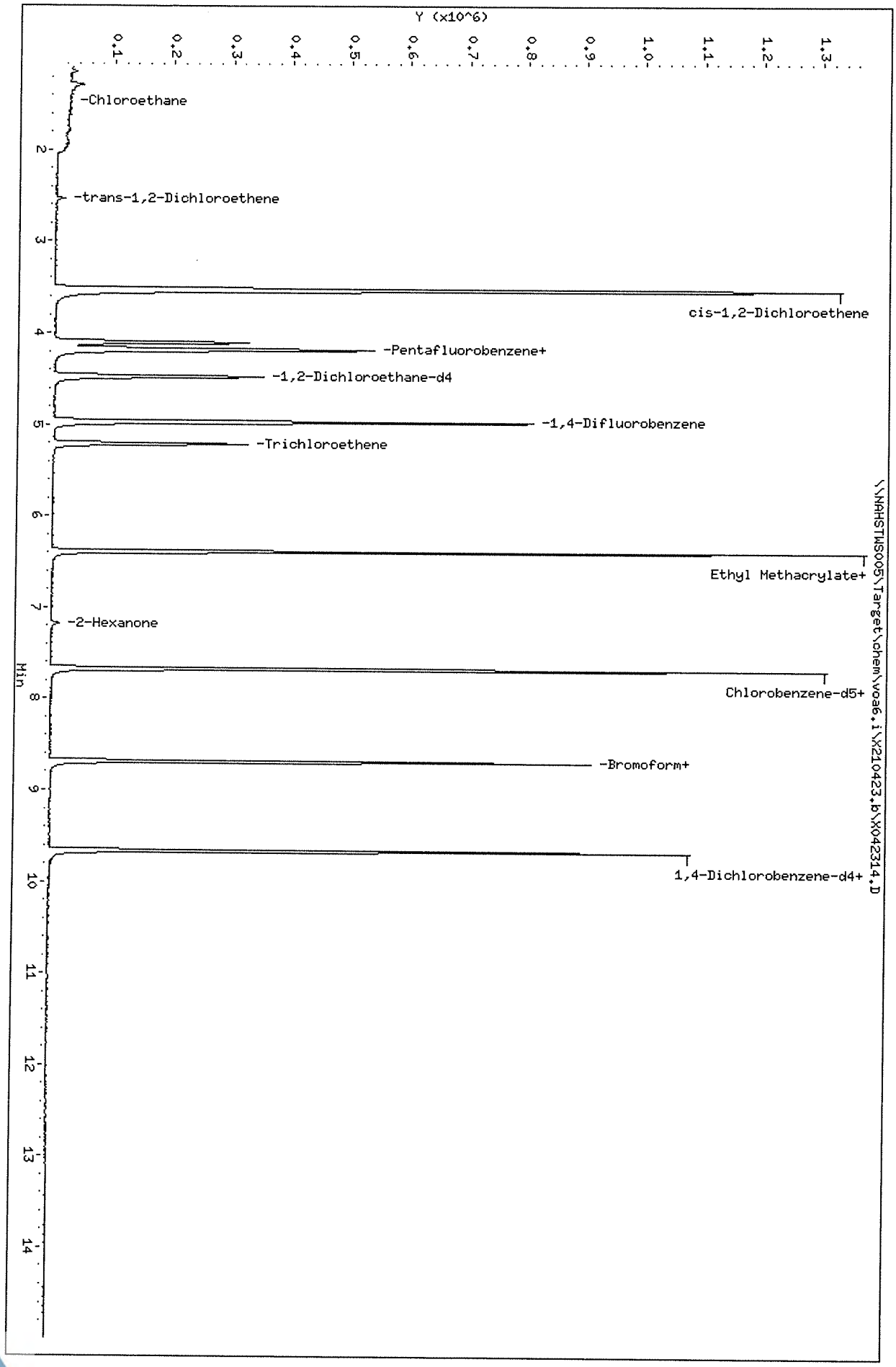
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042314.D
Lab Smp Id: HS21041132-04 Client Smp ID: HS21041132-04
Inj Date : 23-APR-2021 15:22
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-04;HS21041132-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	411407	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	643631	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	574081	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	229369	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	223607	46.1989	46.19
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	285480	49.1996	49.19
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	779392	52.7136	52.71
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	247885	45.1889	45.18
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	681714	135.554	135.55
38 Trichloroethene	130	5.206	5.206	(1.049)	97377	22.1007	22.10
5 Vinyl Chloride	62	1.145	1.145	(0.274)	5371	0.87081	0.87



Data File: \\NAHSTMS005\Target\chem\voa6.i\X210423.b\X042314.D
Date : 23-APR-2021 15:22
Client ID: HS210411J2-04
Sample Info: HS210411J2-04;HS210411J2-04;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042314.D

Date : 23-APR-2021 15:22

Client ID: HS21041132-04

Instrument: voa6.i

Sample Info: HS21041132-04;HS21041132-04;;;

Purge Volume: 5.0

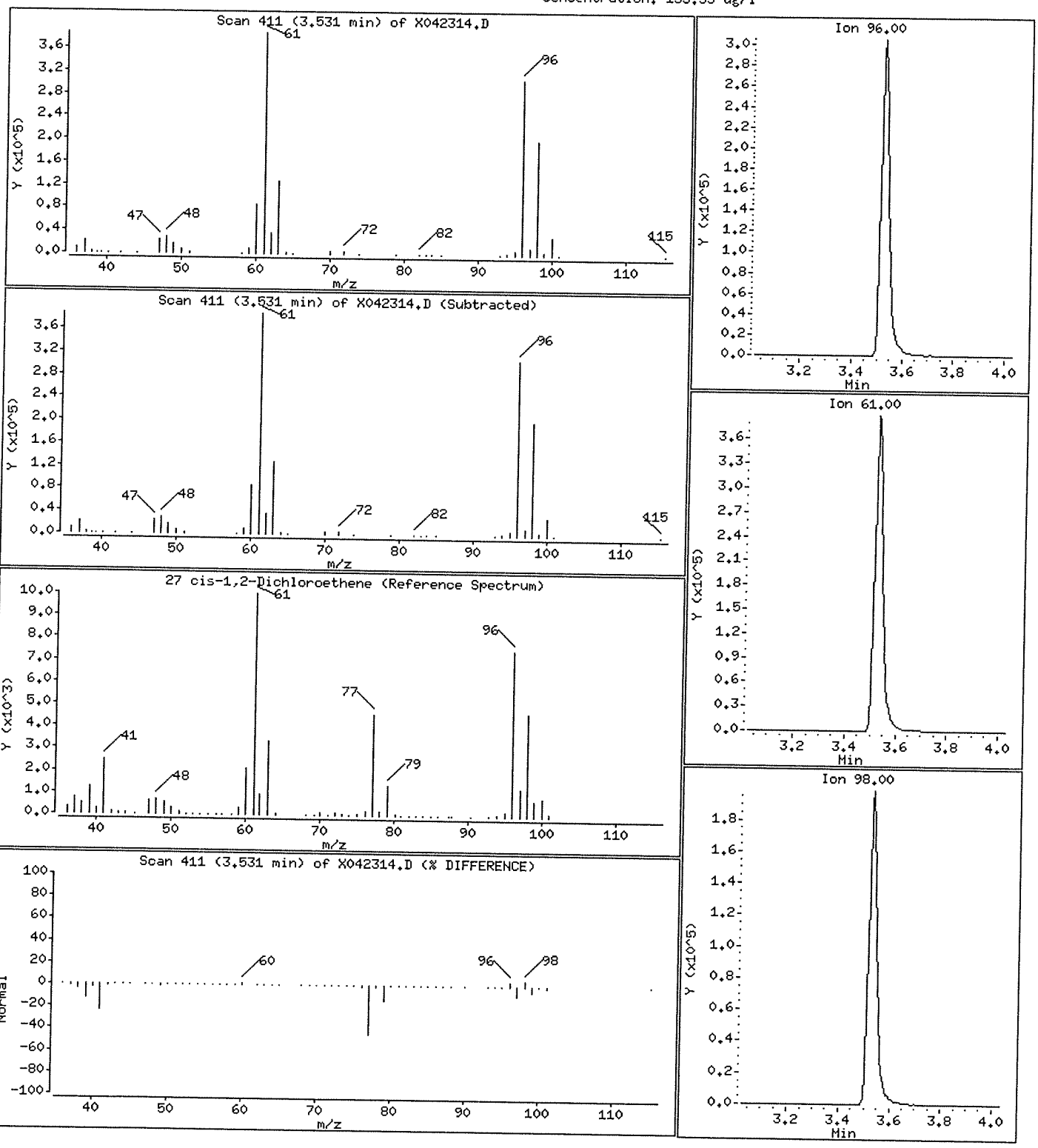
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 135.55 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042314.D

Date : 23-APR-2021 15:22

Client ID: HS21041132-04

Instrument: voa6.i

Sample Info: HS21041132-04;HS21041132-04;;;

Purge Volume: 5.0

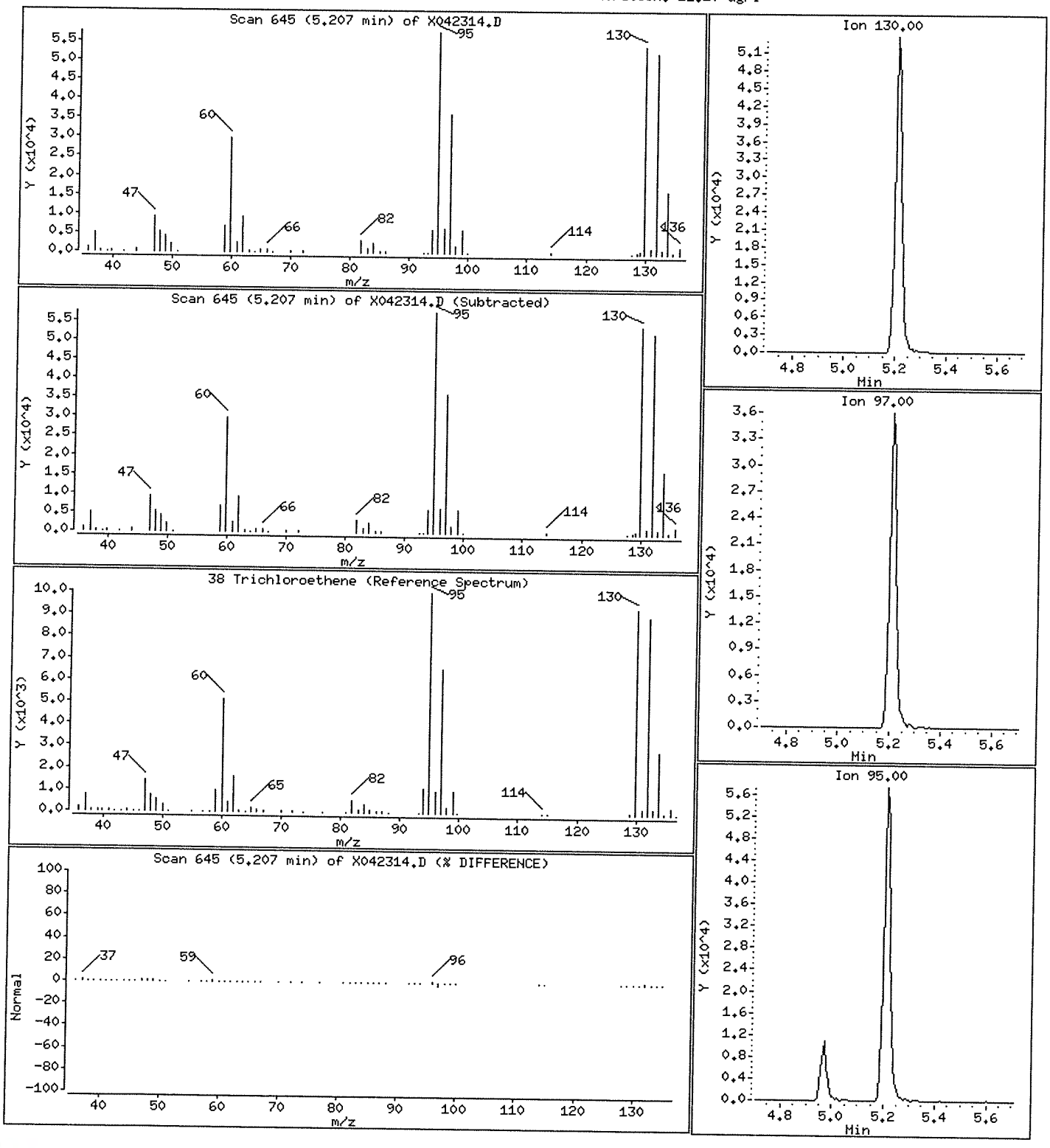
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 22.10 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042314.D

Date : 23-APR-2021 15:22

Client ID: HS21041132-04

Instrument: voa6.i

Sample Info: HS21041132-04;HS21041132-04;;;

Purge Volume: 5.0

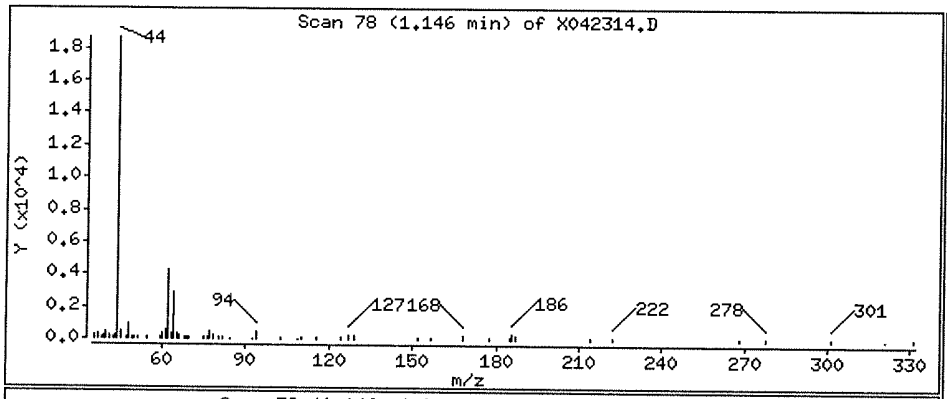
Operator: PC

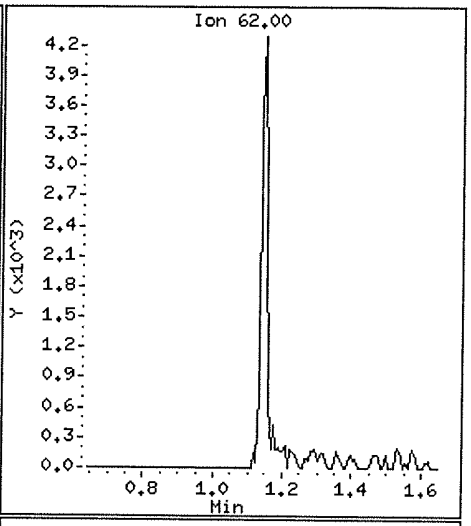
Column phase: DB624

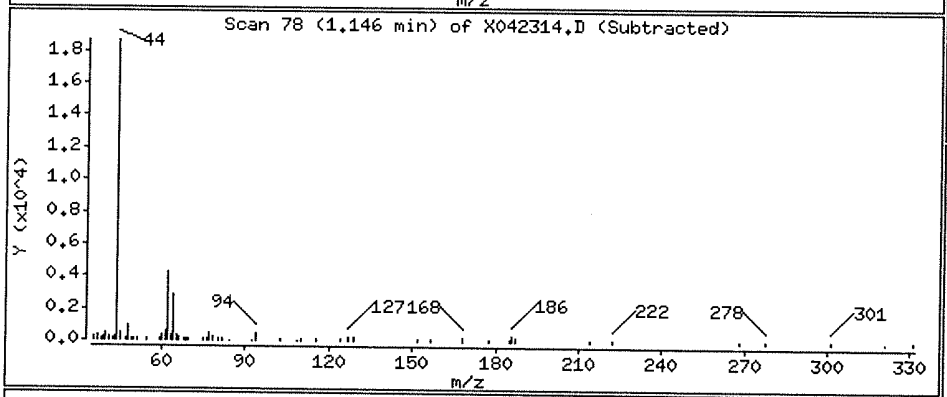
Column diameter: 0.18

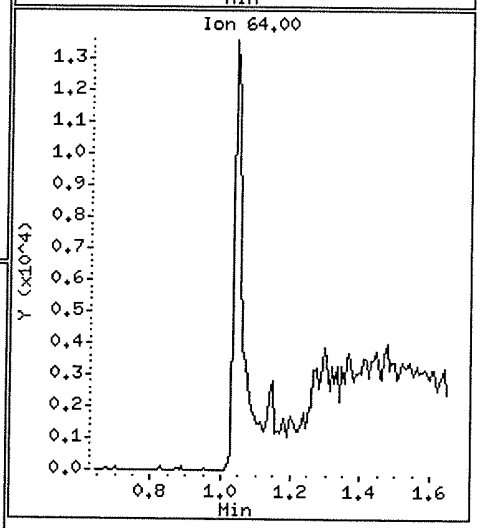
5 Vinyl Chloride

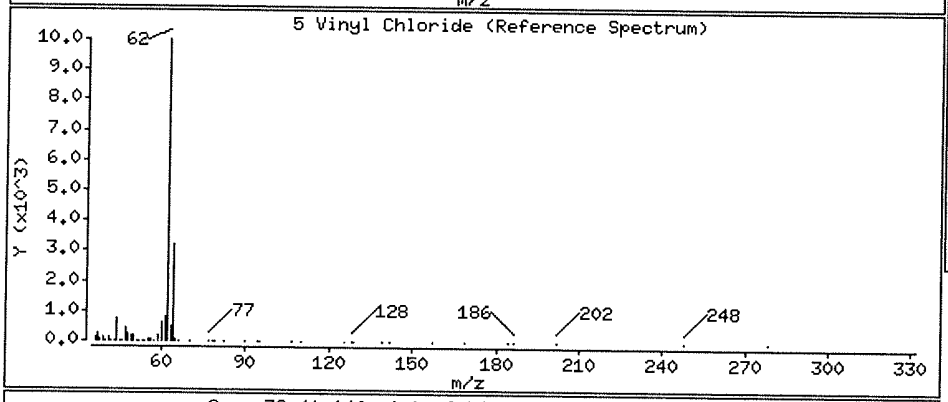
Concentration: 0.87 ug/l

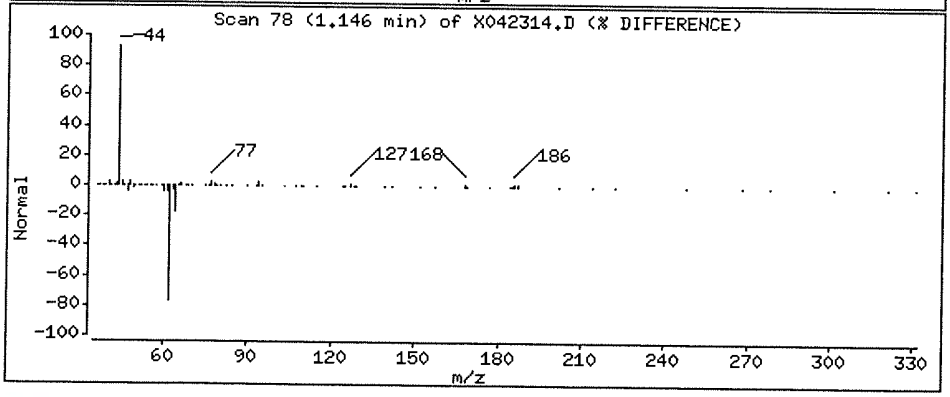












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042315.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042315.D
Lab Smp Id: HS21041132-05 Client Smp ID: HS21041132-05
Inj Date : 23-APR-2021 15:43
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-05;HS21041132-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

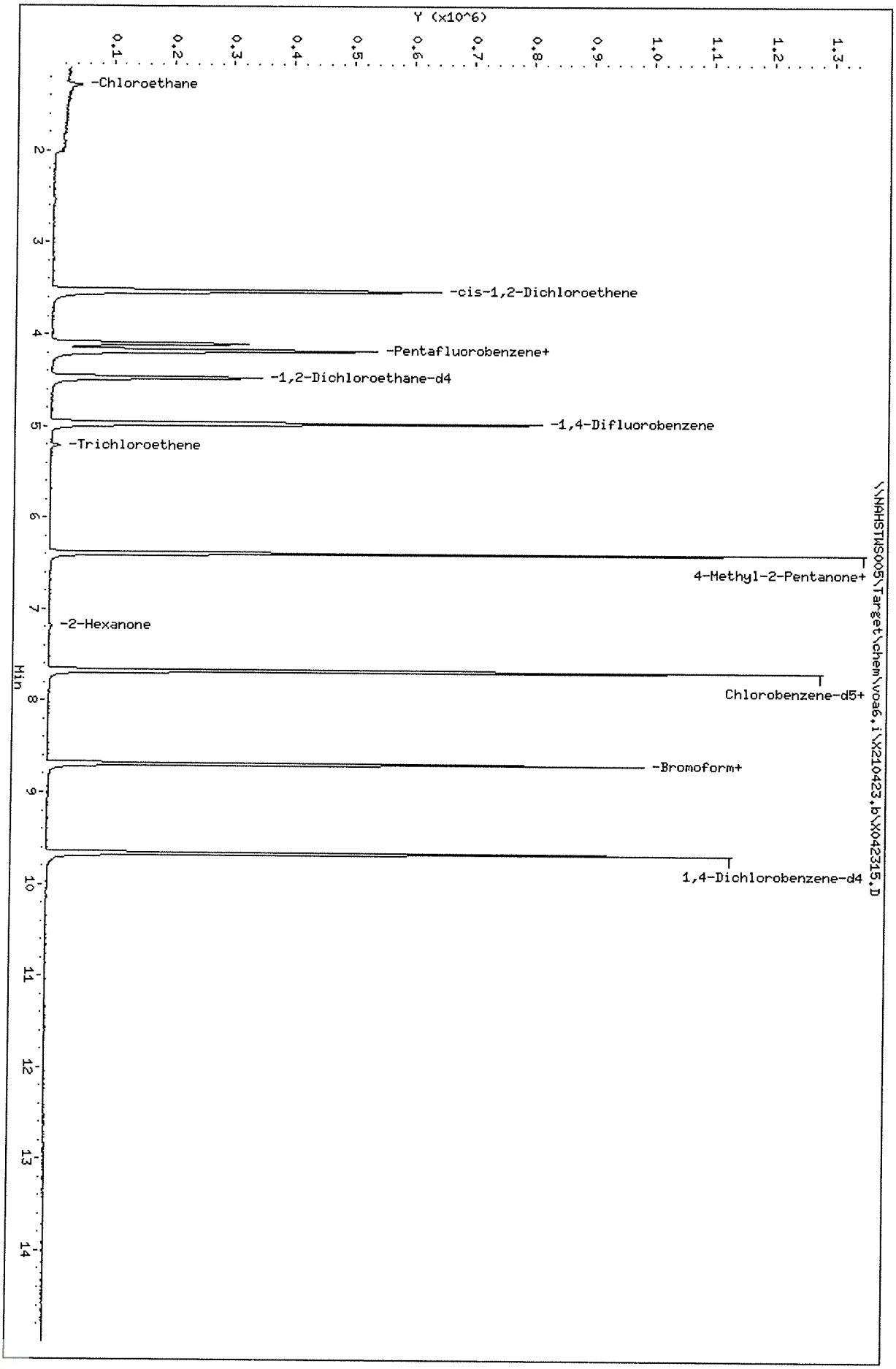
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	400894	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	645649	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	574310	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244725	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	219169	46.4670	46.46
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	280010	49.5192	49.51
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	771313	52.1663	52.16
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	264865	48.1527	48.15
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	322147	65.7364	65.73
38 Trichloroethene	130	5.207	5.206	(1.049)	4271	0.96632	0.96

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042315.D
Date : 23-APR-2021 15:43
Client ID: HS21041132-05
Sample Info: HS21041132-05;HS21041132-05;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042315.D

Date : 23-APR-2021 15:43

Client ID: HS21041132-05

Instrument: voa6.i

Sample Info: HS21041132-05;HS21041132-05;;;

Purge Volume: 5.0

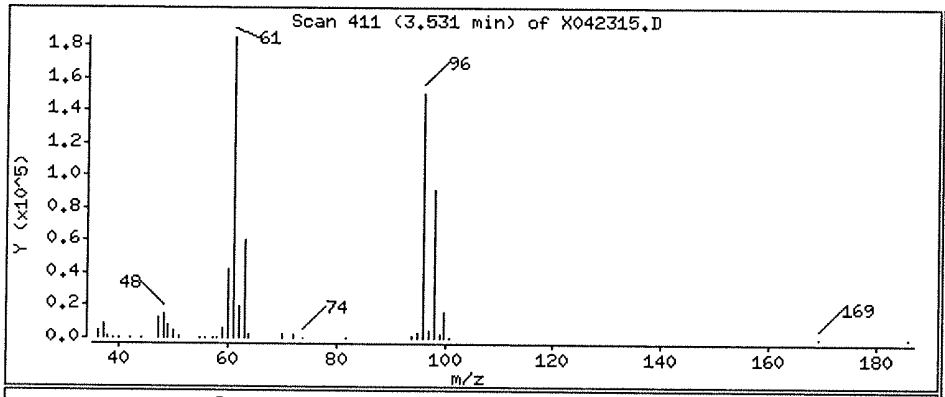
Operator: PC

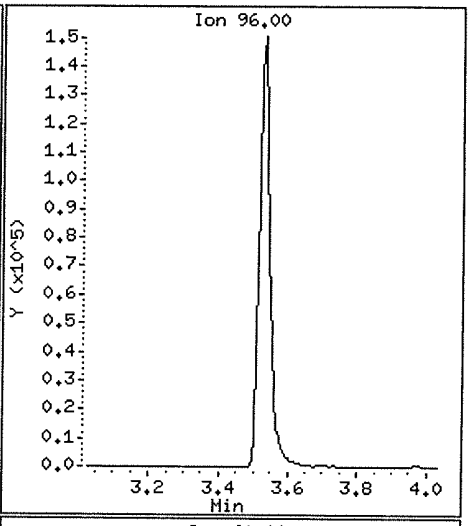
Column phase: DB624

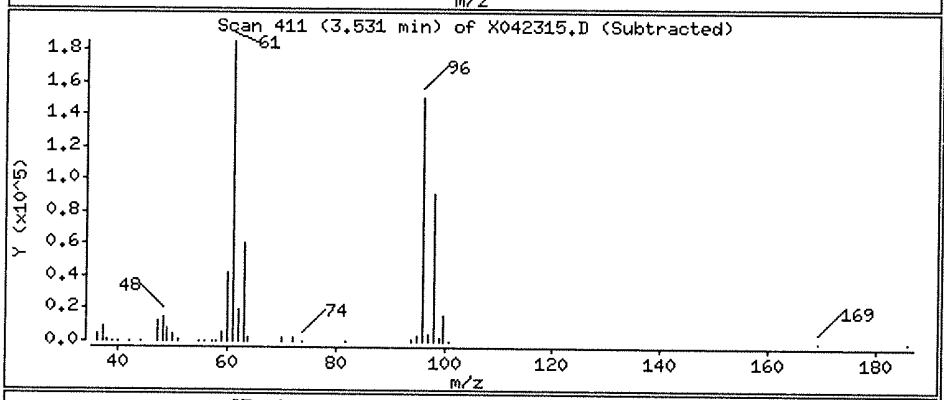
Column diameter: 0.18

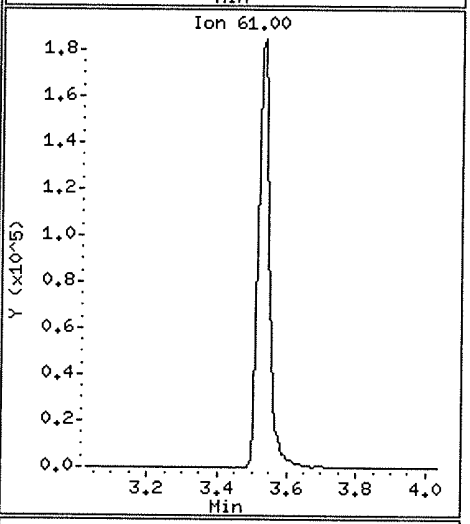
27 cis-1,2-Dichloroethene

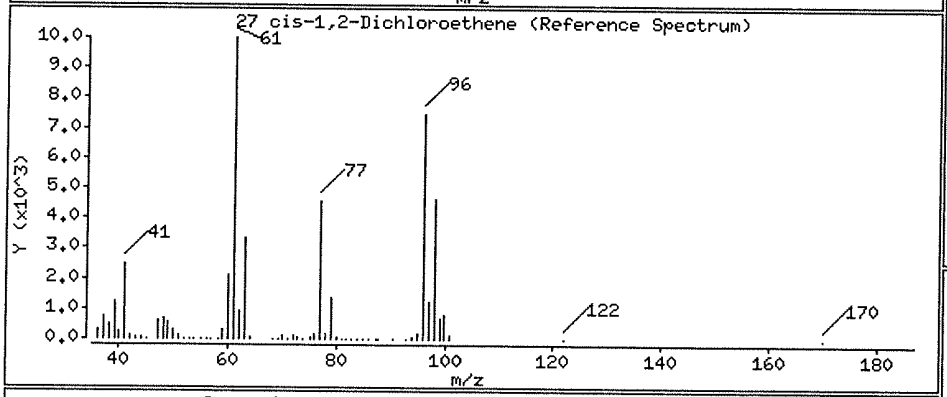
Concentration: 65.73 ug/l

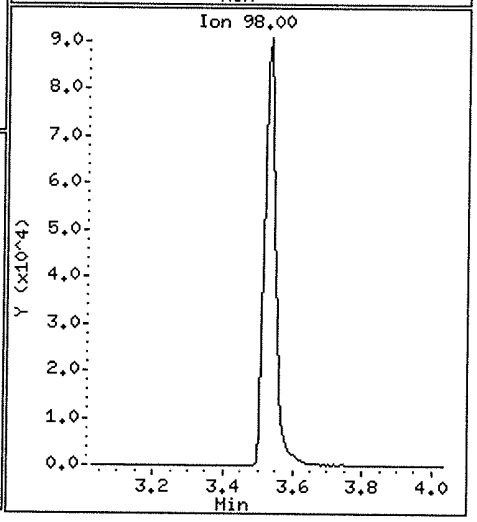


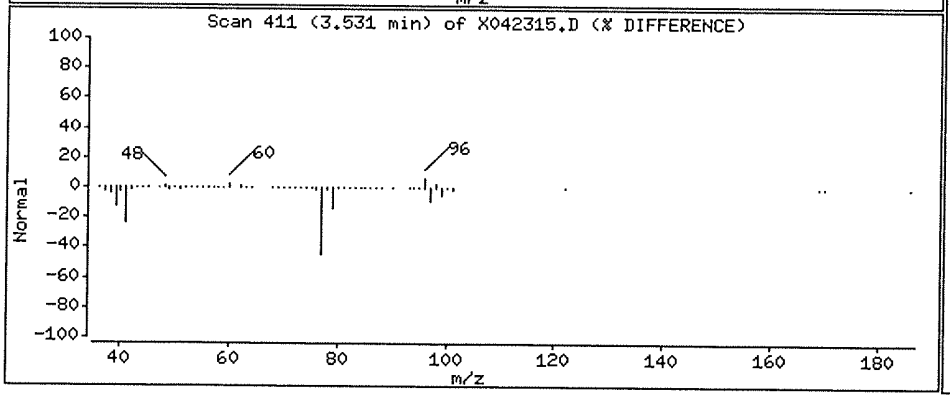












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042315.D

Date : 23-APR-2021 15:43

Client ID: HS21041132-05

Instrument: voa6.i

Sample Info: HS21041132-05;HS21041132-05;;;

Purge Volume: 5.0

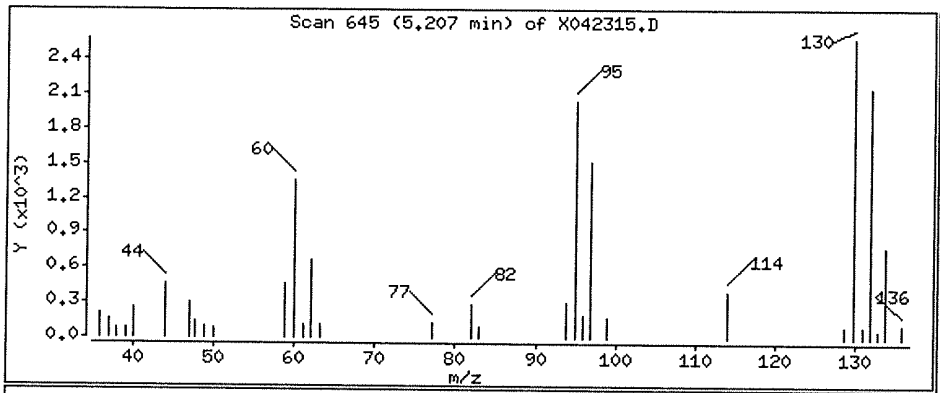
Operator: PC

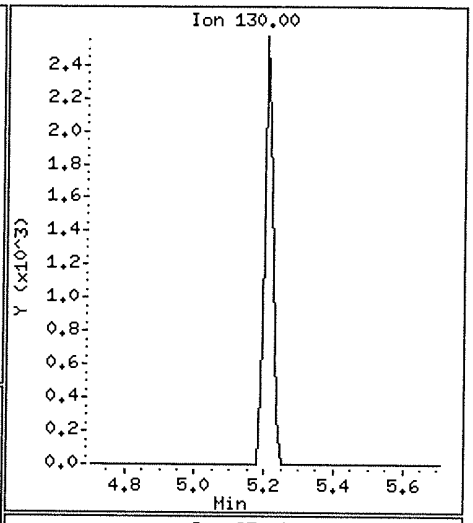
Column phase: DB624

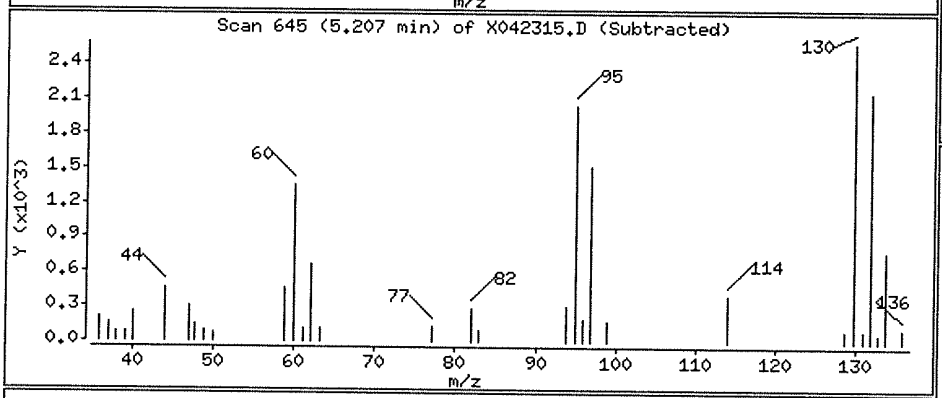
Column diameter: 0.18

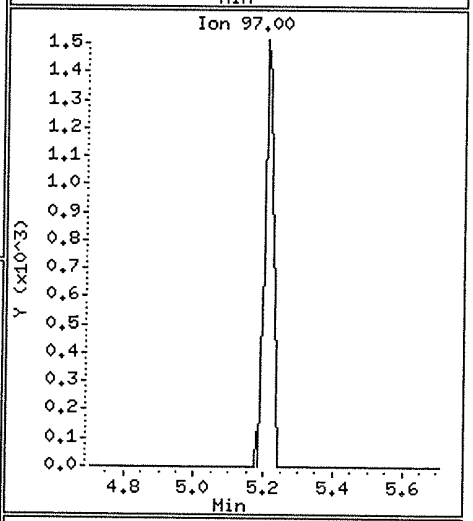
38 Trichloroethene

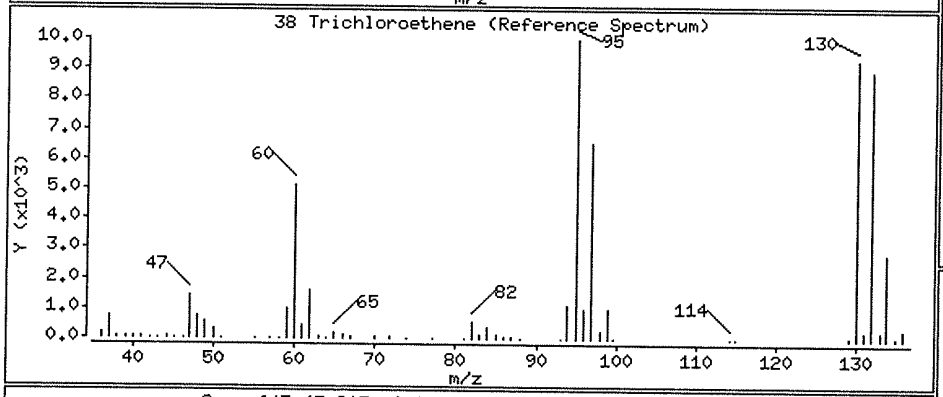
Concentration: 0.96 ug/l

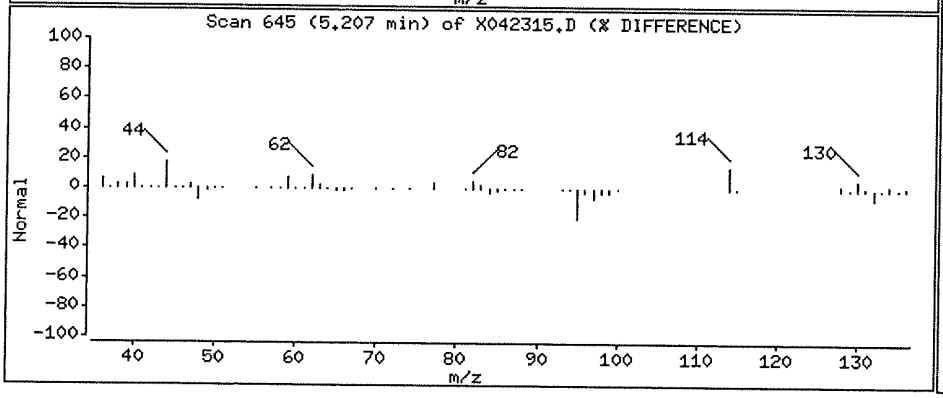


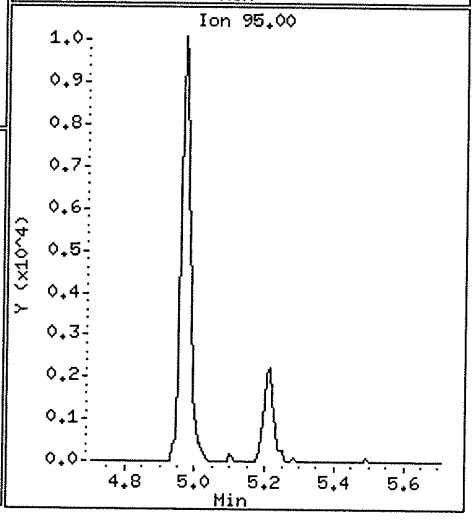












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D Page 1
Report Date: 12-May-2021 15:05

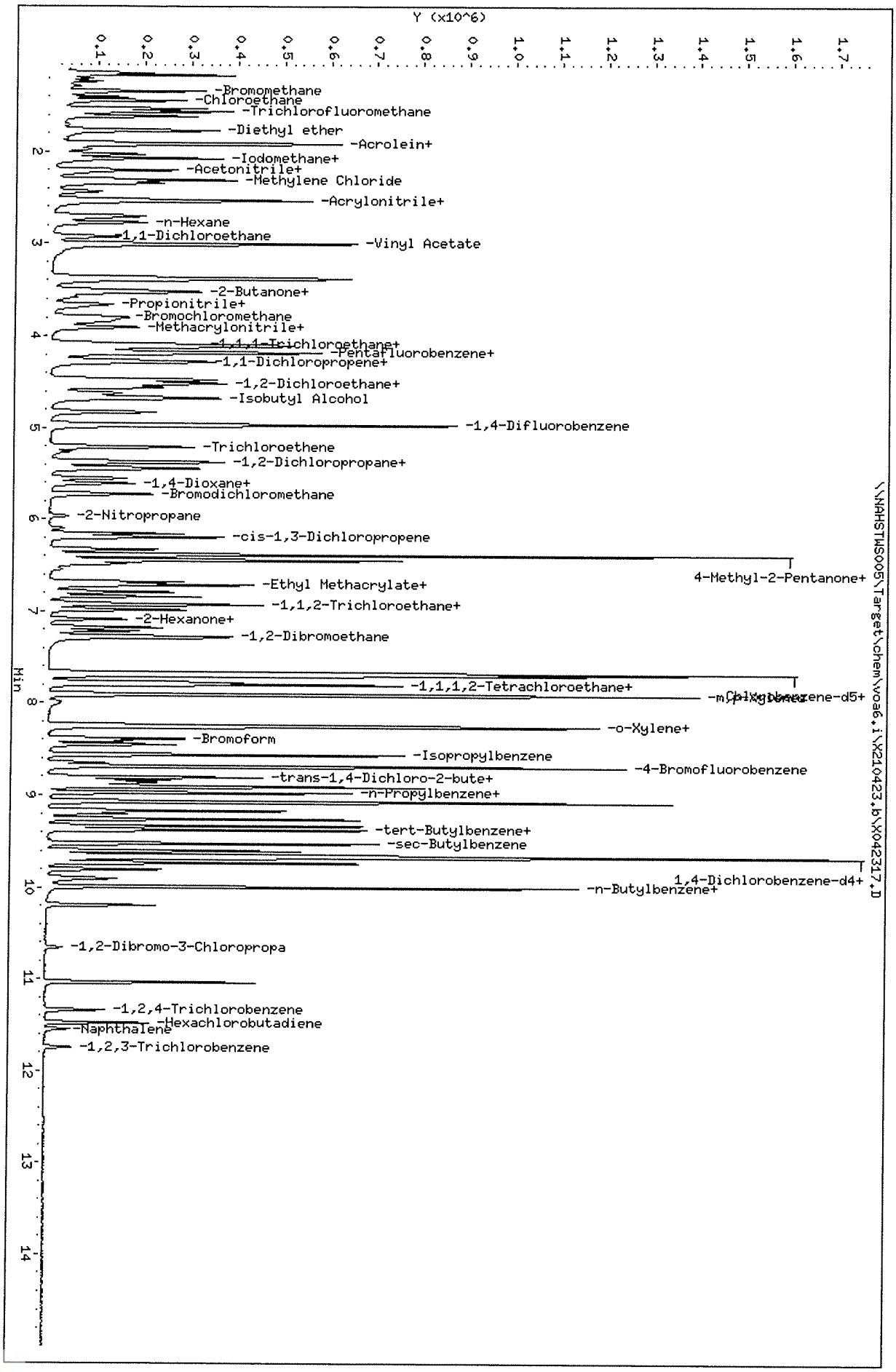
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D
Lab Smp Id: HS21041135-03MS Client Smp ID: HS21041135-03MS
Inj Date : 23-APR-2021 16:25
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-03MS;HS21041135-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:05 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 17 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	426612	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	684424	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	663475	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	305215	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	230082	45.8458	45.84
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	278807	46.3651	46.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	875607	51.2936	51.29
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	321175	50.4610	50.46
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	68767	17.8425	17.84
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	115385	18.9953	18.99
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	132951	18.3521	18.35
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	93405	17.9109	17.91
17 Methylene Chloride	84	2.305	2.306	(0.551)	79332	18.1093	18.10
38 Trichloroethene	130	5.206	5.207	(1.049)	94432	20.1549	20.15
5 Vinyl Chloride	62	1.145	1.145	(0.274)	134815	21.0788	21.07



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D
Date : 23-APR-2021 16:25
Client ID: HS21041135-03MS
Sample Info: HS21041135-03MS;HS21041135-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042318.D Page 1
Report Date: 12-May-2021 15:05

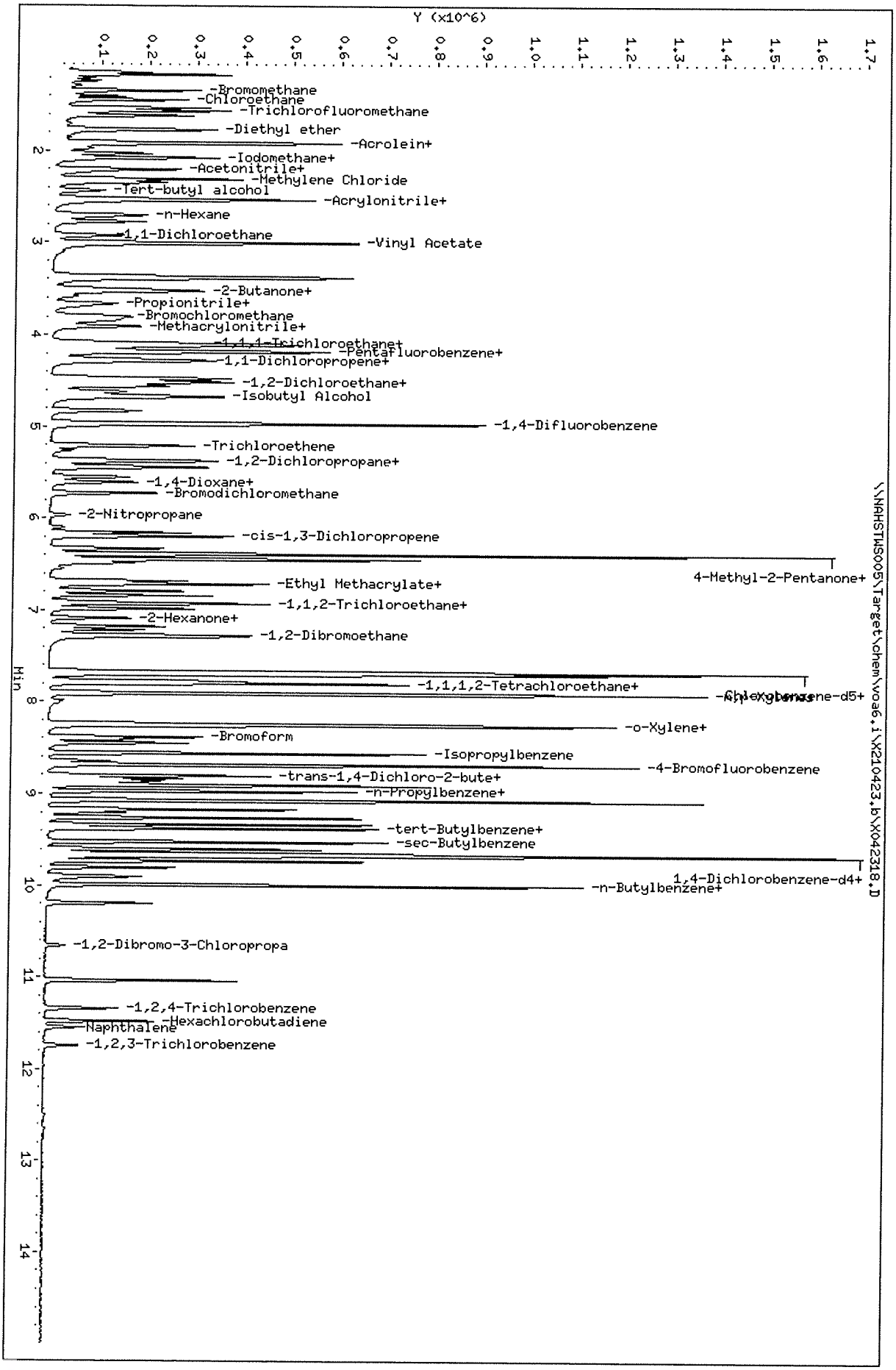
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042318.D
Lab Smp Id: HS21041135-03MSD Client Smp ID: HS21041135-03MSD
Inj Date : 23-APR-2021 16:46
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-03MSD;HS21041135-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:05 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 17 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432945	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	697264	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	666027	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	298080	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	231900	45.5351	45.53
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	292010	47.8349	47.83
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	885680	51.6707	51.67
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	317112	49.6588	49.65
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	69338	17.9217	17.92
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	110565	17.9356	17.93
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	130057	17.6220	17.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	90140	17.0320	17.03
17 Methylene Chloride	84	2.306	2.306	(0.551)	82026	18.4225	18.42
38 Trichloroethene	130	5.207	5.207	(1.048)	89805	18.8144	18.81
5 Vinyl Chloride	62	1.145	1.145	(0.274)	127563	19.6532	19.65



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210423,b\X042318,D
Date : 23-APR-2021 16:46
Client ID: HS21041135-03HSD
Sample Info: HS21041135-03HSD;HS21041135-03HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042321.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042321.D
Lab Smp Id: HS21041132-06 Client Smp ID: HS21041132-06
Inj Date : 23-APR-2021 17:49
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-06;HS21041132-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

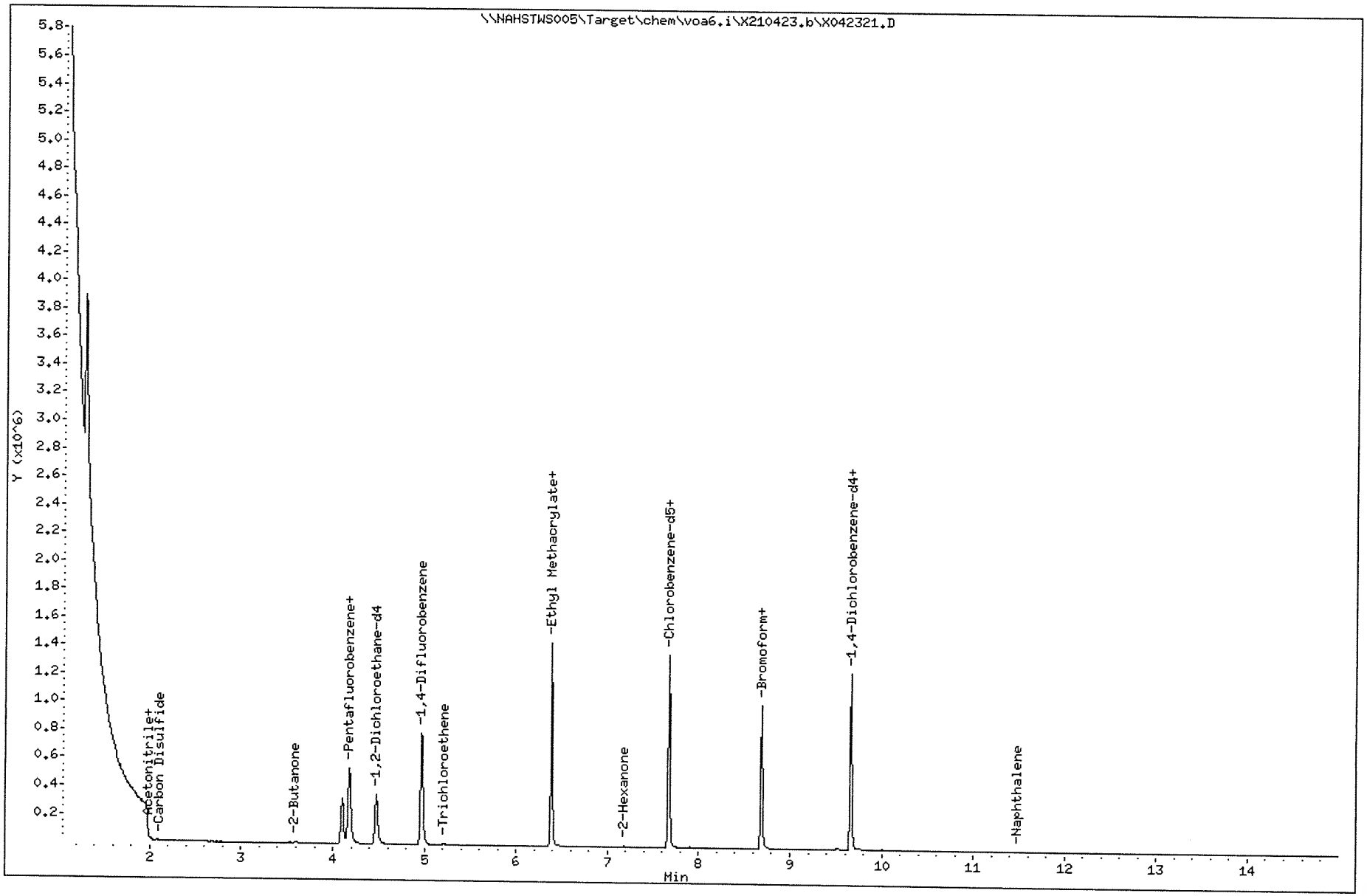
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	401756	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	635407	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	568852	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	259670	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	217473	46.0127	46.01
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	273294	48.2404	48.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	785805	53.6034	53.60
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	259682	47.6802	47.68
38 Trichloroethene	130	5.206	5.206	(1.049)	2257	0.51888	0.51

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042321.D
Date : 23-APR-2021 17:49
Client ID: HS21041132-06
Sample Info: HS21041132-06;HS21041132-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042321.D

Date : 23-APR-2021 17:49

Client ID: HS21041132-06

Instrument: voa6.i

Sample Info: HS21041132-06;HS21041132-06;;;

Purge Volume: 5.0

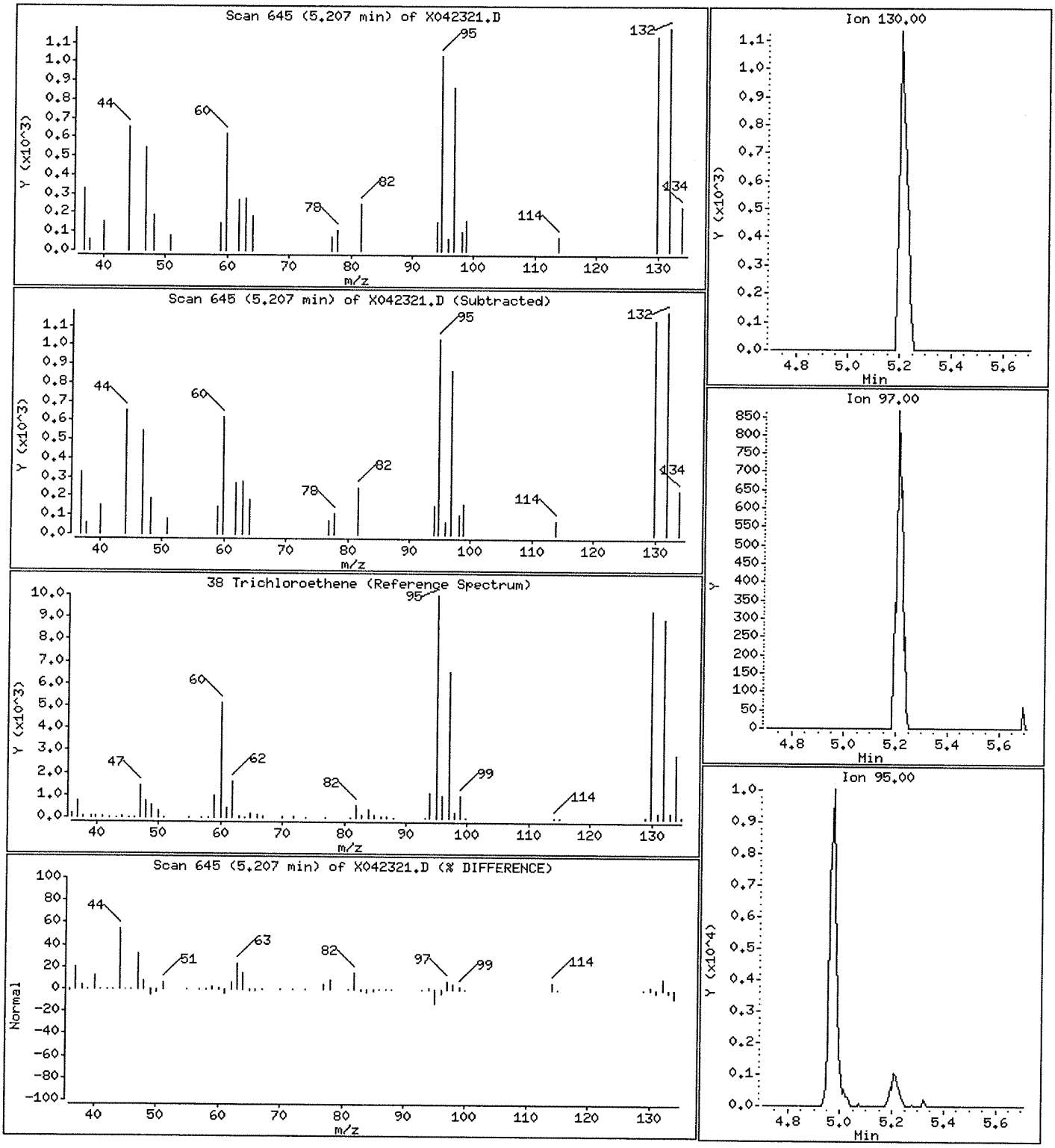
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 0.51 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042322.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042322.D
Lab Smp Id: HS21041132-07 Client Smp ID: HS21041132-07
Inj Date : 23-APR-2021 18:10
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-07;HS21041132-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

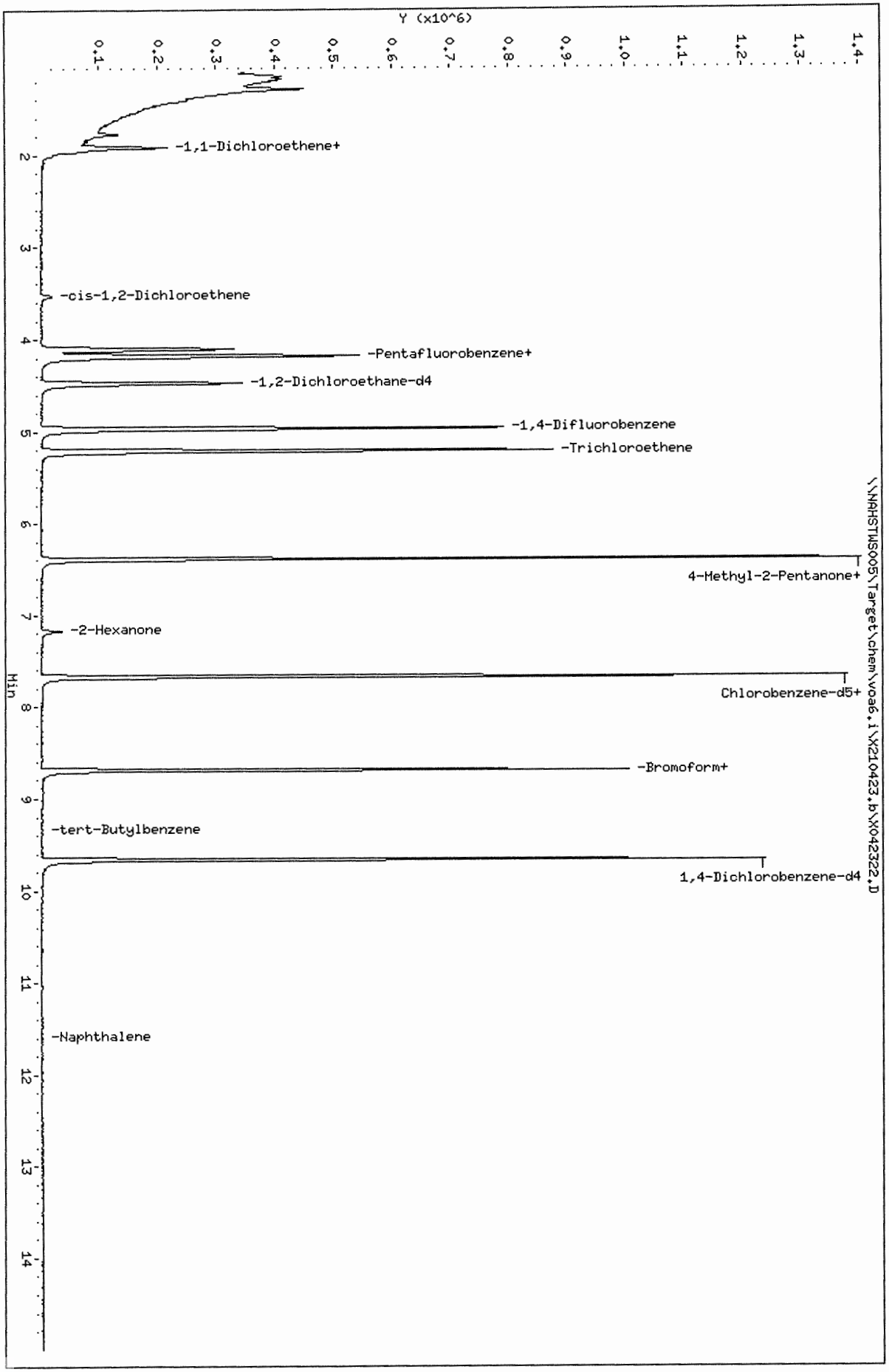
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	409601	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	639757	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	578336	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	248444	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	218216	45.2925	45.29
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	282547	48.9116	48.91
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	796461	53.4451	53.44
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	262597	47.4336	47.43
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4762	0.81651	0.81(a)
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.846)	8426	1.68284	1.68
38 Trichloroethene	130	5.207	5.206	(1.049)	261502	59.7099	59.70

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042322.D
Date : 23-APR-2021 18:10
Client ID: HS21041132-07
Sample Info: HS21041132-07,HS21041132-07;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042322.D

Date : 23-APR-2021 18:10

Client ID: HS21041132-07

Instrument: voa6.i

Sample Info: HS21041132-07;HS21041132-07;;;

Purge Volume: 5.0

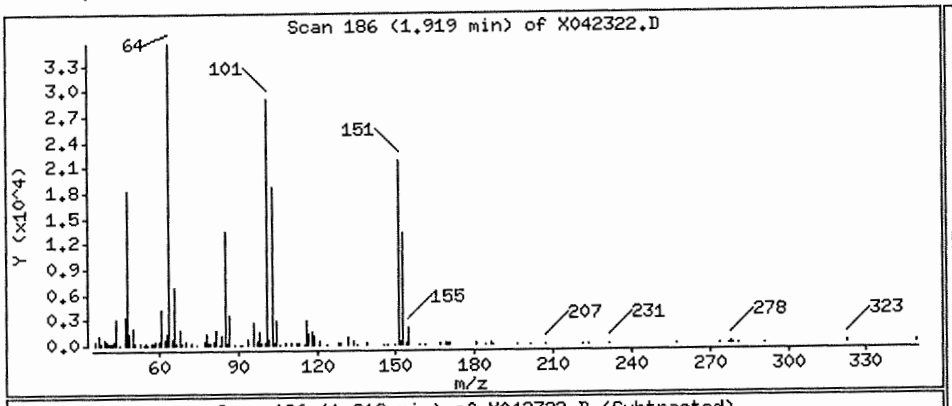
Operator: PC

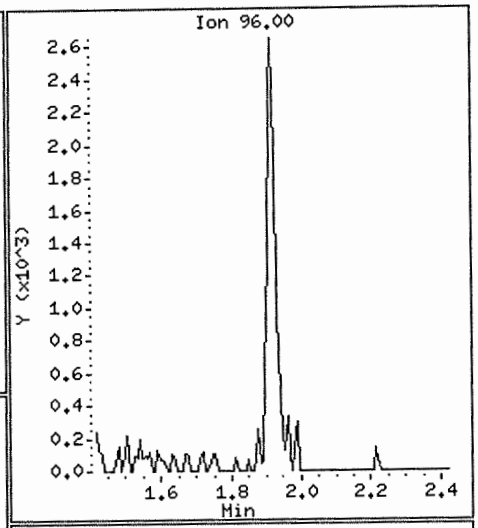
Column phase: DB624

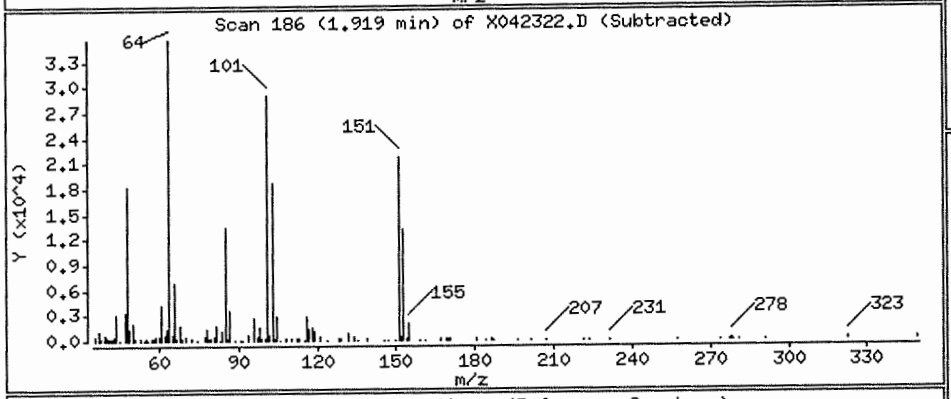
Column diameter: 0.18

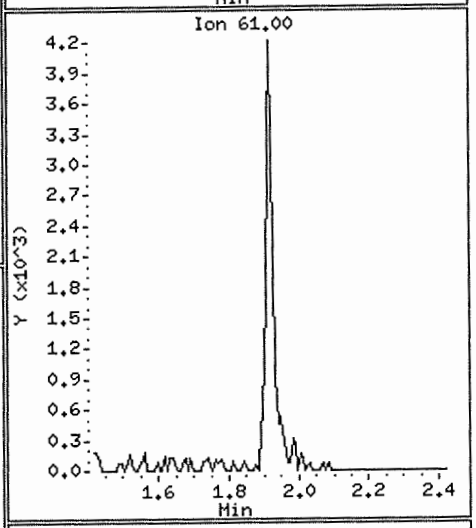
11 1,1-Dichloroethene

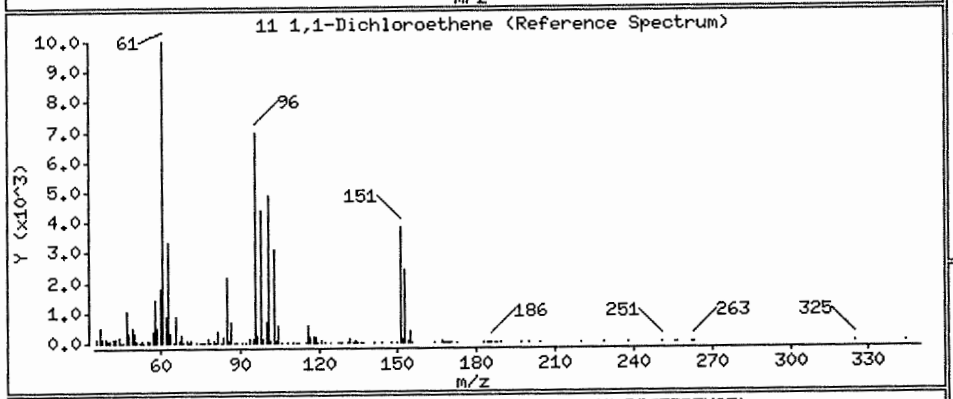
Concentration: 0.81 ug/l

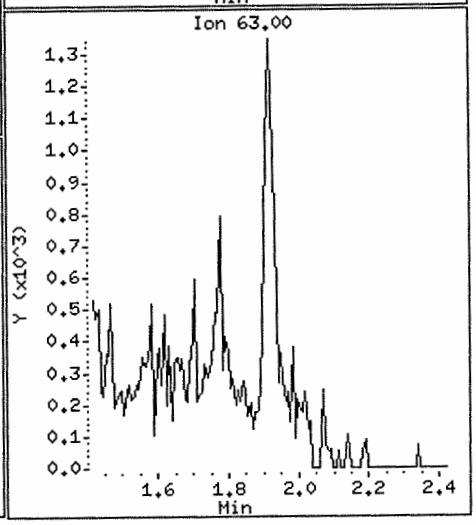


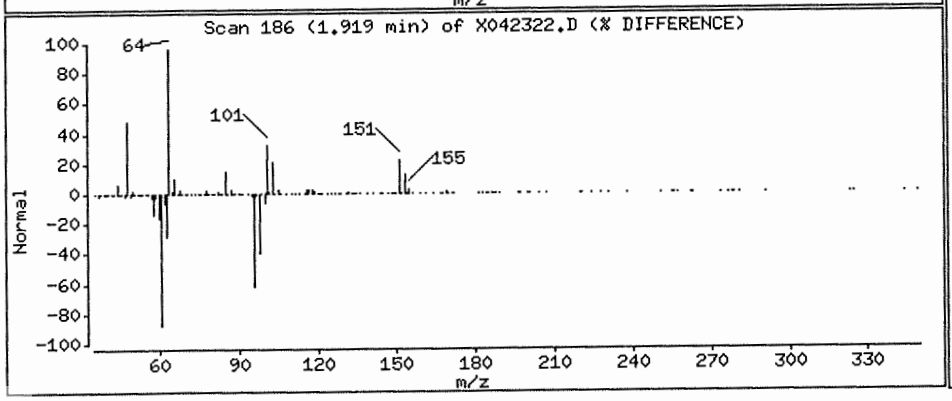












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042322.D

Date : 23-APR-2021 18:10

Client ID: HS21041132-07

Instrument: voa6.i

Sample Info: HS21041132-07;HS21041132-07;;;

Purge Volume: 5.0

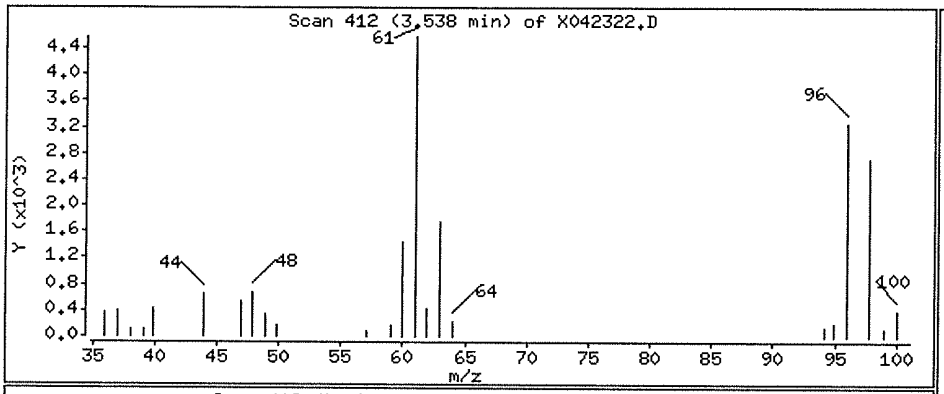
Operator: PC

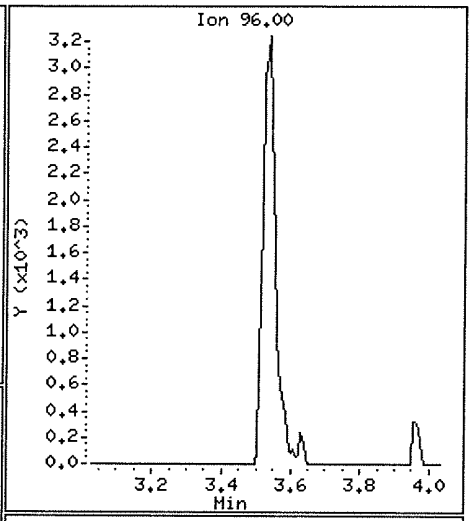
Column phase: DB624

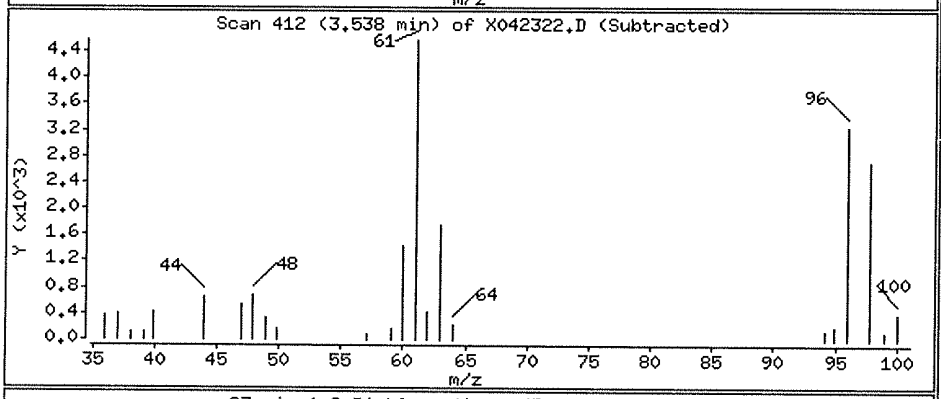
Column diameter: 0.18

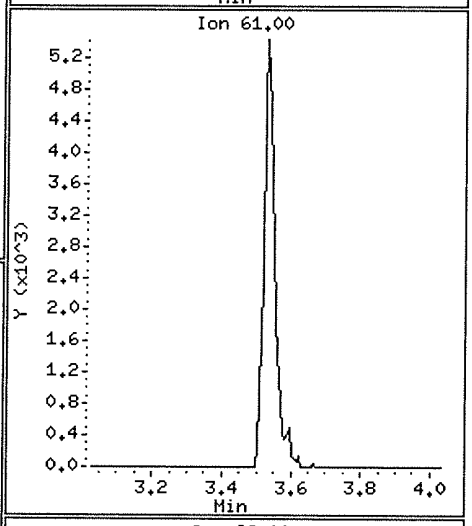
27 cis-1,2-Dichloroethene

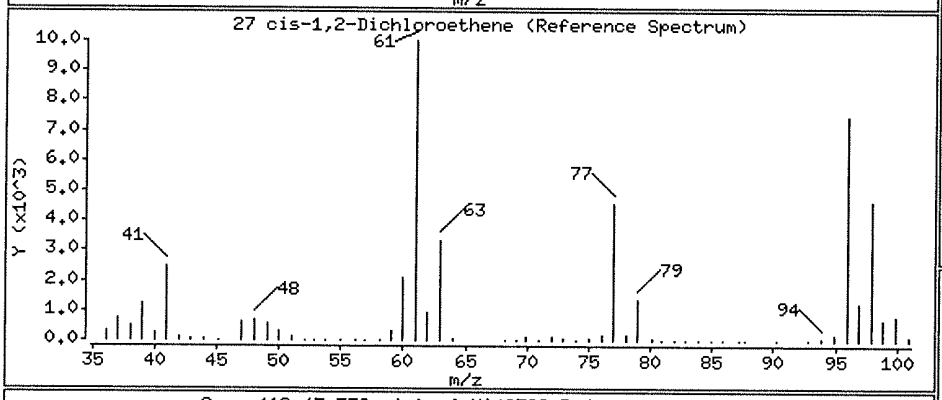
Concentration: 1.68 ug/l

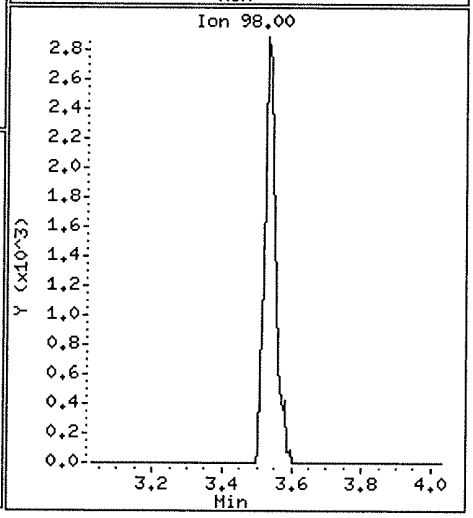


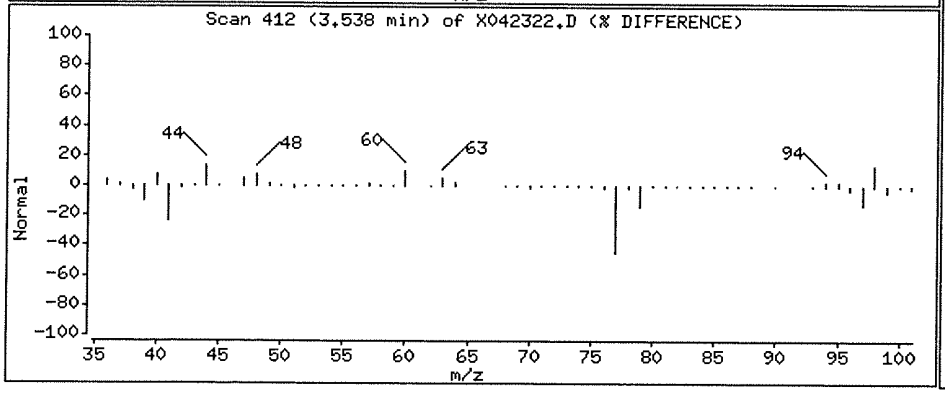












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042322.D

Date : 23-APR-2021 18:10

Client ID: HS21041132-07

Instrument: voa6.i

Sample Info: HS21041132-07;HS21041132-07;;;

Purge Volume: 5.0

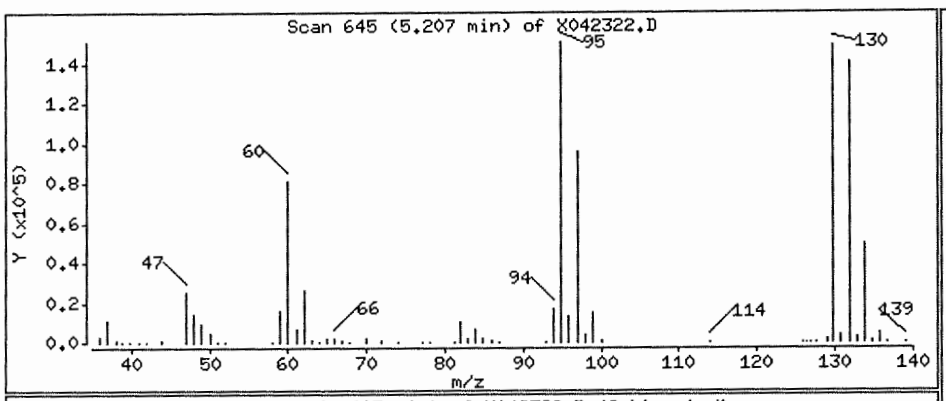
Operator: PC

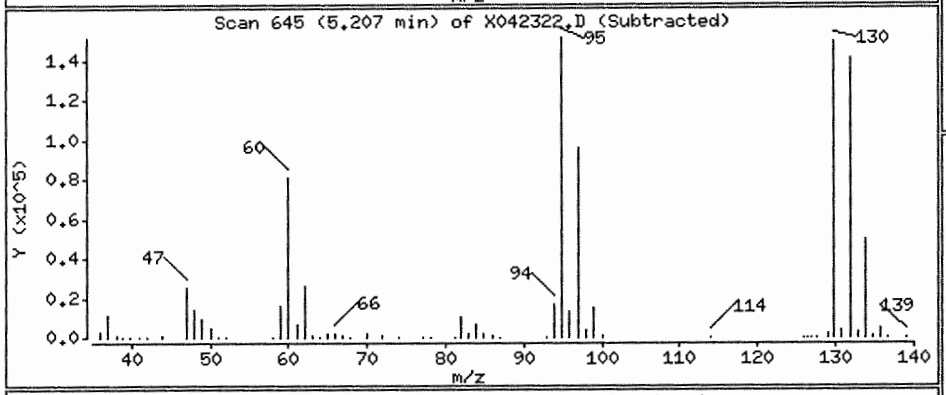
Column phase: DB624

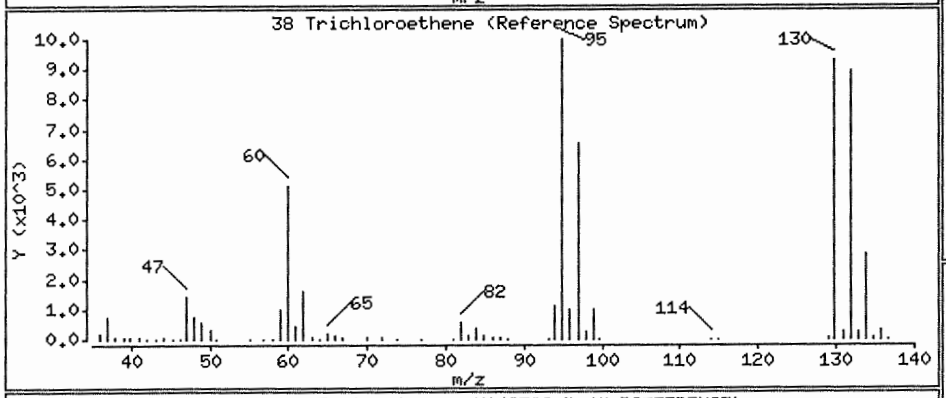
Column diameter: 0.18

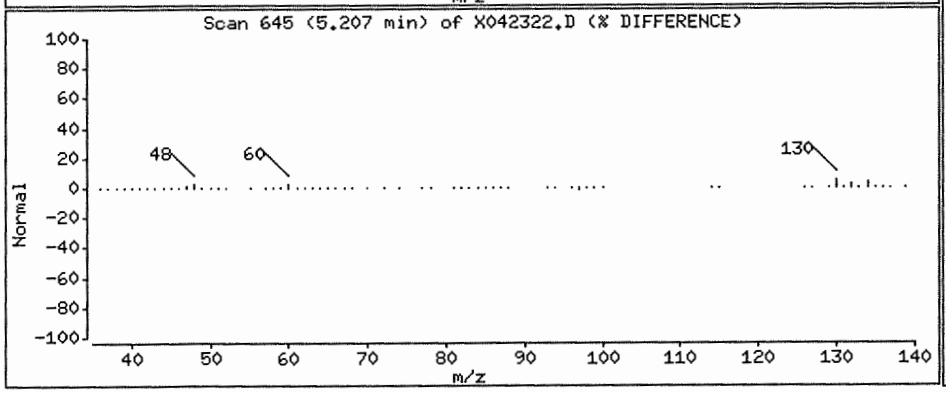
38 Trichloroethene

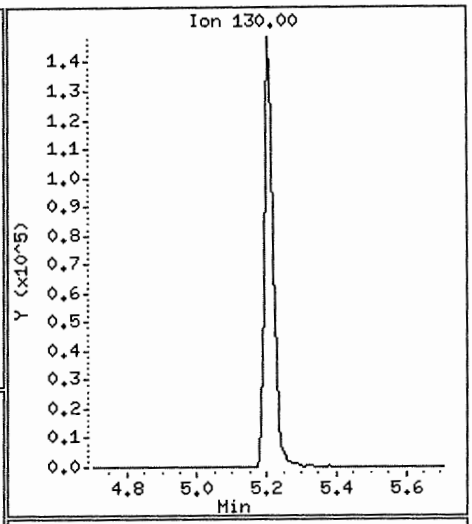
Concentration: 59.70 ug/l

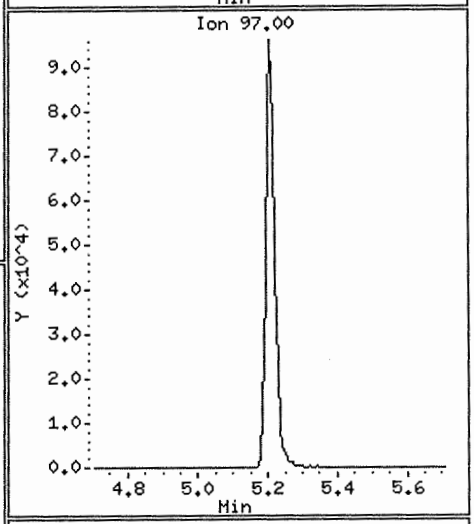


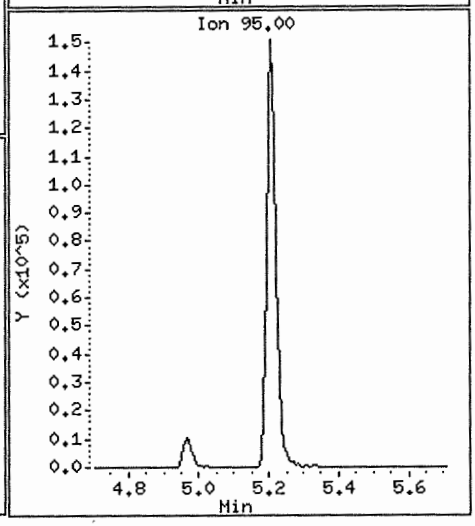












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042324.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042324.D
Lab Smp Id: HS21041132-08 Client Smp ID: HS21041132-08
Inj Date : 23-APR-2021 18:52
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-08;HS21041132-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

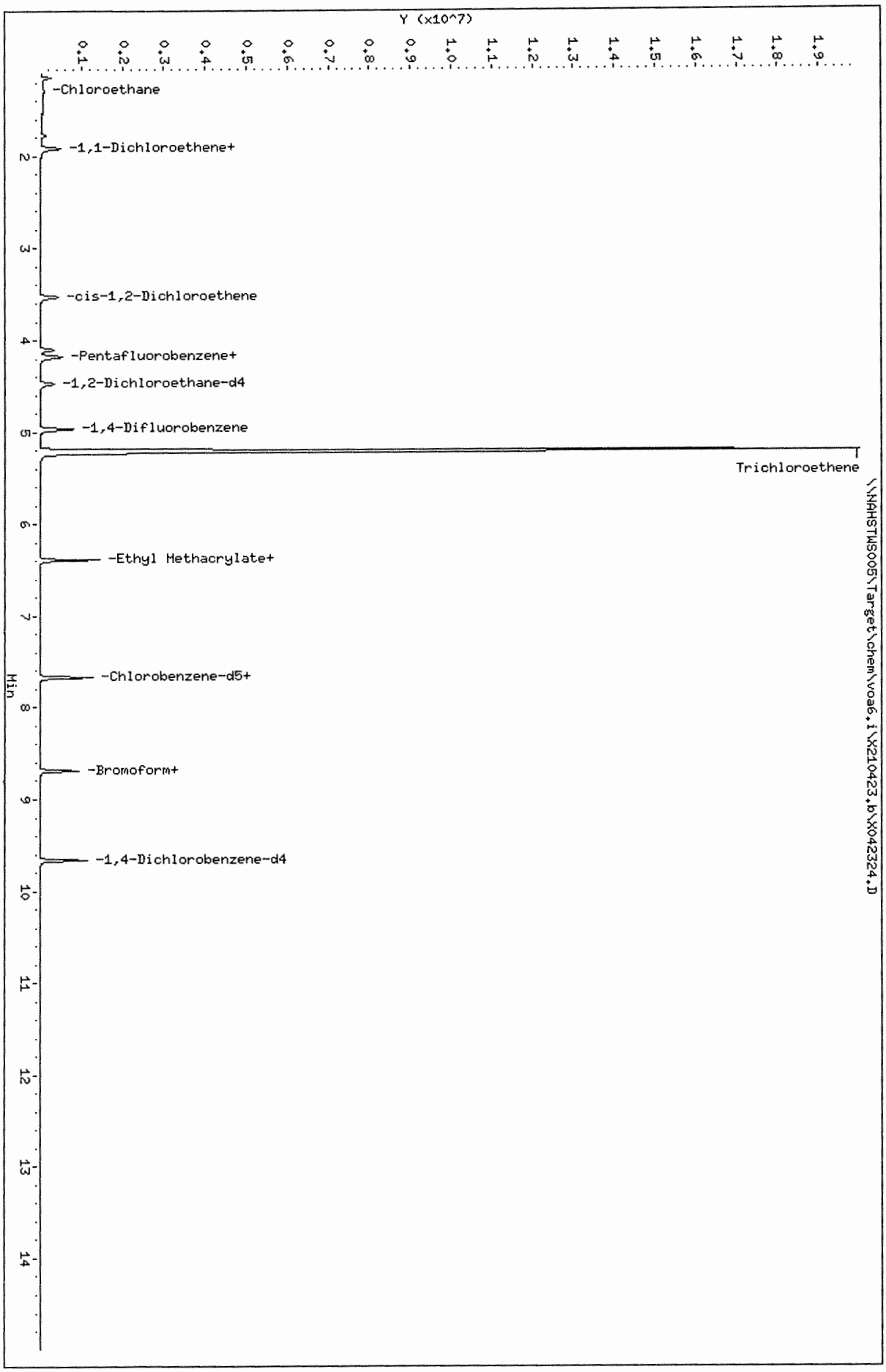
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	395789	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	631030	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	550731	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	234867	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	218554	46.9299	46.92
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	277504	49.7071	49.70
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	777282	54.7264	54.72
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	247002	46.8732	46.87
11 1,1-Dichloroethene	96	1.911	1.919	(0.457)	26897	4.77277	4.77(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	223788	46.2546	46.25
38 Trichloroethene	130	5.206	5.206	(1.049)	5568112	1288.97	1288.97(A)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	172890	29.1372	29.13

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042324.D
Date : 23-APR-2021 18:52
Client ID: HS21041132-08
Sample Info: HS21041132-08;HS21041132-08;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042324.D

Date : 23-APR-2021 18:52

Client ID: HS21041132-08

Instrument: voa6.i

Sample Info: HS21041132-08;HS21041132-08;;;

Purge Volume: 5.0

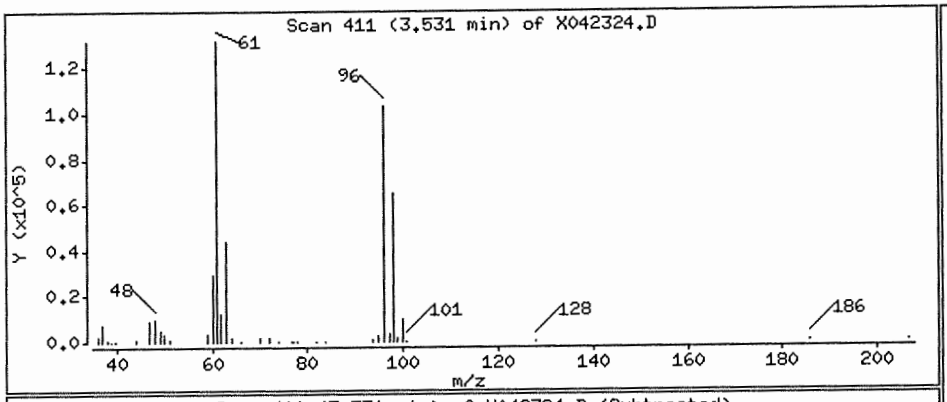
Operator: PC

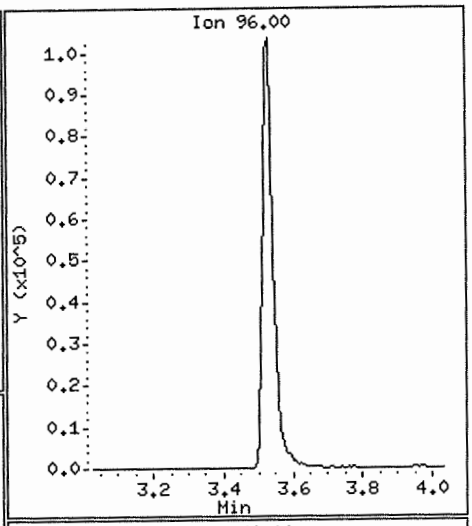
Column phase: DB624

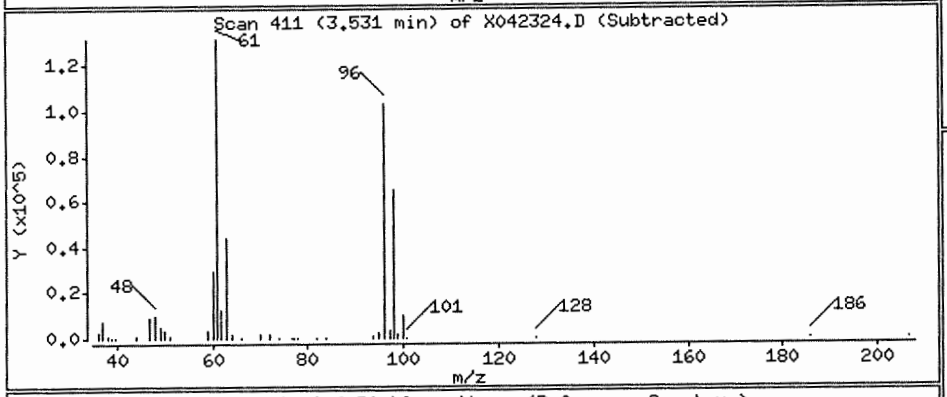
Column diameter: 0.18

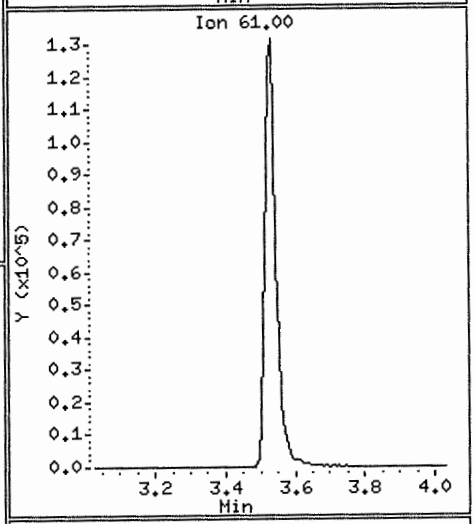
27 cis-1,2-Dichloroethene

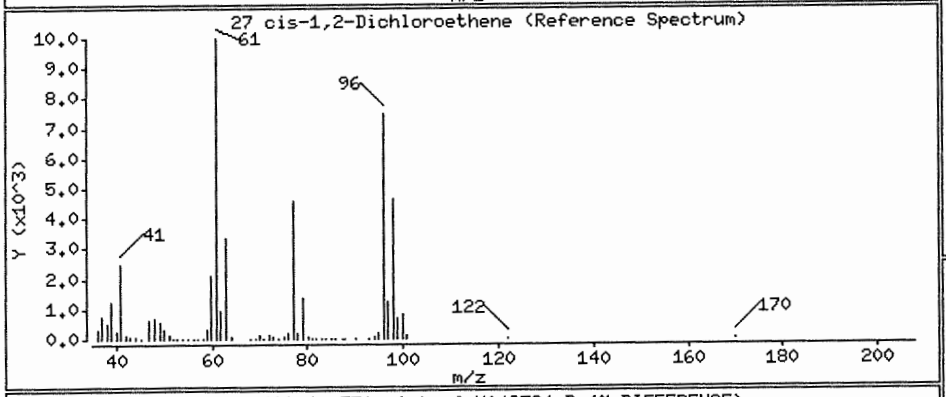
Concentration: 46.25 ug/l

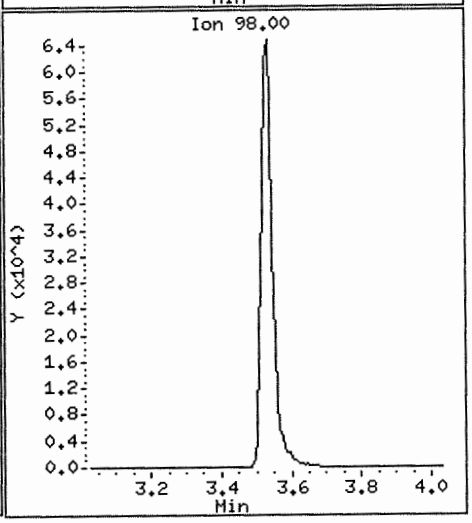


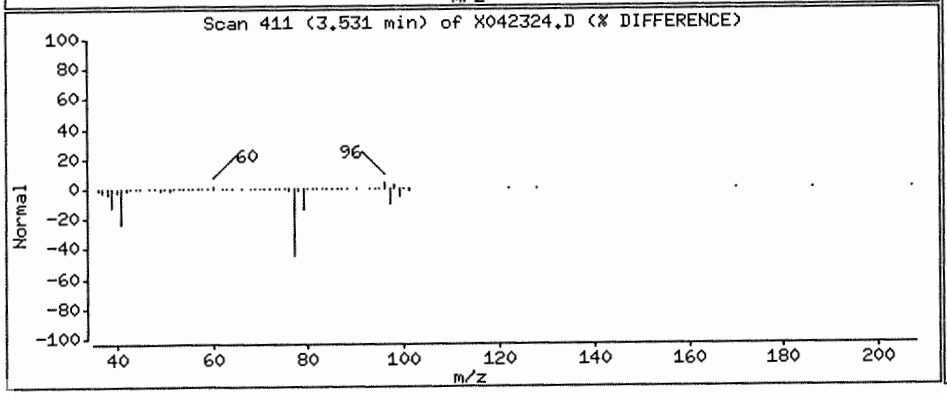












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042324.D

Date : 23-APR-2021 18:52

Client ID: HS21041132-08

Instrument: voa6.i

Sample Info: HS21041132-08;HS21041132-08;;;

Purge Volume: 5.0

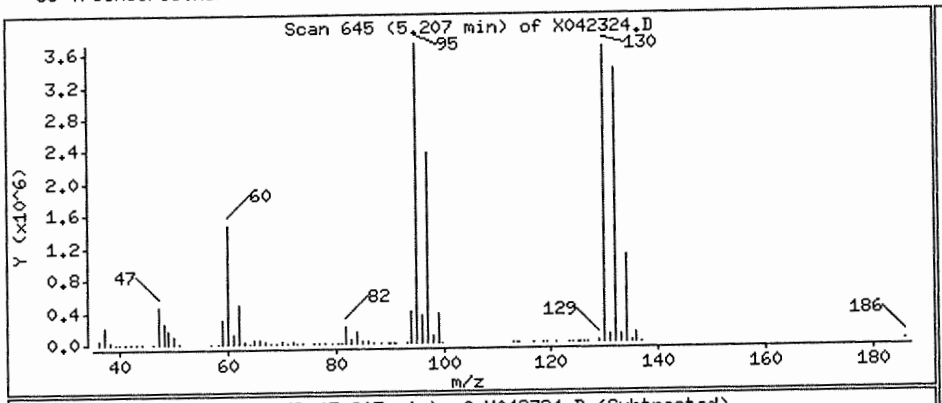
Operator: PC

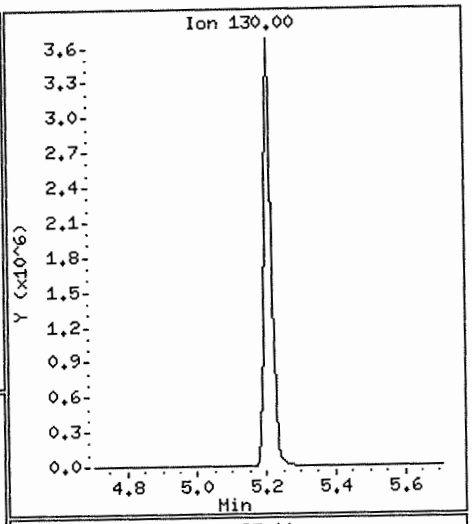
Column phase: DB624

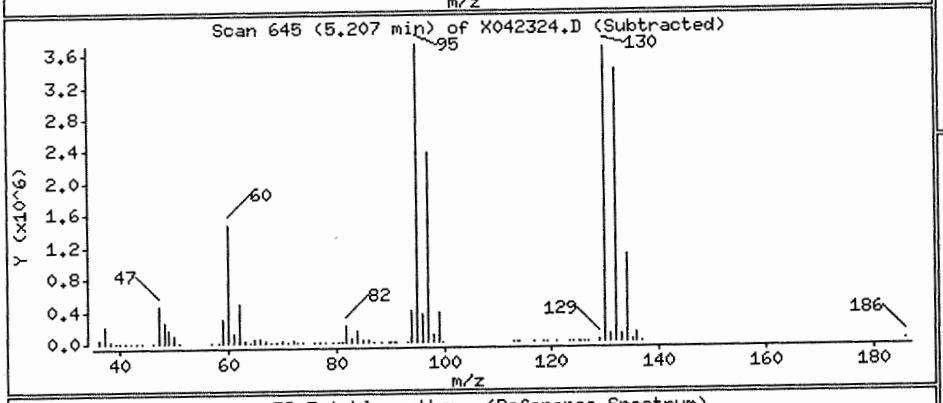
Column diameter: 0.18

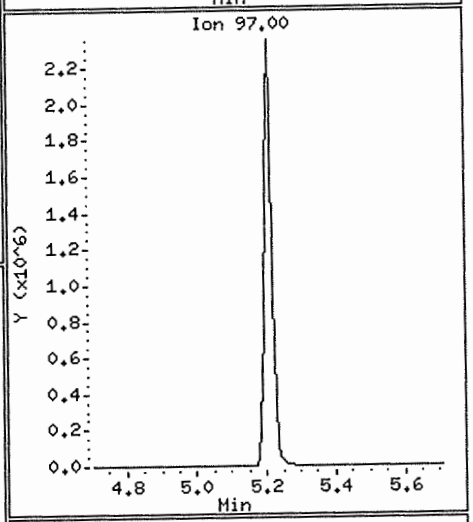
38 Trichloroethene

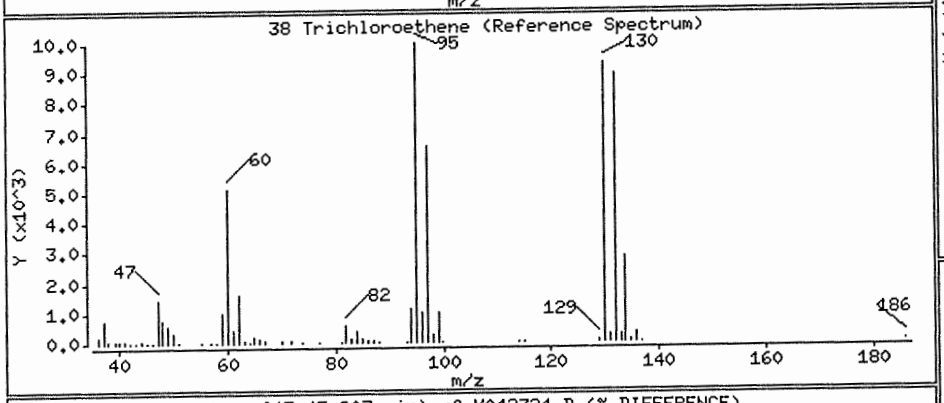
Concentration: 1288.97 ug/l

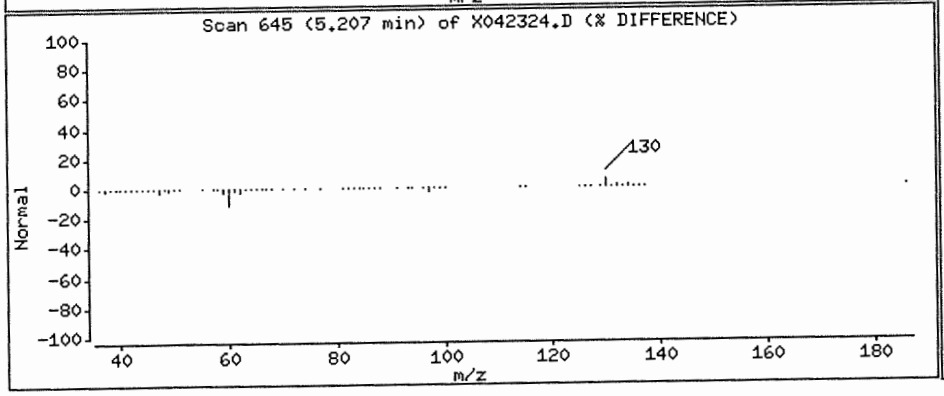


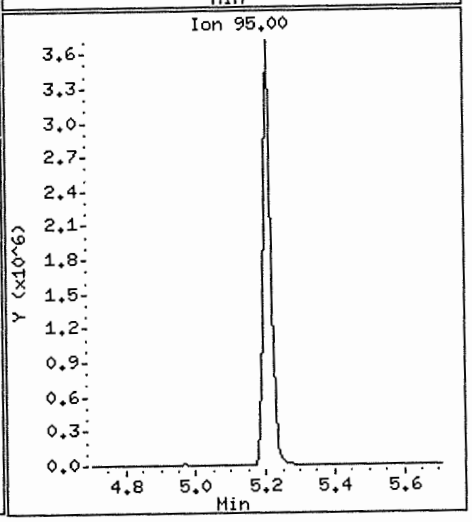












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042324.D

Date : 23-APR-2021 18:52

Client ID: HS21041132-08

Instrument: voa6.i

Sample Info: HS21041132-08;HS21041132-08;;;

Purge Volume: 5.0

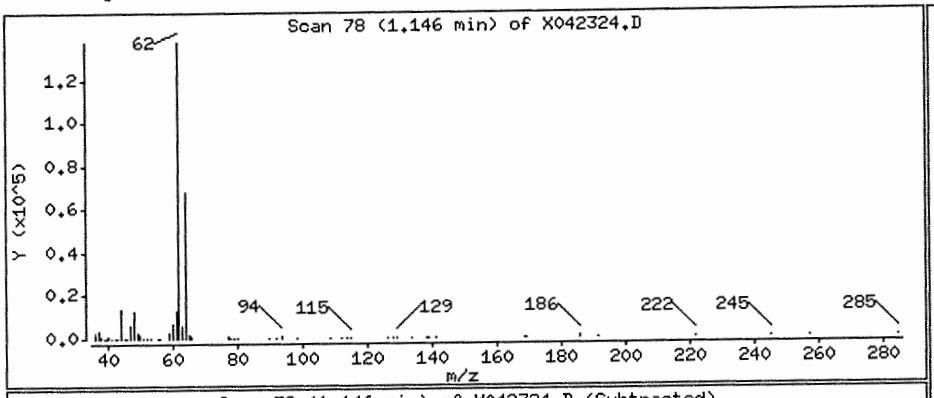
Operator: PC

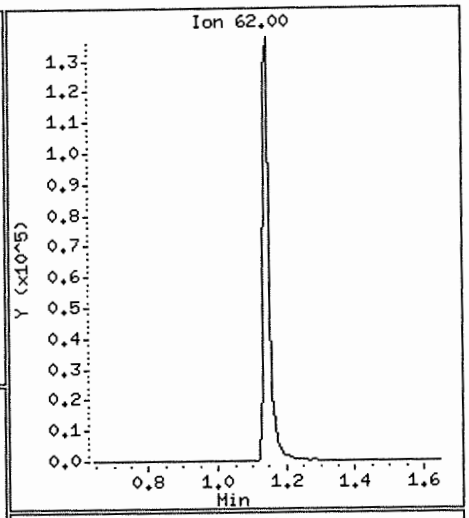
Column phase: DB624

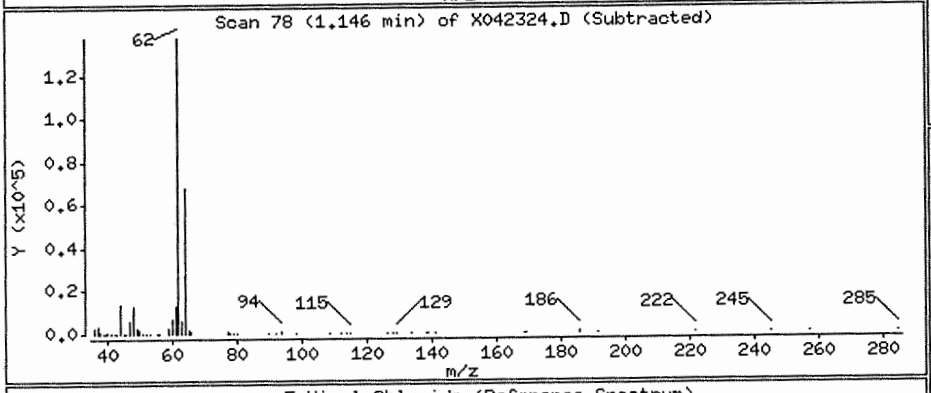
Column diameter: 0.18

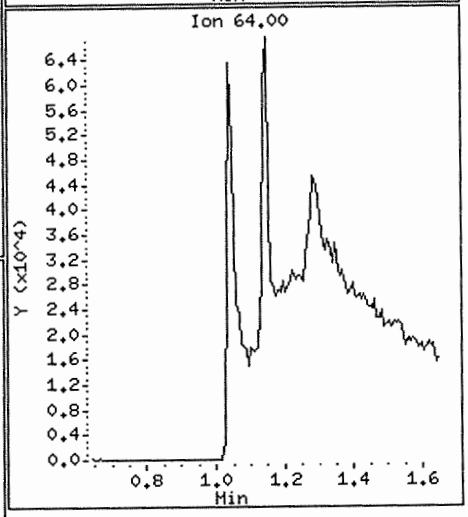
5 Vinyl Chloride

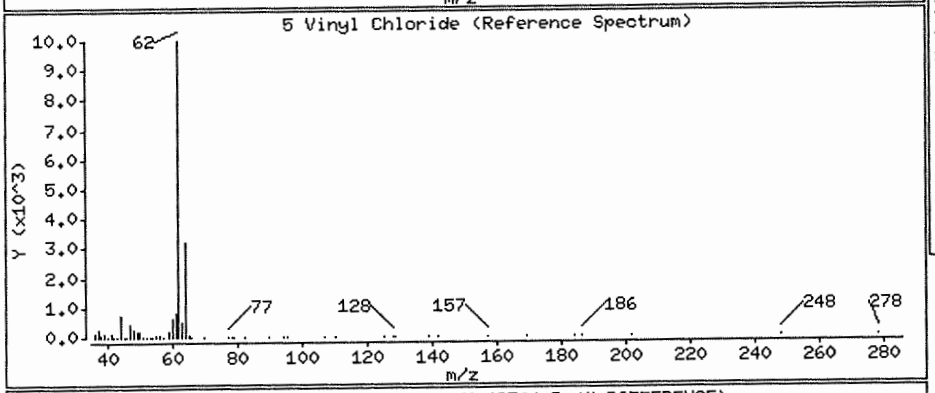
Concentration: 29.13 ug/l

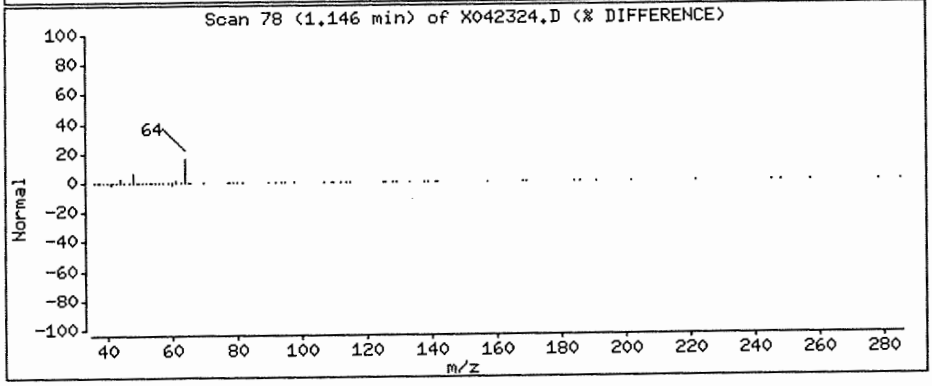












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042325.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042325.D
Lab Smp Id: HS21041132-08 Client Smp ID: HS21041132-08
Inj Date : 23-APR-2021 19:13
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-08;HS21041132-08;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 24
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

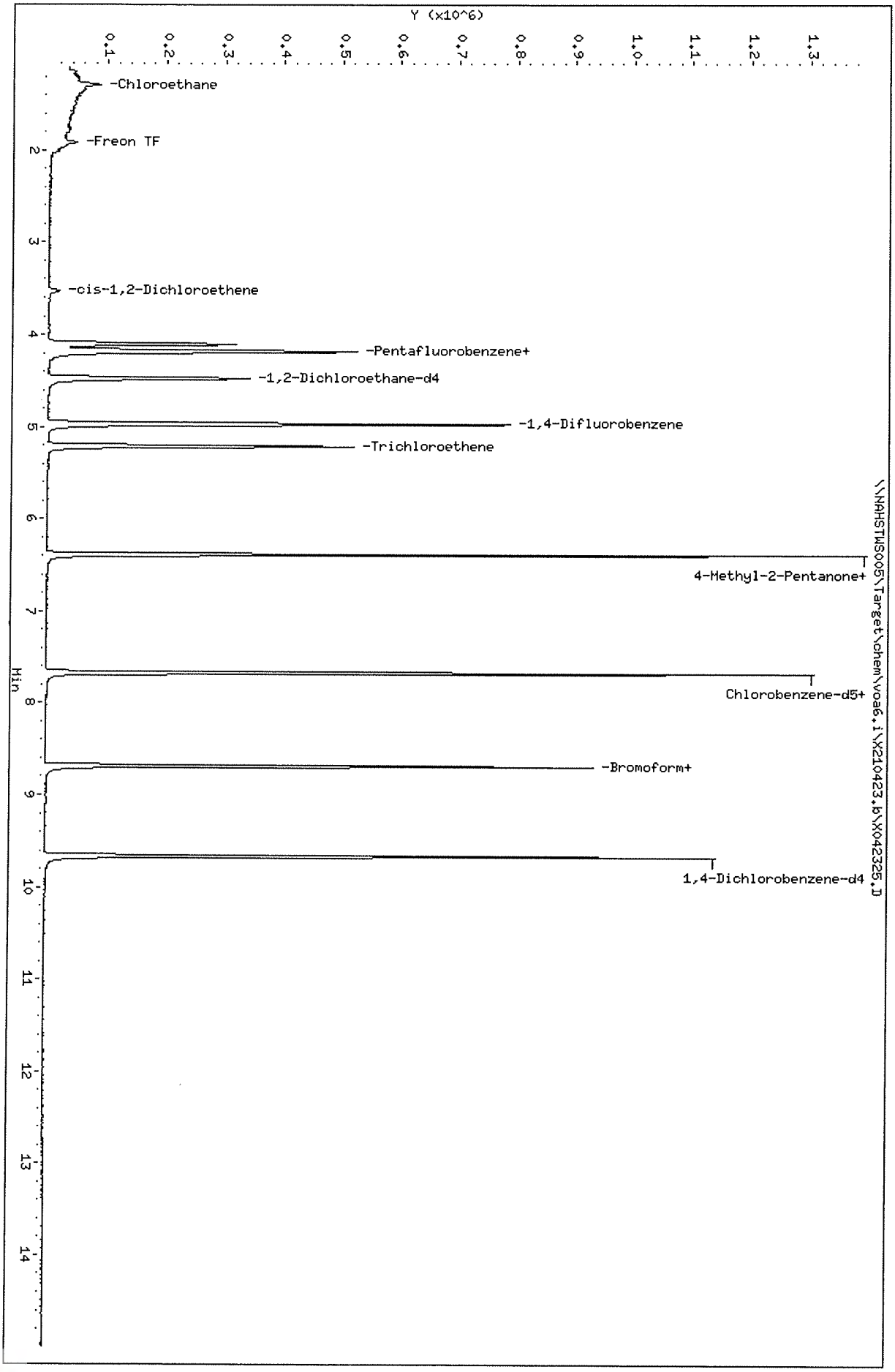
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	25.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	395993	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	636194	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	556682	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	243192	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	216121	46.3886	46.38
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	272497	48.7941	48.79
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	770959	53.7357	53.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	249530	46.8477	46.84
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	9266	1.91420	47.85
38 Trichloroethene	130	5.207	5.206	(1.049)	157360	36.1319	903.29
5 Vinyl Chloride	62	1.138	1.145	(0.272)	6778	1.14171	28.54

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042325.D
Date : 23-APR-2021 19:13
Client ID: HS21041132-08
Sample Info: HS21041132-08;HS21041132-08;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042325.D

Date : 23-APR-2021 19:13

Client ID: HS21041132-08

Instrument: voa6.i

Sample Info: HS21041132-08;HS21041132-08;;;

Purge Volume: 5.0

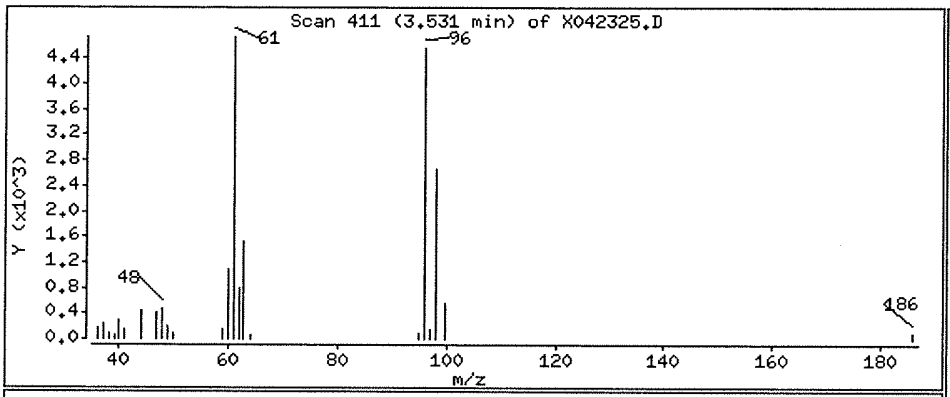
Operator: PC

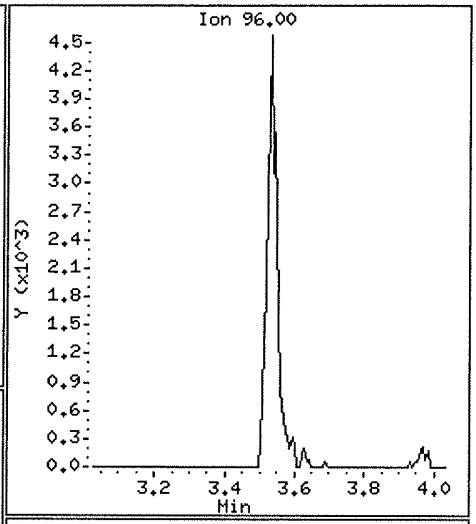
Column phase: DB624

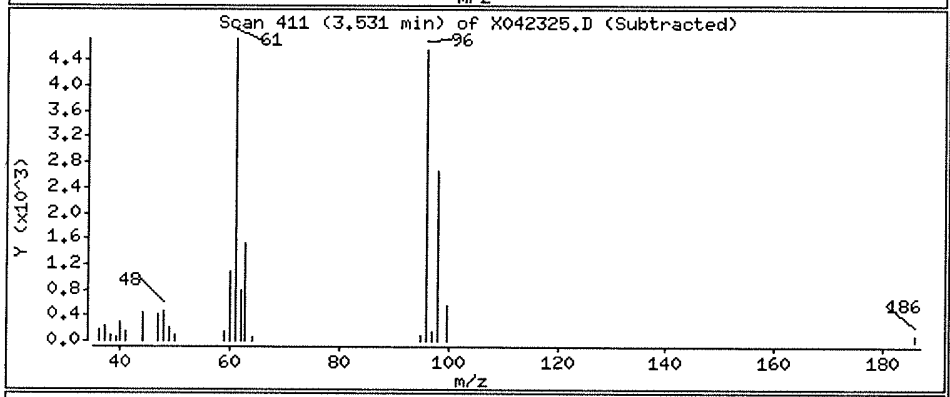
Column diameter: 0.18

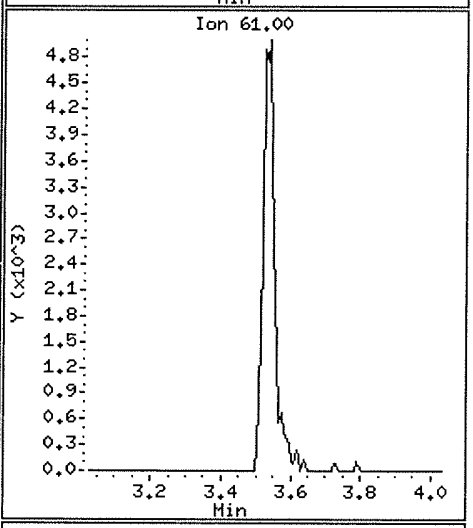
27 cis-1,2-Dichloroethene

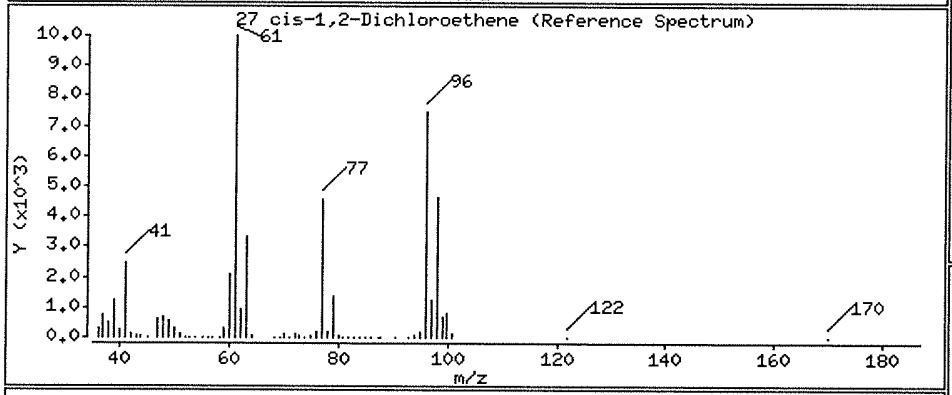
Concentration: 47.85 ug/l

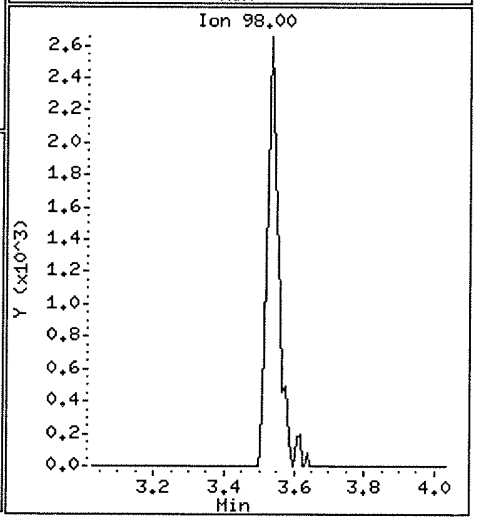


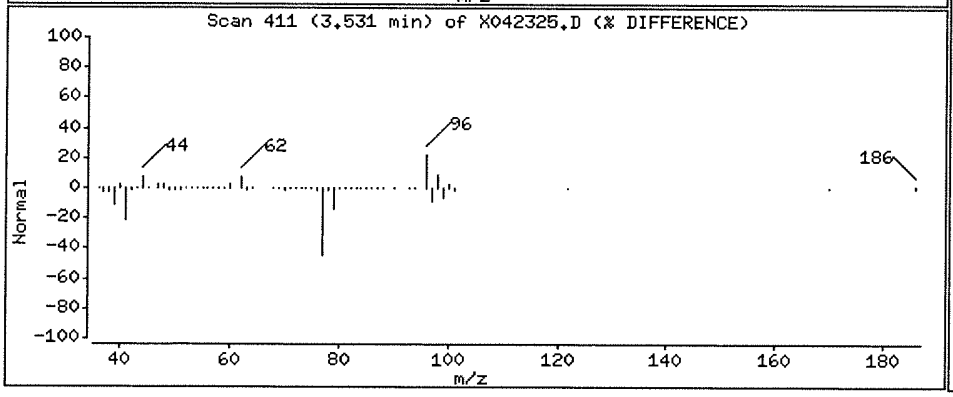












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042325.D

Date : 23-APR-2021 19:13

Client ID: HS21041132-08

Instrument: voa6.i

Sample Info: HS21041132-08;HS21041132-08;;;

Operator: PC

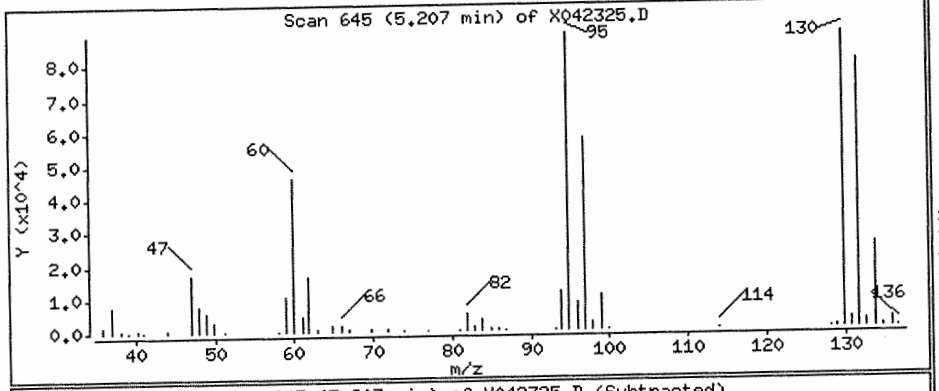
Purge Volume: 5.0

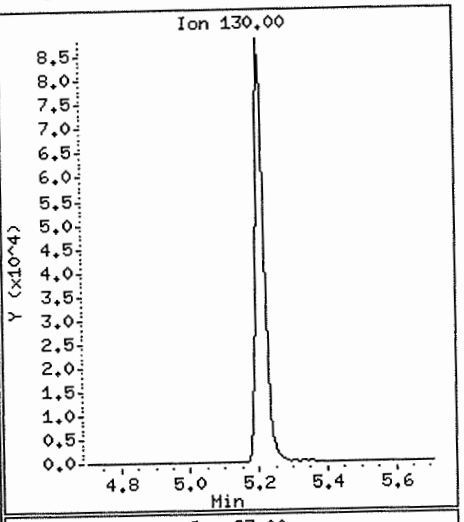
Column diameter: 0.18

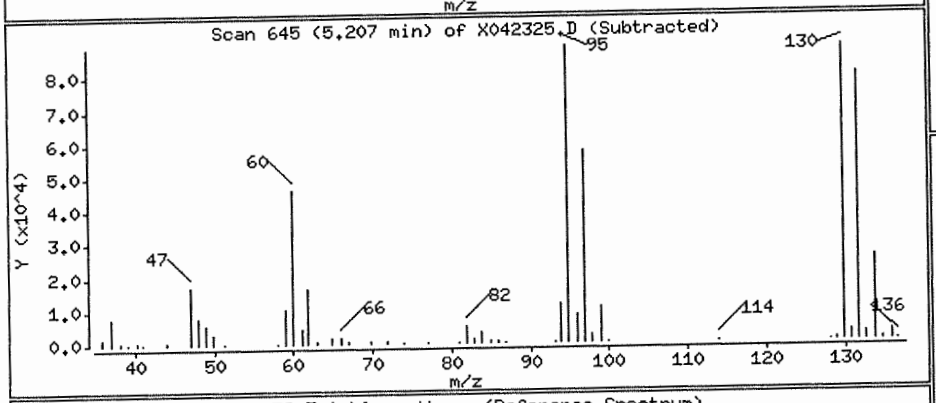
Column phase: DB624

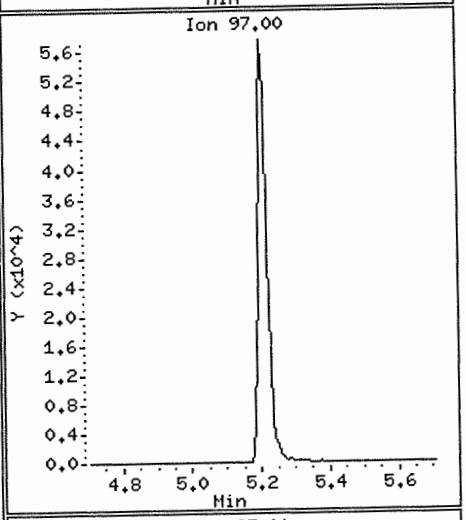
38 Trichloroethene

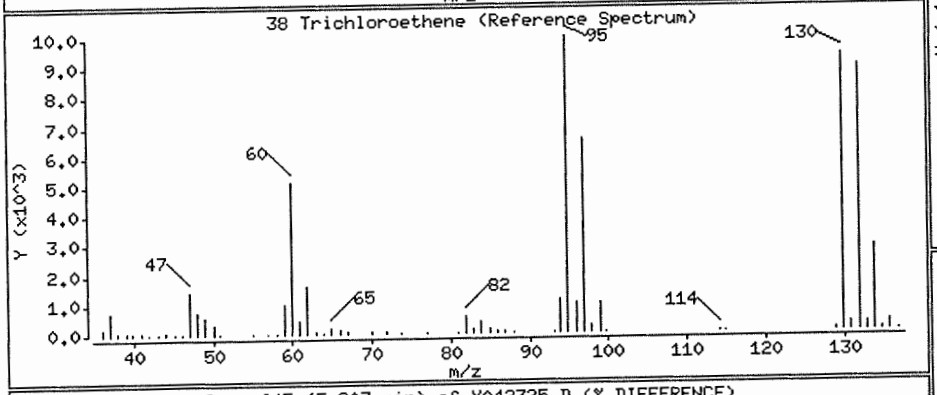
Concentration: 903.29 ug/l

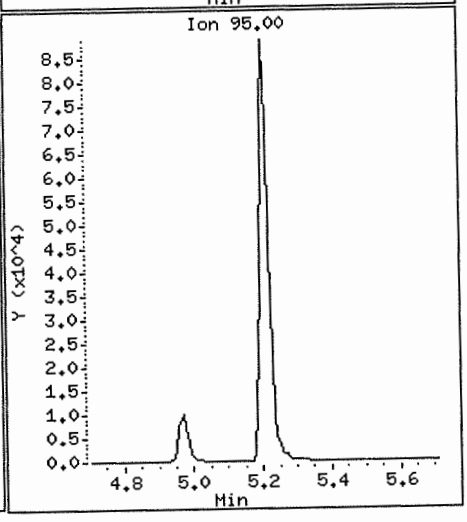


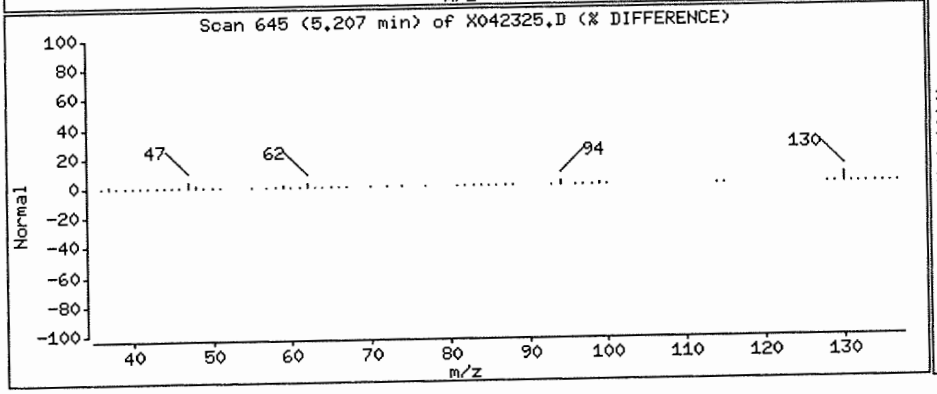












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042325.D

Date : 23-APR-2021 19:13

Client ID: HS21041132-08

Instrument: voa6.i

Sample Info: HS21041132-08;HS21041132-08;;;

Purge Volume: 5.0

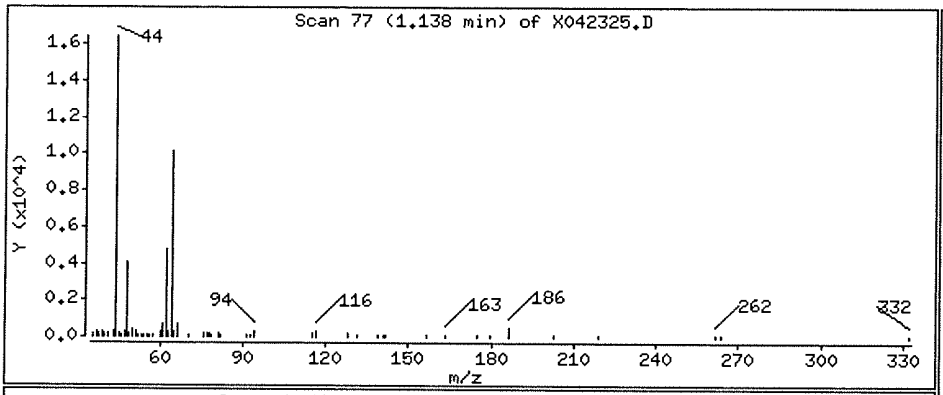
Operator: PC

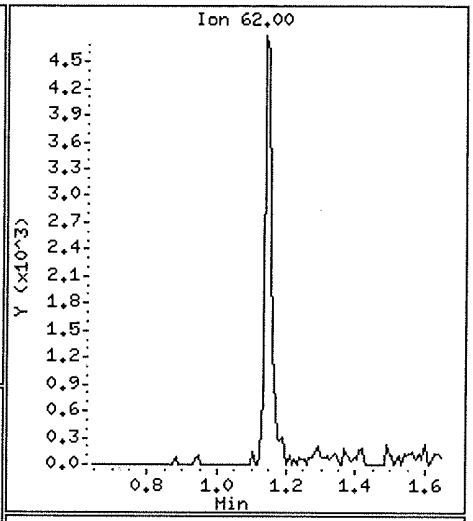
Column phase: DB624

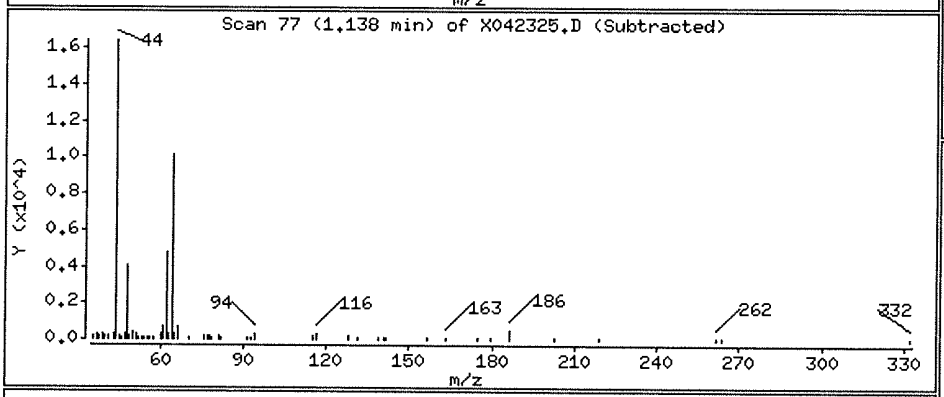
Column diameter: 0.18

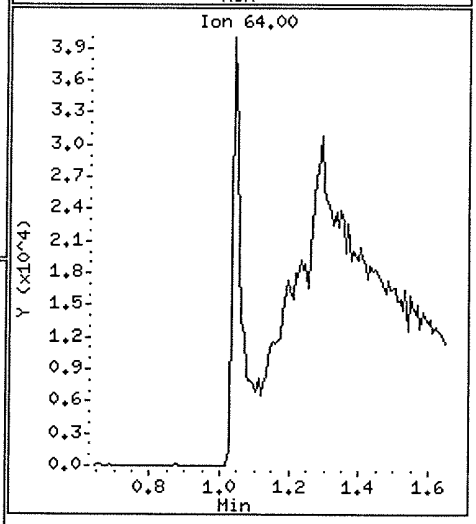
5 Vinyl Chloride

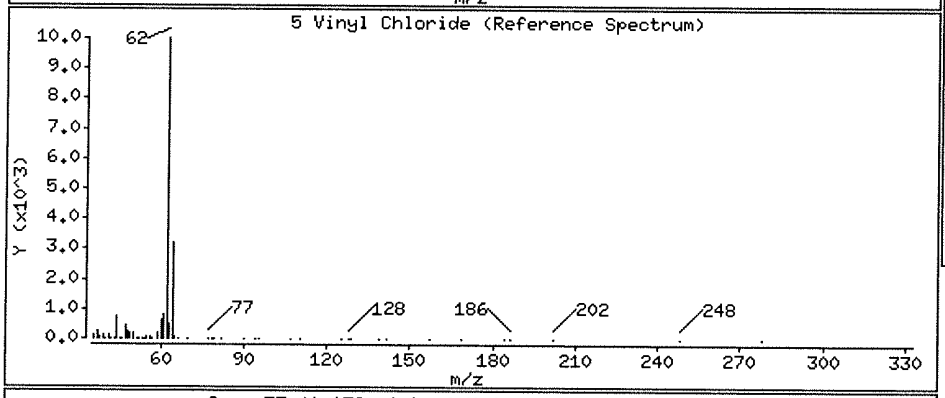
Concentration: 28.54 ug/l

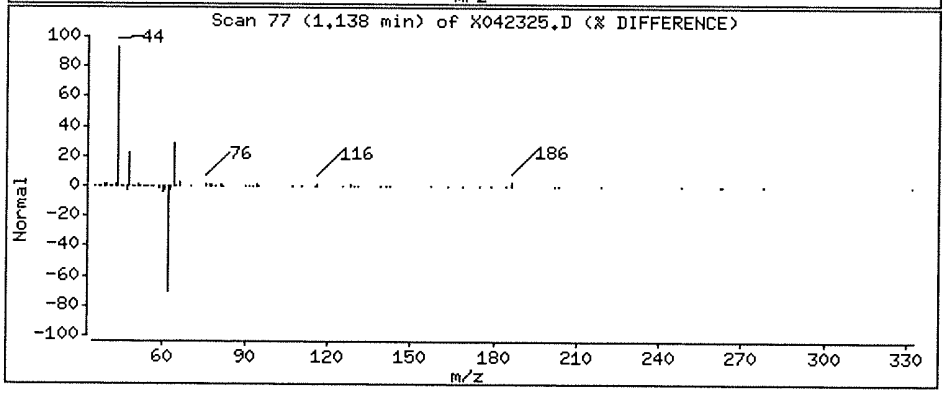












ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D
Lab Smp Id: HS21041132-02 Client Smp ID: HS21041132-02
Inj Date : 23-APR-2021 19:35
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-02;HS21041132-02;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 25
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

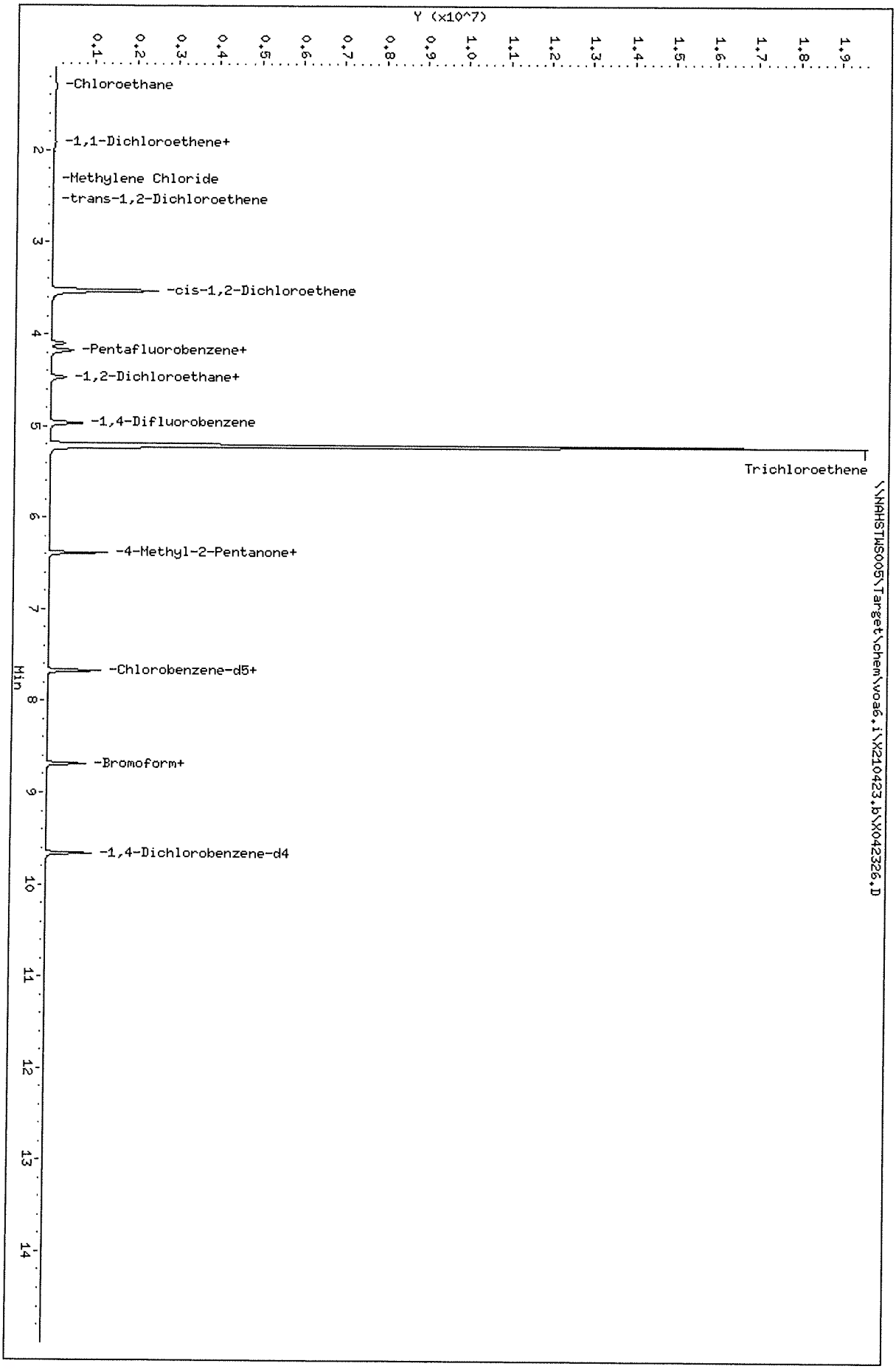
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	395018	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	618777	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	548114	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	222838	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	215706	46.4135	46.41
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	277104	49.7321	49.73
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	761119	53.8742	53.87
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	246746	47.0420	47.04
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	5973	1.06196	10.61(a)
33 1,2-Dichloroethane	62	4.569	4.555	(0.919)	4046	0.61775	6.17(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	1203280	249.190	2491.90(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	883	1.68283	16.82(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	5477749	1293.17	12931.66(A)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	6751	1.13997	11.39

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D
Date : 23-APR-2021 19:35
Client ID: HS21041132-02
Sample Info: HS21041132-02;HS21041132-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D

Date : 23-APR-2021 19:35

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

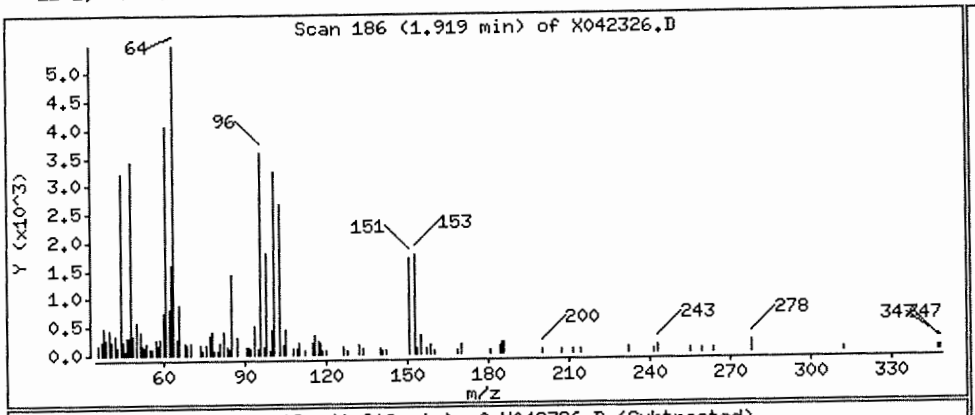
Operator: PC

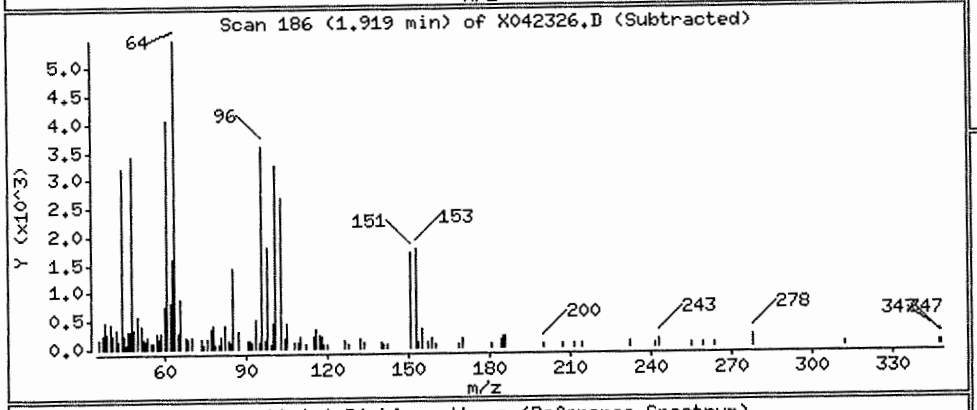
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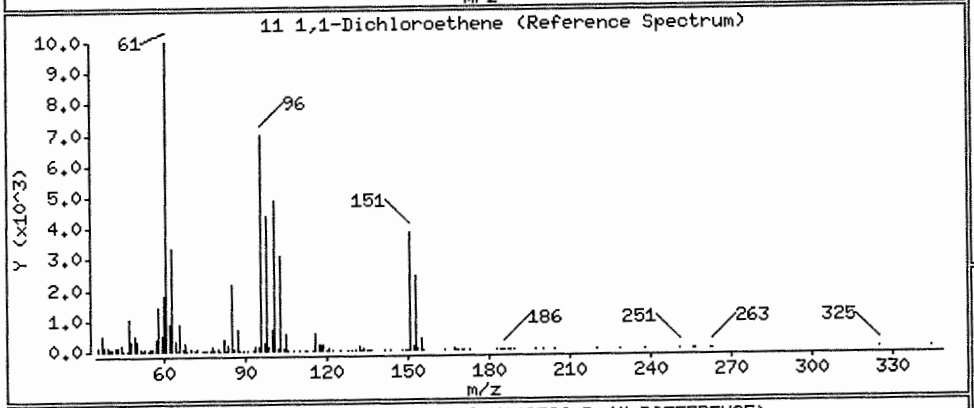
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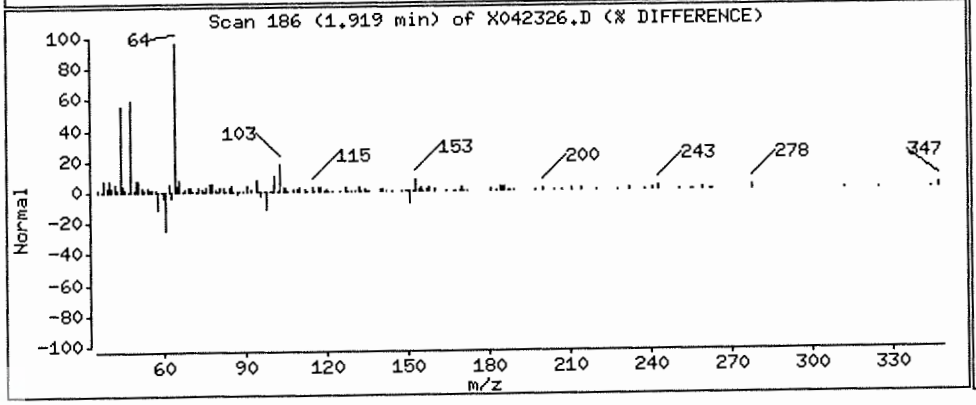
11 1,1-Dichloroethene

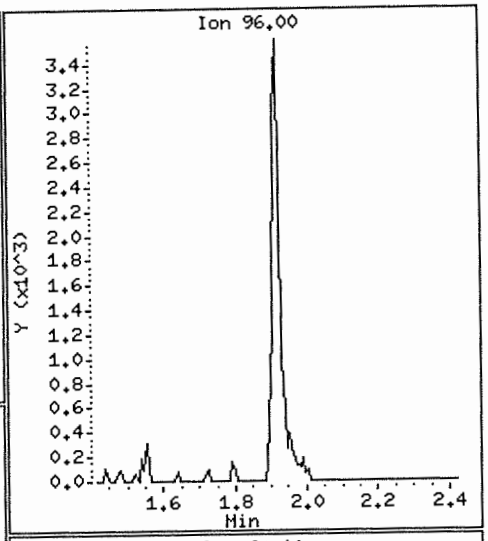
Concentration: 10.61 ug/l

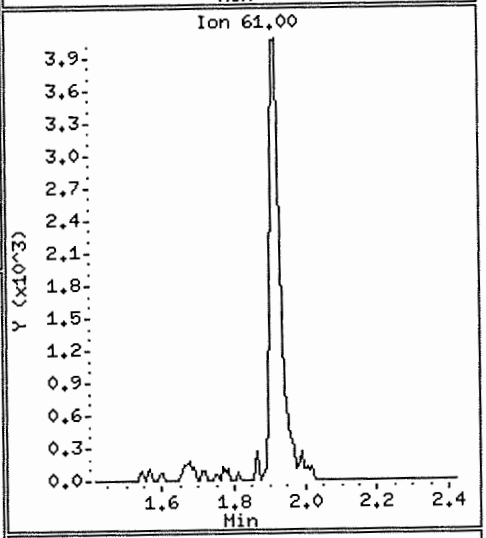


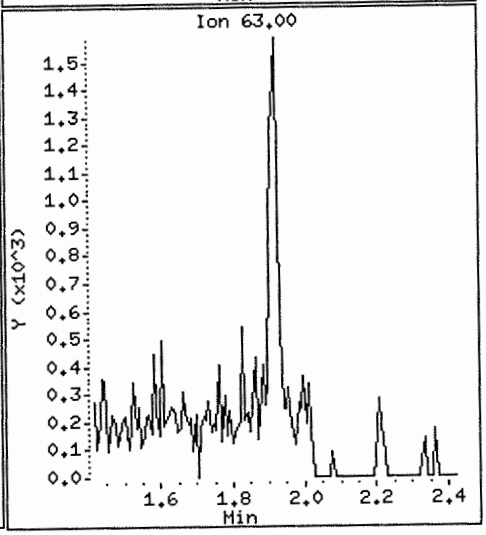












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D

Date : 23-APR-2021 19:35

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

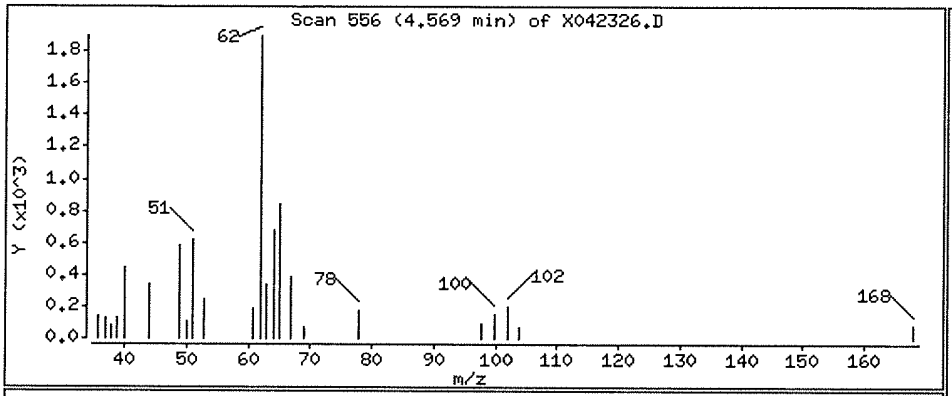
Operator: PC

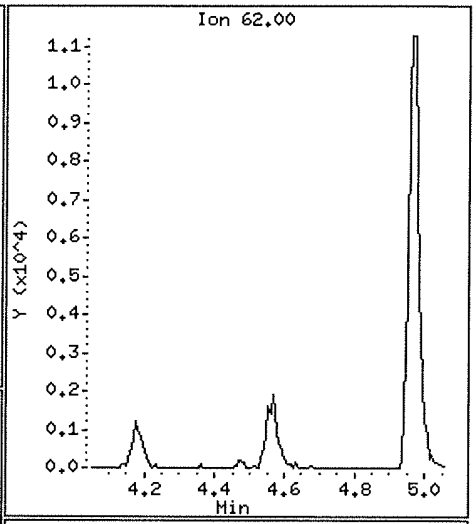
Column phase: DB624

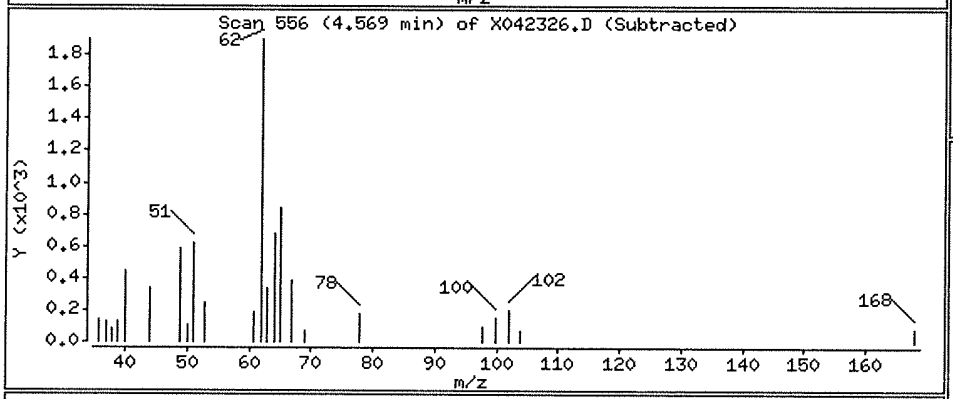
Column diameter: 0.18

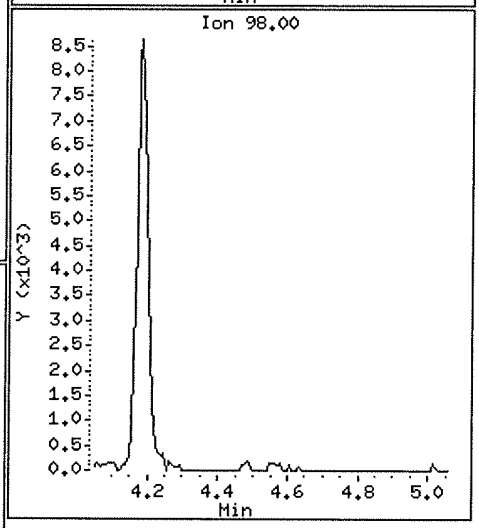
33 1,2-Dichloroethane

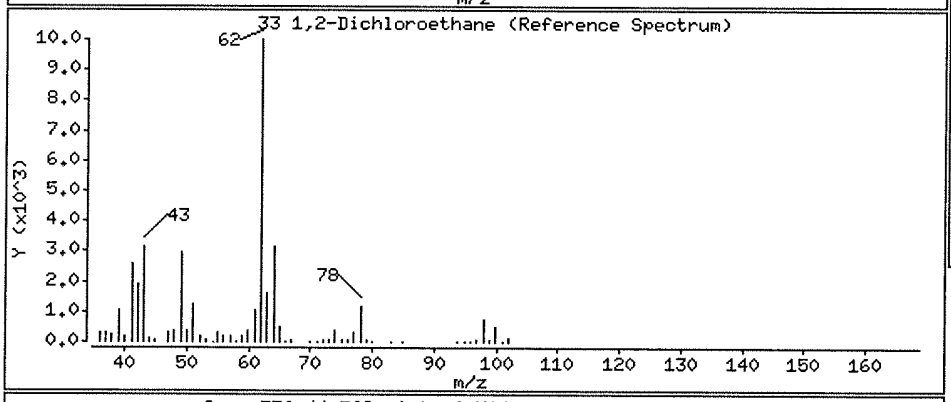
Concentration: 6.17 ug/l

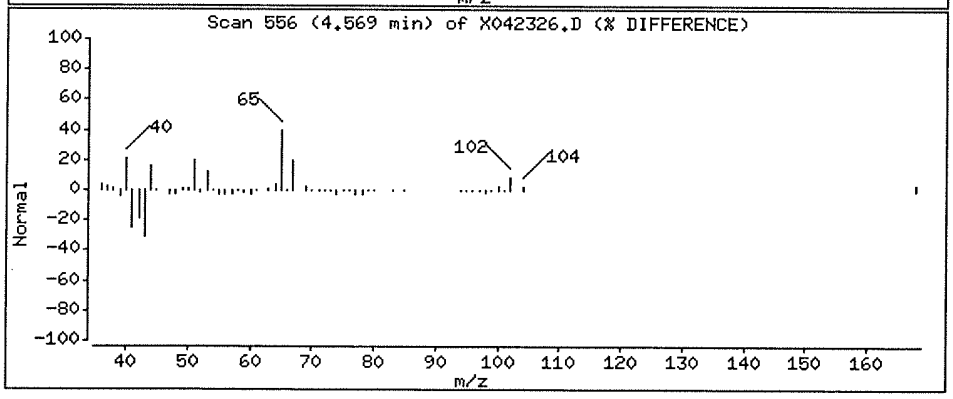












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D

Date : 23-APR-2021 19:35

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

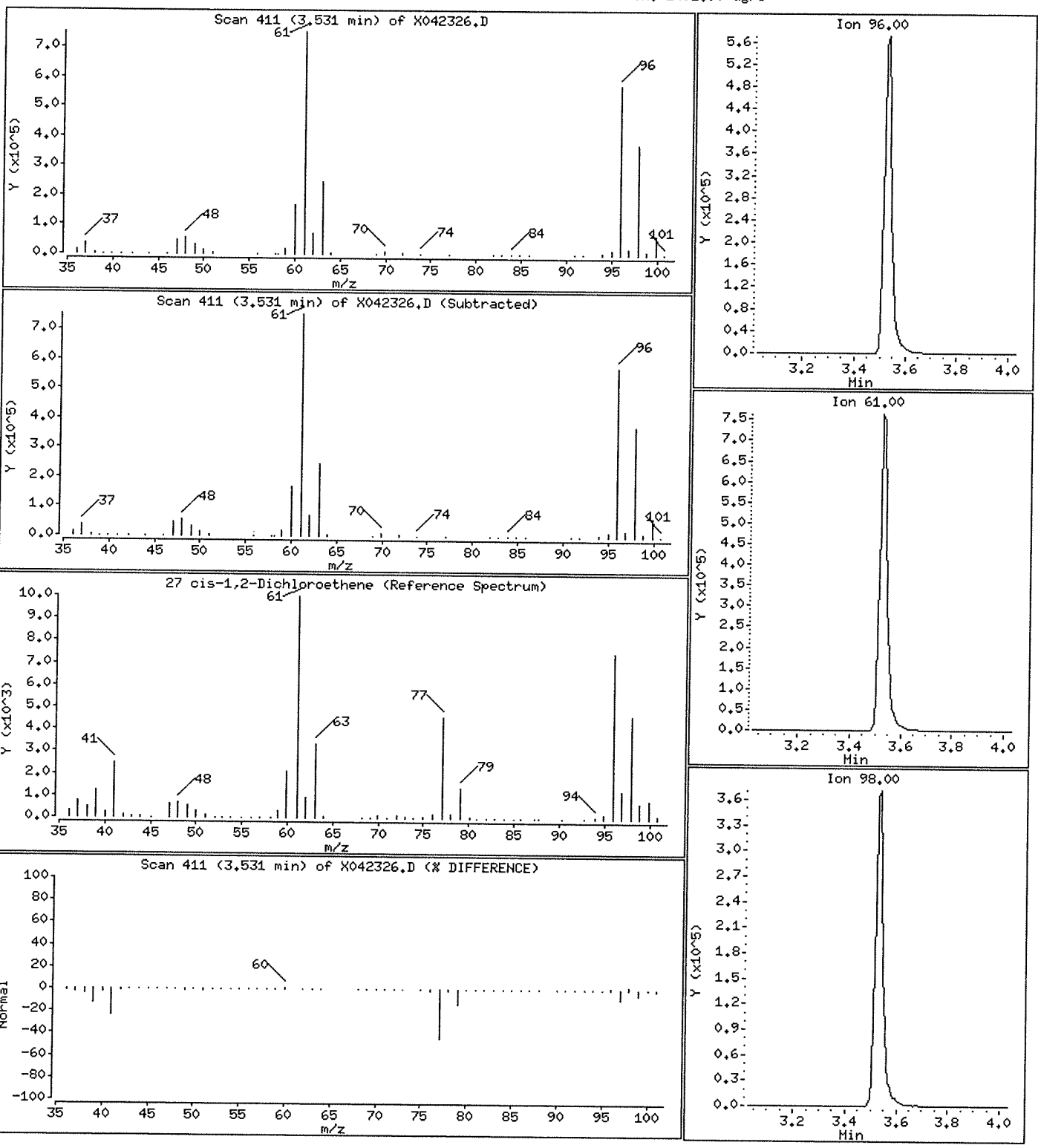
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 2491.90 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D

Date : 23-APR-2021 19:35

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

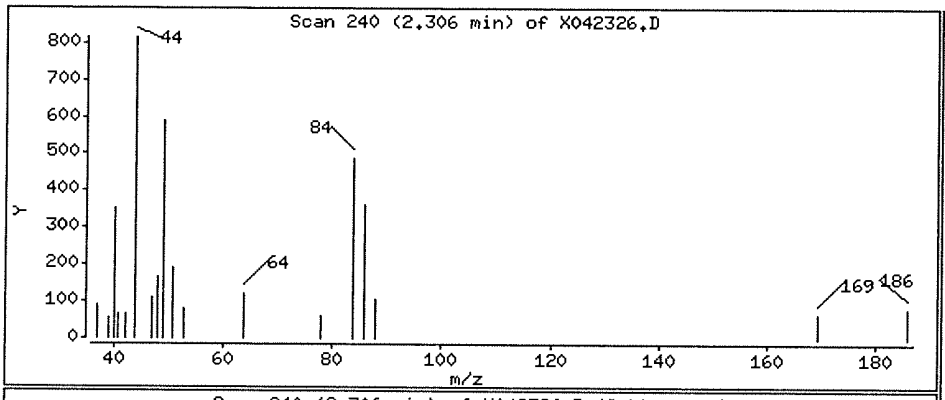
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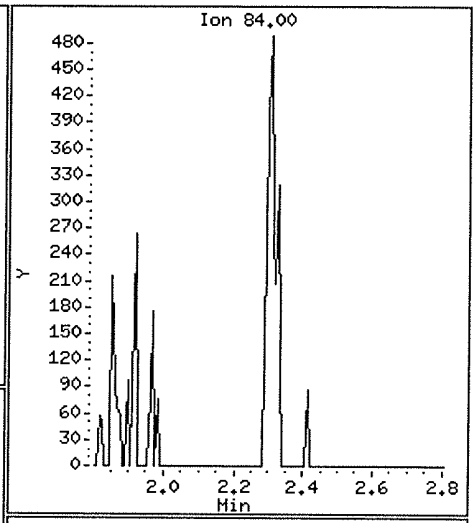
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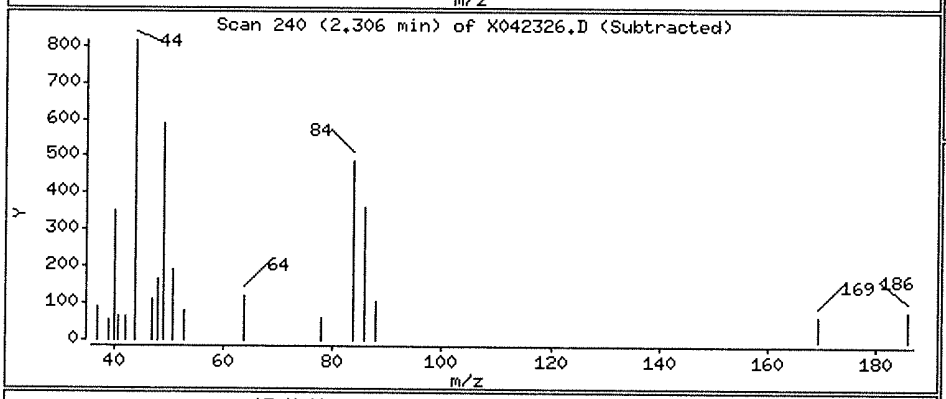
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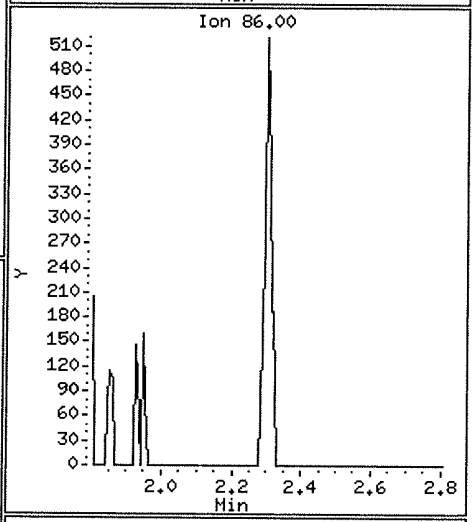
17 Methylene Chloride

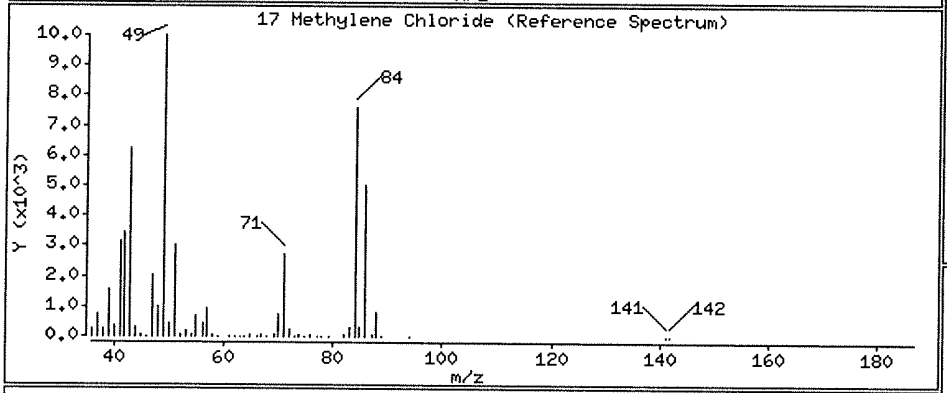
Concentration: 16.82 ug/l

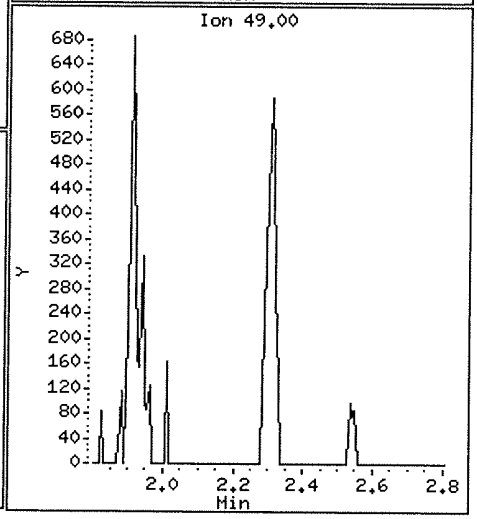


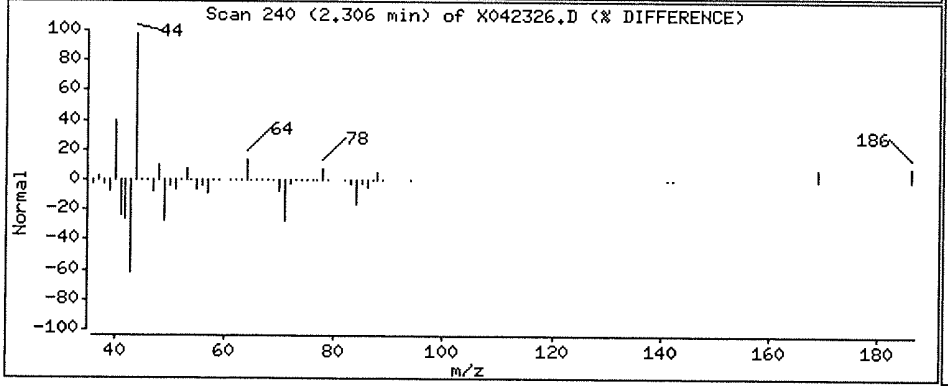












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D

Date : 23-APR-2021 19:35

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

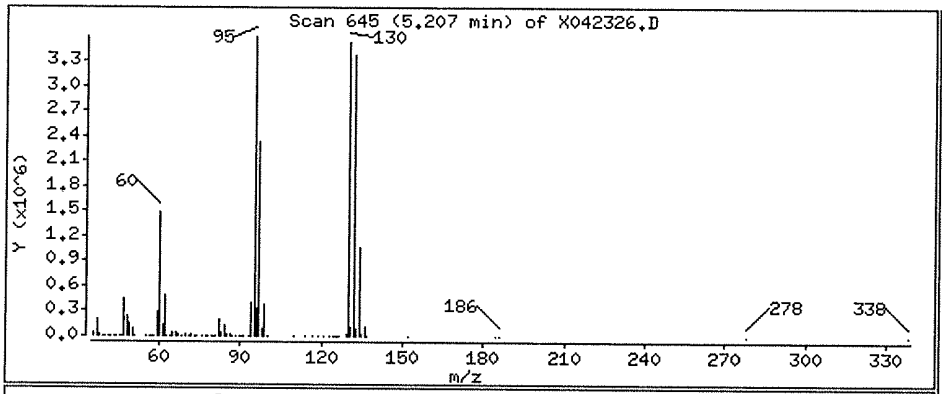
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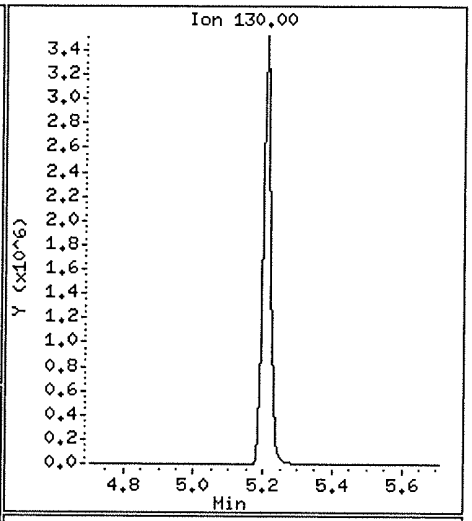
Column phase: DB624

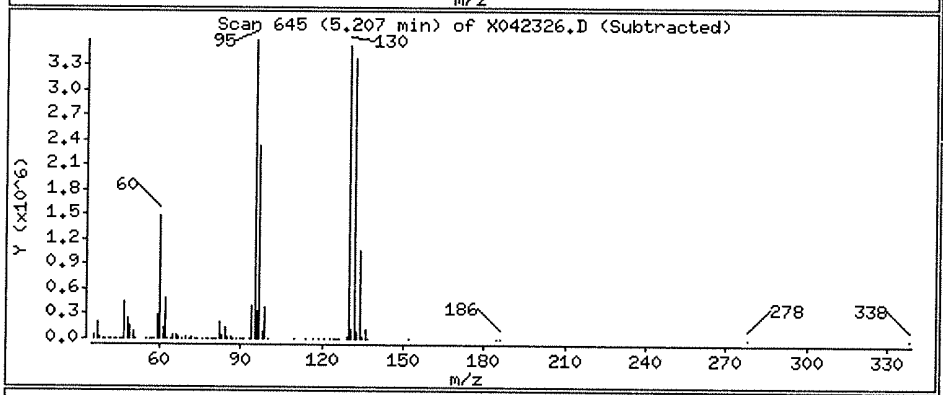
Column diameter: 0.18

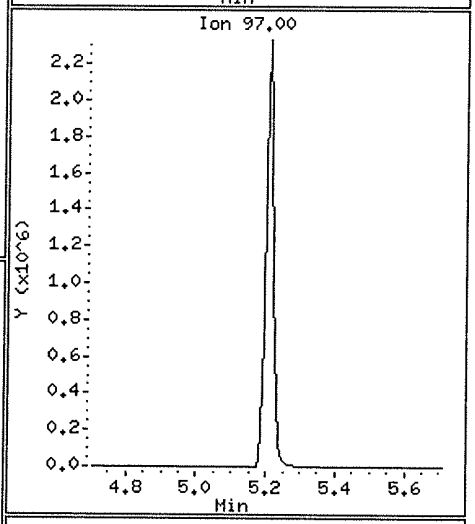
38 Trichloroethene

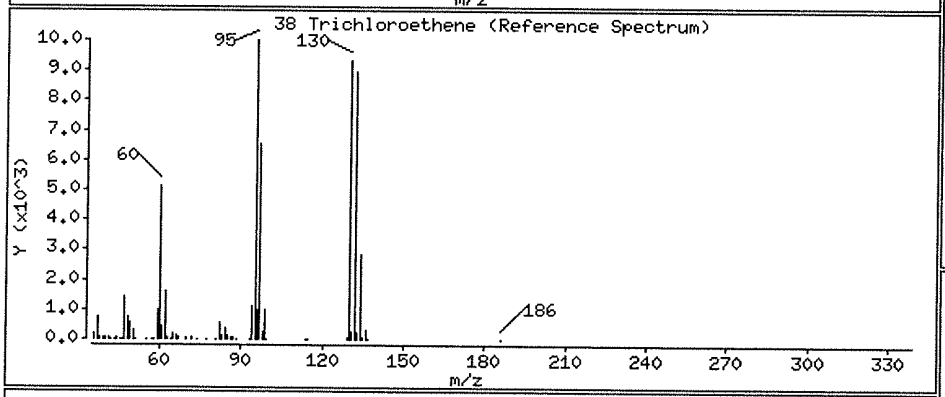
Concentration: 12931.66 ug/l

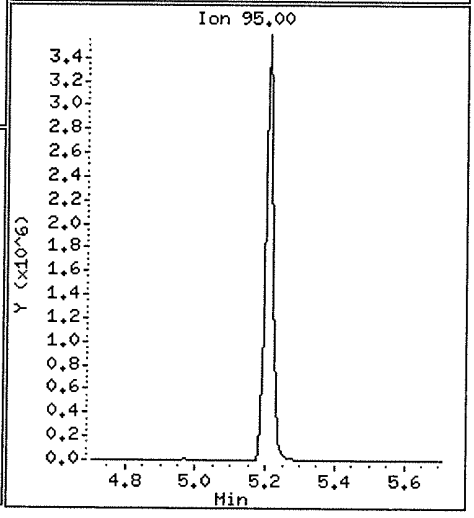


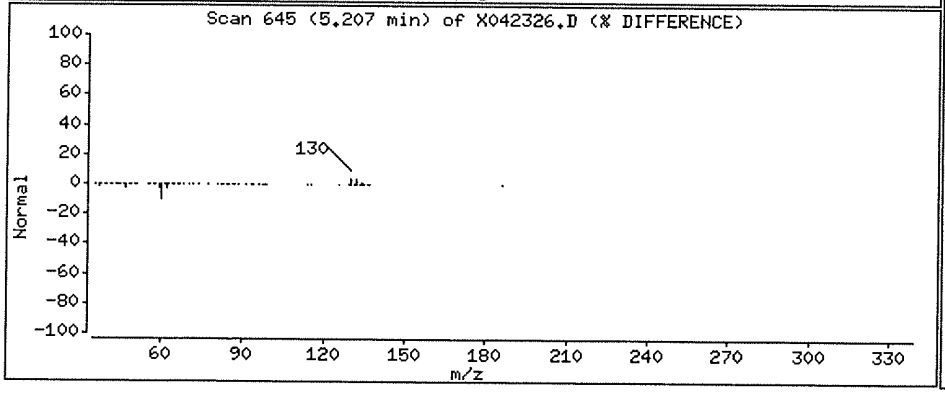












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042326.D

Date : 23-APR-2021 19:35

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

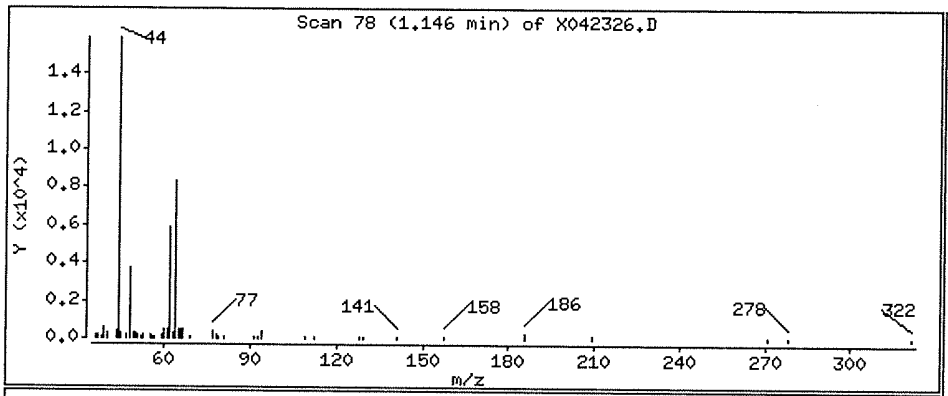
Operator: PC

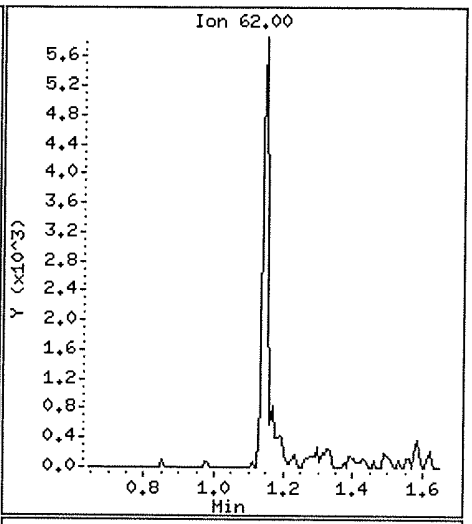
Column phase: DB624

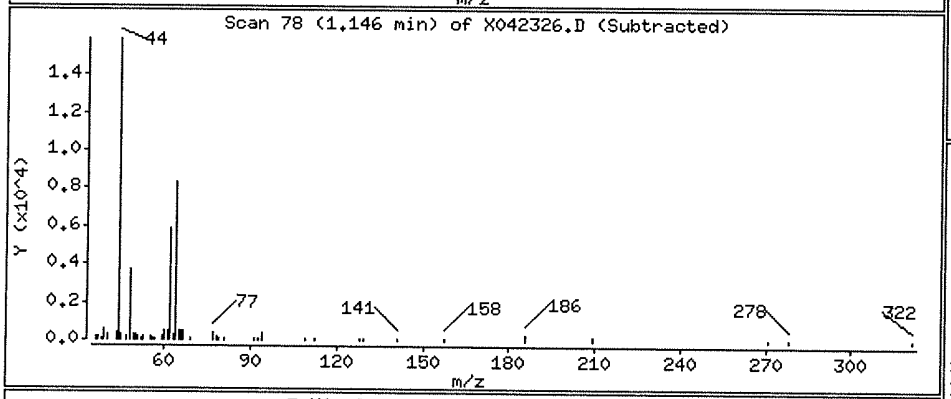
Column diameter: 0.18

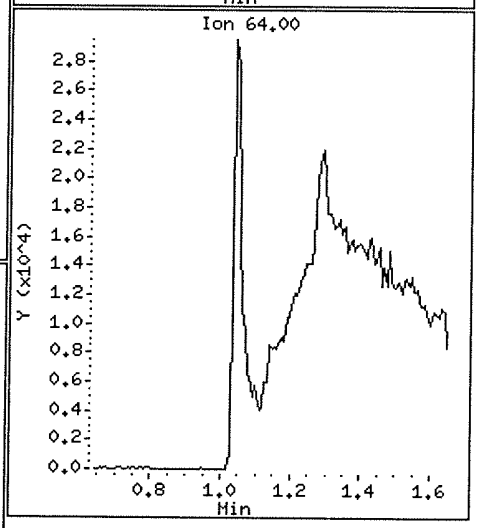
5 Vinyl Chloride

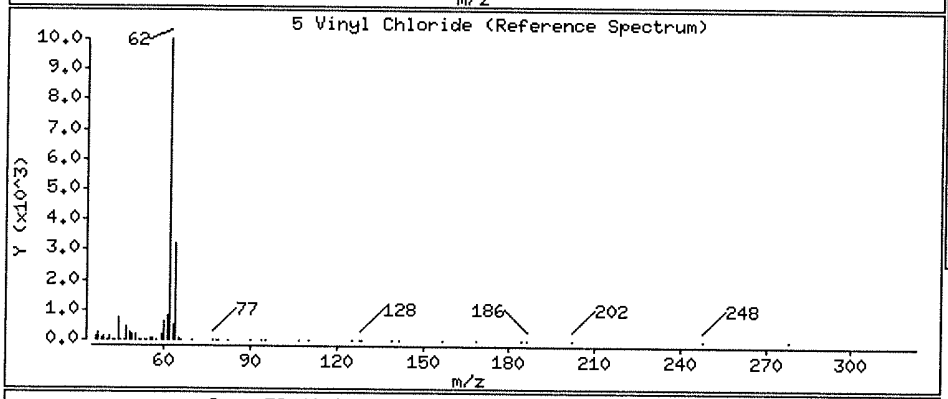
Concentration: 11.39 ug/l

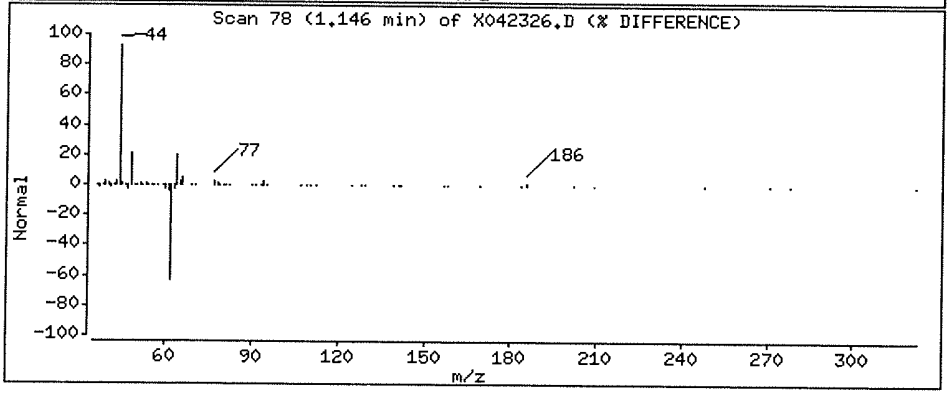












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042327.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042327.D
Lab Smp Id: HS21041132-02 Client Smp ID: HS21041132-02
Inj Date : 23-APR-2021 19:56
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-02;HS21041132-02;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 26
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

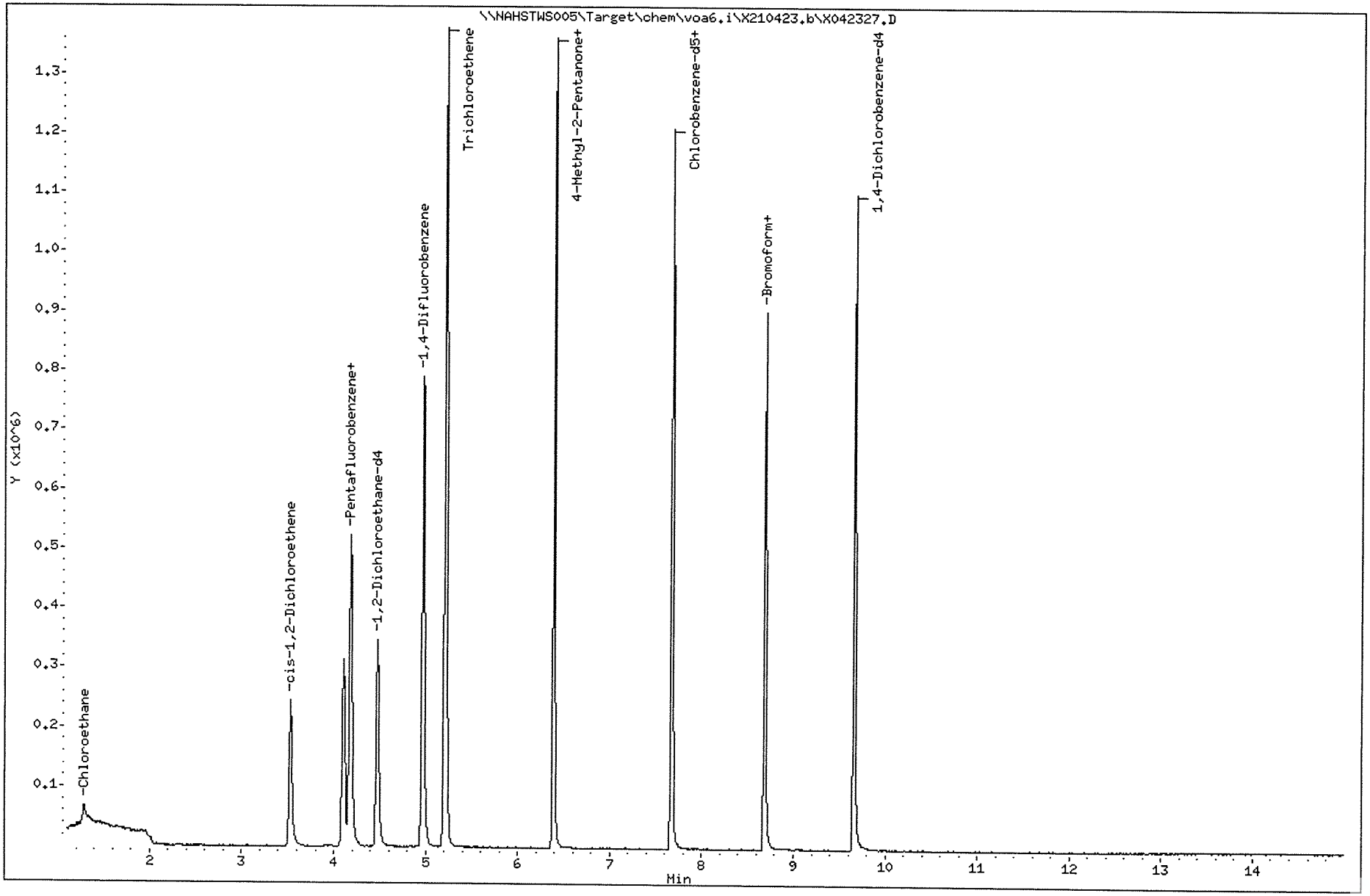
Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	389821	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	622297	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	540877	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	232728	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	216742	47.2503	47.25
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	274993	50.0085	50.00
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	750990	53.8686	53.86
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	241046	46.5868	46.58
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	123165	25.8466	2584.66
38 Trichloroethene	130	5.207	5.206	(1.048)	406341	95.3849	9538.48

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042327.D
Date : 23-APR-2021 19:56
Client ID: HS21041132-02
Sample Info: HS21041132-02;HS21041132-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042327.D

Date : 23-APR-2021 19:56

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

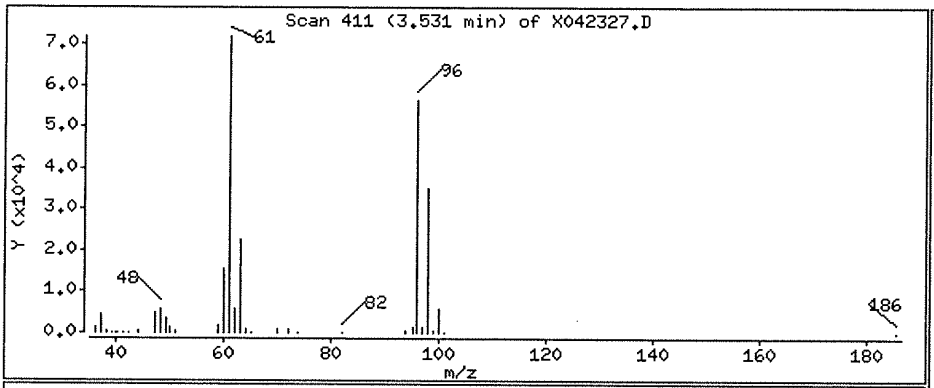
Operator: PC

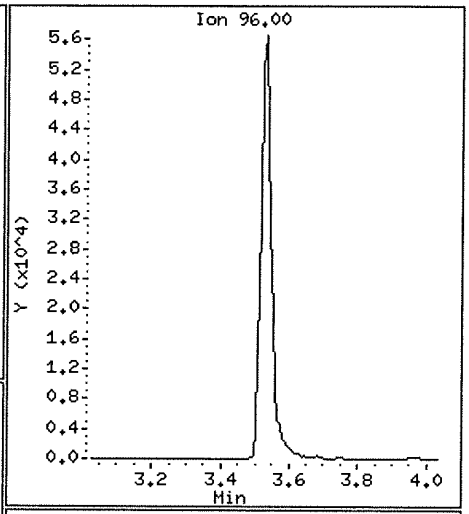
Column phase: DB624

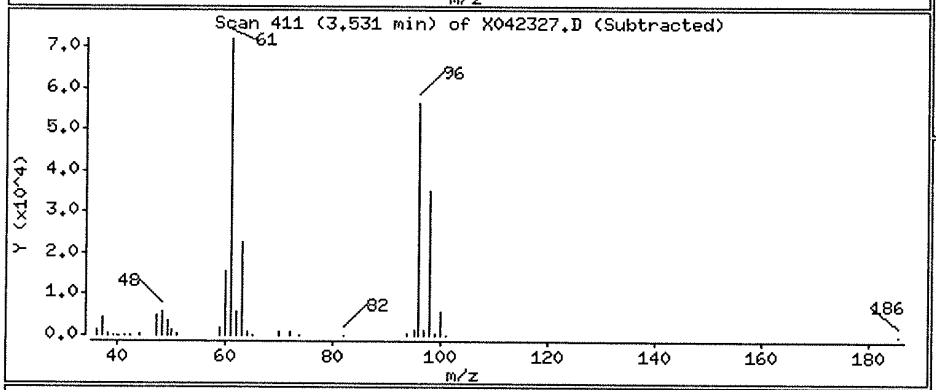
Column diameter: 0.18

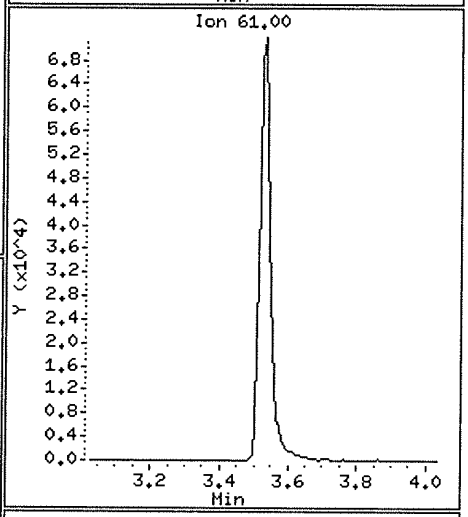
27 cis-1,2-Dichloroethene

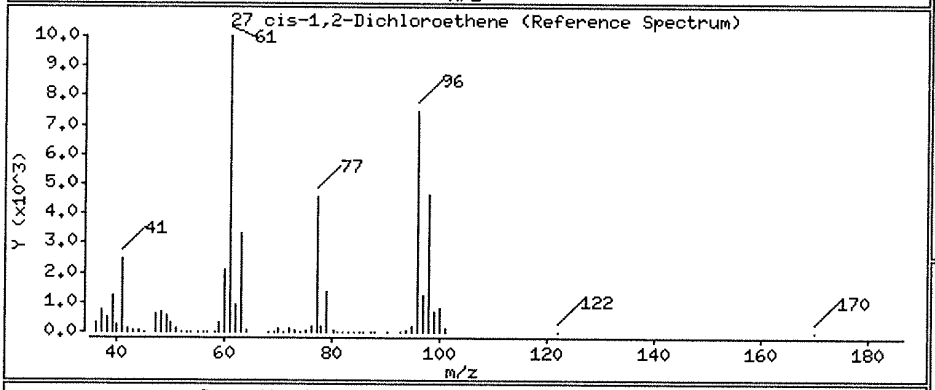
Concentration: 2584.66 ug/l

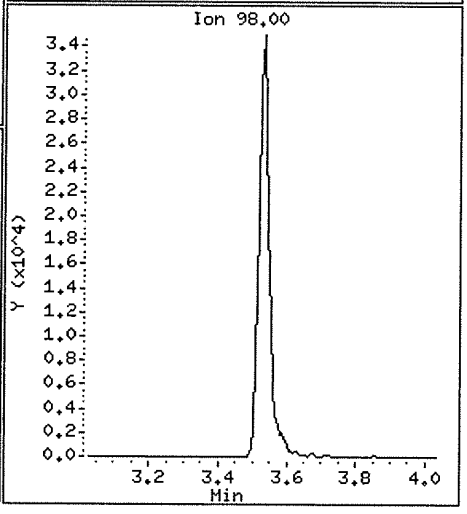


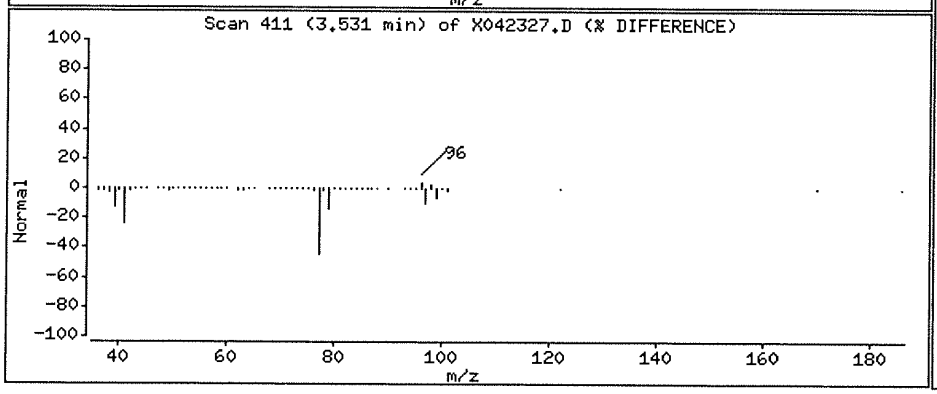












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042327.D

Date : 23-APR-2021 19:56

Client ID: HS21041132-02

Instrument: voa6.i

Sample Info: HS21041132-02;HS21041132-02;;;

Purge Volume: 5.0

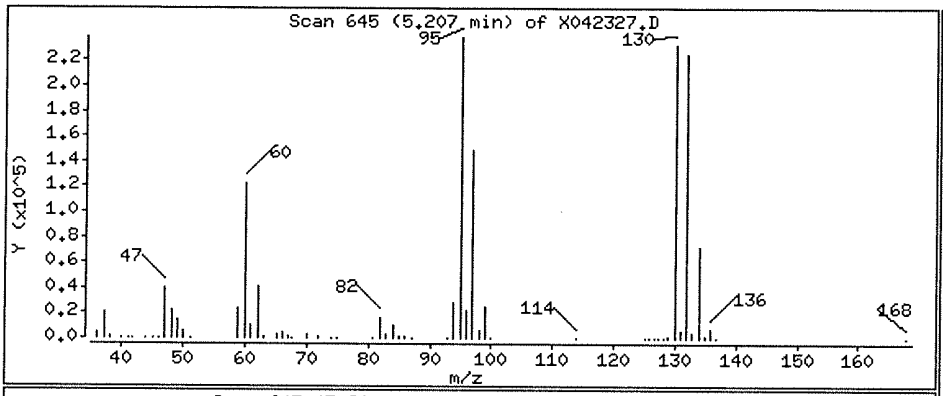
Operator: PC

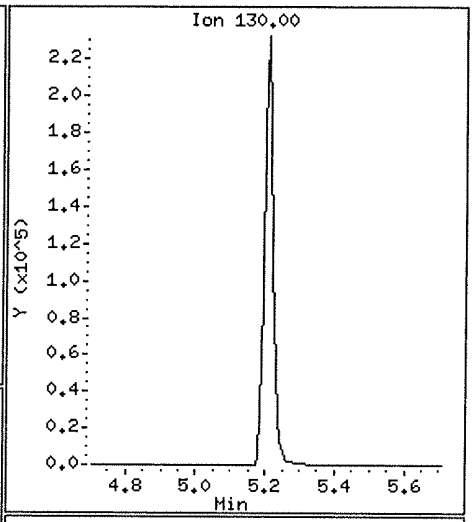
Column phase: DB624

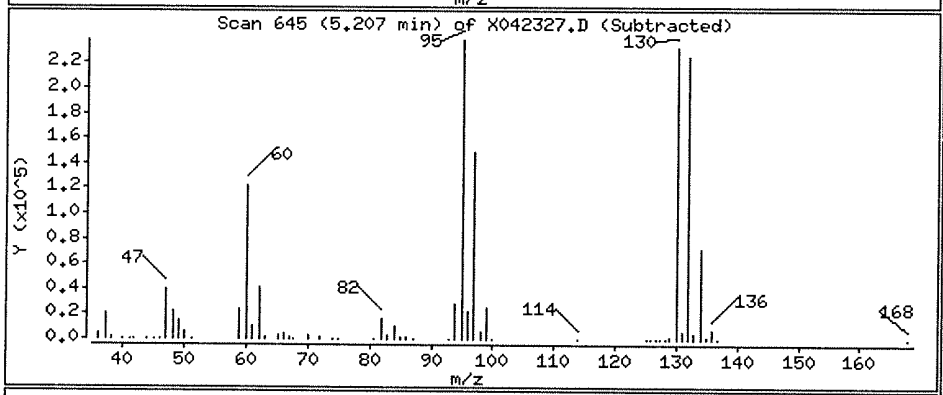
Column diameter: 0.18

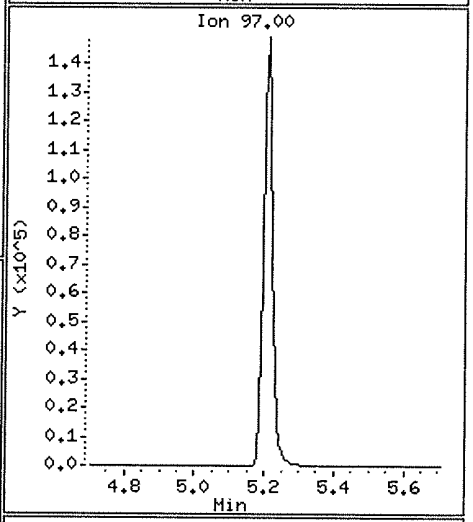
38 Trichloroethene

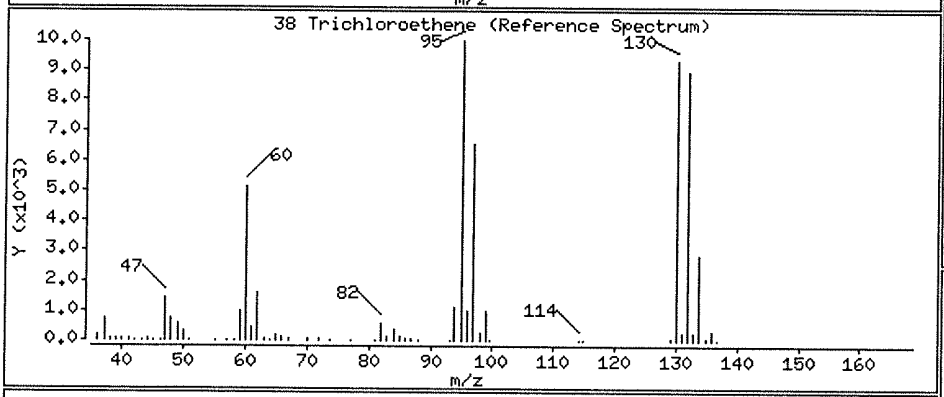
Concentration: 9538.48 ug/l

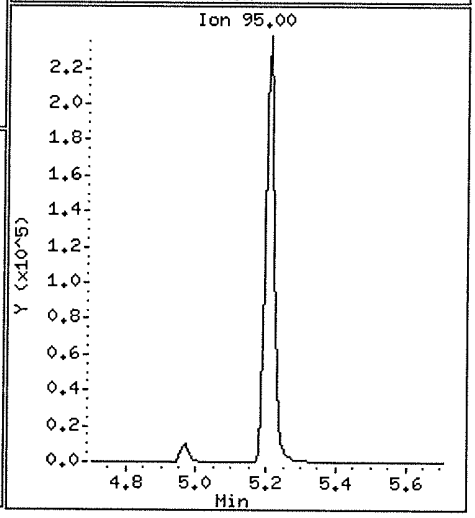


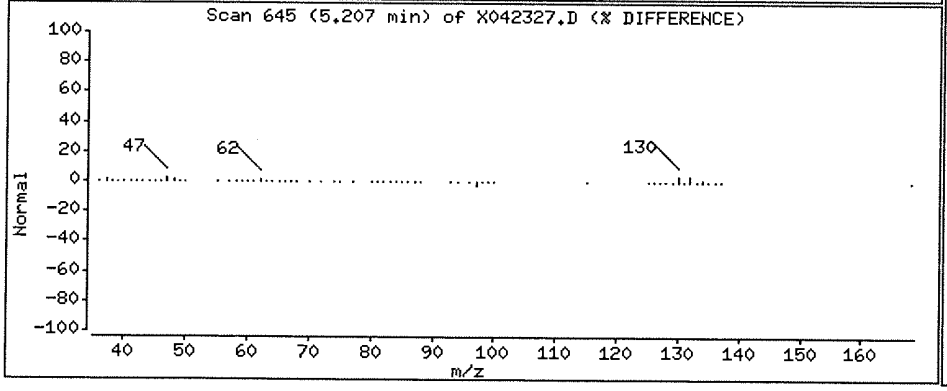












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D
Lab Smp Id: HS21041132-01 Client Smp ID: HS21041132-01
Inj Date : 23-APR-2021 20:17
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-01;HS21041132-01;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 27
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

Name	Value	Description
DF	25.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

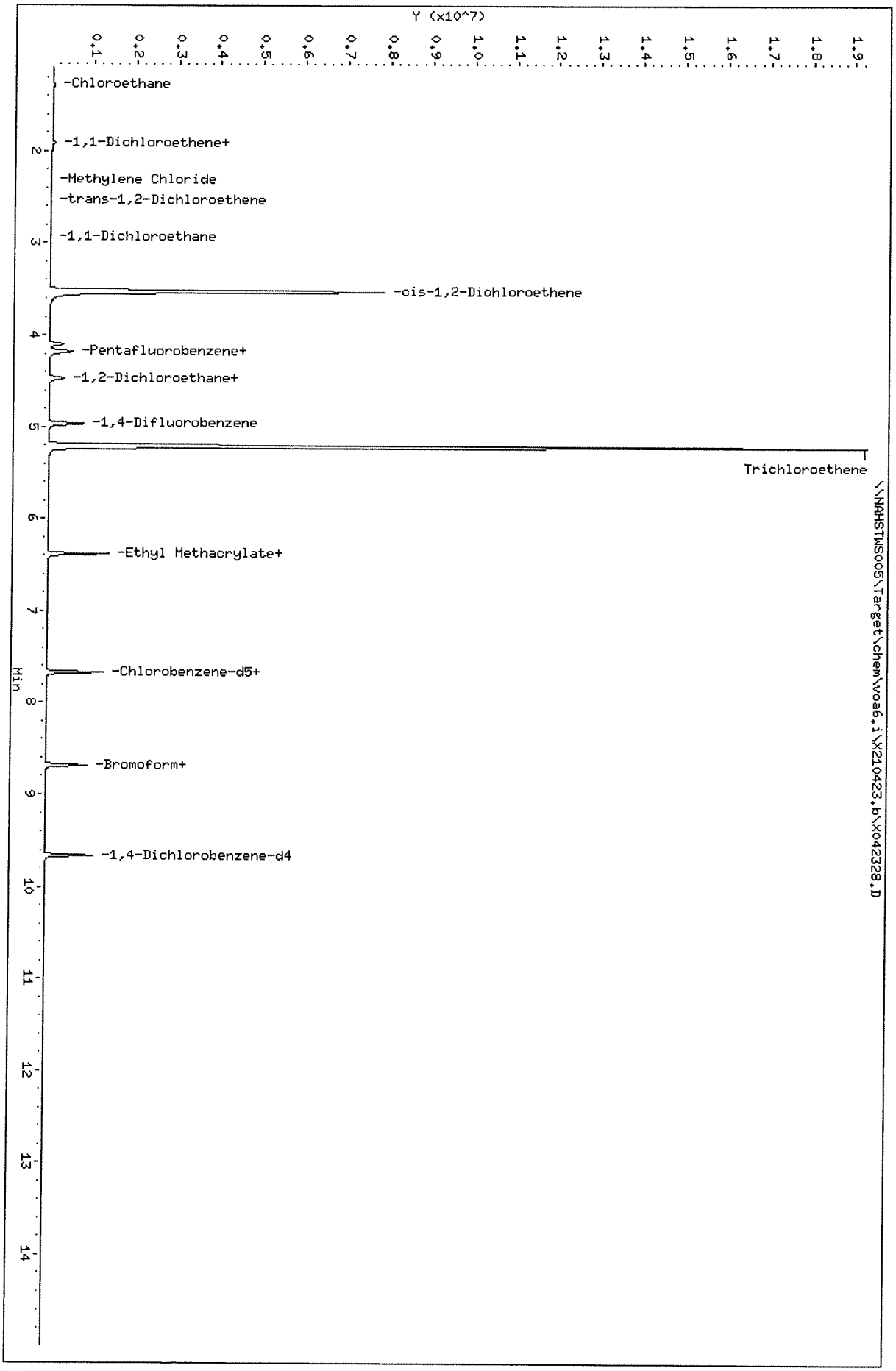
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	401010	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	632027	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	564984	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242054	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	218471	46.3071	46.30
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	273698	48.3999	48.39
$	48 Toluene-d8	98	6.388	6.388	(0.833)	786509	54.0044	54.00
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	255891	47.3188	47.31
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	14711	2.57643	64.41(a)
	33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	9326	1.39405	34.85(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	3792456	773.654	19341.35(A)
	17 Methylene Chloride	84	2.305	2.305	(0.551)	673	1.63302	40.82(a)
	38 Trichloroethene	130	5.206	5.206	(1.048)	5302874	1225.64	30640.94(A)
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	10824	1.80042	45.01

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D
Date : 23-APR-2021 20:17
Client ID: HS210411J2-01
Sample Info: HS210411J2-01,HS210411J2-01,,,
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D

Date : 23-APR-2021 20:17

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

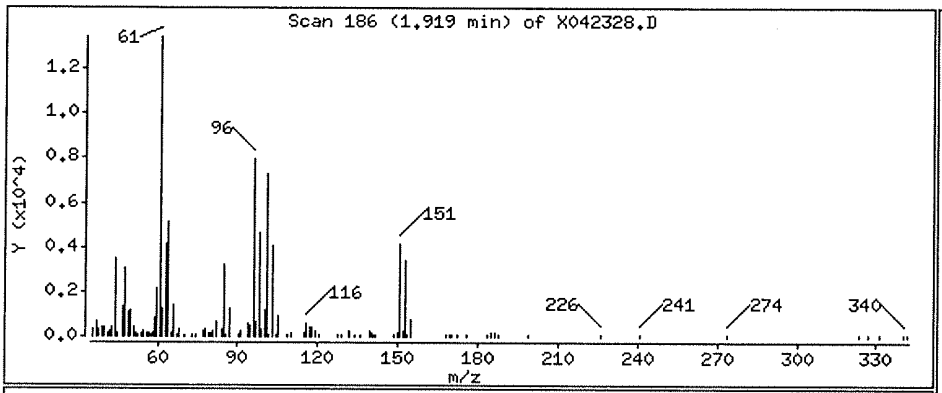
Operator: PC

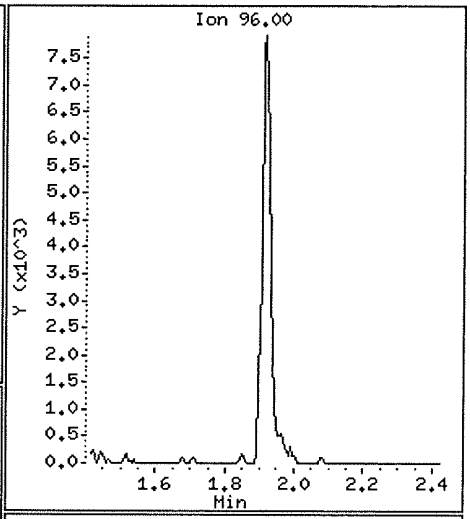
Column phase: DB624

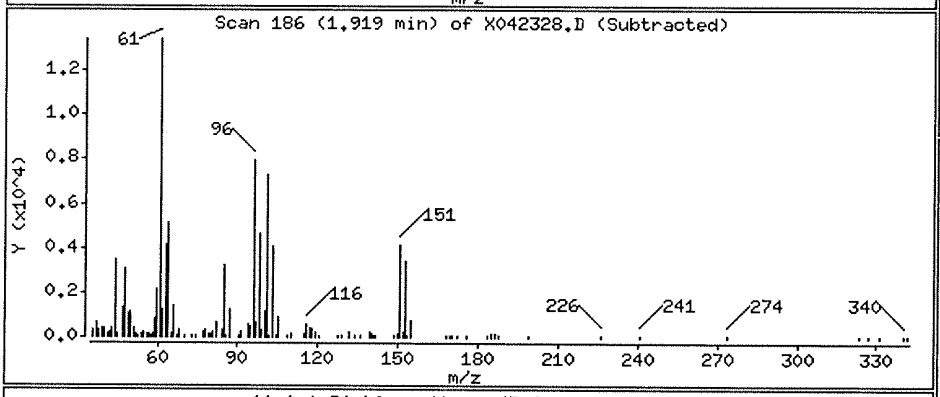
Column diameter: 0.18

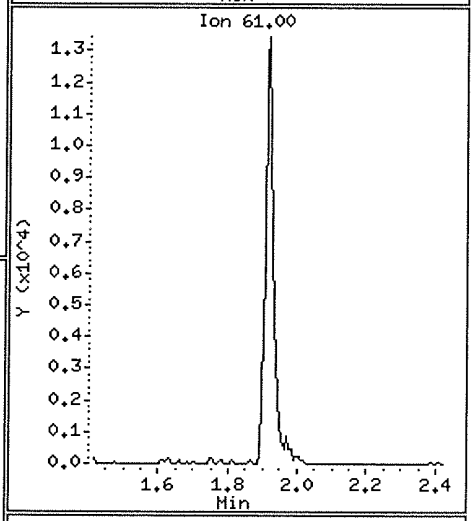
11 1,1-Dichloroethene

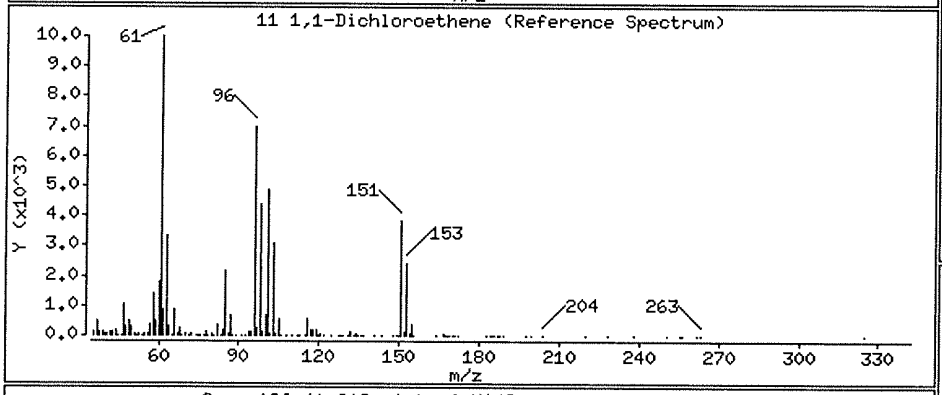
Concentration: 64.41 ug/l

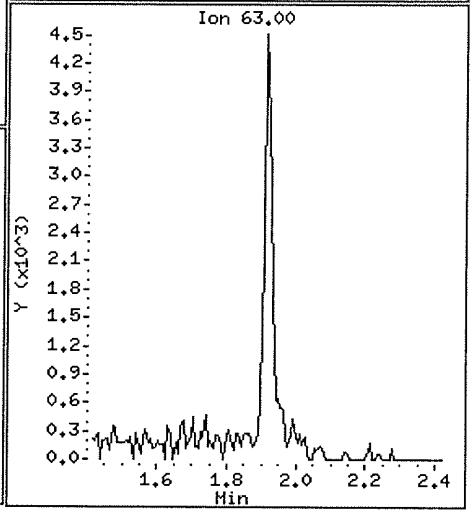


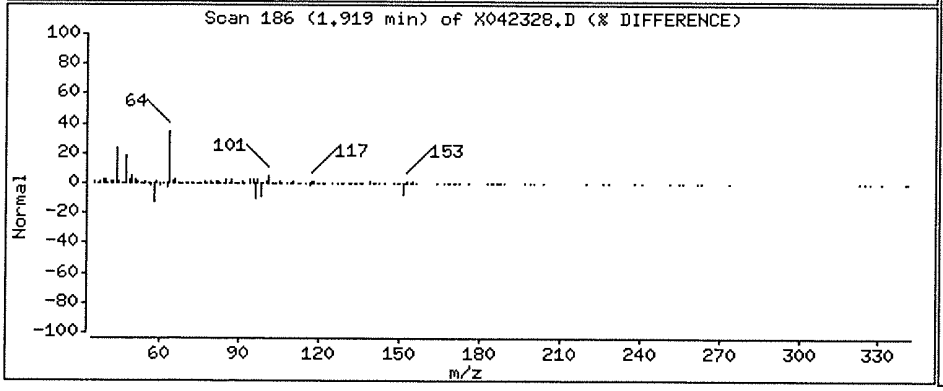












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D

Date : 23-APR-2021 20:17

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

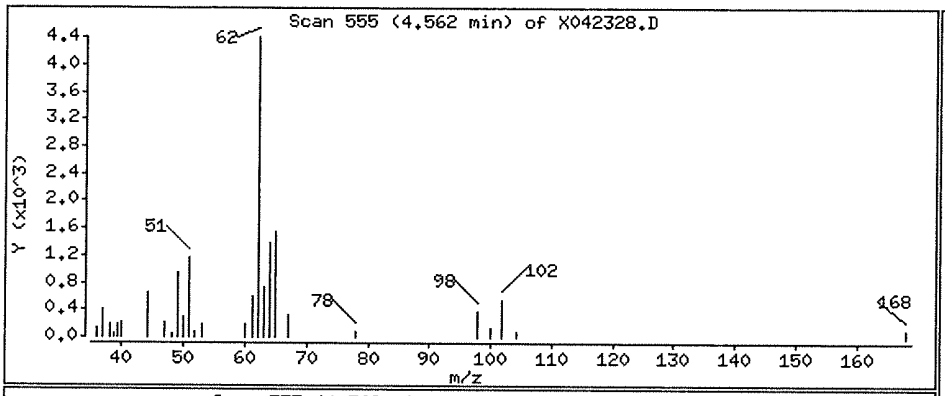
Operator: PC

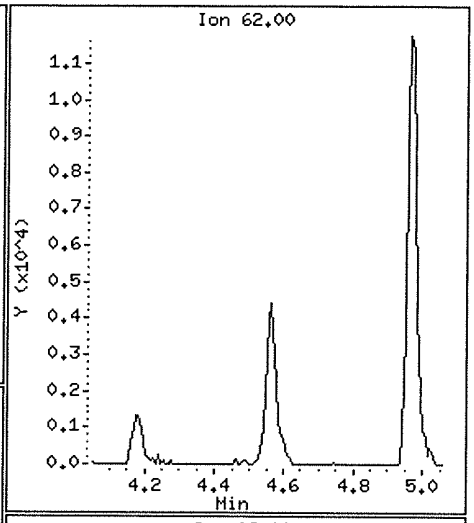
Column phase: DB624

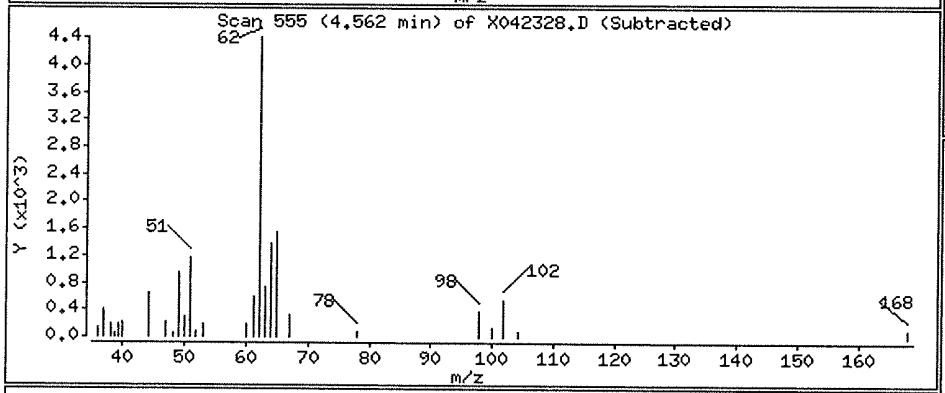
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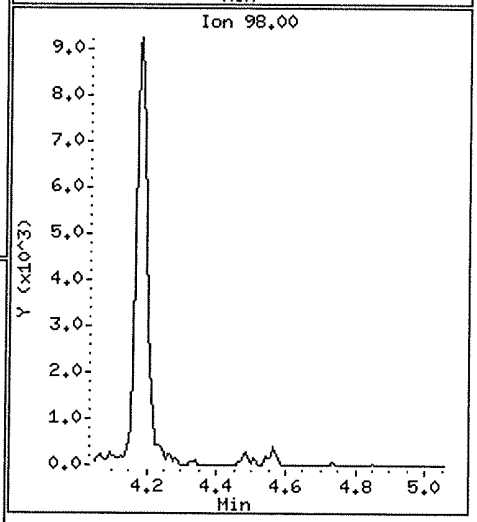
33 1,2-Dichloroethane

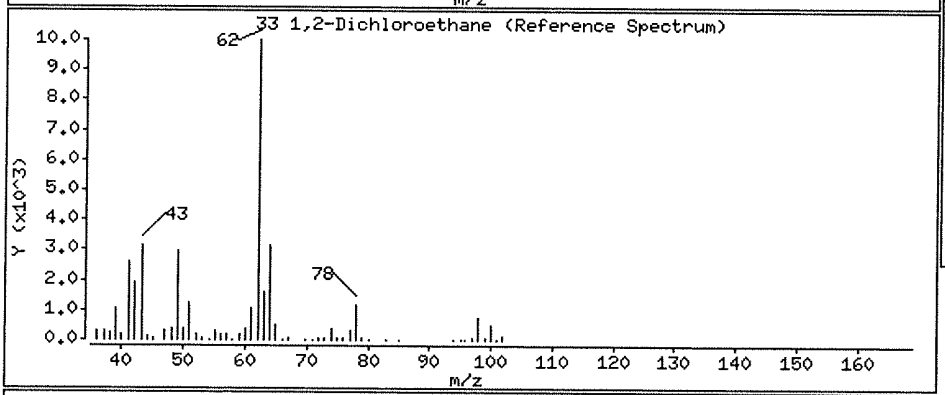
Concentration: 34.85 ug/l

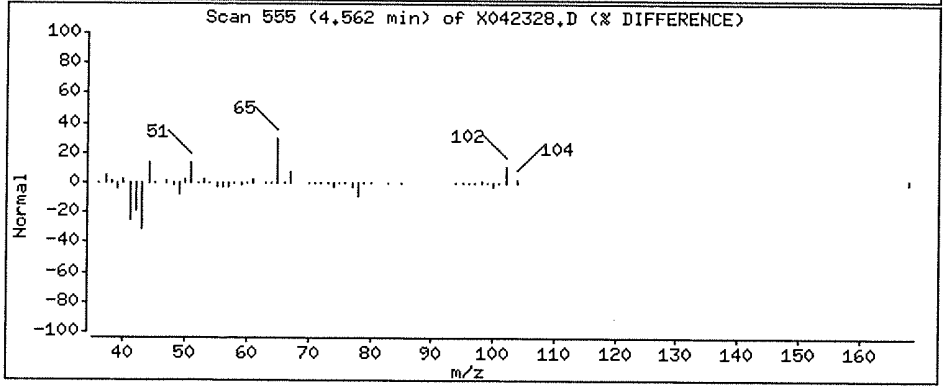












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D

Date : 23-APR-2021 20:17

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

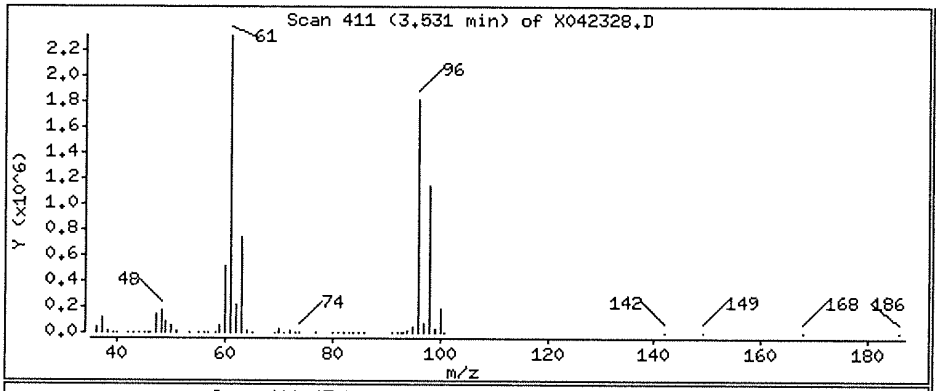
Operator: PC

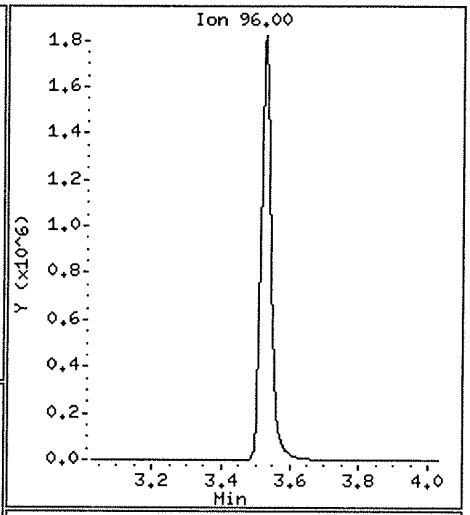
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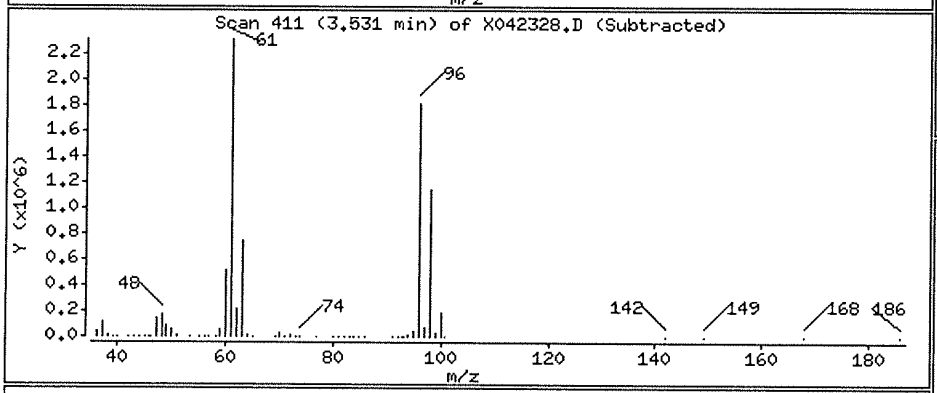
Column diameter: 0.18

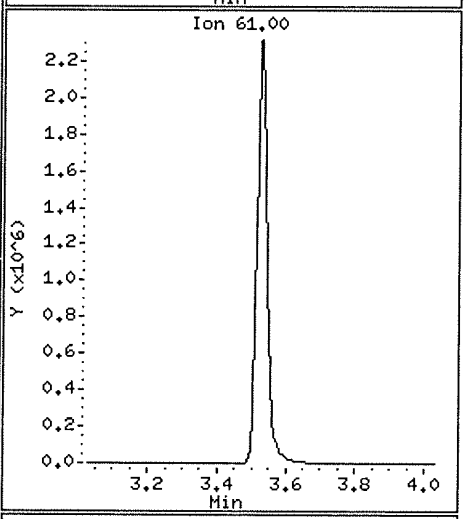
27 cis-1,2-Dichloroethene

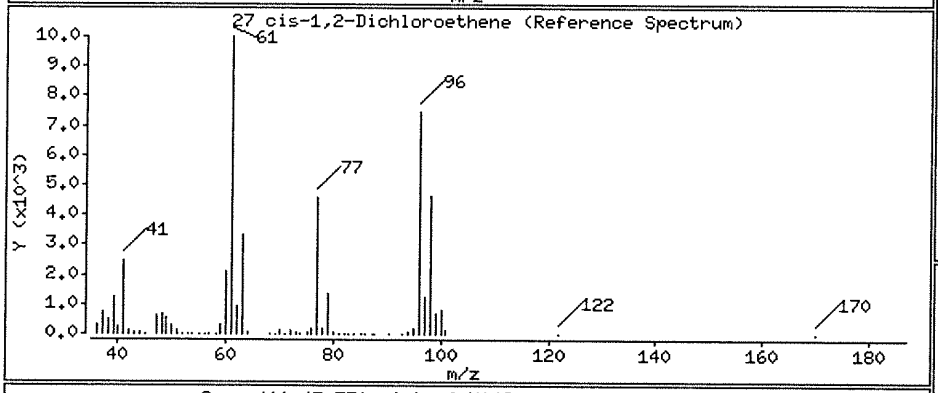
Concentration: 19341.35 ug/l

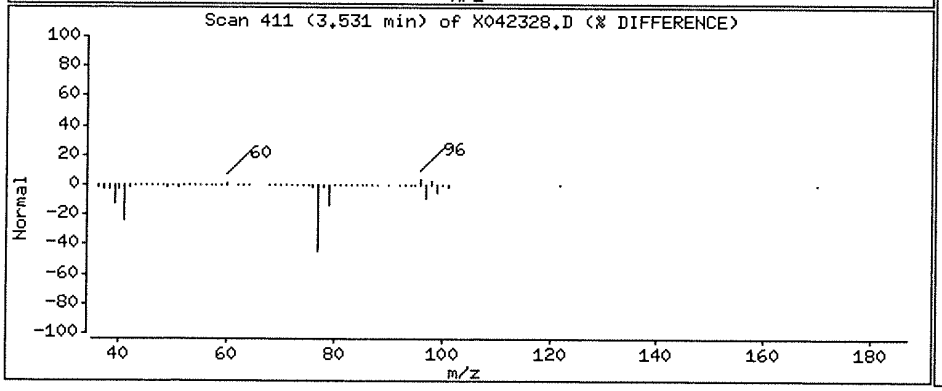


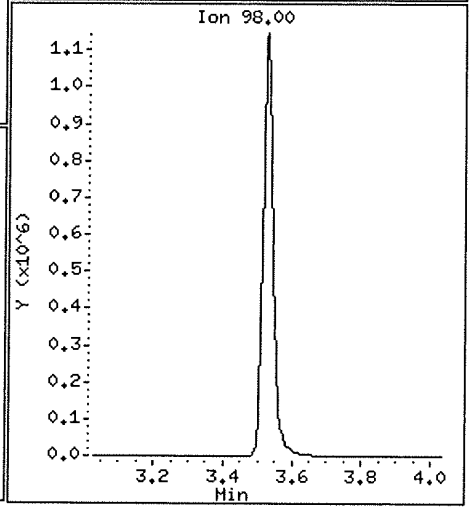












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D

Date : 23-APR-2021 20:17

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

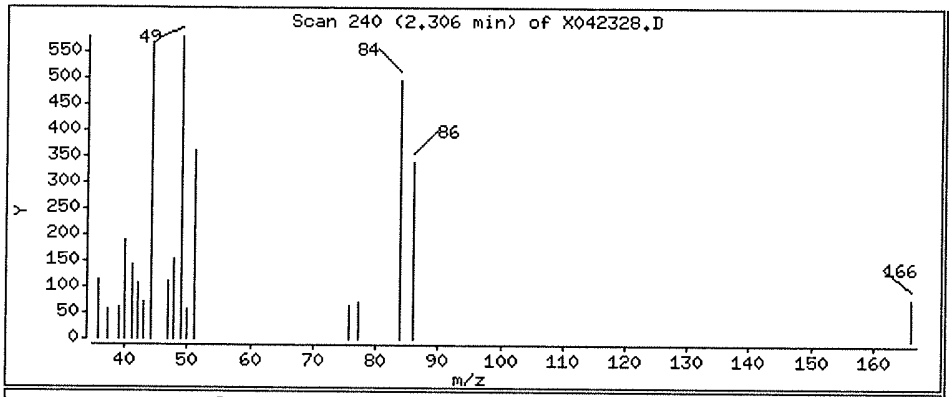
Operator: PC

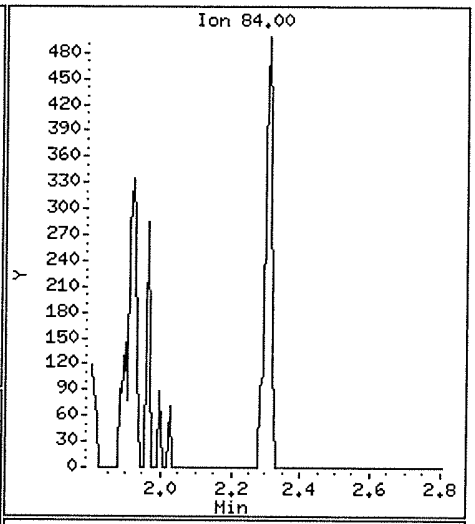
Column phase: DB624

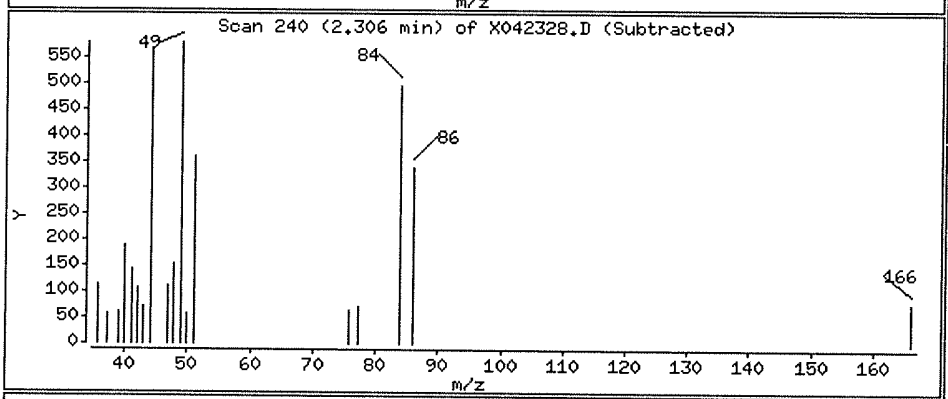
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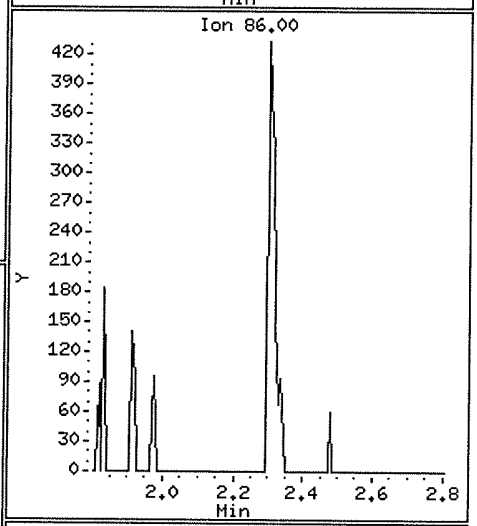
17 Methylene Chloride

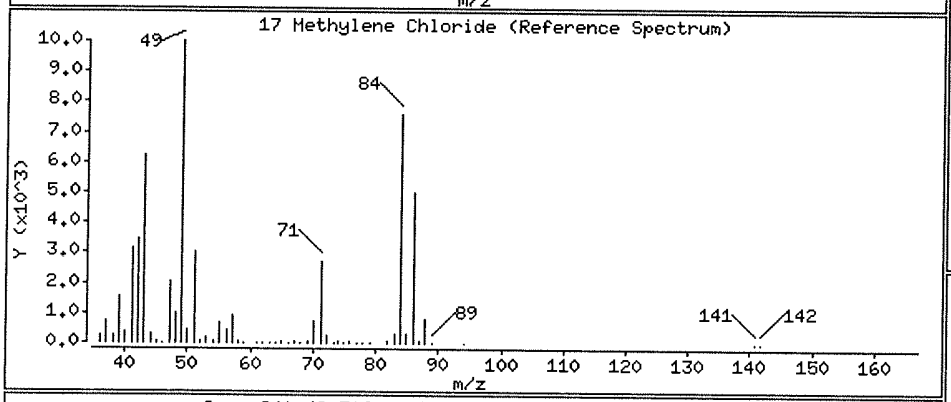
Concentration: 40.82 ug/l

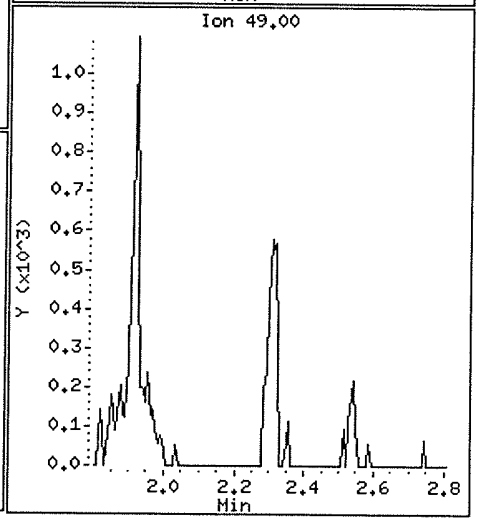


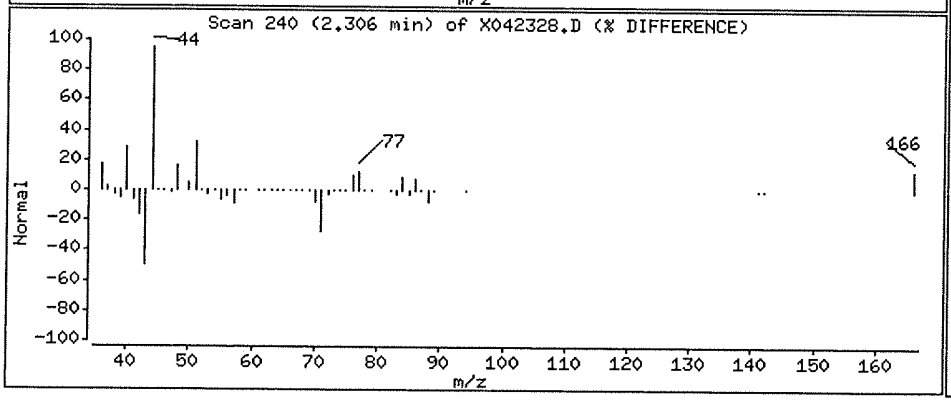












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D

Date : 23-APR-2021 20:17

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

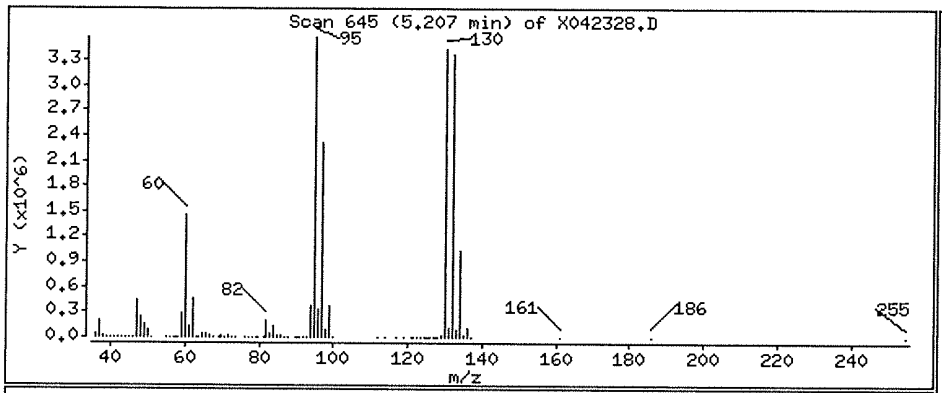
Operator: PC

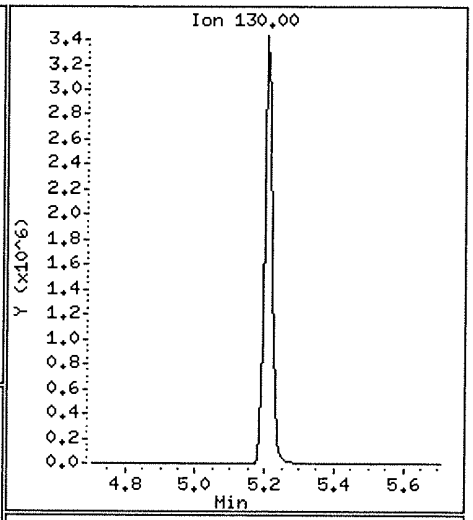
Column phase: DB624

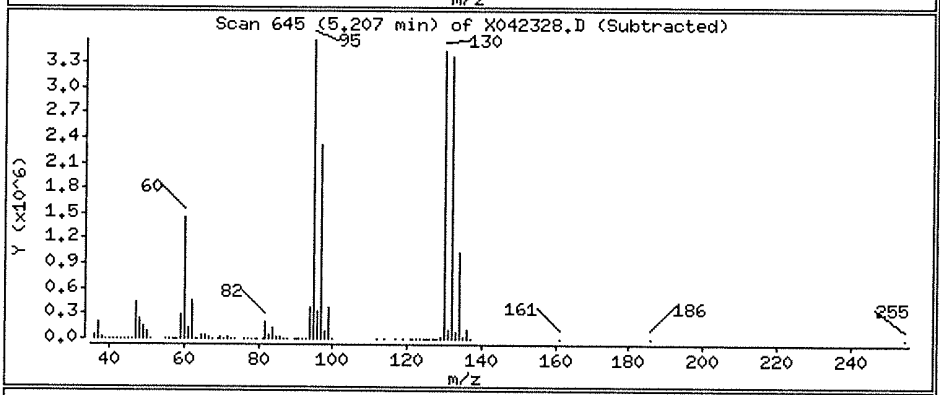
Column diameter: 0.18

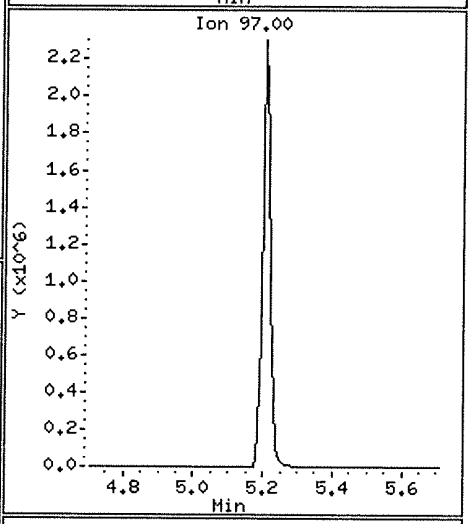
38 Trichloroethene

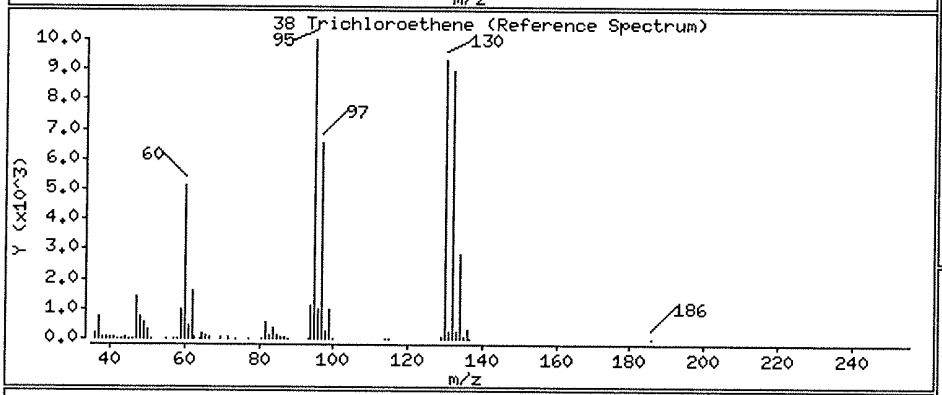
Concentration: 30640.94 ug/l

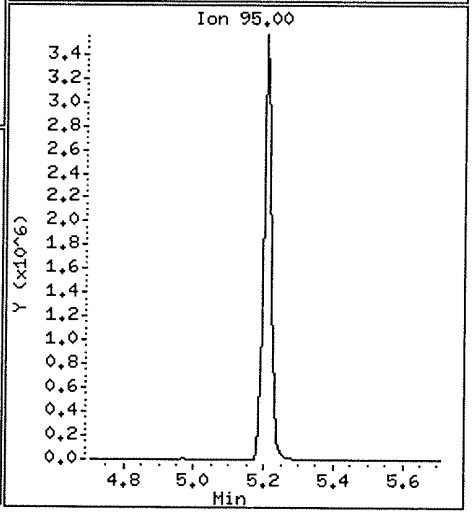


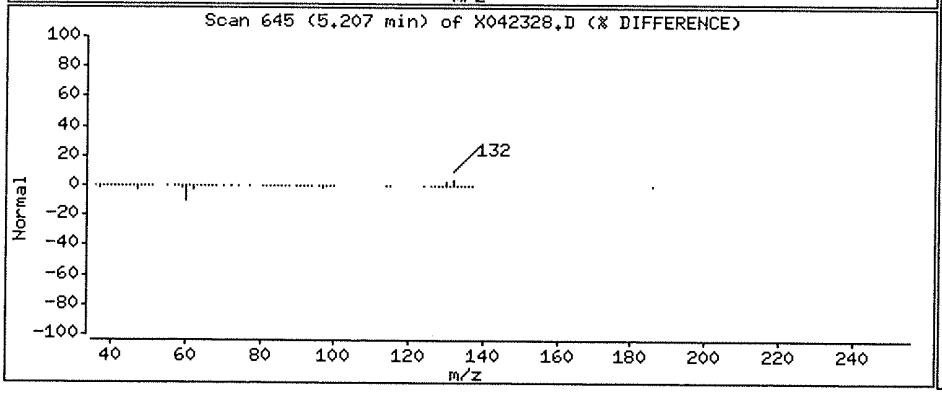












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042328.D

Date : 23-APR-2021 20:17

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

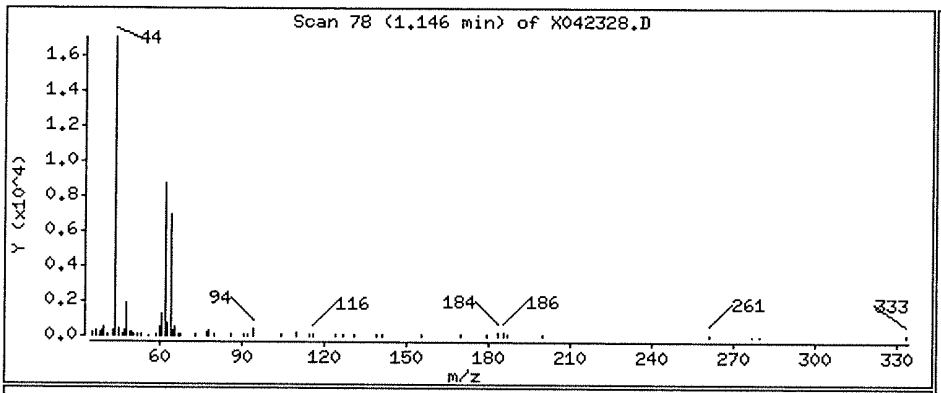
Operator: PC

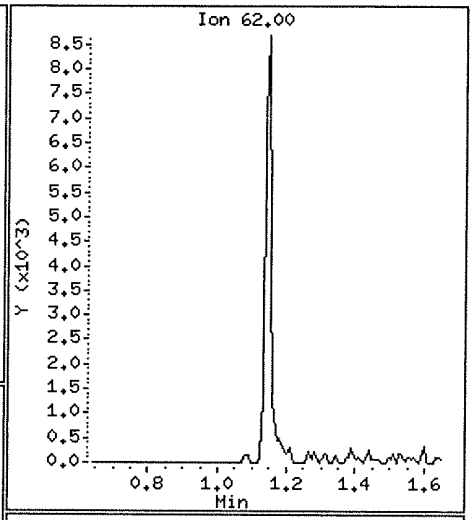
Column phase: DB624

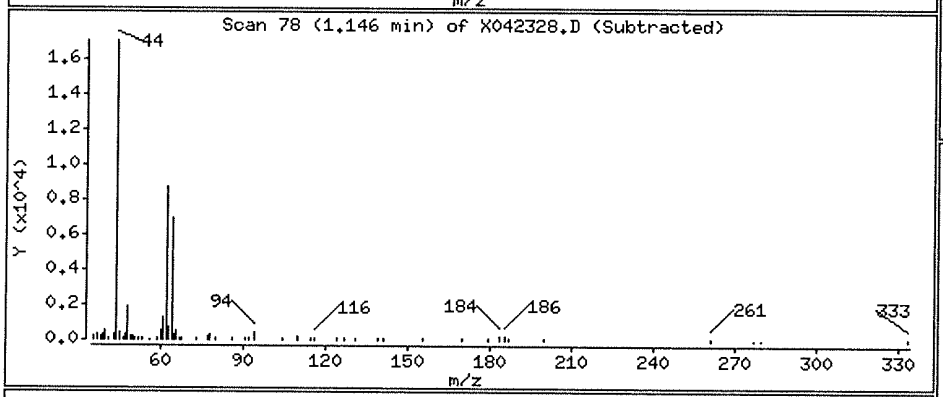
Column diameter: 0.18

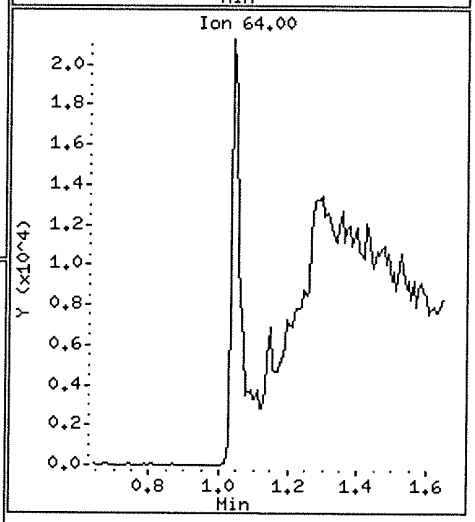
5 Vinyl Chloride

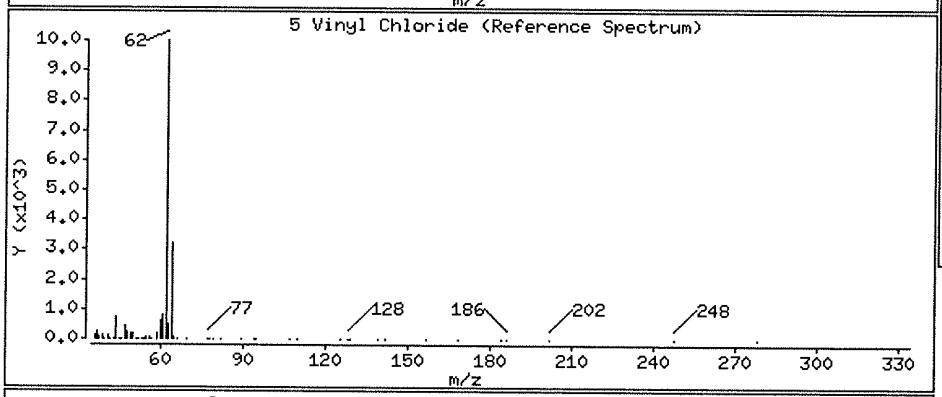
Concentration: 45.01 ug/l

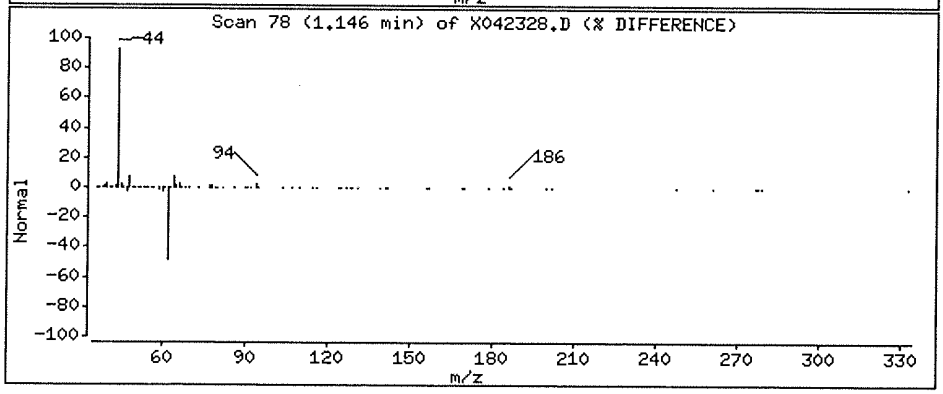












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042329.D Page 1
Report Date: 12-May-2021 15:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042329.D
Lab Smp Id: HS21041132-01 Client Smp ID: HS21041132-01
Inj Date : 23-APR-2021 20:38
Operator : PC Inst ID: voa6.i
Smp Info : HS21041132-01;HS21041132-01;;;
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 12-May-2021 15:06 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 28
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

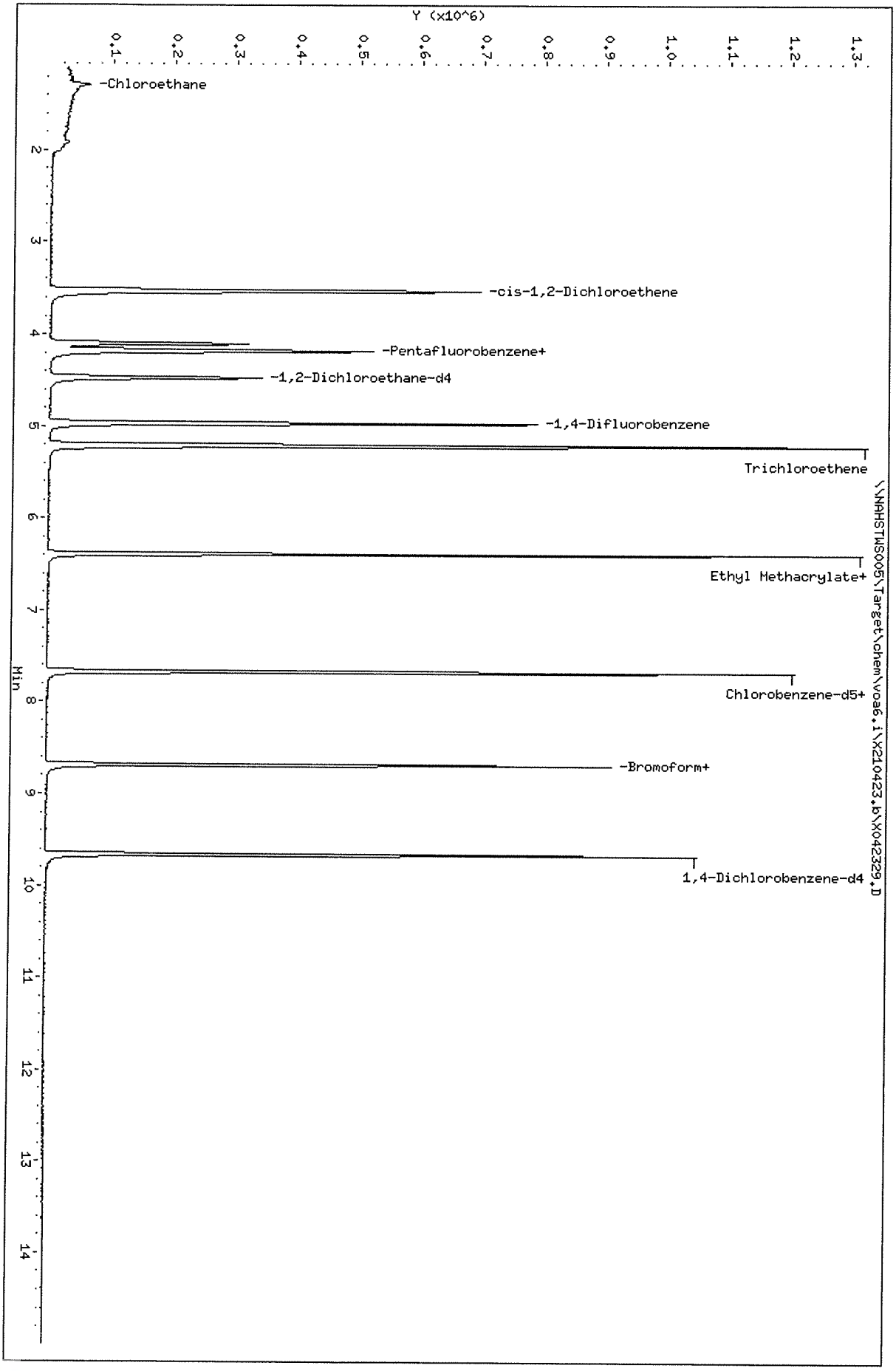
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	250.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	392184	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	615095	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	541050	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	240660	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	210433	45.6137	45.61
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	266190	48.1343	48.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	737894	52.9453	52.94
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	238053	46.0146	46.01
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	342023	71.3423	17835.56
38 Trichloroethene	130	5.206	5.206	(1.049)	395786	93.9950	23498.74

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042329.D
Date : 23-APR-2021 20:38
Client ID: HS21041132-01
Sample Info: HS21041132-01,HS21041132-01,,,
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042329.D

Date : 23-APR-2021 20:38

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

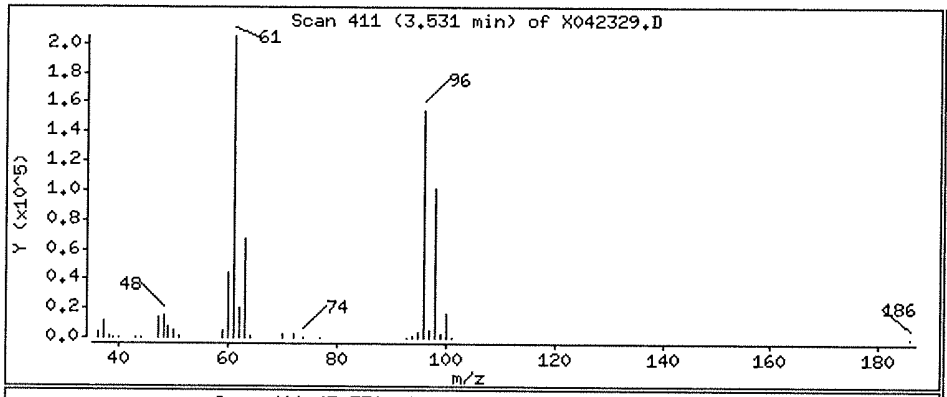
Operator: PC

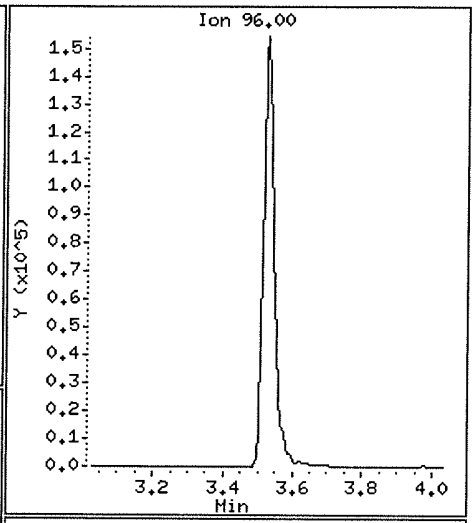
Column phase: DB624

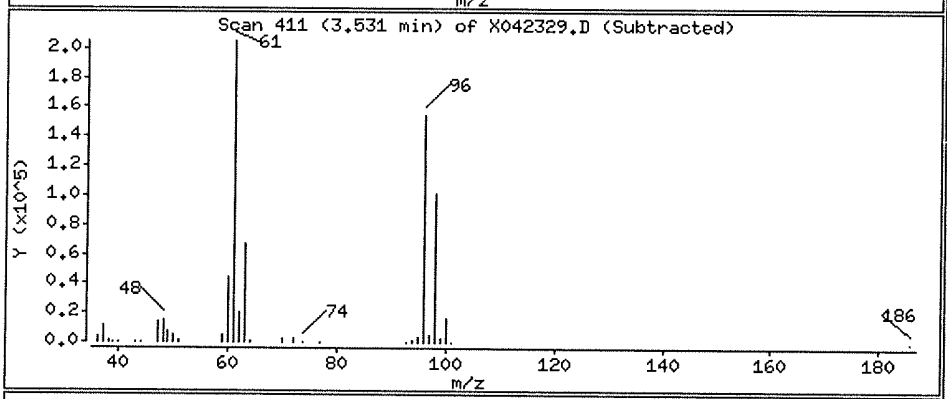
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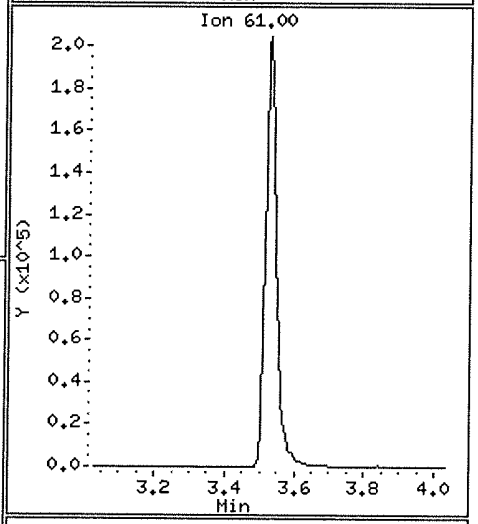
27 cis-1,2-Dichloroethene

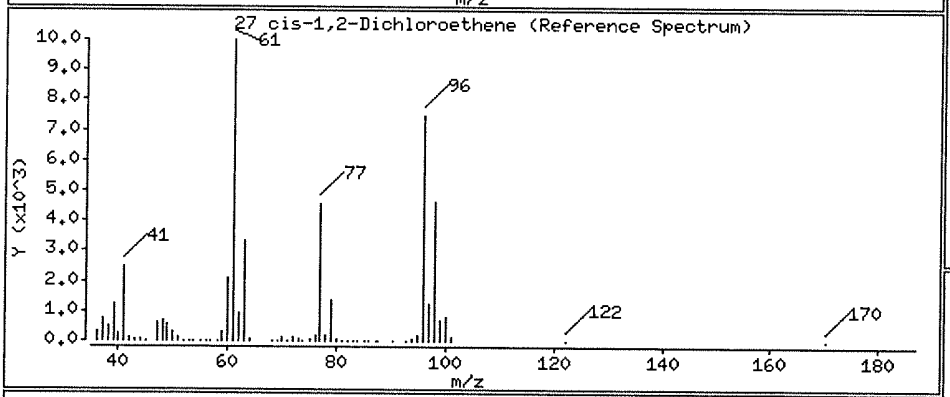
Concentration: 17835.56 ug/l

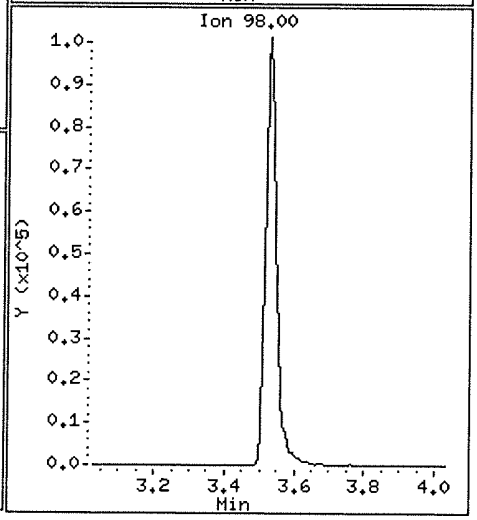


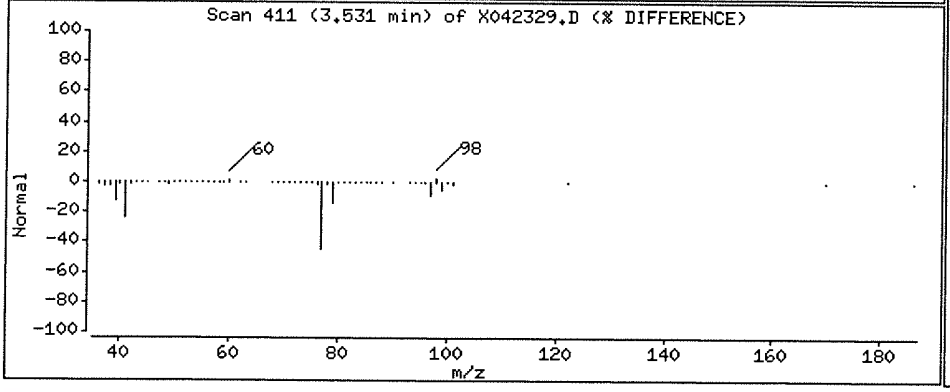












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042329.D

Date : 23-APR-2021 20:38

Client ID: HS21041132-01

Instrument: voa6.i

Sample Info: HS21041132-01;HS21041132-01;;;

Purge Volume: 5.0

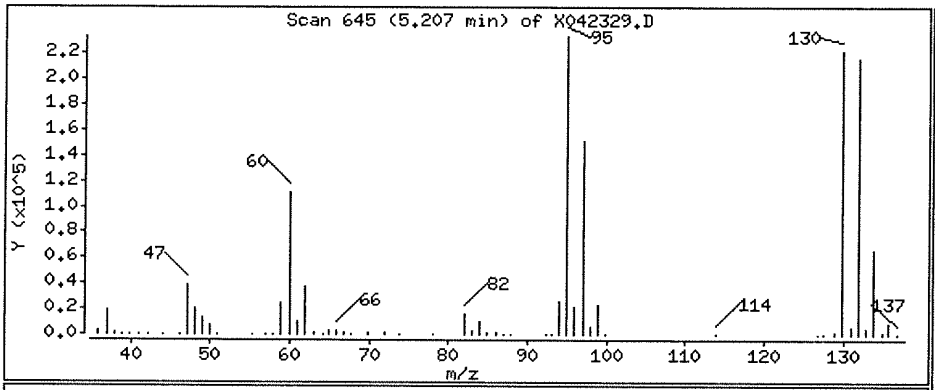
Operator: PC

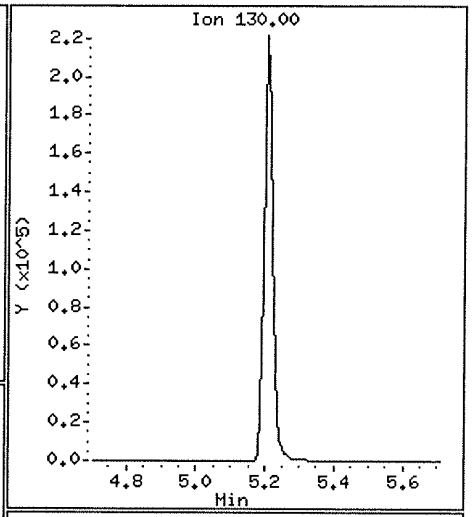
Column phase: DB624

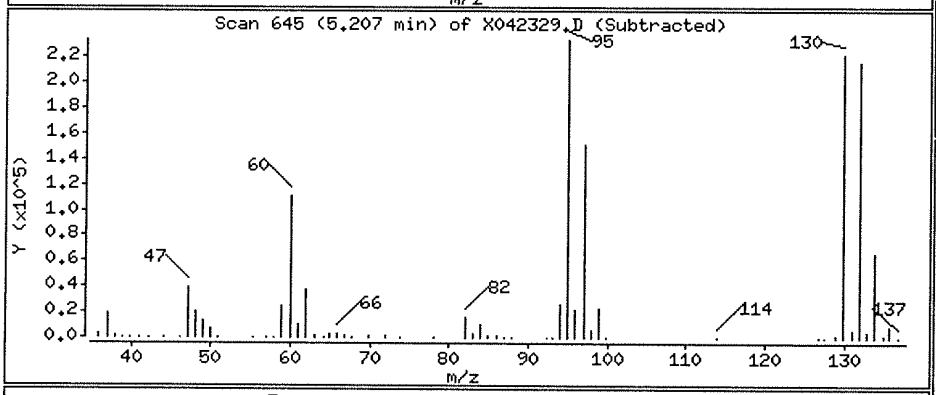
Column diameter: 0.18

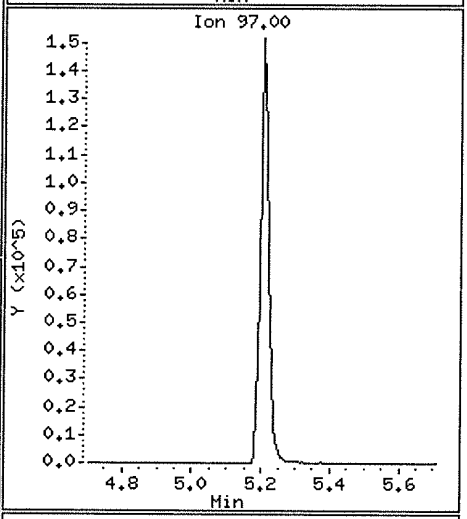
38 Trichloroethene

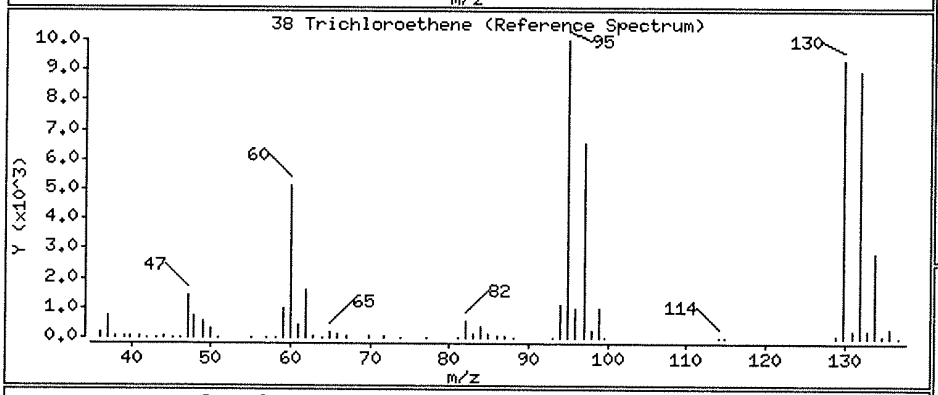
Concentration: 23498.74 ug/l

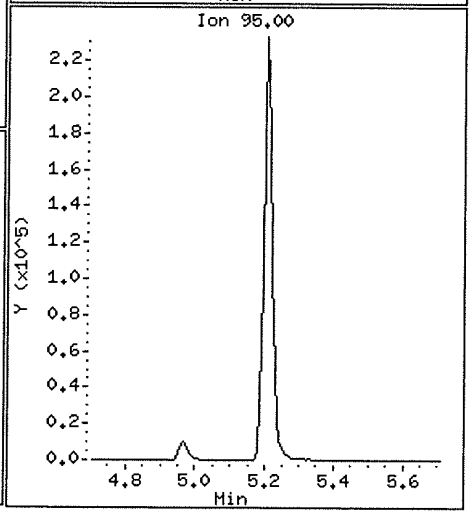


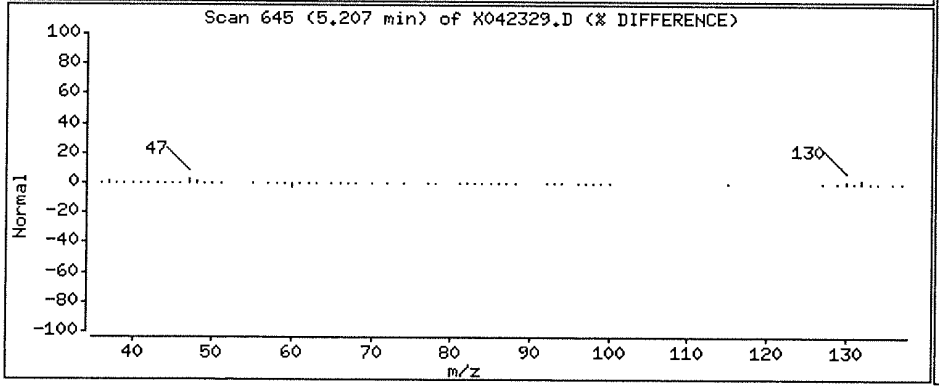












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D Page 1
Report Date: 12-May-2021 15:05

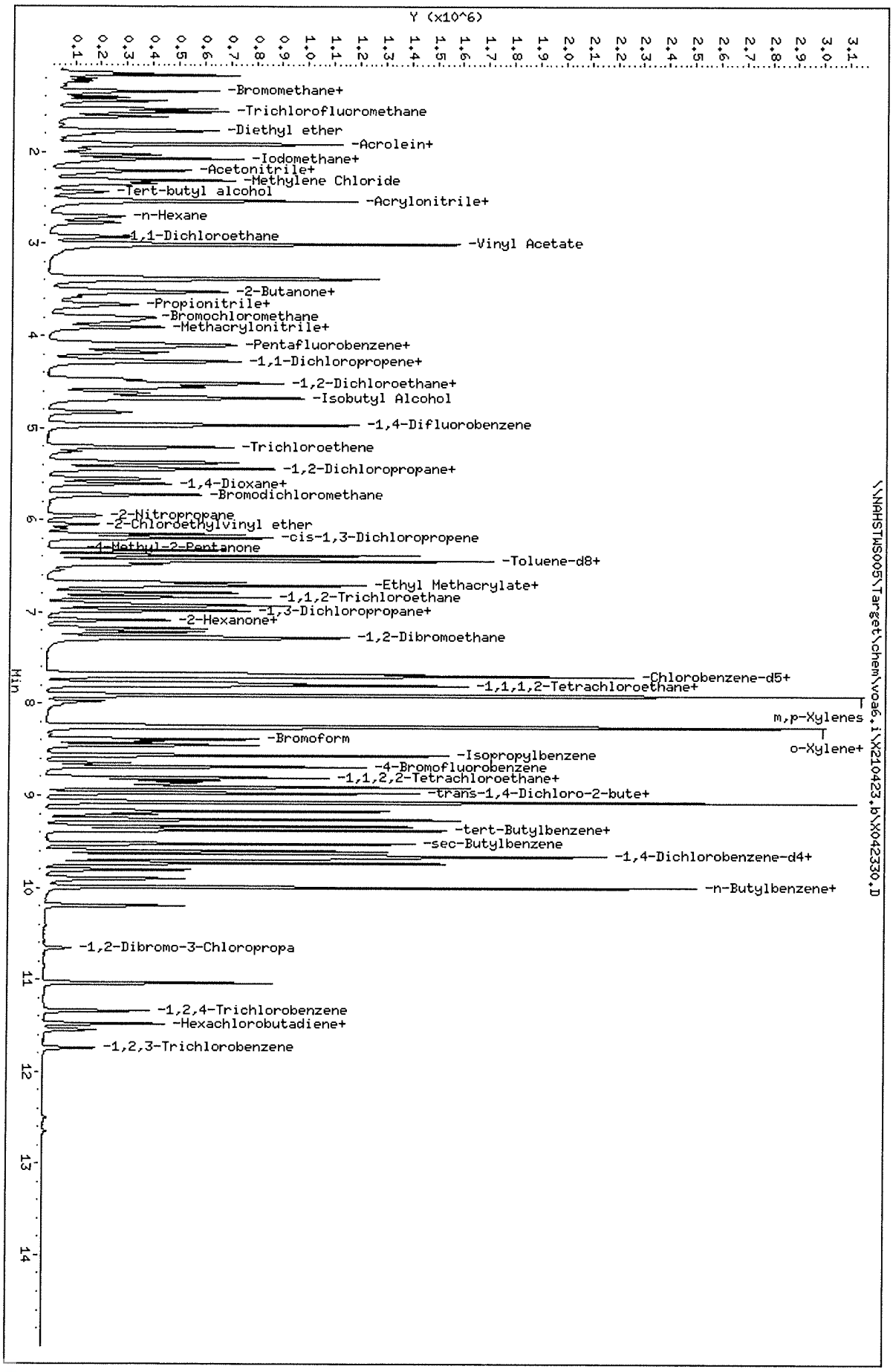
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 23-APR-2021 20:59
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\X210423.b\8260W.m
Meth Date : 12-May-2021 15:05 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 29 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	323158	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	607966	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	579020	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	290005	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	226974	50.0000	59.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	272253	50.0000	59.62
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	814891	50.0000	54.57
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	313129	50.0000	56.17
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	184146	50.0000	54.74
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	230377	50.0000	50.06
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	332213	50.0000	51.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	210117	50.0000	53.18
17 Methylene Chloride	84	2.305	2.305	(0.551)	185752	50.0000	52.87
38 Trichloroethene	130	5.206	5.206	(1.049)	206805	50.0000	49.68
5 Vinyl Chloride	62	1.145	1.145	(0.274)	264056	50.0000	54.50



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D
Date : 23-APR-2021 20:59
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

HS21041132 RSK175 Raw Data

ALS WO# HS21041132

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.090	114	75-125
Methane	9.647	9.597	99	75-125
Ethane	18.043	19.657	109	75-125
Propane	26.463	27.238	103	75-125
N-Butane	34.955	36.010	103	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	535.608	567.359	564.985	516.024	665.282	425.678
Methane	968.912	978.238	1019.699	880.798	960.713	930.704
Ethane	602.493	670.177	658.908	597.201	808.513	817.630
Propane	500	1279	2602	4785	18294	38286
N-Butane	438	936	2034	3864	18446	42817

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104113

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	828.858	AVRG		586.256273		21.932	
Methane	1081.580	AVRG		974.377787		6.550	
Ethane	999.335	AVRG		736.322546		19.885	
Propane	96509	2ORDR	0.97987006	1.529e-003	-4.58e-009	0.9991365	0
N-Butane	114164	2ORDR	2.46870151	1.834e-003	-5.54e-009	0.9980766	0

FORM VI GASES

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

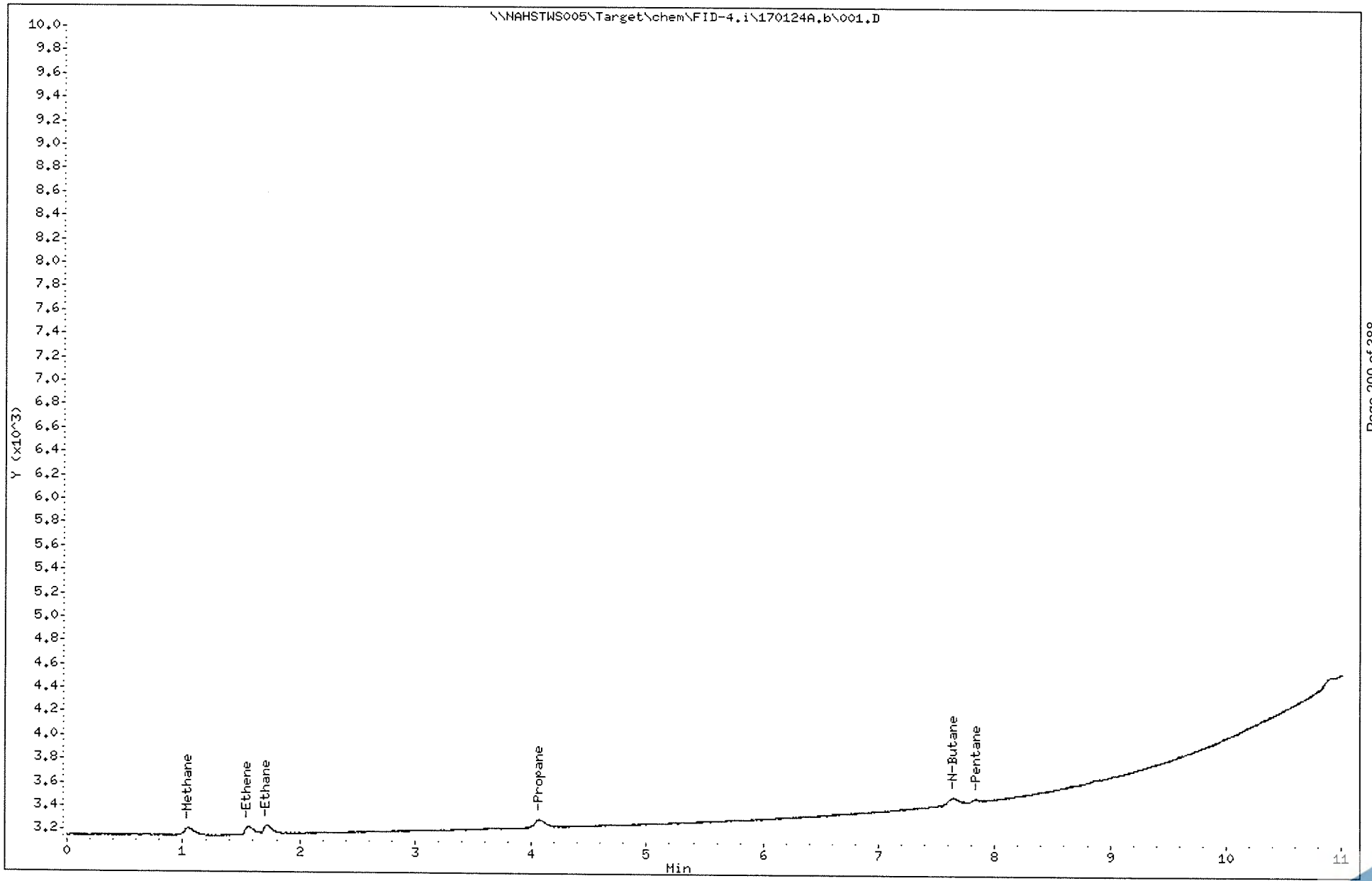
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

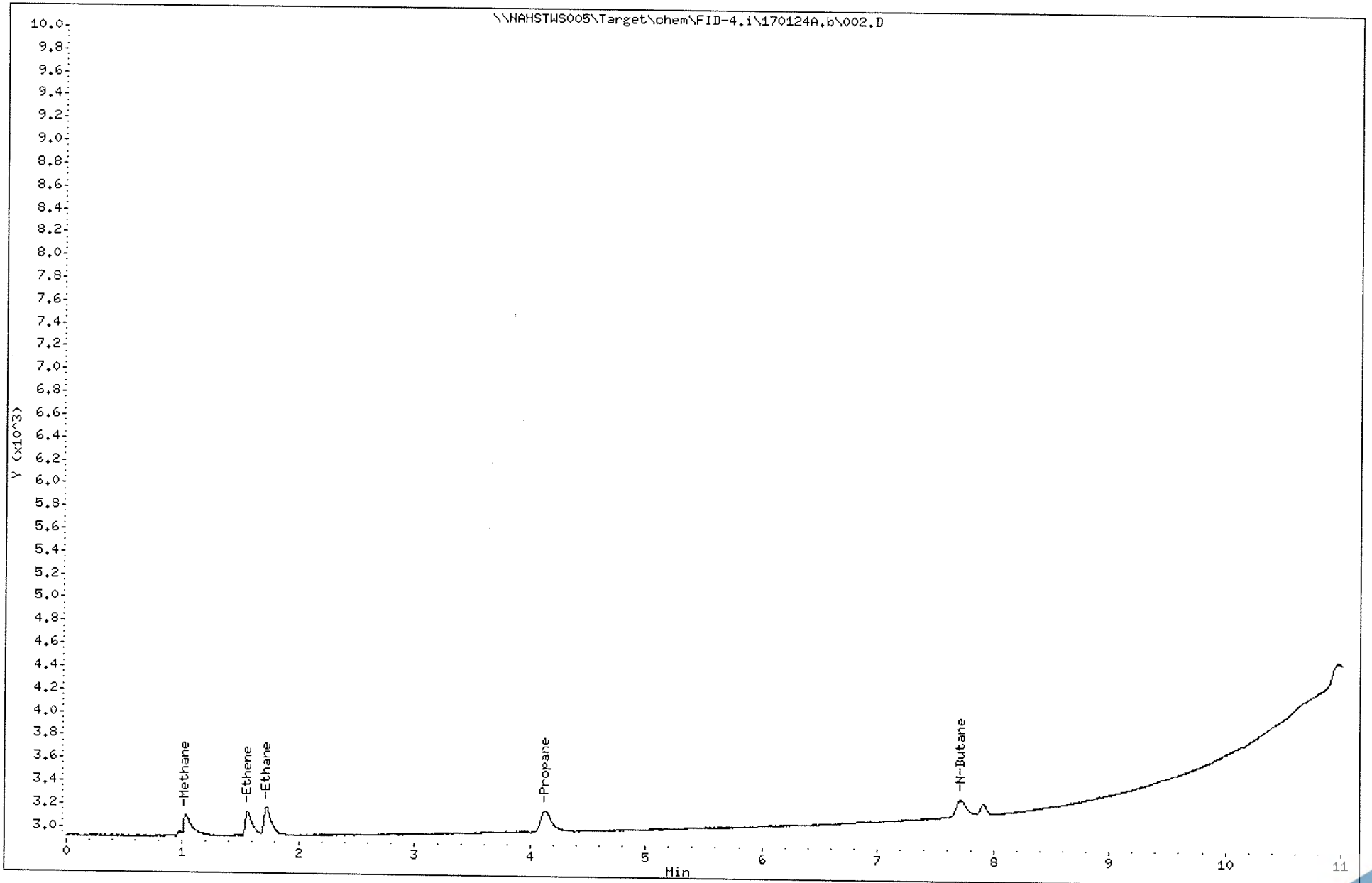
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

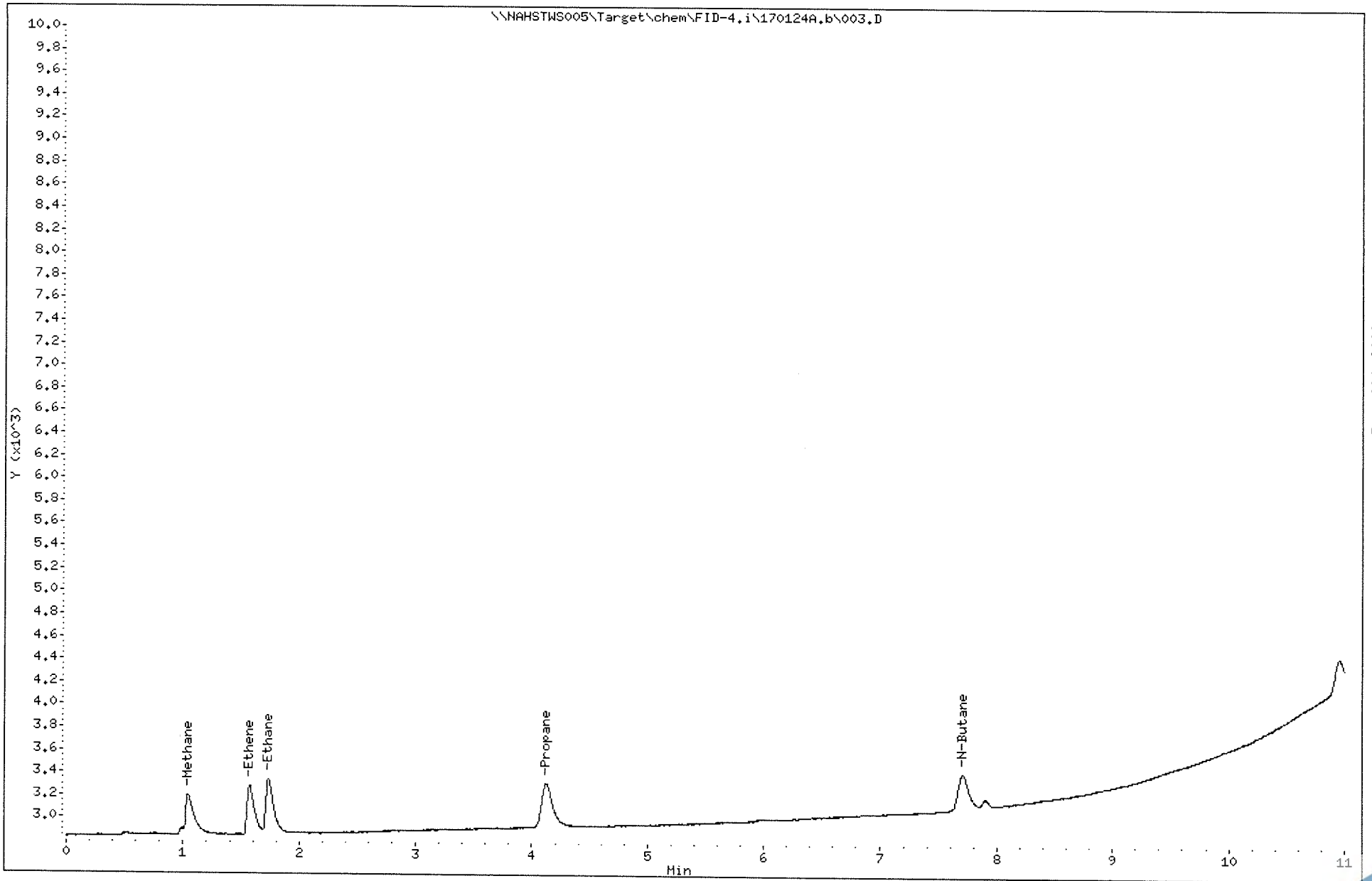
					AMOUNTS	
Compounds	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864	13.9820	9.473(M)

QC Flag Legend

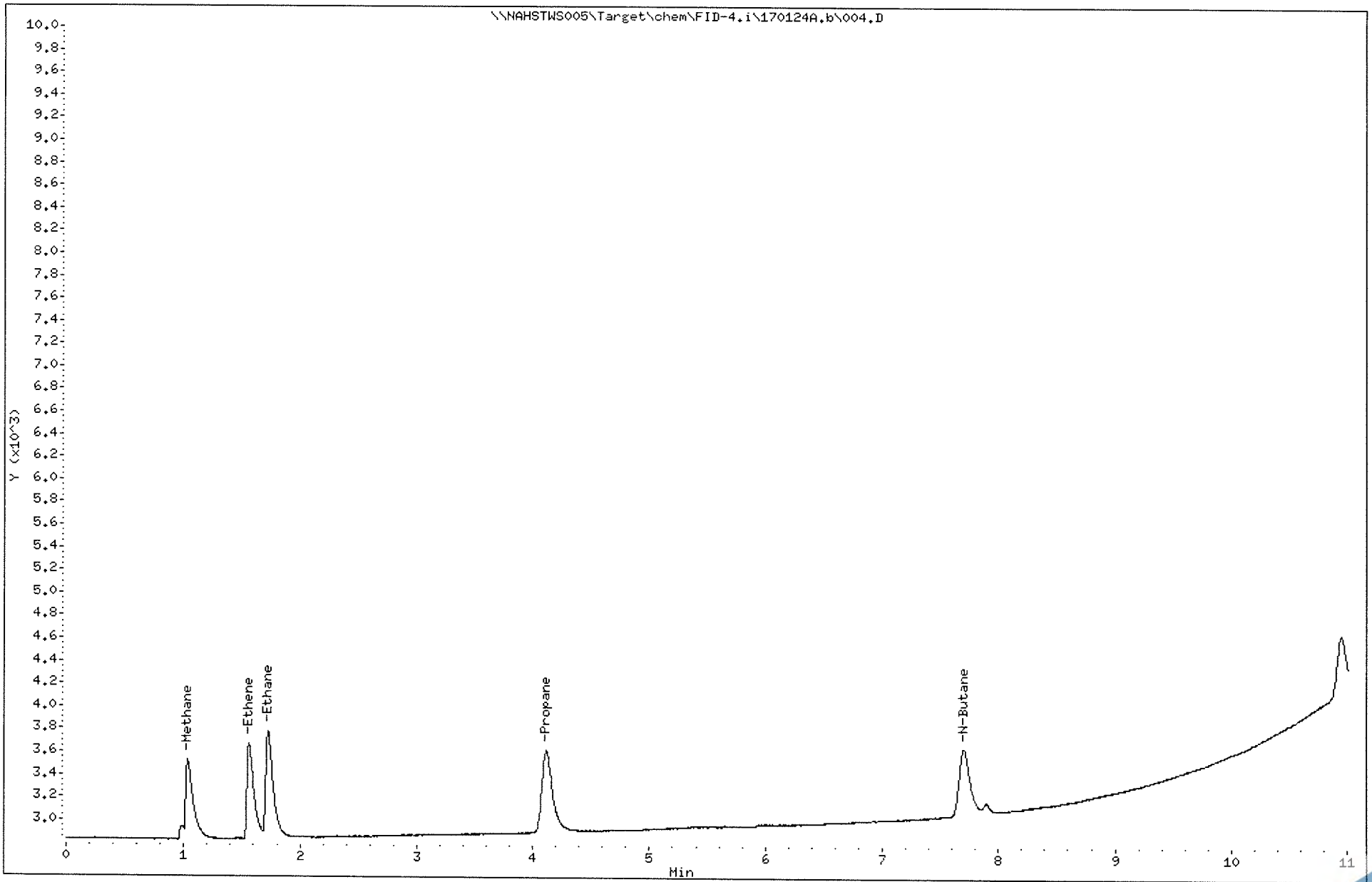
M - Compound response manually integrated.

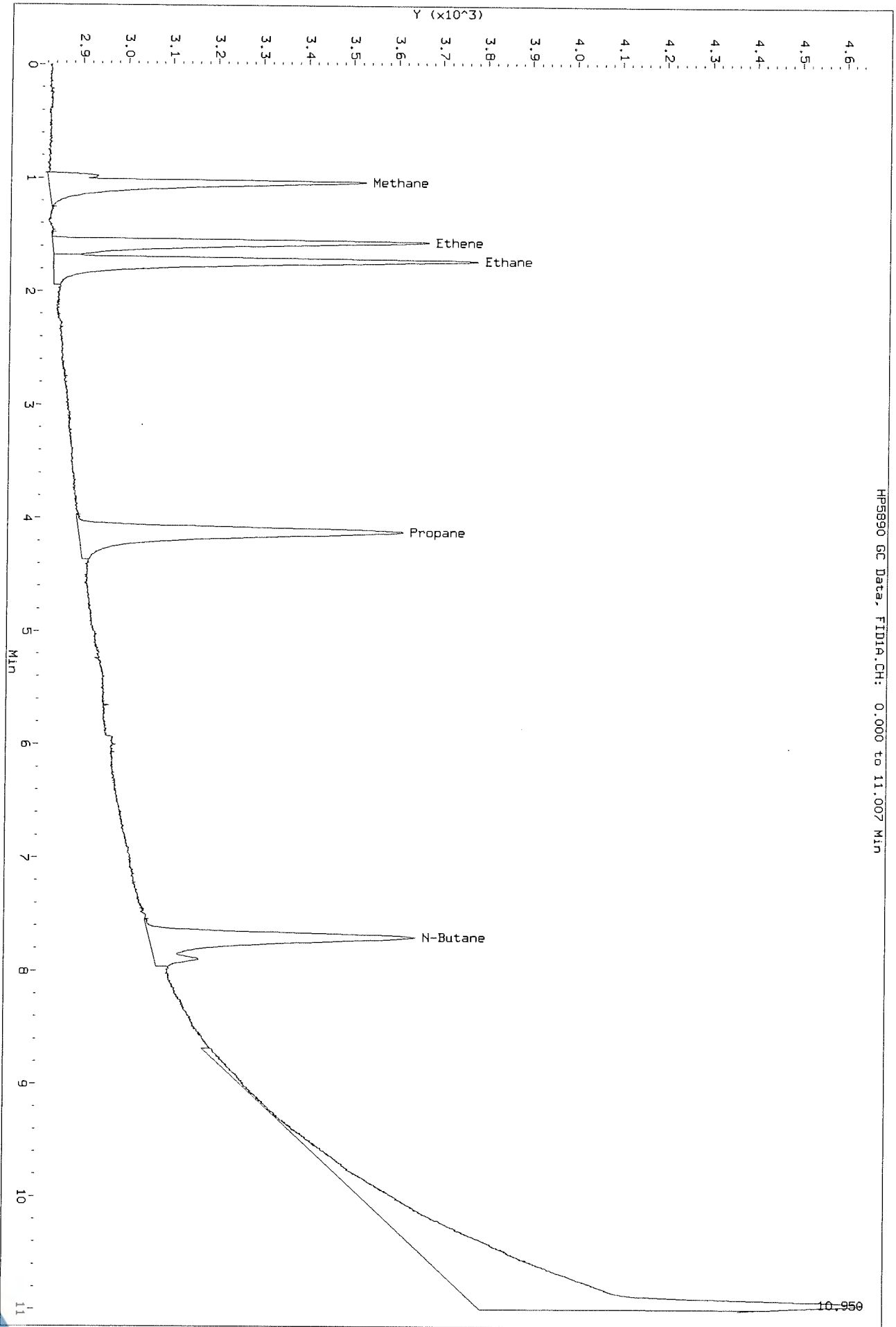
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

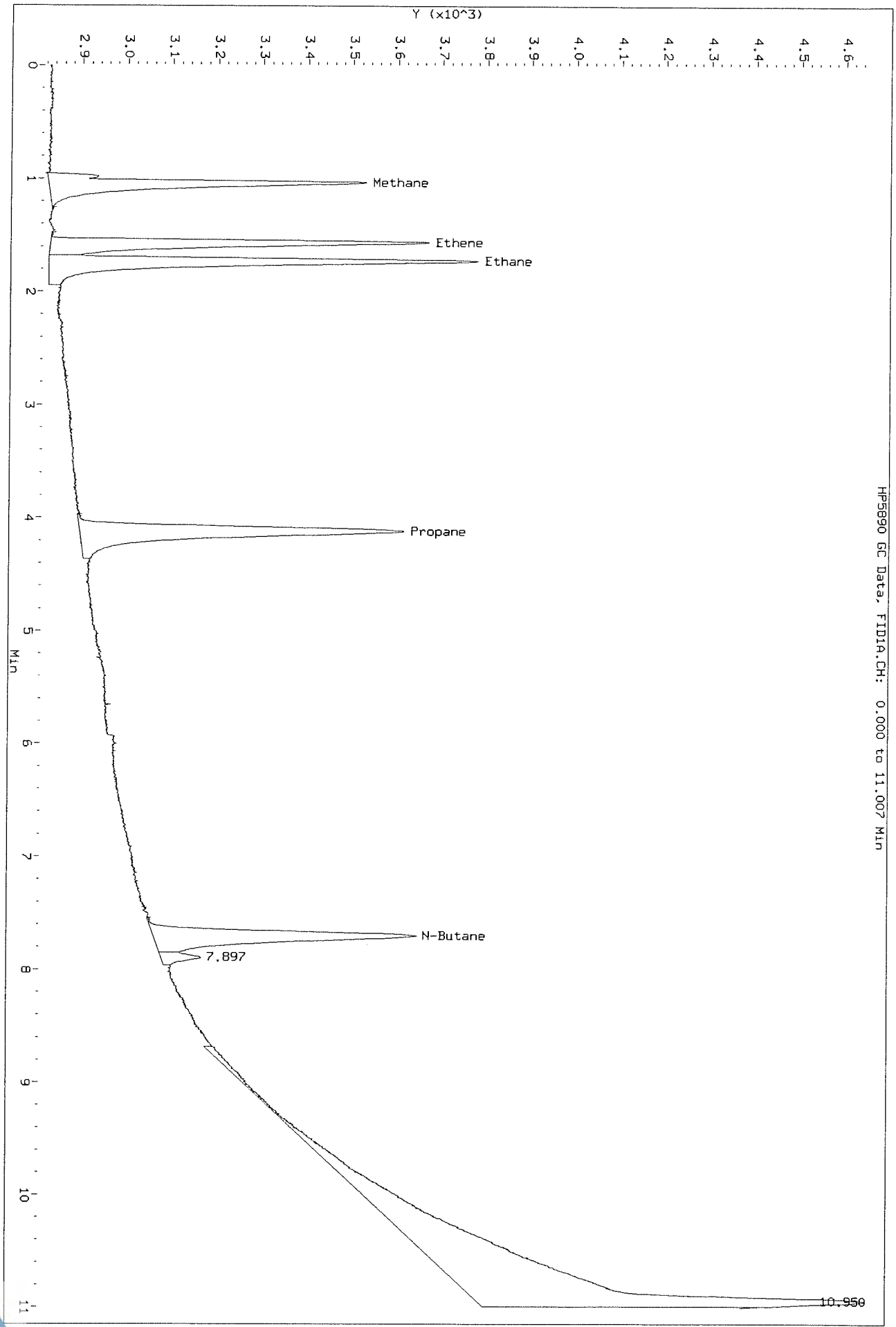
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FIDIA.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
10.950


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FIDiA.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
7.897
10.950

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

QC Flag Legend

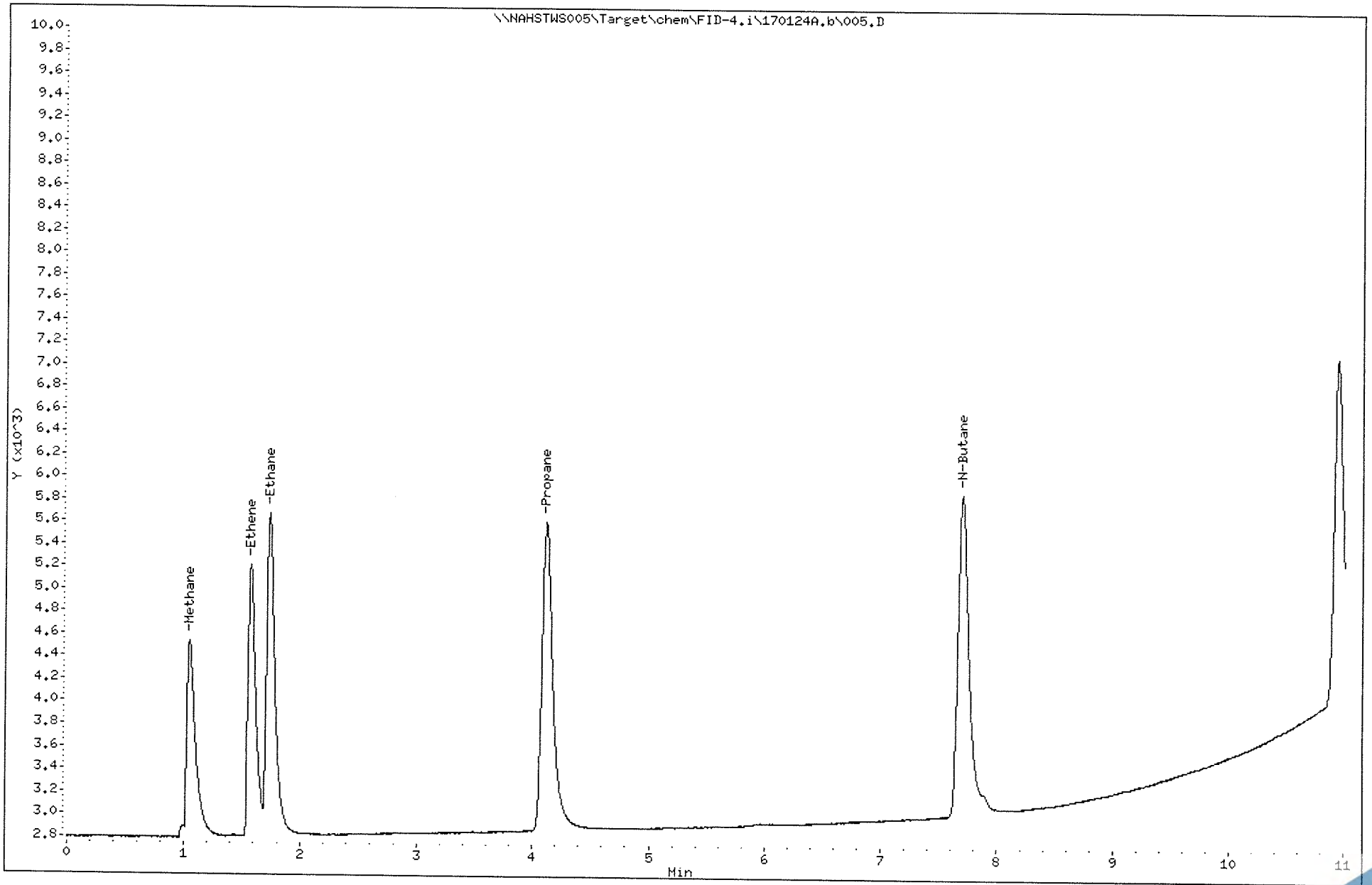
M - Compound response manually integrated.

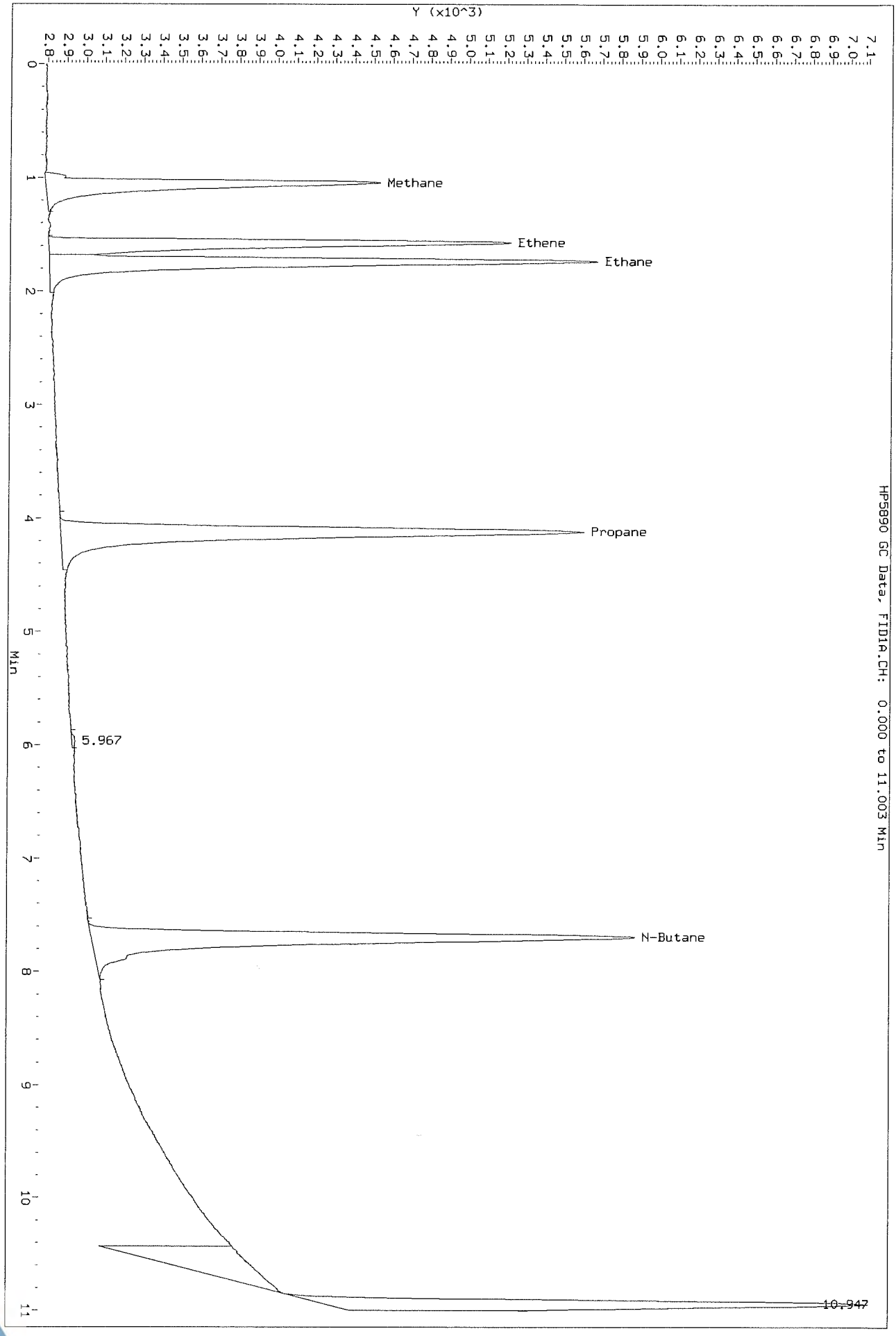
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;

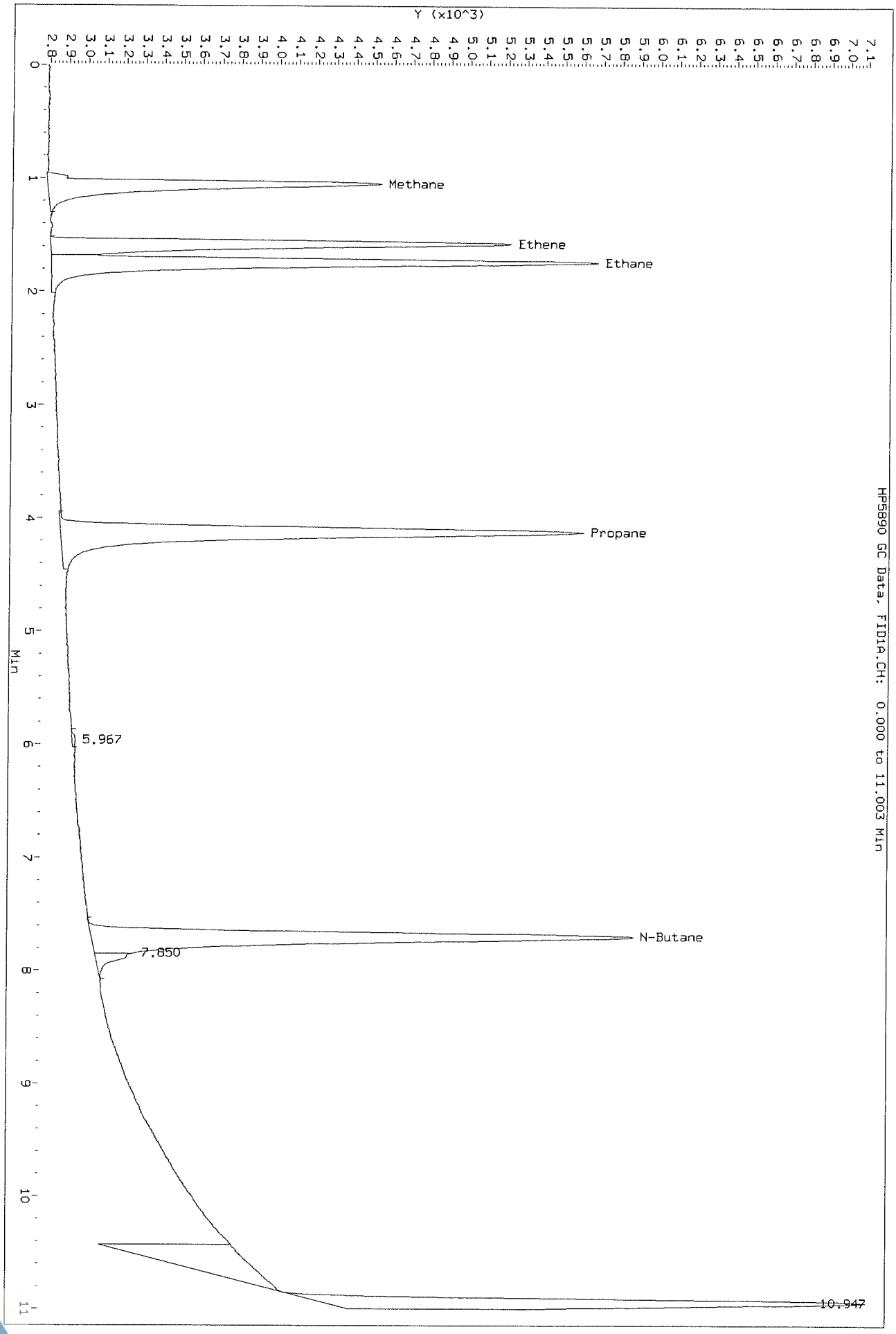
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
10.947


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
5.967
7.850
10.947

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

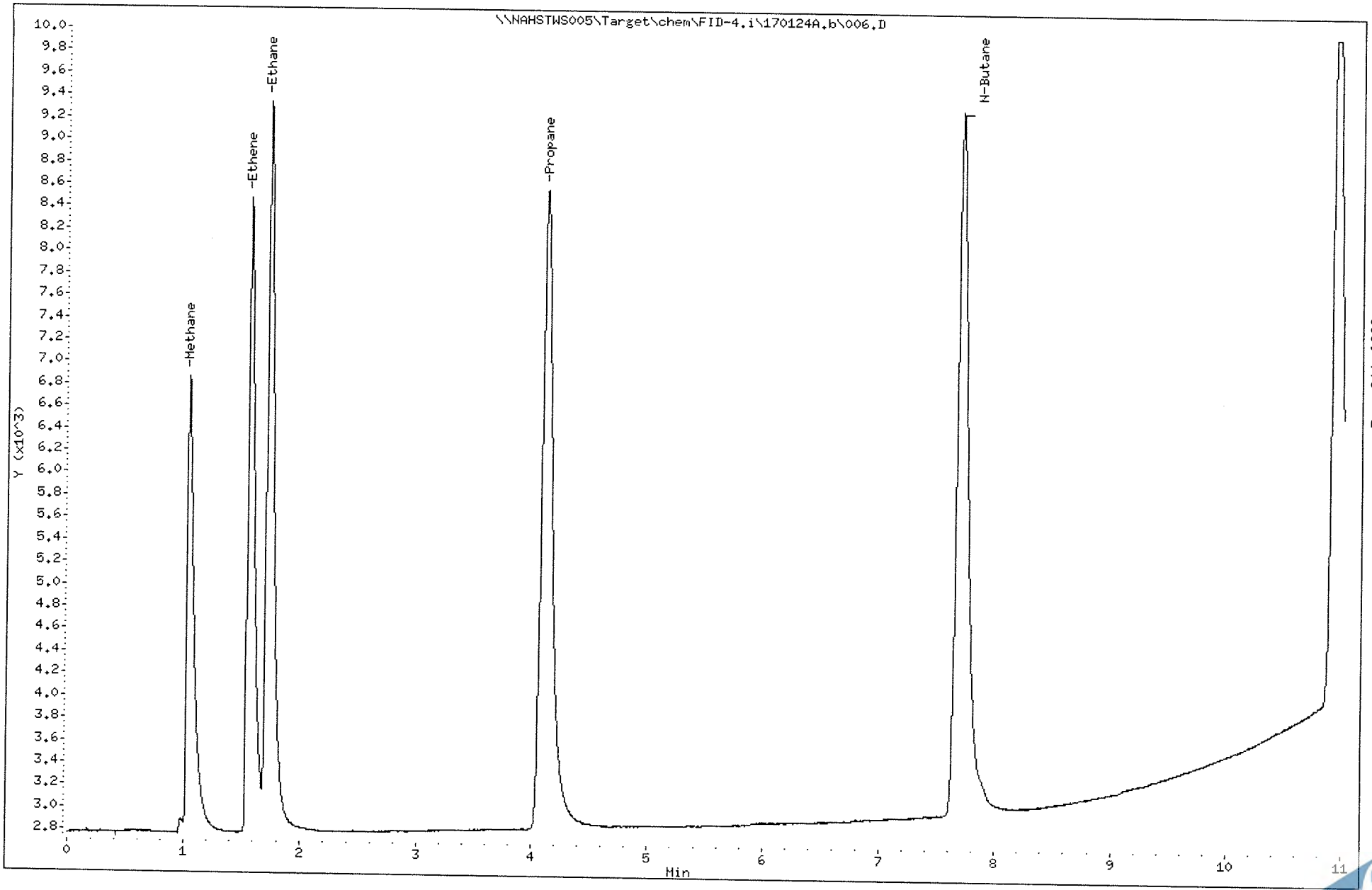
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

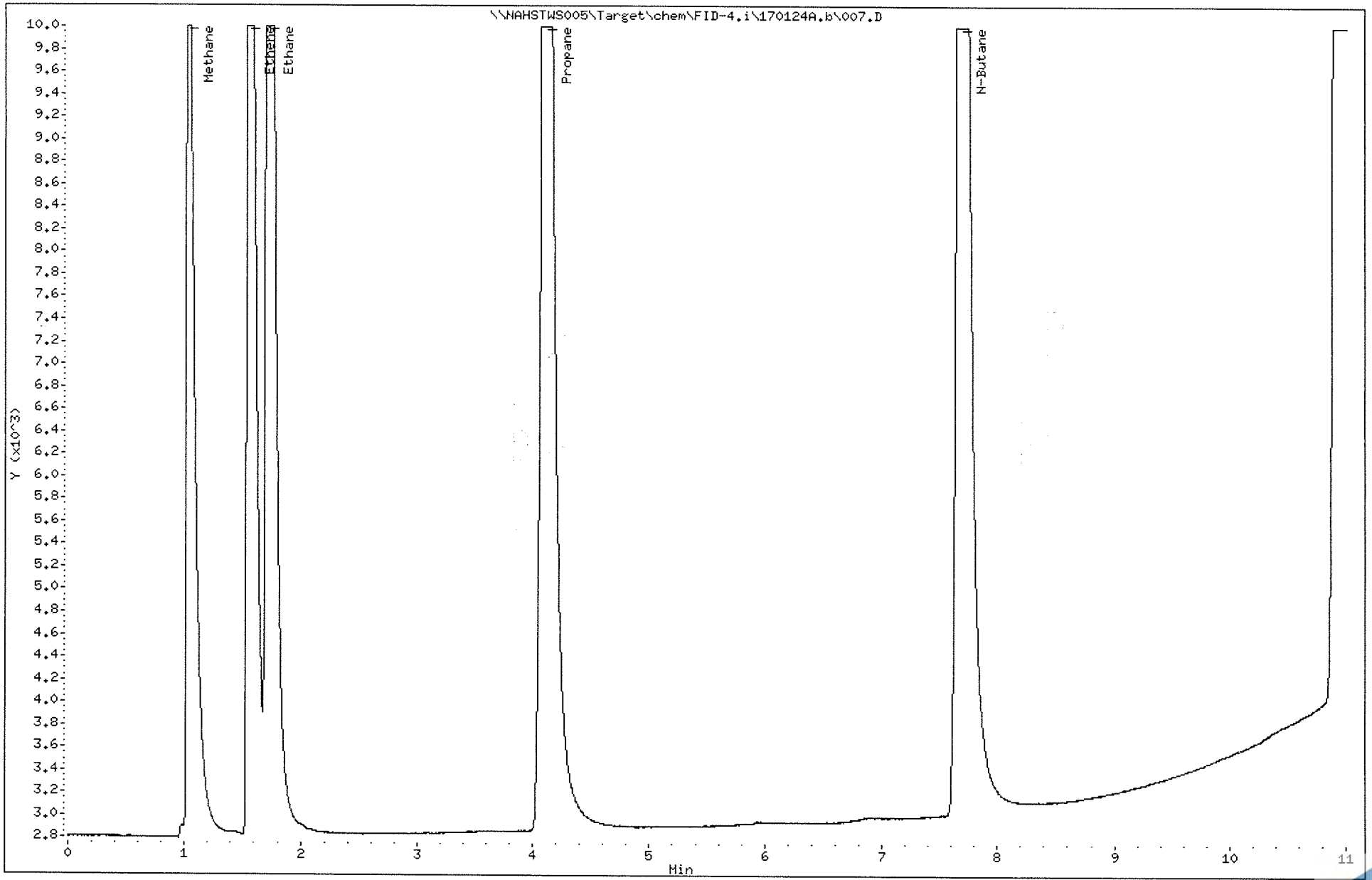
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

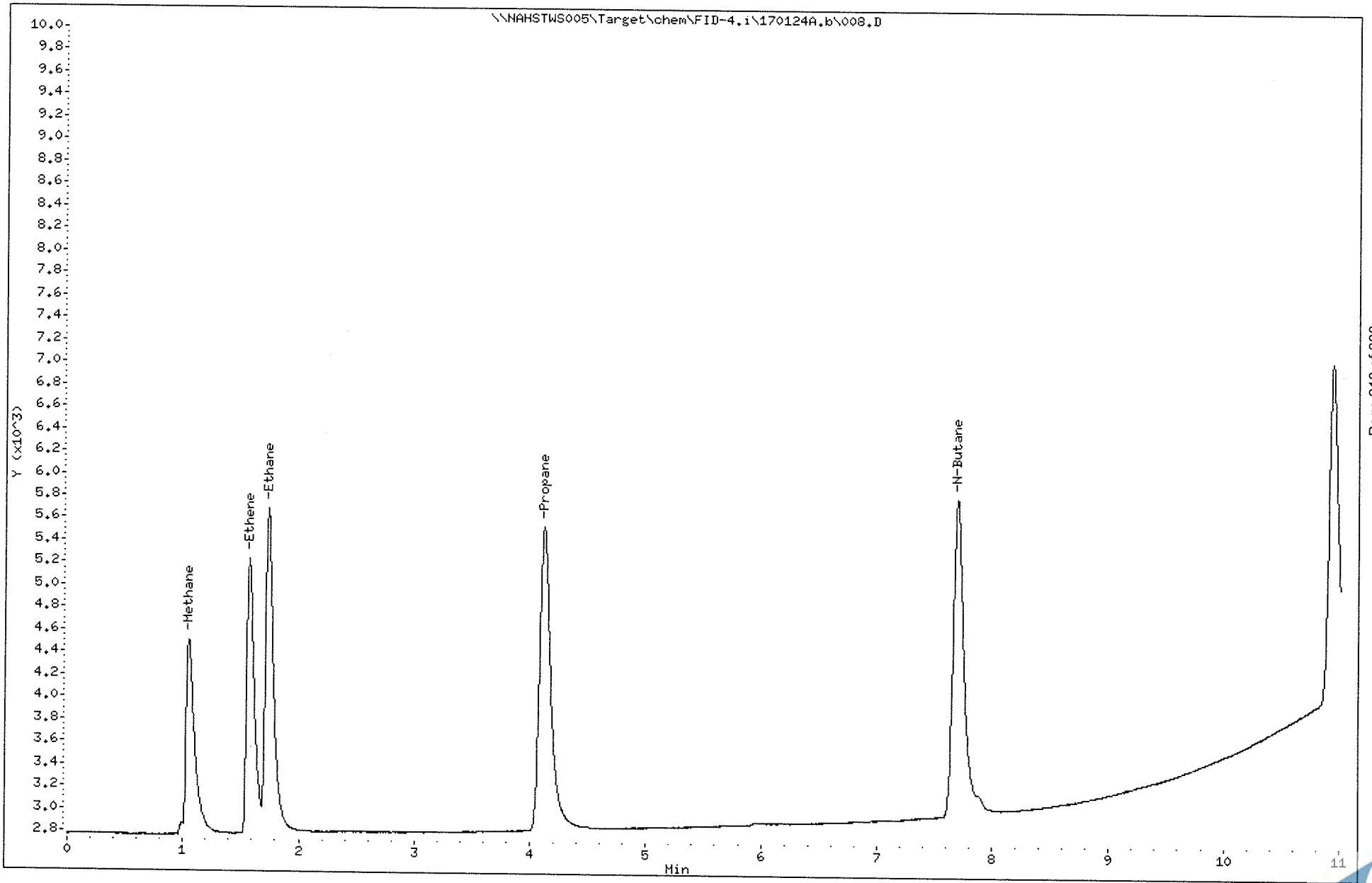
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 44621 **Analyst:** Purvi Lad

Date: 04-27-2021 **Reviewer:**

Method: rsk175 dod **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	04-27-2021 09:31 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-210427	MBLK	04-27-2021 09:48 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-210427	LCS	04-27-2021 09:57 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	LCSD-210427	LCSD	04-27-2021 10:08 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS21041132-05	SAMP	04-27-2021 10:23 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	HS21041132-05DUP	SAMP	04-27-2021 10:35 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	HS21041102-01	SAMP	04-27-2021 10:58 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	HS21041102-02	SAMP	04-27-2021 11:11 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	HS21041102-03	SAMP	04-27-2021 11:23 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	HS21041102-04	SAMP	04-27-2021 11:35 am	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	RSK-CCV	CCV	04-27-2021 11:46 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS21041102-05	SAMP	04-27-2021 12:01 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS21041102-07	SAMP	04-27-2021 12:15 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS21041102-08	SAMP	04-27-2021 12:27 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	HS21041102-09	SAMP	04-27-2021 12:38 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA
16	HS21041102-10	SAMP	04-27-2021 12:48 pm	1.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS21041102-08	SAMP	04-27-2021 12:58 pm	25.00	0.00 mL	0.00 mL	017.D	Liquid	Y	NA
18	HS21041102-09	SAMP	04-27-2021 01:08 pm	10.00	0.00 mL	0.00 mL	018.D	Liquid	Y	NA
19	HS21041102-10	SAMP	04-27-2021 01:58 pm	100.0(	0.00 mL	0.00 mL	019.D	Liquid	Y	NA
20	HS21041276-09	SAMP	04-27-2021 02:15 pm	1.00	0.00 mL	0.00 mL	020.D	Liquid	Y	NA
21	HS21041276-10	SAMP	04-27-2021 02:22 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	NA
22	RSK-CCV	CCV	04-27-2021 02:34 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS21041276-13	SAMP	04-27-2021 02:44 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	NA
24	HS21041276-16	SAMP	04-27-2021 02:59 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	NA
25	HS21041276-19	SAMP	04-27-2021 03:07 pm	1.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA
26	HS21041276-25	SAMP	04-27-2021 03:24 pm	1.00	0.00 mL	0.00 mL	026.D	Liquid	Y	NA
27	HS21041276-10	SAMP	04-27-2021 03:38 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	NA
28	HS21041197-01	SAMP	04-27-2021 03:50 pm	1.00	0.00 mL	0.00 mL	028.D	Liquid	Y	NA
29	HS21041255-05	SAMP	04-27-2021 04:00 pm	1.00	0.00 mL	0.00 mL	029.D	Liquid	Y	NA
30	HS21041255-07	SAMP	04-27-2021 04:08 pm	1.00	0.00 mL	0.00 mL	030.D	Liquid	Y	NA
31	HS21041197-01	SAMP	04-27-2021 04:22 pm	1.00	0.00 mL	0.00 mL	031.D	Liquid	Y	NA
32	HS21041255-05	SAMP	04-27-2021 04:49 pm	200.0(	0.00 mL	0.00 mL	032.D	Liquid	Y	NA
33	RSK-CCV	CCV	04-27-2021 05:02 pm	1.00	0.00 mL	0.00 mL	033.D	Liquid	Y	NA

Chemical	Value
pH Paper	300107057-07
CCV/LC/LSD/MS/MSD	300107043-11

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 0931

Lab File ID: 001 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	859.39145	0.01	-19.44	20.00	AVRG
Methane	974.99200	959.46927	0.01	1.59	20.00	AVRG
Ethene	585.76000	633.41246	0.01	-8.14	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041132

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 1146

Lab File ID: 011 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	816.21682	0.01	-13.44	20.00	AVRG
Methane	974.99200	928.78615	0.01	4.74	20.00	AVRG
Ethene	585.76000	608.24926	0.01	-3.84	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D Page 1
Report Date: 20-May-2021 12:38

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 09:31
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.460	0.000	9256	9.64700	9.493
2 Ethene	0.703	0.703	0.000	10673	16.8500	18.220(M)
3 Ethane	0.783	0.783	0.000	15506	18.0430	21.551

QC Flag Legend

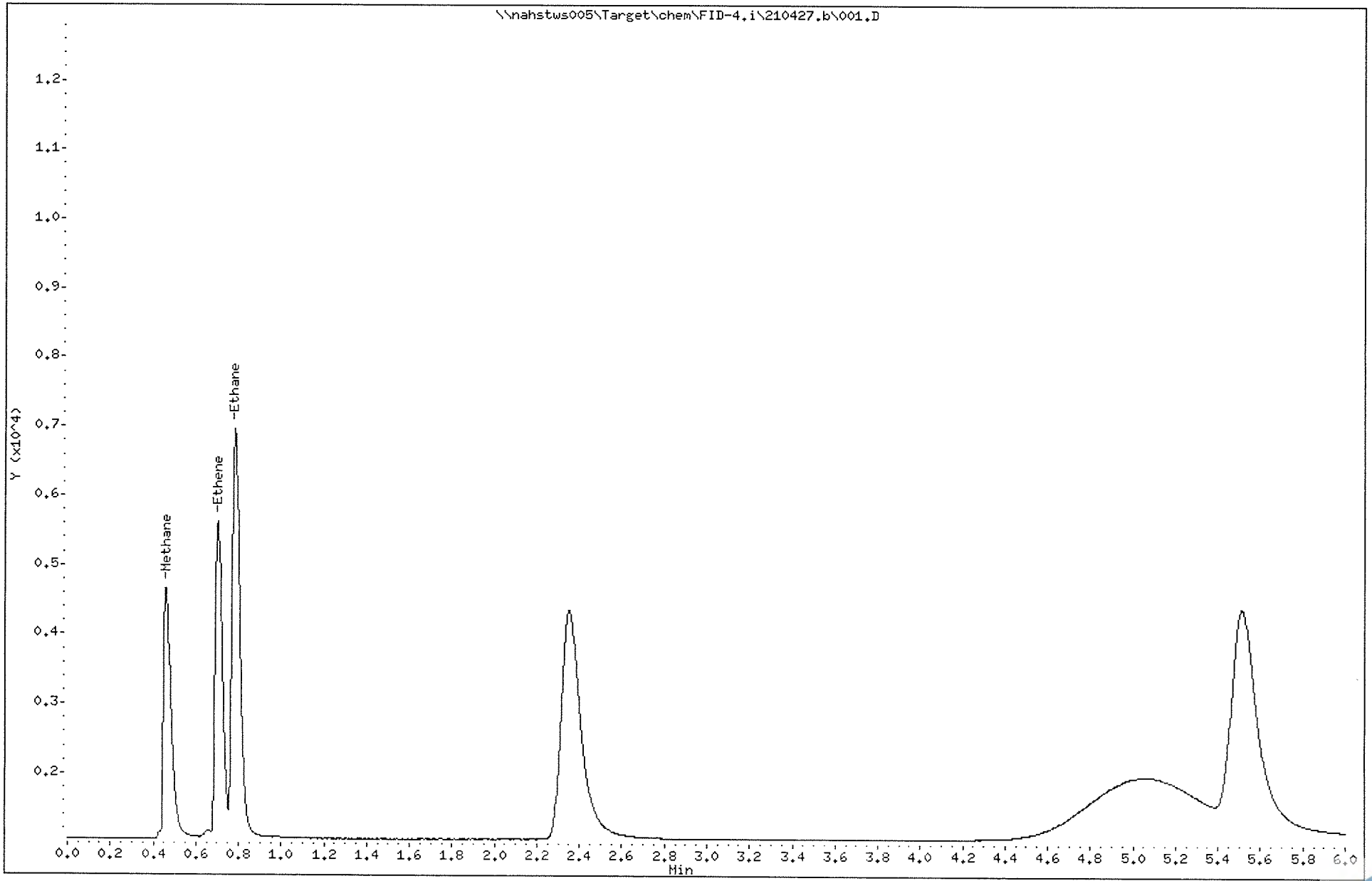
M - Compound response manually integrated.

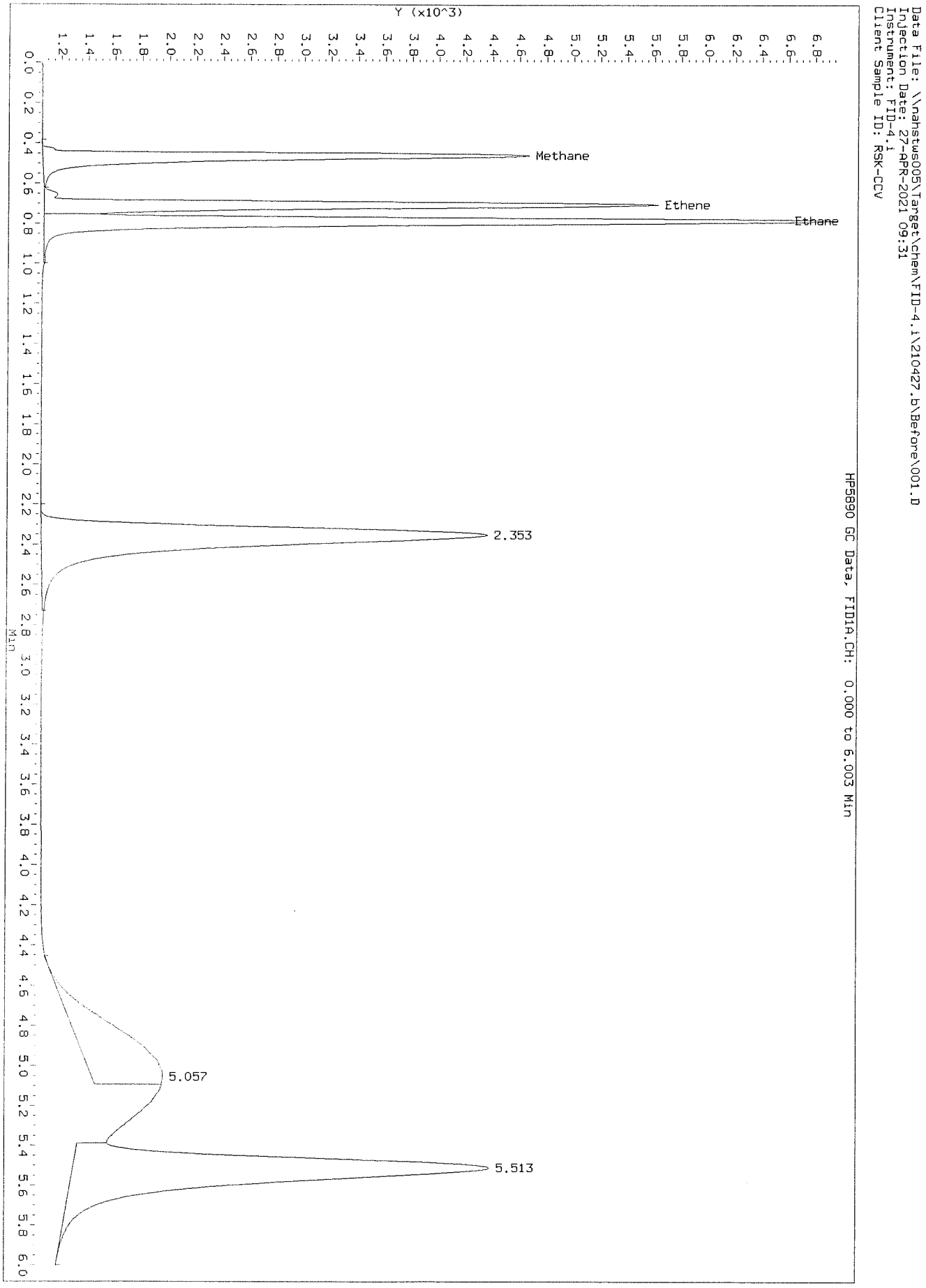
Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Date : 27-APR-2021 09:31
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

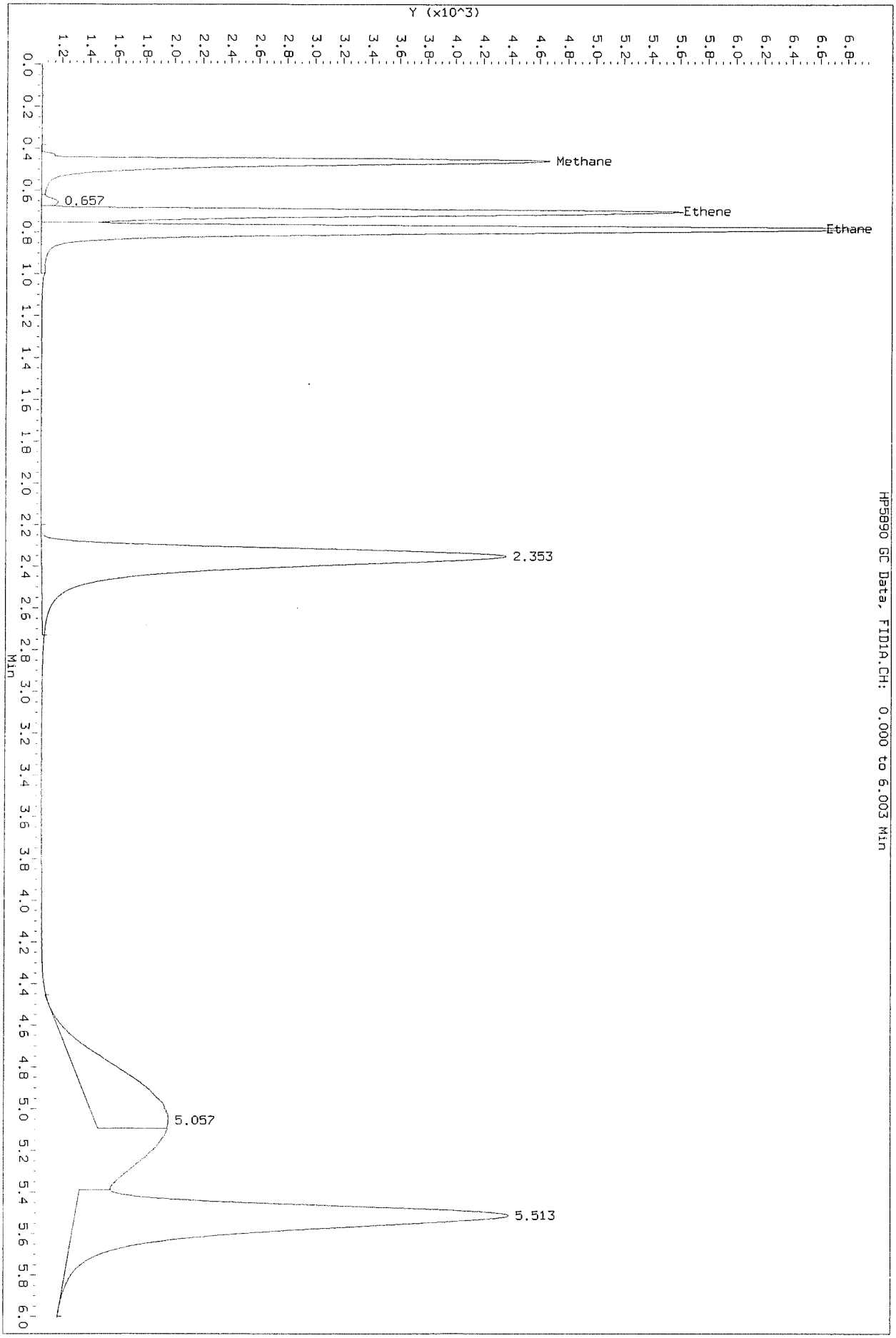
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\001.D
Injection Date: 27-APR-2021 09:31
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.353
5.057
5.513


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Injection Date: 27-APR-2021 09:31
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.657
Ethene
Ethane
2.353
5.057
5.513

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\002.D Page 1
Report Date: 20-May-2021 12:38

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\002.D
Lab Smp Id: MBLK-210427 Client Smp ID: MBLK-210427
Inj Date : 27-APR-2021 09:48
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-210427;MBLK-210427;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\002.D

Date : 27-APR-2021 09:48

Client ID: MBLK-210427

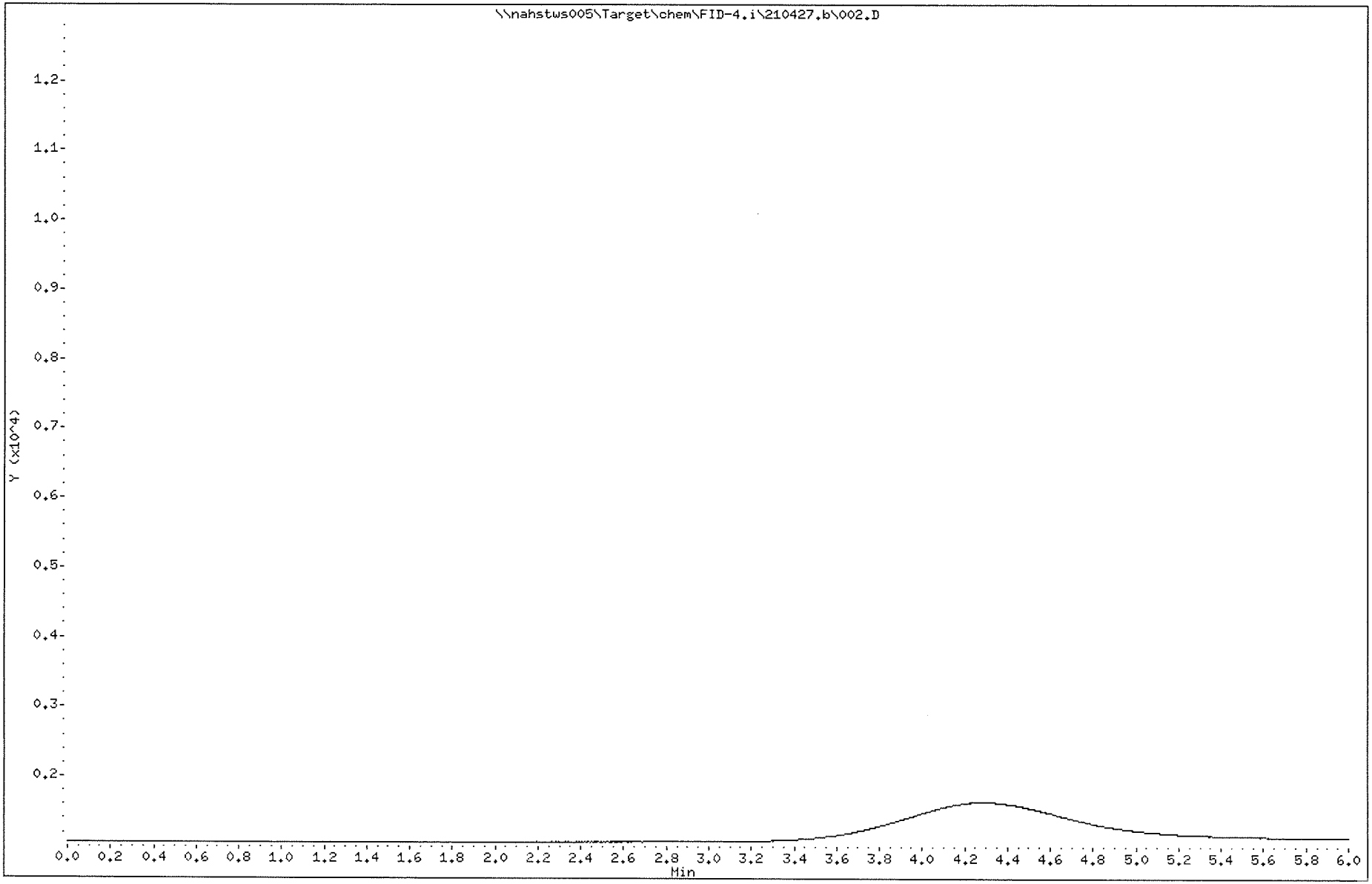
Instrument: FID-4.i

Sample Info: MBLK-210427;MBLK-210427;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\003.D
Lab Smp Id: LCS-210427 Client Smp ID: LCS-210427
Inj Date : 27-APR-2021 09:57
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-210427;LCS-210427;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.463	0.460	0.003	9127	9.36110	9.361
2 Ethene	0.706	0.703	0.003	10755	18.3607	18.360
3 Ethane	0.786	0.783	0.003	15384	21.3818	21.381

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\003.D

Date : 27-APR-2021 09:57

Client ID: LCS-210427

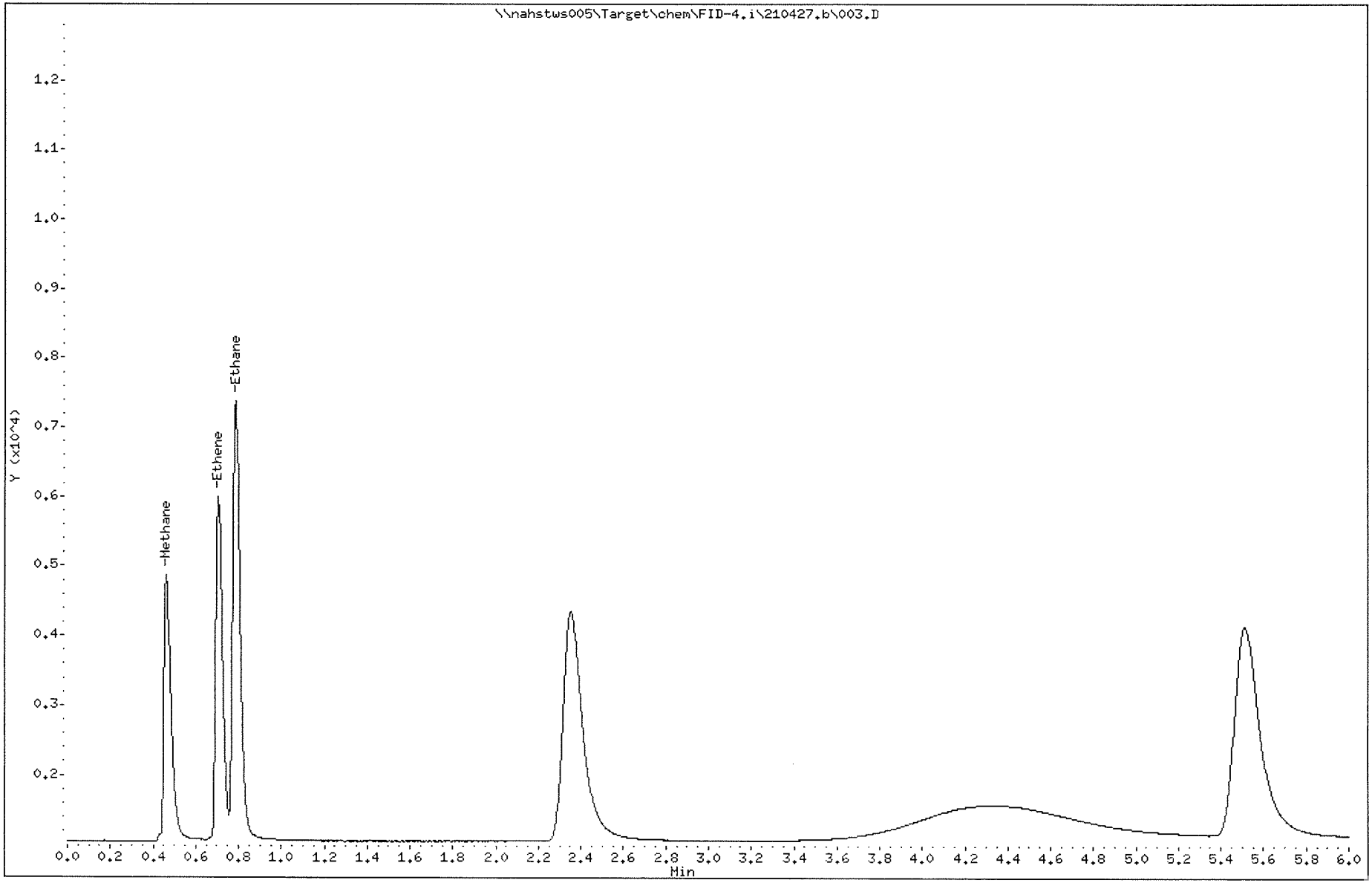
Instrument: FID-4.i

Sample Info: LCS-210427;LCS-210427;3;;LCS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\004.D
Lab Smp Id: LCSD-210427 Client Smp ID: LCSD-210427
Inj Date : 27-APR-2021 10:08
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-210427;LCSD-210427;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.470	0.460	0.010	9552	9.79700	9.797
2 Ethene	0.713	0.703	0.010	10416	17.7820	17.782(M)
3 Ethane	0.793	0.783	0.010	15025	20.8829	20.882

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\004.D

Date : 27-APR-2021 10:08

Client ID: LCSD-210427

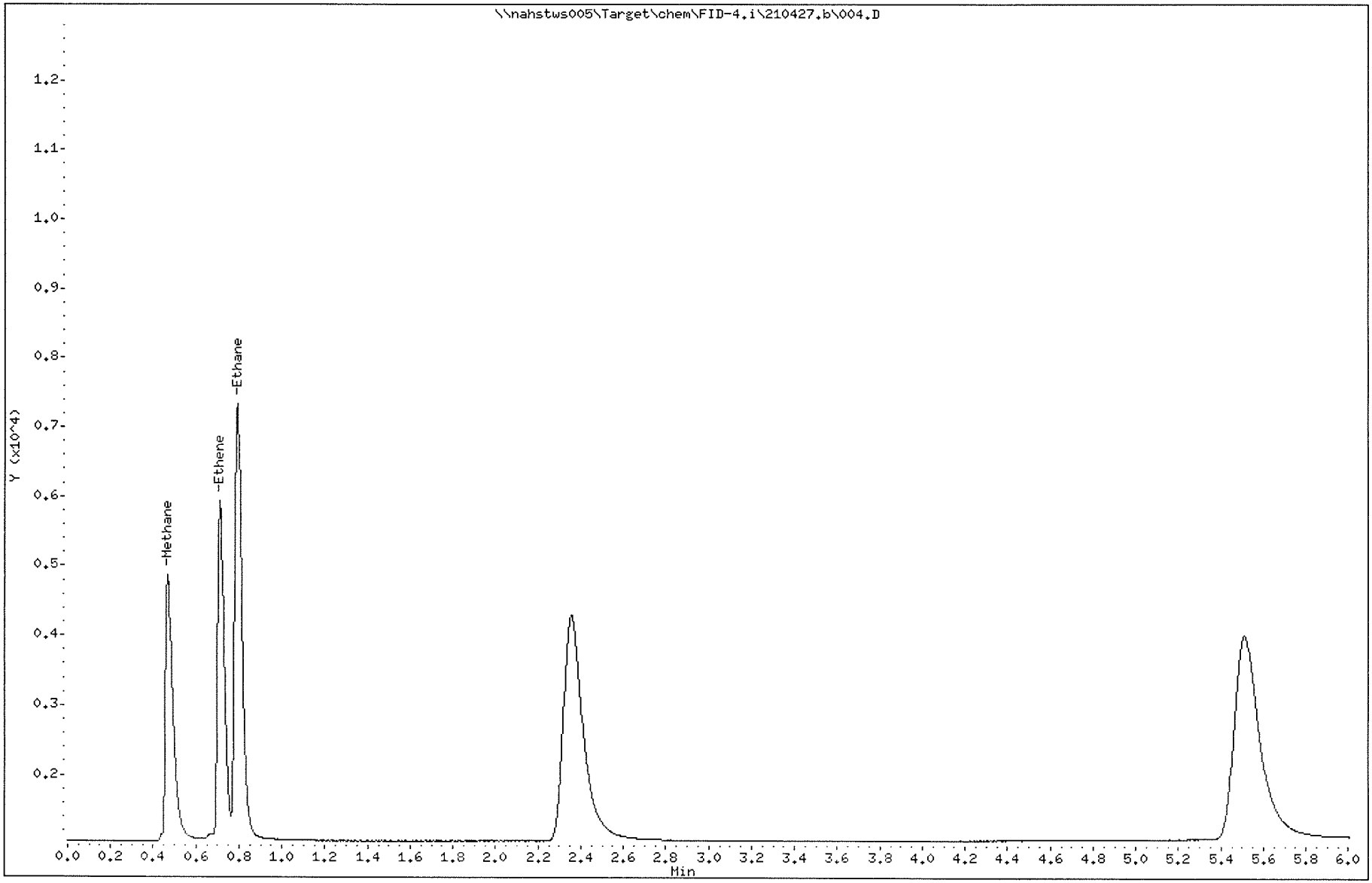
Instrument: FID-4.i

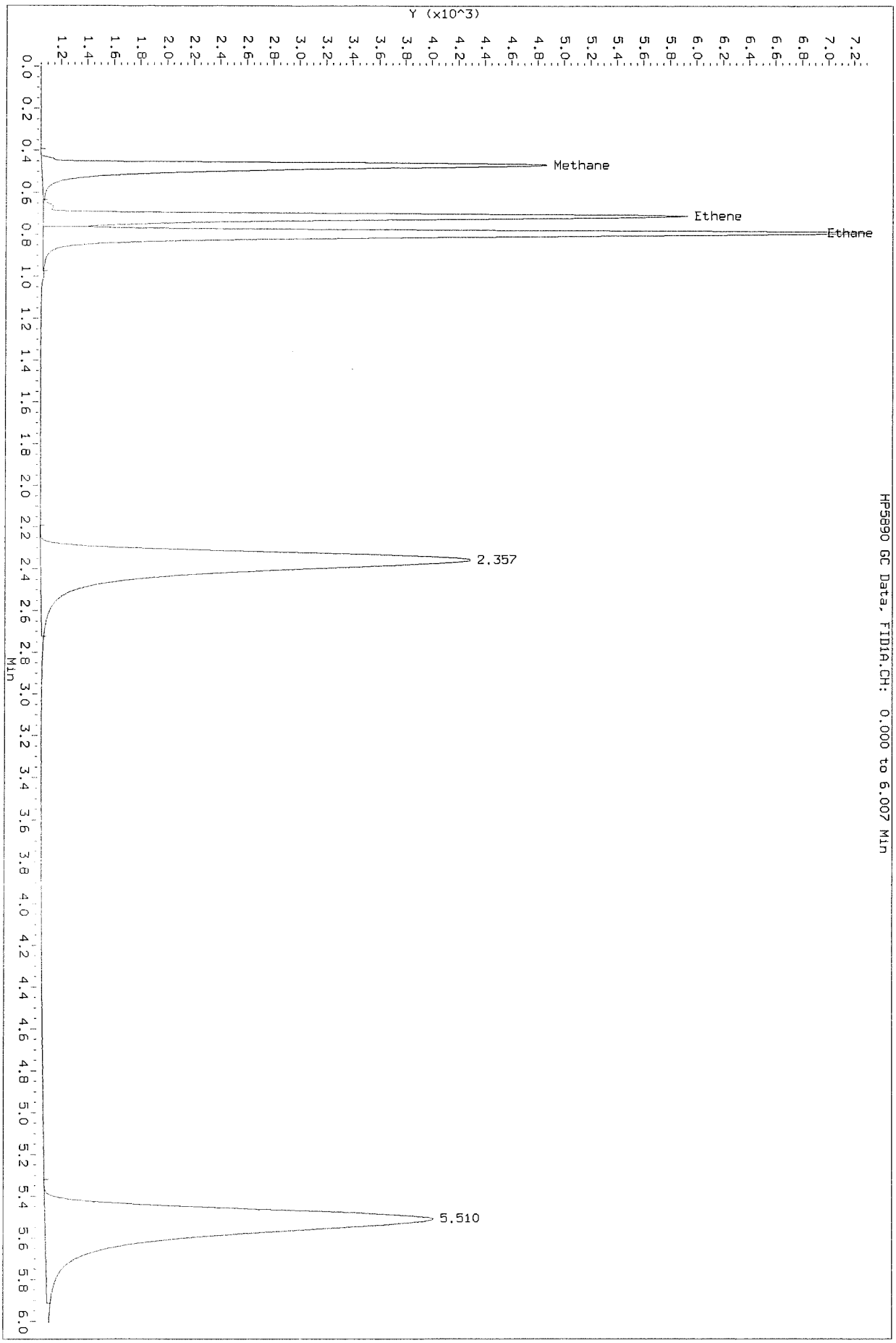
Sample Info: LCSD-210427;LCSD-210427;3;;LCSD

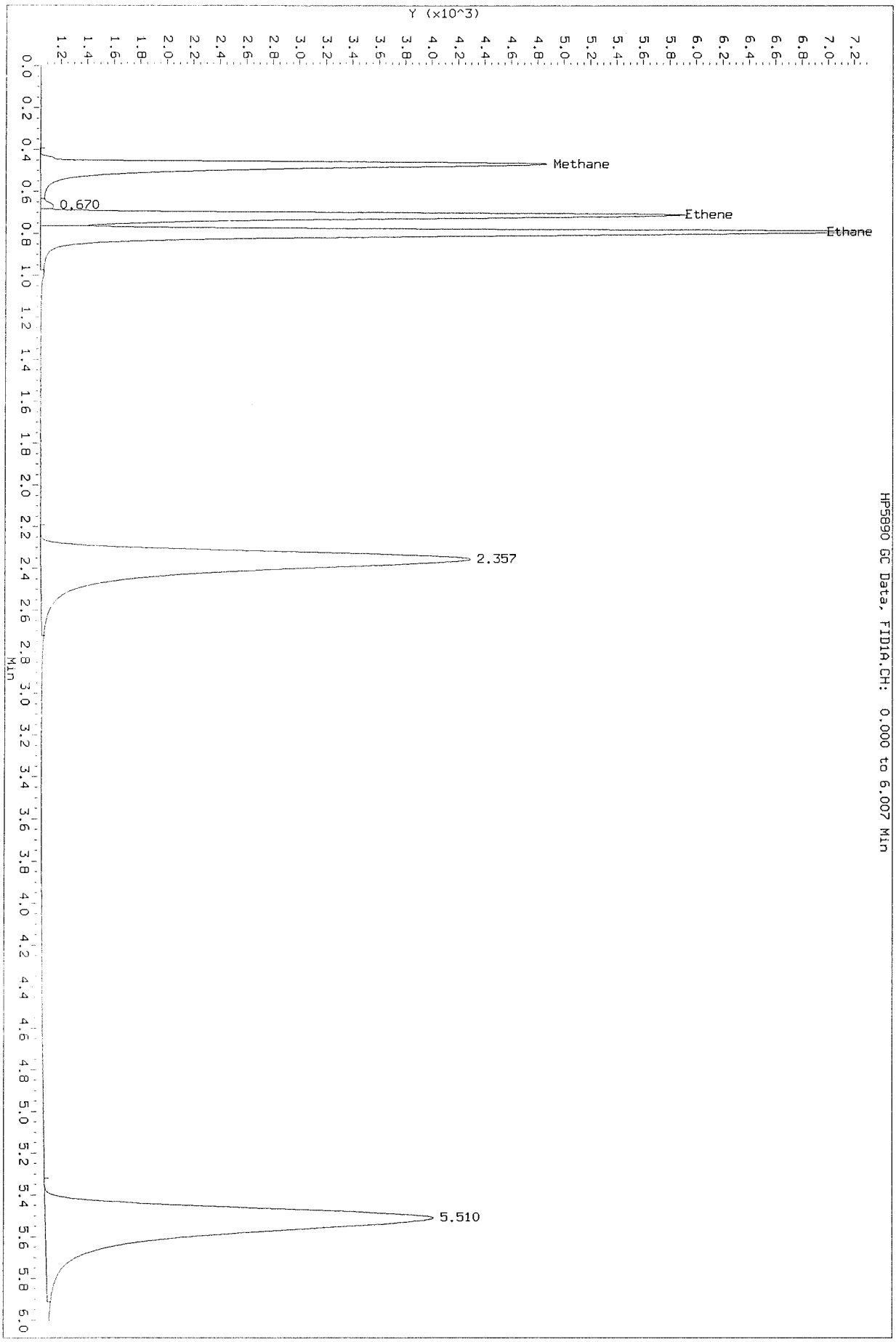
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\004.D
Injection Date: 27-APR-2021 10:08
Instrument: FID-4.i
Client Sample ID: LCSD-210427
HP5890 GC Data, FIDiA.CH: 0.000 to 6.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.357
5.510


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\004.D
Injection Date: 27-APR-2021 10:08
Instrument: FID-4.i
Client Sample ID: LCSD-210427
HP5890 GC Data, FID1A.CH: 0.000 to 6.007 Min
Y (x10^3)
Min
Methane
0.670
Ethene
Ethane
2.357
5.510

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\005.D
Lab Smp Id: HS21041132-05 Client Smp ID: HS21041132-05
Inj Date : 27-APR-2021 10:23
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041132-05;HS21041132-05
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.473	0.460	0.013	3361	3.44721	3.447 (M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\005.D

Date : 27-APR-2021 10:23

Client ID: HS21041132-05

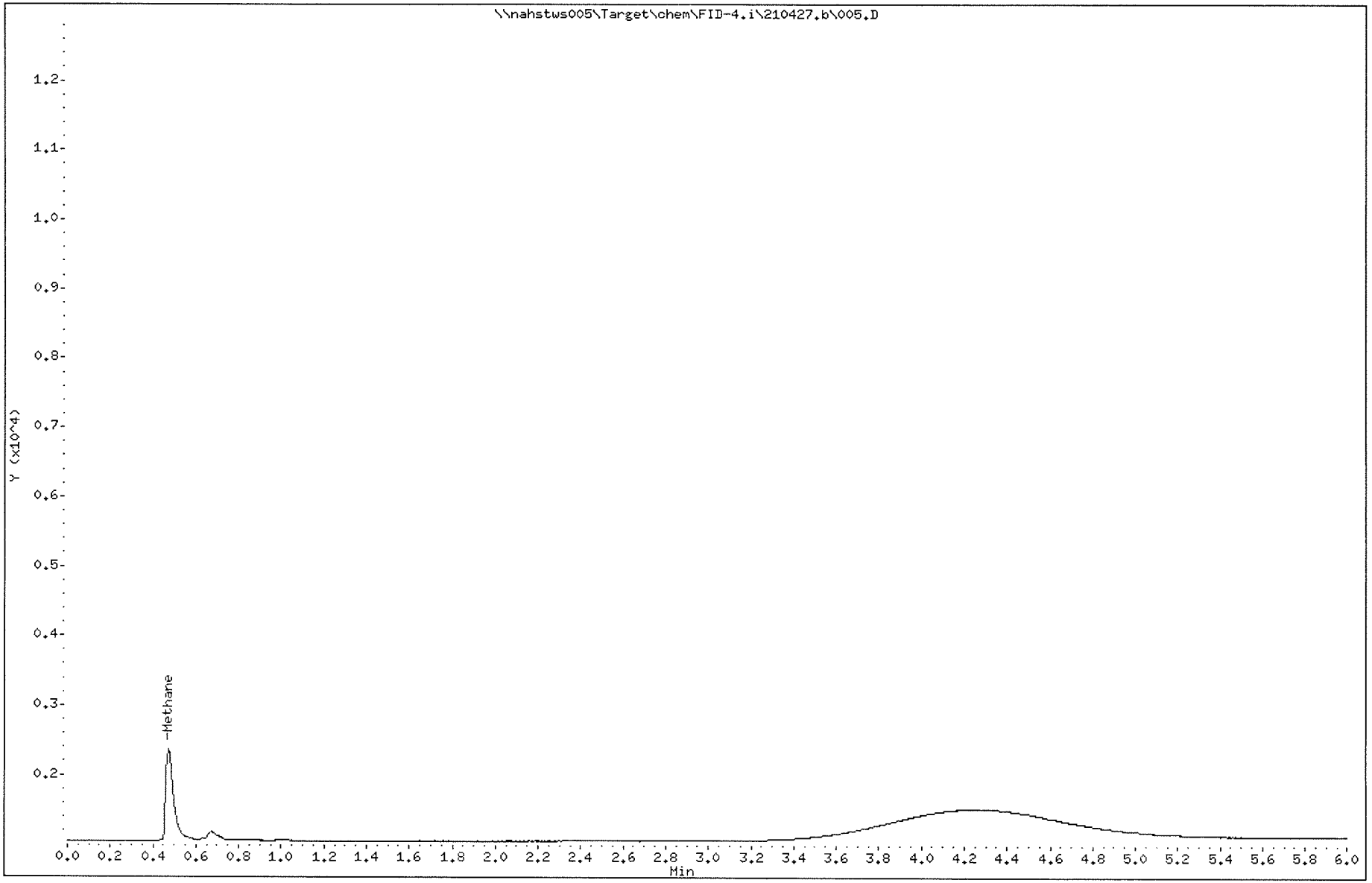
Instrument: FID-4.i

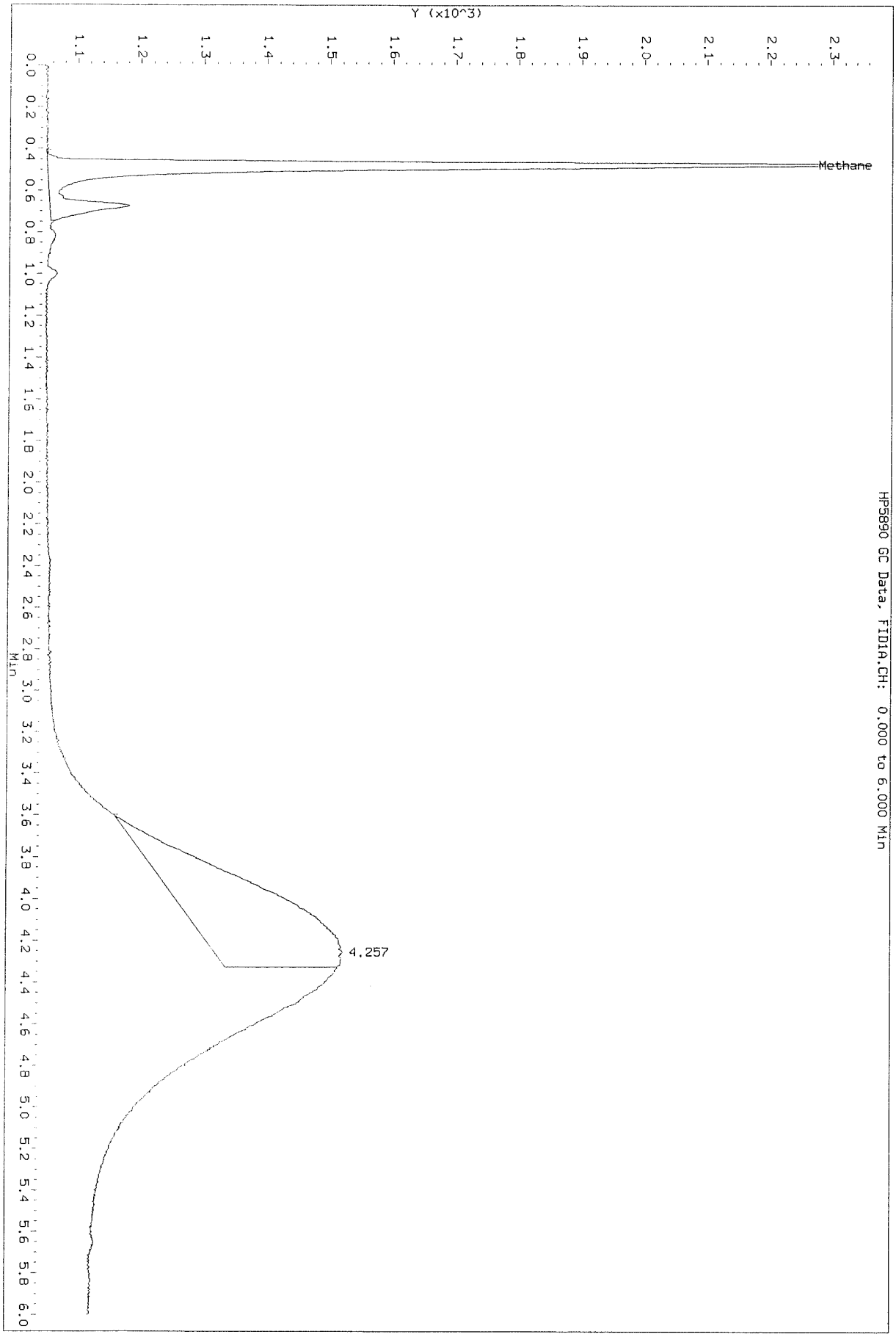
Sample Info: HS21041132-05;HS21041132-05

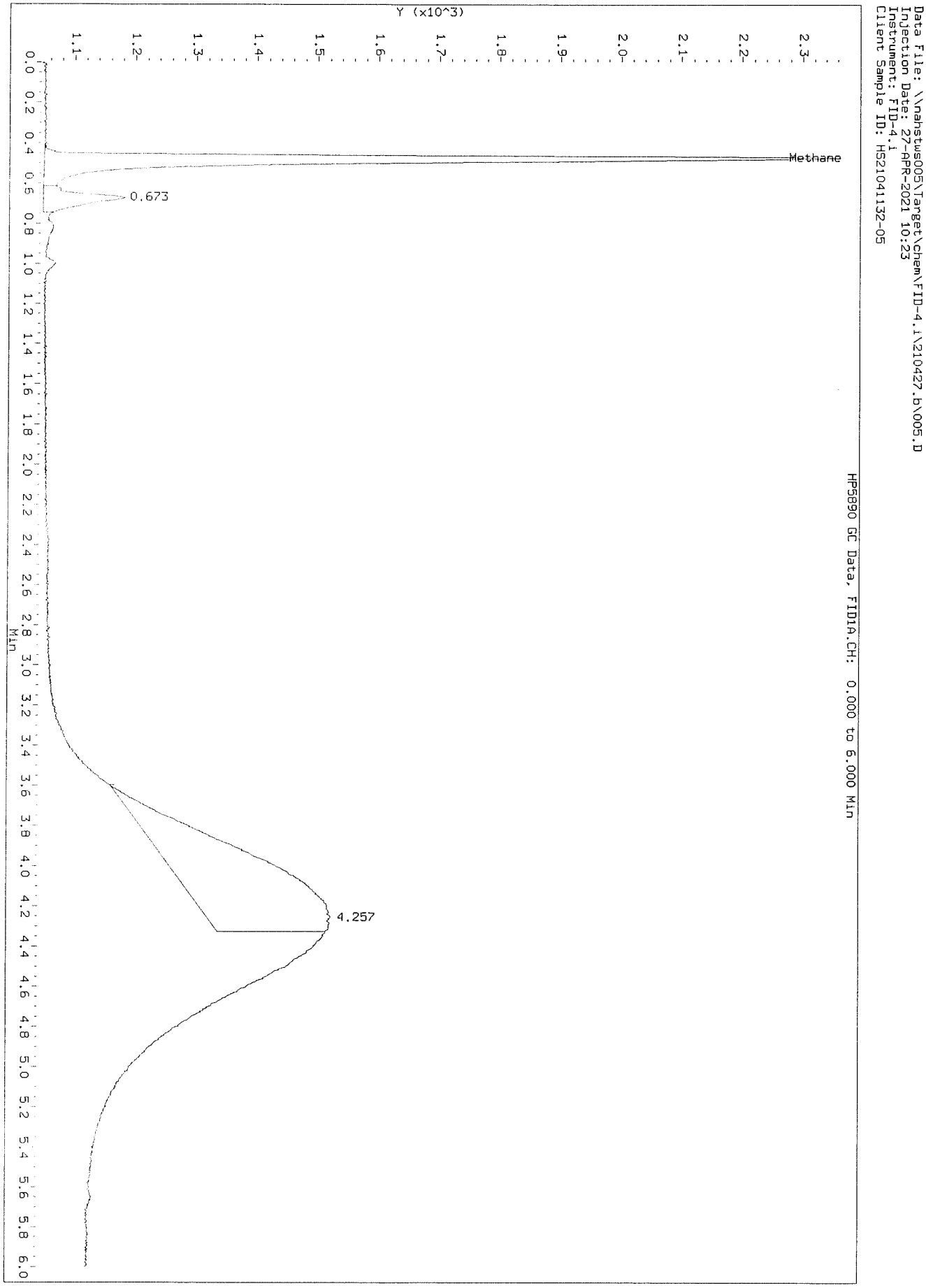
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\005.D
Injection Date: 27-APR-2021 10:23
Instrument: FID-4.i
Client Sample ID: HS21041132-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Methane
4.257
Min


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\005.D
Injection Date: 27-APR-2021 10:23
Instrument: FID-4.i
Client Sample ID: HS21041132-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Methane
0.673
4.257
Min

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\006.D
Lab Smp Id: HS21041132-05DUP Client Smp ID: HS21041132-05DUP
Inj Date : 27-APR-2021 10:35
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041132-05DUP;HS21041132-05DUP
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.470	0.460	0.010	3446	3.53439	3.534

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\006.D

Date : 27-APR-2021 10:35

Client ID: HS21041132-05DUP

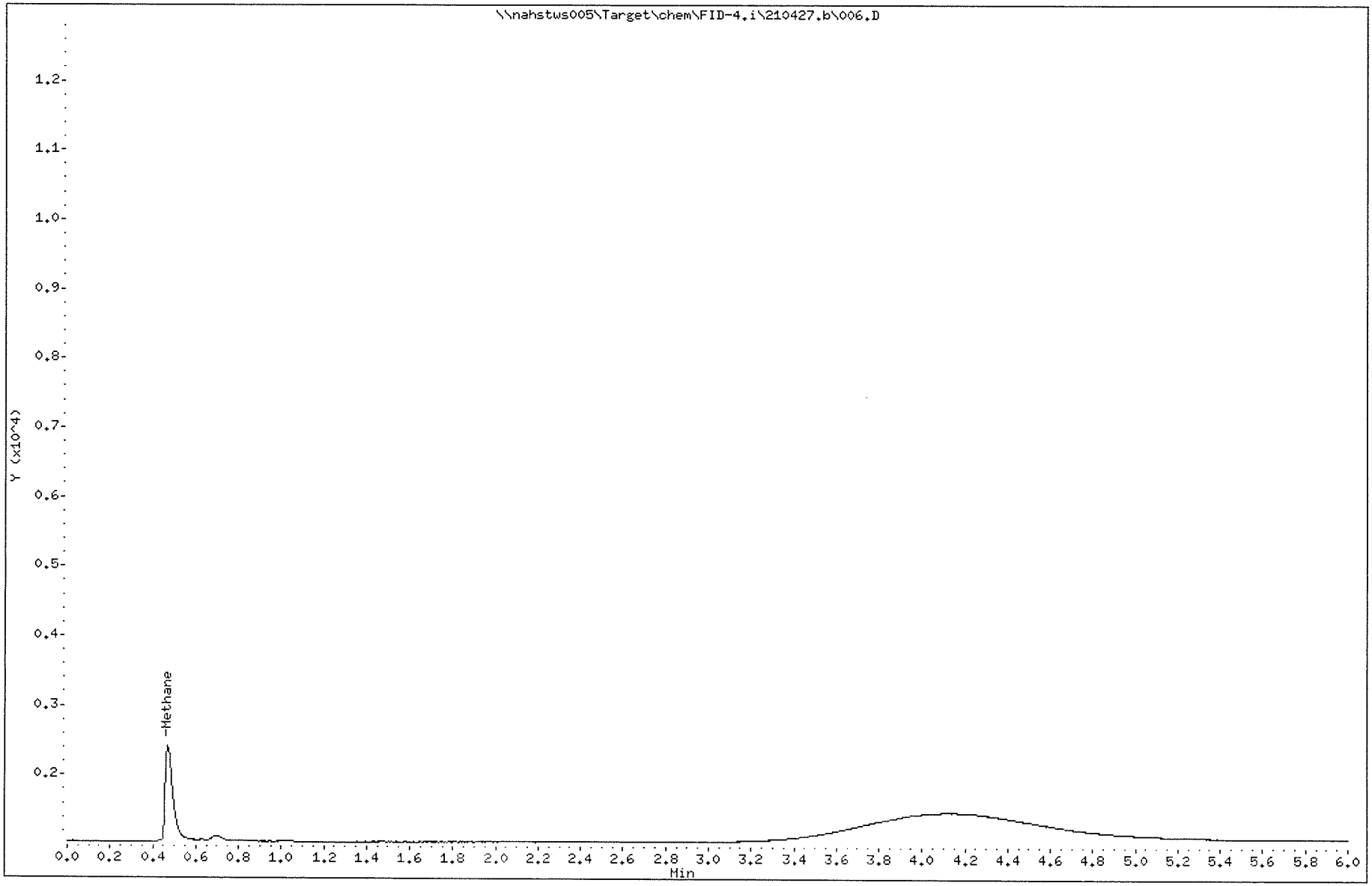
Instrument: FID-4.i

Sample Info: HS21041132-05DUP;HS21041132-05DUP

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 11:46
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.463	0.463	0.000	8960	9.64700	9.189
2 Ethene	0.710	0.710	0.000	10249	16.8500	17.496
3 Ethane	0.790	0.790	0.000	14727	18.0430	20.468

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\011.D

Date : 27-APR-2021 11:46

Client ID: RSK-CCV

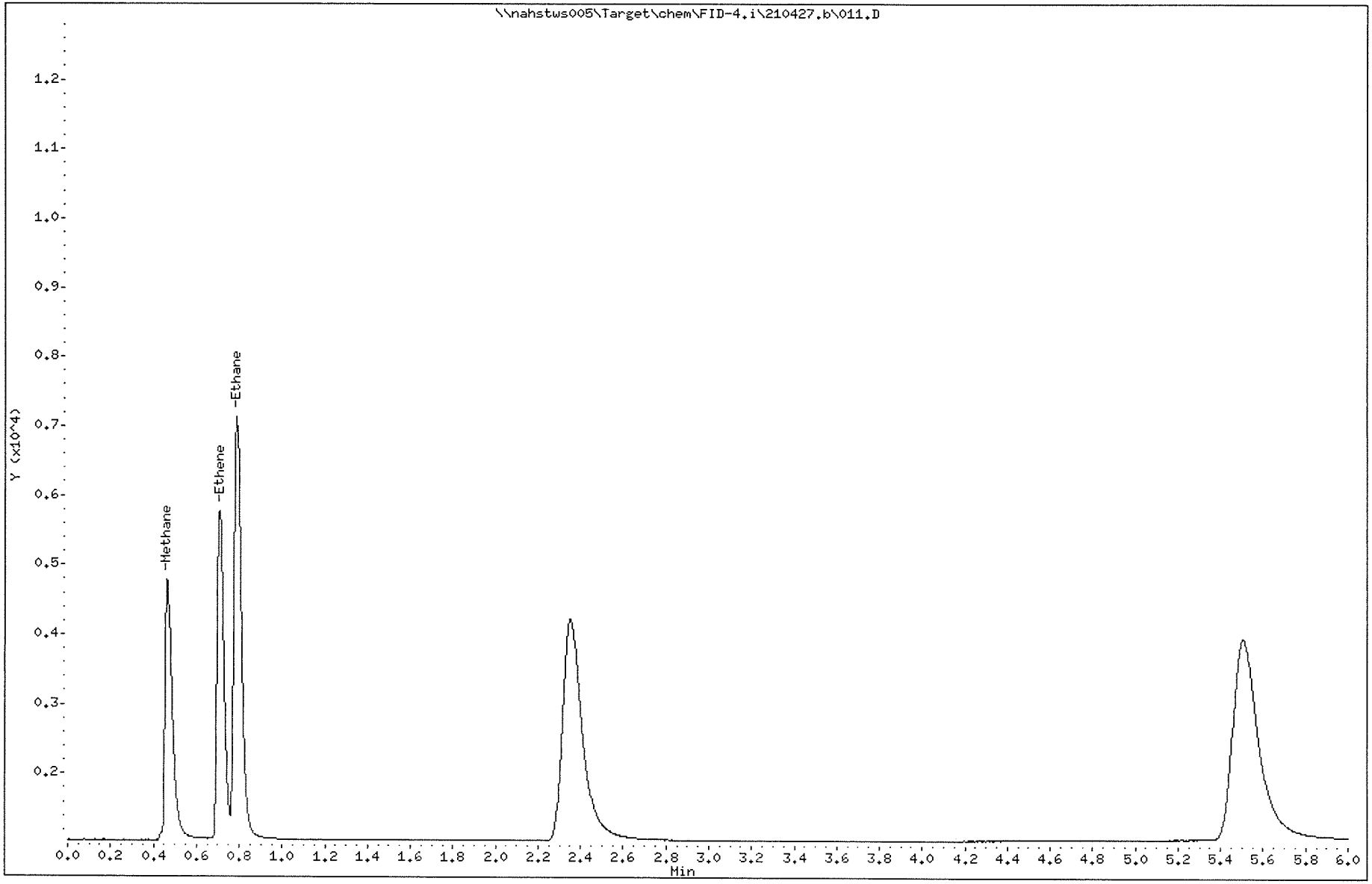
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



HS21041132 Wet Chem Raw Data (TOC_W 5310B)

ALS WO# HS21041132

C:\TOC-L\Data\2021_02_25_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result
1	Standard	NPOC	CAL	3150171(01-07)	02_25_2021_CAL.2021_02_	
2	Unknown	NPOC	ICV	315017108	02_25_2021_CAL.cal	NPOC:10.14mg/L
3	Unknown	NPOC	ICB		02_25_2021_CAL.cal	NPOC:-0.1140mg/L
4	Unknown	NPOC	CCV	315017106	02_25_2021_CAL.cal	NPOC:25.02mg/L
5	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:-0.07587mg/L
6	Unknown	NPOC	MBLK-02252021		02_25_2021_CAL.cal	NPOC:-0.1214mg/L
7	Unknown	NPOC	LCS-02252021		02_25_2021_CAL.cal	NPOC:10.15mg/L
8	Unknown	NPOC	LCSD02252021		02_25_2021_CAL.cal	NPOC:10.16mg/L
9	Unknown	NPOC	HS21020689-01		02_25_2021_CAL.cal	NPOC:22.48mg/L
10	Unknown	NPOC	HS21020689-02		02_25_2021_CAL.cal	NPOC:17.34mg/L
11	Unknown	NPOC	HS21020689-02MS		02_25_2021_CAL.cal	NPOC:28.25mg/L
12	Unknown	NPOC	HS21020689-03		02_25_2021_CAL.cal	NPOC:10.22mg/L
13	Unknown	NPOC	HS21020538-01		02_25_2021_CAL.cal	NPOC:20.36mg/L
14	Unknown	NPOC	HS21020538-02		02_25_2021_CAL.cal	NPOC:4.452mg/L
15	Unknown	NPOC	HS21020793-02DF10		02_25_2021_CAL.cal	NPOC:17.50mg/L
16	Unknown	NPOC	CCV		02_25_2021_CAL.cal	NPOC:25.46mg/L
17	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:0.08018mg/L

	Notes	Status	Date / Time	Vial
1		Completed	2/25/2021 1	1, 2, 3, 4, 5,
2		Completed	2/25/2021 1	8
3		Completed	2/25/2021 1	9
4		Completed	2/25/2021 1	10
5		Completed	2/25/2021 1	11
6		Completed	2/25/2021 1	12
7		Completed	2/25/2021 1	13
8		Completed	2/25/2021 1:	14
9		Completed	2/25/2021 1:	15
10		Completed	2/25/2021 1:	16
11		Completed	2/25/2021 1:	17
12		Completed	2/25/2021 2:	18
13		Completed	2/25/2021 2:	19
14		Completed	2/25/2021 2:	20
15		Completed	2/25/2021 2:	21
16		Completed	2/25/2021 3:	22
17		Completed	2/25/2021 3:	23

TOC-Control L Report

2021_02_25_001.tlx

Instr.Information

Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

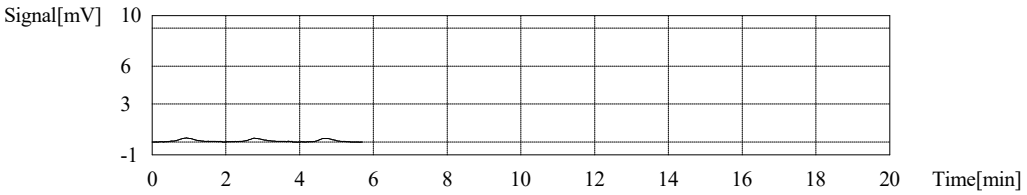
Sample Name:	CAL
Sample ID:	3150171(01-07)
Cal. Curve:	02_25_2021_CAL.2021_02_25_09_13_02.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.7577	50uL	1.000	*******		2/25/2021 9:21:39 AM
2	0.6368	50uL	1.000	*******		2/25/2021 9:23:47 AM
3	0.6500	50uL	1.000	*******		2/25/2021 9:25:55 AM

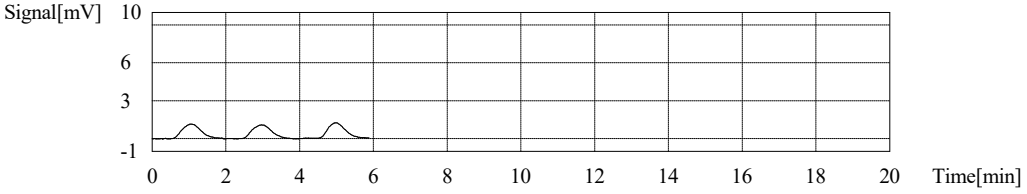
Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	0.6815



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.063	50uL	1.000	*******		2/25/2021 9:34:44 AM
2	3.946	50uL	1.000	*******		2/25/2021 9:37:02 AM
3	3.886	50uL	1.000	*******		2/25/2021 9:39:10 AM

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	3.965

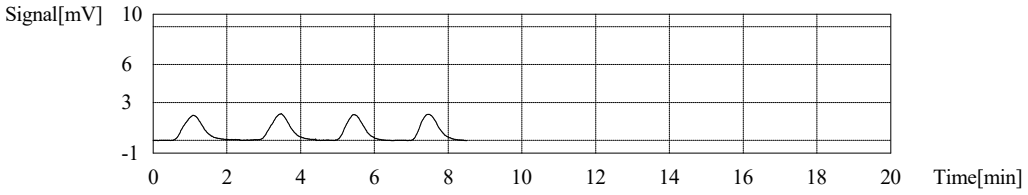


Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.014	50uL	1.000	*******		2/25/2021 9:48:25 AM
2	6.976	50uL	1.000	*******		2/25/2021 9:50:44 AM
3	6.738	50uL	1.000	*******	E	2/25/2021 9:53:02 AM
4	6.989	50uL	1.000	*******		2/25/2021 9:55:18 AM

TOC-Control L Report

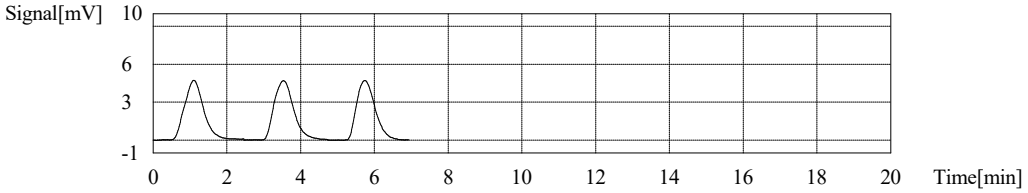
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.70	50uL	1.000	*******		2/25/2021 10:04:35 AM
2	16.99	50uL	1.000	*******		2/25/2021 10:07:06 AM
3	16.40	50uL	1.000	*******		2/25/2021 10:09:32 AM

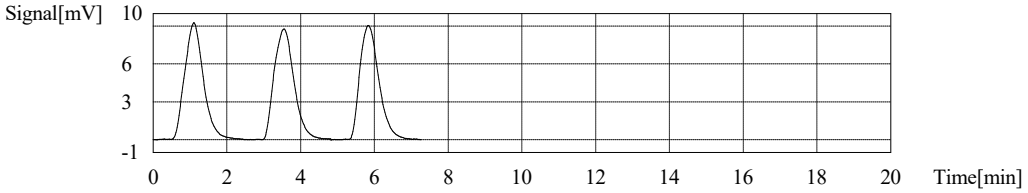
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	32.33	50uL	1.000	*******		2/25/2021 10:18:54 AM
2	32.41	50uL	1.000	*******		2/25/2021 10:21:29 AM
3	32.27	50uL	1.000	*******		2/25/2021 10:24:10 AM

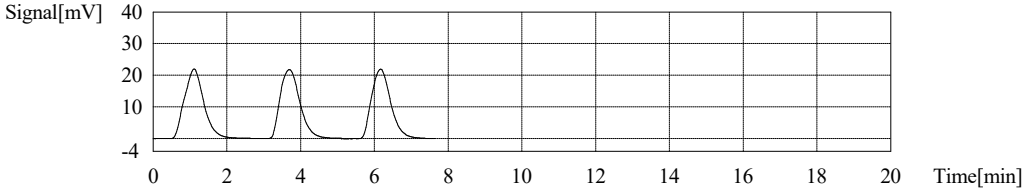
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	79.83	50uL	1.000	*******		2/25/2021 10:33:42 AM
2	80.51	50uL	1.000	*******		2/25/2021 10:36:25 AM
3	79.09	50uL	1.000	*******		2/25/2021 10:39:12 AM

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81



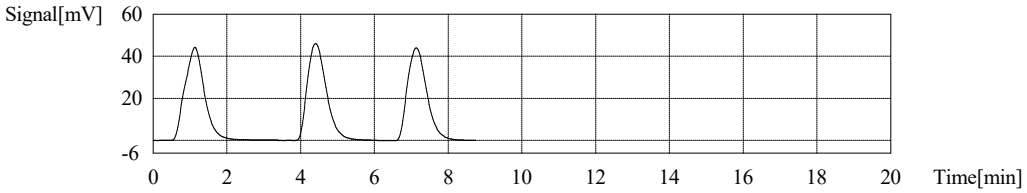
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	162.4	50uL	1.000	*******		2/25/2021 10:49:29 AM
2	163.8	50uL	1.000	*******		2/25/2021 10:52:26 AM
3	159.9	50uL	1.000	*******		2/25/2021 10:55:21 AM

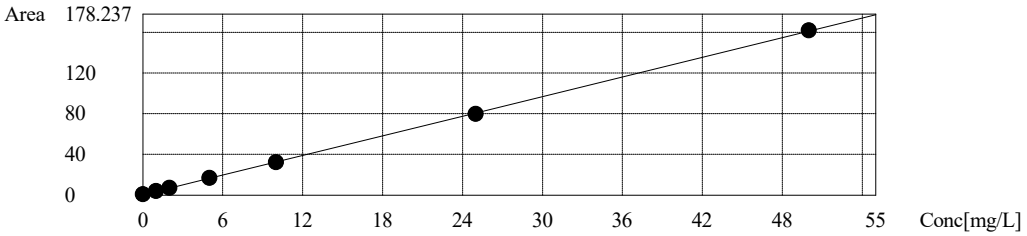
TOC-Control L Report

2021_02_25_001.tlx

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	162.0



Slope:	3.220
Intercept	0.4365
r^2	0.9999
r	1.0000
RSE(%)	N/A
Zero Shift	No



Sample

Sample Name:	ICV
Sample ID:	315017108
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

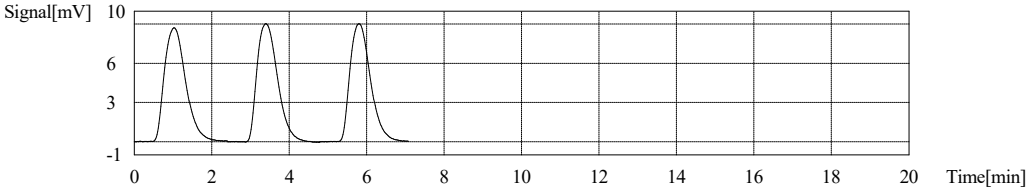
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.14mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.04	10.13mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:32:06 AM
2	33.24	10.19mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:34:44 AM
3	32.98	10.11mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:37:17 AM

Mean Area	33.09
Mean Conc.	10.14mg/L



Sample

Sample Name:	ICB
Sample ID:	
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1140mg/L

1. Det

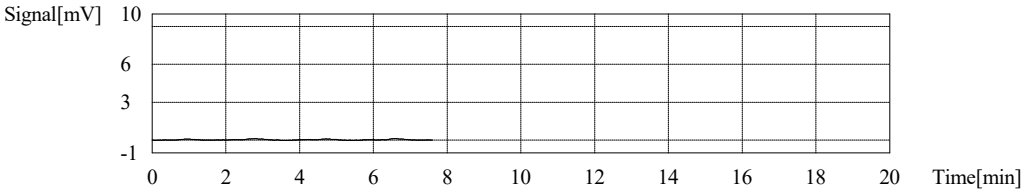
TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:46:05 AM
2	0.2080	-0.07096mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:48:13 AM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:50:20 AM
4	0.2102	-0.07028mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:52:27 AM

Mean Area 0.06933
Mean Conc. -0.1140mg/L



C:\TOC-L\Data\2021_04_30_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result	Notes	Status
1	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.03mg/L		Completed
2	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.08626mg/L		Completed
3	Unknown	NPOC	MBLK-04302021		02_25_2021	NPOC:-0.1203mg/L		Completed
4	Unknown	NPOC	LCS-04302021		02_25_2021	NPOC:9.507mg/L		Completed
5	Unknown	NPOC	LCSD-04302021	TOC_W 5310B	02_25_2021	NPOC:9.413mg/L		Completed
6	Unknown	NPOC	HS21041369-01		02_25_2021	NPOC:11.56mg/L		Completed
7	Unknown	NPOC	HS21041369-01MS		02_25_2021	NPOC:22.25mg/L		Completed
8	Unknown	NPOC	HS21041176-01		02_25_2021	NPOC:10.03mg/L		Completed
9	Unknown	NPOC	HS21041337-01		02_25_2021	NPOC:13.32mg/L		Completed
10	Unknown	NPOC	HS21041339-01		02_25_2021	NPOC:9.585mg/L		Completed
11	Unknown	NPOC	HS21041362-01		02_25_2021	NPOC:17.53mg/L		Completed
12	Unknown	NPOC	HS21041367-01		02_25_2021	NPOC:6.603mg/L		Completed
13	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.38mg/L		Completed
14	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02605mg/L		Completed
15	Unknown	NPOC	HS21041024-01		02_25_2021	NPOC:926.6mg/L		Completed
16	Unknown	NPOC	HS21041102-01		02_25_2021	NPOC:39.08mg/L		Completed
17	Unknown	NPOC	HS21041102-02		02_25_2021	NPOC:36.98mg/L		Completed
18	Unknown	NPOC	HS21041102-03		02_25_2021	NPOC:3.539mg/L		Completed
19	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:25.13mg/L		Completed
20	Unknown	NPOC	CCB		02_25_2021	NPOC:0.04909mg/L		Completed
21	Unknown	NPOC	MBLK2-04302021		02_25_2021	NPOC:-0.01664mg/L		Completed
22	Unknown	NPOC	LCS2-04302021		02_25_2021	NPOC:9.629mg/L		Completed
23	Unknown	NPOC	LCSD2-04302021	TOC_W 5310B	02_25_2021	NPOC:9.621mg/L		Completed
24	Unknown	NPOC	HS21041102-04		02_25_2021	NPOC:16.88mg/L		Completed
25	Unknown	NPOC	HS21041102-05		02_25_2021	NPOC:16.91mg/L		Completed
26	Unknown	NPOC	HS21041102-07		02_25_2021	NPOC:6.214mg/L		Completed
27	Unknown	NPOC	HS21041102-08		02_25_2021	NPOC:4.841mg/L		Completed
28	Unknown	NPOC	HS21041102-08MS		02_25_2021	NPOC:15.48mg/L		Completed
29	Unknown	NPOC	HS21041102-09		02_25_2021	NPOC:2.281mg/L		Completed
30	Unknown	NPOC	HS21041102-10		02_25_2021	NPOC:1738mg/L		Completed
31	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:26.43mg/L		Completed
32	Unknown	NPOC	CCB		02_25_2021	NPOC:0.1328mg/L		Completed
33	Unknown	NPOC	HS21041132-05		02_25_2021	NPOC:2.552mg/L		Completed
34	Unknown	NPOC	HS21041466-01		02_25_2021	NPOC:14.74mg/L		Completed
35	Unknown	NPOC	HS21041480-01		02_25_2021	NPOC:2.136mg/L		Completed
36	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.61mg/L		Completed
37	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.04789mg/L		Completed

	Date / Time	Vial
1	4/30/2021 4:	1
2	4/30/2021 4:	2
3	4/30/2021 4:	3
4	4/30/2021 4:	4
5	4/30/2021 5:	5
6	4/30/2021 5:	6
7	4/30/2021 5:	7
8	4/30/2021 5:	8
9	4/30/2021 6:	9
10	4/30/2021 6:	10
11	4/30/2021 6:	11
12	4/30/2021 6:	12
13	4/30/2021 7:	13
14	4/30/2021 7:	14
15	4/30/2021 7:	15
16	4/30/2021 8:	16
17	4/30/2021 8:	17
18	4/30/2021 8:	18
19	4/30/2021 8:	1
20	4/30/2021 9:	2
21	4/30/2021 9:	3
22	4/30/2021 9:	4
23	4/30/2021 9:	5
24	4/30/2021 1	19
25	4/30/2021 1	20
26	4/30/2021 1	21
27	4/30/2021 1	22
28	4/30/2021 1	23
29	4/30/2021 1	24
30	4/30/2021 1	25
31	5/1/2021 12:	13
32	5/1/2021 12:	14
33	5/1/2021 12:	26
34	5/1/2021 12:	27
35	5/1/2021 1:0	28
36	5/1/2021 1:1	1
37	5/1/2021 1:3	2

TOC-Control L Report

2021_04_30_001.tlx

Instr.Information

Instrument Options TOC/ASI/IC Unit/
Catalyst Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

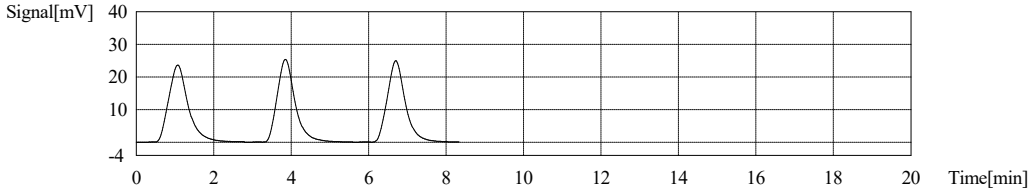
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.13mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.73	25.25mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 8:42:06 PM
2	81.65	25.22mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 8:45:09 PM
3	80.69	24.92mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 8:48:09 PM

Mean Area 81.36
Mean Conc. 25.13mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.04909mg/L

1. Det

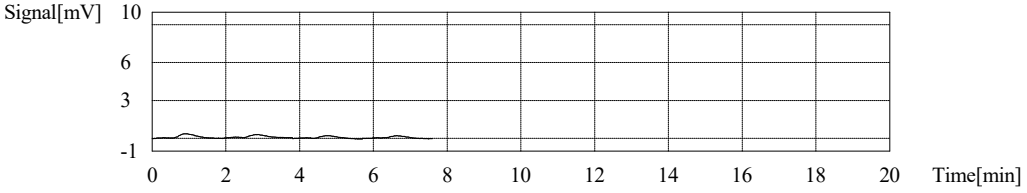
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.055	0.1921mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 8:56:57 PM
2	0.6319	0.06068mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 8:59:04 PM
3	0.6656	0.07115mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:01:13 PM
4	0.4862	0.01543mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:03:20 PM

TOC-Control L Report

2021_04_30_001.tlx

Mean Area 0.5946
Mean Conc. 0.04909mg/L



Sample

Sample Name: MBLK2-04302021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

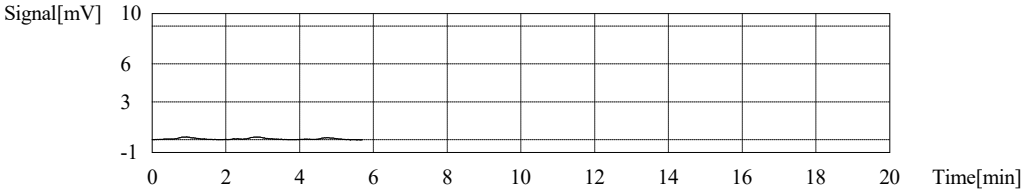
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.01664mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4250	-0.00357mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:12:03 PM
2	0.3857	-0.01578mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:14:10 PM
3	0.3381	-0.03056mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:16:17 PM

Mean Area 0.3829
Mean Conc. -0.01664mg/L



Sample

Sample Name: LCS2-04302021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.629mg/L

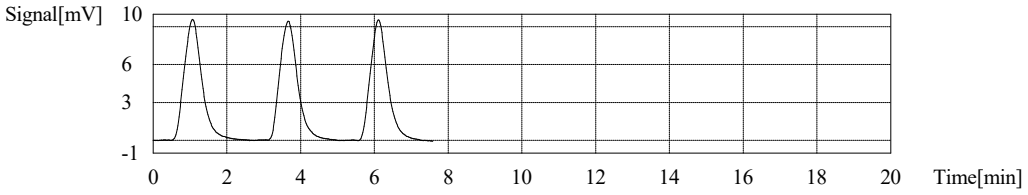
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.83	9.750mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:25:47 PM
2	31.32	9.591mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:28:27 PM
3	31.18	9.548mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:31:12 PM

TOC-Control L Report

Mean Area 31.44
Mean Conc. 9.629mg/L



Sample

Sample Name: LCSD2-04302021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

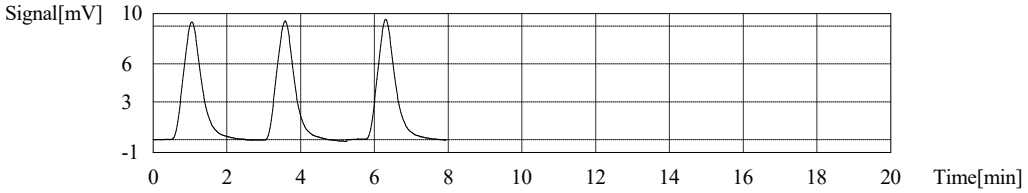
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.621mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.21	9.557mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:40:36 PM
2	31.79	9.737mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:43:34 PM
3	31.25	9.569mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 9:46:31 PM

Mean Area 31.42
Mean Conc. 9.621mg/L



Sample

Sample Name: HS21041102-08
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.841mg/L

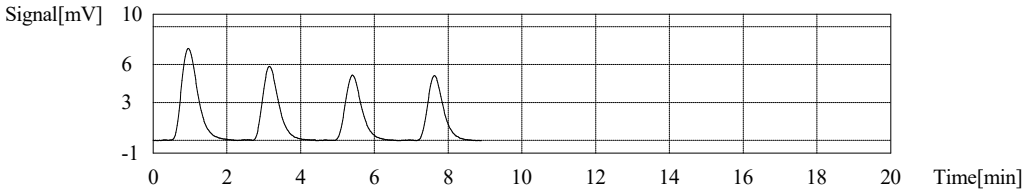
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	22.19	6.756mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 10:42:20 PM
2	17.33	5.246mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 10:44:49 PM
3	15.80	4.771mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 10:47:18 PM
4	14.94	4.504mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 10:49:47 PM

TOC-Control L Report

Mean Area 16.02
Mean Conc. 4.841mg/L



Sample

Sample Name: HS21041102-08MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

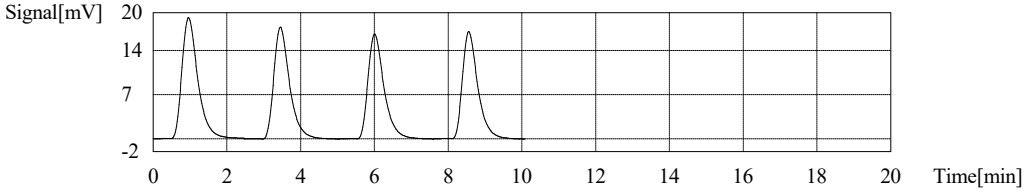
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:15.48mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	56.87	17.53mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 10:59:04 PM
2	52.43	16.15mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 11:01:53 PM
3	49.70	15.30mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 11:04:40 PM
4	48.76	15.01mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 11:07:22 PM

Mean Area 50.30
Mean Conc. 15.48mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.43mg/L

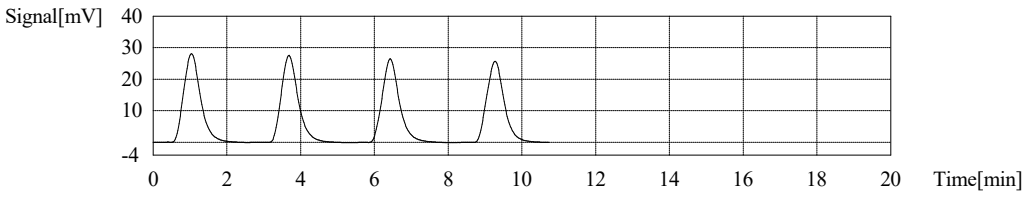
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	90.07	27.84mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 11:54:12 PM
2	87.64	27.08mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	4/30/2021 11:57:09 PM
3	85.43	26.40mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:00:15 AM
4	83.60	25.83mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:03:03 AM

TOC-Control L Report

Mean Area 85.56
Mean Conc. 26.43mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

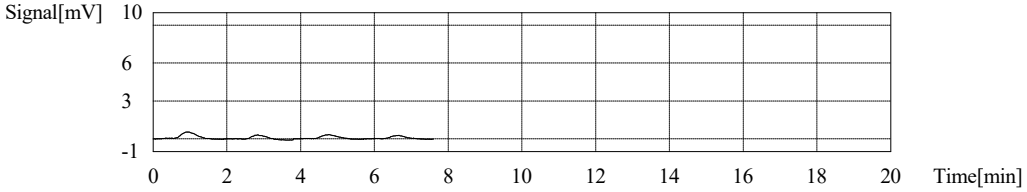
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1328mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.451	0.3151mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:11:46 AM
2	0.9733	0.1667mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:13:54 AM
3	0.9690	0.1654mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:16:03 AM
4	0.6505	0.06646mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:18:11 AM

Mean Area 0.8643
Mean Conc. 0.1328mg/L



Sample

Sample Name: HS21041132-05
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.552mg/L

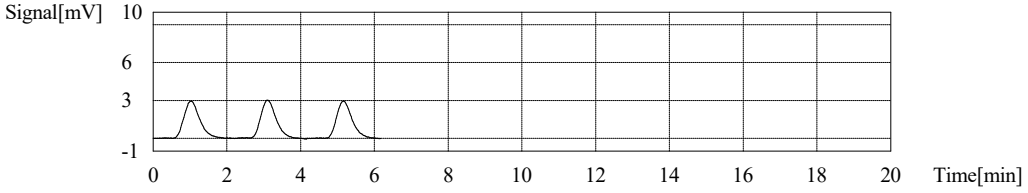
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.672	2.558mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:27:13 AM
2	8.705	2.568mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:29:31 AM
3	8.585	2.531mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 12:31:45 AM

TOC-Control L Report

Mean Area 8.654
Mean Conc. 2.552mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

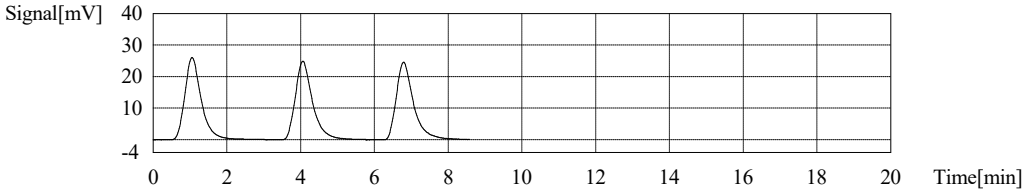
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.61mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	79.83	24.66mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 1:12:34 AM
2	80.13	24.75mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 1:15:34 AM
3	79.11	24.43mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 1:18:38 AM

Mean Area 79.69
Mean Conc. 24.61mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.04789mg/L

1. Det

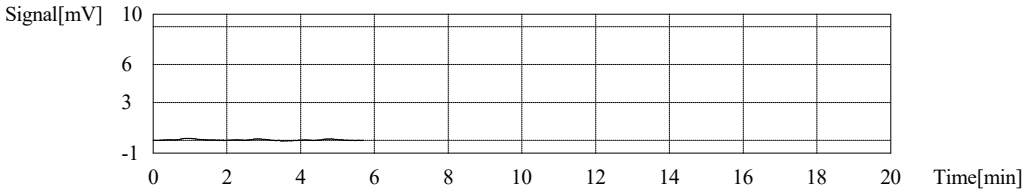
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2987	-0.04280mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 1:27:26 AM
2	0.3415	-0.02950mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 1:29:34 AM
3	0.2067	-0.07137mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/1/2021 1:31:42 AM

TOC-Control L Report

2021_04_30_001.tlx

Mean Area	0.2823
Mean Conc.	-0.04789mg/L



HS21041132 - Sub Perch Data IV (E2100460)

ALS WO# HS21041132

May 10, 2021 Service Request No:E2100460

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

Laboratory Results for: HS21041132

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 21, 2021
For your reference, these analyses have been assigned our service request number **E2100460.**

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.:**	E2100460
Project:	HS21041132	**Date Received:**	04/21/21
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

Eight samples were received for analysis at ALS Environmental in Houston on 04/21/21.

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:

EQ2100262: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch; MS/MSD was performed on an unrelated sample. 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:**E2100460
Project: HS21041132

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100460-001	16EW02-210419	4/19/2021	0735
E2100460-002	16EW04-210419	4/19/2021	0820
E2100460-003	16EW08-210419	4/19/2021	0905
E2100460-004	16WW13-210419	4/19/2021	0950
E2100460-005	16WW42-210419	4/19/2021	1030
E2100460-006	16RW05-210419	4/19/2021	1115
E2100460-007	16RW06-210419	4/19/2021	1200
E2100460-008	16RW07-210419	4/19/2021	1240

Service Request Summary

Folder #: **E2100460**
Client Name: ALS Environmental - US
Project Name: HS21041132
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: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041132
EDD: No EDD Specified

8 125 mL-Plastic Bottle Plastic
Location: SMO
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100460-001	16EW02-210419	Ground Water	04/19/21 0735	**IV**
E2100460-002	16EW04-210419	Ground Water	04/19/21 0820	**IV**
E2100460-003	16EW08-210419	Ground Water	04/19/21 0905	**IV**
E2100460-004	16WW13-210419	Ground Water	04/19/21 0950	**IV**
E2100460-005	16WW42-210419	Ground Water	04/19/21 1030	**IV**
E2100460-006	16RW05-210419	Ground Water	04/19/21 1115	**IV**
E2100460-007	16RW06-210419	Ground Water	04/19/21 1200	**IV**
E2100460-008	16RW07-210419	Ground Water	04/19/21 1240	**IV**

Service Request Summary

Folder #: **E2100460**
Client Name: ALS Environmental - US
Project Name: HS21041132
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: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041132
EDD: No EDD Specified

8 125 mL-Plastic Bottle Plastic
Location: SMO
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	8	Level II due 5/5, IV due 5/12

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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration 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	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
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: 15965**

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:	HS21041132
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041132-01**	**16EW02-210419**	**Groundwater**	**19 Apr 2021 07:35**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
2.	**HS21041132-02**	**16EW04-210419**	**Groundwater**	**19 Apr 2021 08:20**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
3.	**HS21041132-03**	**16EW08-210419**	**Groundwater**	**19 Apr 2021 09:05**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
4.	**HS21041132-04**	**16WW13-210419**	**Groundwater**	**19 Apr 2021 09:50**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
5.	**HS21041132-05**	**16WW42-210419**	**Groundwater**	**19 Apr 2021 10:30**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
6.	**HS21041132-06**	**16RW05-210419**	**Groundwater**	**19 Apr 2021 11:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
7.	**HS21041132-07**	**16RW06-210419**	**Groundwater**	**19 Apr 2021 12:00**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
8.	**HS21041132-08**	**16RW07-210419**	**Groundwater**	**19 Apr 2021 12:40**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 15965**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

Cooler Receipt Form

ALS Environmental

Project Chemist CA

Client/Project ALS-HI

Thermometer ID IR31

Date/Time Received: 4/12/21 Initials: CA Date/Time Logged in: 4/12/21 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client
2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ✓ No — 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		4/12/21	1440	CA	0.8	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100460-001	16EW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100460-002	16EW04-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100460-003	16EW08-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100460-004	16WW13-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100460-005	16WW42-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100460-006	16RW05-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100460-007	16RW06-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100460-008	16RW07-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100461-001	16SW01-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100461-002	16SW01-210419-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100461-003	16SW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100461-004	16SW03-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100464-001	16EW01-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100464-002	16EW03-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100464-003	16IW10-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100464-004	16RW11-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2100464-005	16RW11-210421-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2100464-006	16IW20-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
19	EQ2100262-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100262-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2100262-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2100262-04	16SW02-210419 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2100262-05	16SW02-210419 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100262-02	1.00µL	EQ2100262-03	1.00µL	EQ2100262-04	1.00µL	EQ2100262-05	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100460-001	100.00µL	E2100460-002	100.00µL	E2100460-003	100.00µL	E2100460-004	100.00µL	E2100460-005	100.00µL	E2100460-006	100.00µL
E2100460-007	100.00µL	E2100460-008	100.00µL	E2100461-001	100.00µL	E2100461-002	100.00µL	E2100461-003	100.00µL	E2100461-004	100.00µL
E2100464-001	100.00µL	E2100464-002	100.00µL	E2100464-003	100.00µL	E2100464-004	100.00µL	E2100464-005	100.00µL	E2100464-006	100.00µL
EQ2100262-01	100.00µL	EQ2100262-02	100.00µL	EQ2100262-03	100.00µL	EQ2100262-04	100.00µL	EQ2100262-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

Preparation Steps

Step: Preparation
Started: 4/30/21 12:02
Finished: 4/30/21 14:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0735
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16EW02-210419	**Units:**	µg/L
Lab Code:	E2100460-001	**Basis:**	As Received

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	**0.530**		0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:55	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0820
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16EW04-210419	**Units:**	µg/L
Lab Code:	E2100460-002	**Basis:**	As Received

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	4/30/21	4/30/21 20:05	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0905
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16EW08-210419	**Units:**	µg/L
Lab Code:	E2100460-003	**Basis:**	As Received

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	4/30/21	4/30/21 20:14	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 0950
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16WW13-210419	**Units:**	µg/L
Lab Code:	E2100460-004	**Basis:**	As Received

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	**0.292**		0.100	0.0500	0.0250	1	4/30/21	4/30/21 20:23	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1030
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16WW42-210419	**Units:**	µg/L
Lab Code:	E2100460-005	**Basis:**	As Received

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	4/30/21	4/30/21 20:33	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1115
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16RW05-210419	**Units:**	µg/L
Lab Code:	E2100460-006	**Basis:**	As Received

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	0.200	0.100	0.0500	2	4/30/21	5/1/21 14:29	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1200
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16RW06-210419	**Units:**	µg/L
Lab Code:	E2100460-007	**Basis:**	As Received

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	1.00	0.500	0.250	10	4/30/21	5/10/21 10:49	378426	722771	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	4/19/21 1240
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16RW07-210419	**Units:**	µg/L
Lab Code:	E2100460-008	**Basis:**	As Received

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	**1.00**		0.100	0.0500	0.0250	1	4/30/21	4/30/21 21:10	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100262-01	**Basis:**	As Received

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	4/30/21	4/30/21 19:08	378426	722218	

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132
Sample Matrix: Ground Water

Service Request: E2100460
Date Analyzed: 4/30/21

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: As Received

Extraction Lot: 378426

	Lab Control Sample EQ2100262-02			Duplicate Lab Control Sample EQ2100262-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0976	0.100	98	0.0984	0.100	98	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:**	E2100460
Project:	HS21041132	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-02	**Basis:**	As Received

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	**0.0976**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:18	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100460
Project:	HS21041132	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-03	**Basis:**	As Received

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	**0.0984**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:27	378426	722218	

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

20210428

1st Review: Grivera
2nd Review: Kneir

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20210428_044	Perchlorate6850b.lcm	1x	☒	3100808-05	4/28/2021 18:16
2	PERCHLORATE2		20210428_045	Perchlorate6850b.lcm	1x	☒	3100808-06	4/28/2021 18:25
3	PERCHLORATE3		20210428_046	Perchlorate6850b.lcm	1x	☒	3100808-07	4/28/2021 18:34
4	PERCHLORATE4		20210428_047	Perchlorate6850b.lcm	1x	☒	3100808-08	4/28/2021 18:44
5	PERCHLORATE5		20210428_048	Perchlorate6850b.lcm	1x	☒	3100808-09	4/28/2021 18:53
6	PERCHLORATE6		20210428_049	Perchlorate6850b.lcm	1x	☒	3100809-01	4/28/2021 19:03
7	PERCHLORATE7		20210428_050	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 19:12
8	PERCHLORATE8		20210428_051	Perchlorate6850b.lcm	1x	☒	3100809-03	4/28/2021 19:22
9	PERCHLORATE9		20210428_052	Perchlorate6850b.lcm	1x	☒	3100809-04	4/28/2021 19:31
10	PERCHLORATEICV		20210428_054	Perchlorate6850b.lcm	1x	☒	3100809-06	4/28/2021 19:50
11	ICS		20210428_055	Perchlorate6850b.lcm	1x	☒		4/28/2021 19:59
12	LODV		20210428_056	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:08
13	PERCHLORATE7		20210428_057	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 20:18
14	EQ2100244-01		20210428_058	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:27
15	EQ2100244-02		20210428_059	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:37
16	EQ2100244-03		20210428_060	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:46
17	E2100412-016X10		20210428_061	Perchlorate6850b.lcm	10X	☒		4/28/2021 20:55
18	E2100412-017X10		20210428_062	Perchlorate6850b.lcm	10X	☒		4/28/2021 21:05
19	E2100412-011X10DNU		20210428_063	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:14
20	E2100412-012X10DNU		20210428_064	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:24
21	E2100412-013X10DNU		20210428_065	Perchlorate6850b.lcm	10X	☒	Over ICAL: Run 50X	4/28/2021 21:33
22	E2100412-014X10DNU		20210428_066	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:42
23	E2100412-015X10DNU		20210428_067	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:52
24	PERCHLORATE7		20210428_068	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:01
25	E2100411-001		20210428_069	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:10
26	E2100412-003X10		20210428_070	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:20
27	E2100412-010X10		20210428_071	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:29
28	R2103214-010		20210428_072	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:38
29	PERCHLORATE7		20210428_073	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:48
30	E2100485-002X10		20210428_074	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:57
31	E2100485-003X10		20210428_075	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:07
32	E2100485-007X10		20210428_076	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:16
33	E2100485-010X10		20210428_077	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:25
34	EQ2100244-04X10DNU		20210428_078	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:35
35	EQ2100244-05X10DNU		20210428_079	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:44
36	PERCHLORATE7		20210428_080	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 23:54
37	E2100485-001		20210428_081	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:03
38	E2100485-004		20210428_082	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:12
39	E2100485-005		20210428_083	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:22
40	E2100485-006DNU		20210428_084	Perchlorate6850b.lcm	1x	☒	DNU: INST failed	4/29/2021 0:31
41	PERCHLORATE7		20210428_085	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 0:40
42	E2100485-008		20210428_086	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:50
43	E2100485-009		20210428_087	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:59
44	E2100485-011		20210428_088	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:09
45	E2100485-012DNU		20210428_089	Perchlorate6850b.lcm	1x	☒	DNU-low INST	4/29/2021 1:18
46	E2100485-013		20210428_090	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:27
47	EQ2100244-04		20210428_091	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:37
48	EQ2100244-05		20210428_092	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:46
49	PERCHLORATE7		20210428_093	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 1:56
50								
51								

Initial Calibration - Detailed Report

Calibration ID: EC2100026 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2100026-01	PERCHLORATE1	20210428_044	04/28/2021 18:16
02	EC2100026-02	PERCHLORATE2	20210428_045	04/28/2021 18:25
03	EC2100026-03	PERCHLORATE3	20210428_046	04/28/2021 18:34
04	EC2100026-04	PERCHLORATE4	20210428_047	04/28/2021 18:44
05	EC2100026-05	PERCHLORATE5	20210428_048	04/28/2021 18:53
06	EC2100026-06	PERCHLORATE6	20210428_049	04/28/2021 19:03
07	EC2100026-07	PERCHLORATE7	20210428_050	04/28/2021 19:12
08	EC2100026-08	PERCHLORATE8	20210428_051	04/28/2021 19:22
10	EC2100026-10	PERCHLORATE9	20210428_052	04/28/2021 19:31

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

Perchlorate **Average RF** **RSD = 13.94** **Average RF = 0.1168**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1516	02	0.5000	0.1269	03	0.7000	0.1246	04	1.0000	0.1032
05	2.0000	0.1172	06	5.0000	0.1124	07	10.0000	0.1144	08	20.0000	0.09843
10	30.0000	0.1026									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.130	29.8	02	0.5000	0.543	8.6	03	0.7000	0.746	6.6
04	1.0000	0.883	-11.7	05	2.0000	2.01	0.3	06	5.0000	4.81	-3.8
07	10.0000	9.79	-2.1	08	20.0000	16.9	-15.7	10	30.0000	26.4	-12.1

Initial Calibration Verification Summary Report

Calibration ID:	EC2100026	**Instrument ID:**	E-LCMS-01
Datafile ID:	20210428_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2100026-09	T	Average RF	10	9.455	ng/mL	-5.4	<= 15

Insight Report

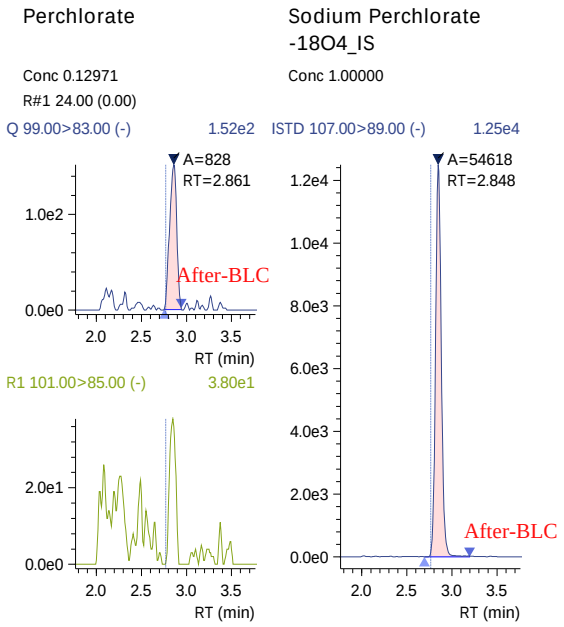
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Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.861	828	54618	1	0.12971	ng/mL	0.1000	24.00
Sodium Perchlorate-18O4 _IS	M	2.848	54618	54618	1	1.00000	ng/mL	1.0000	----



Insight Report

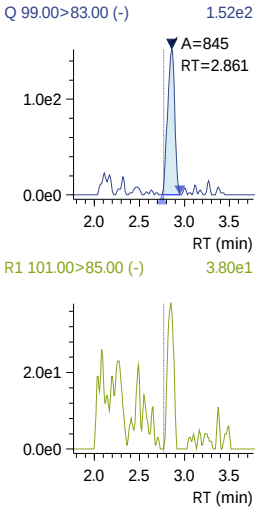
Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

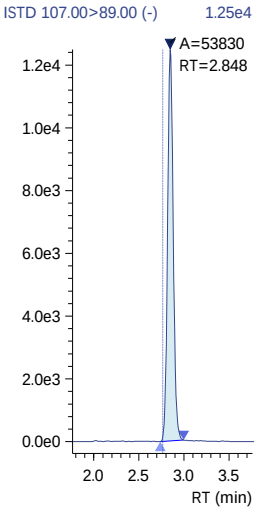
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



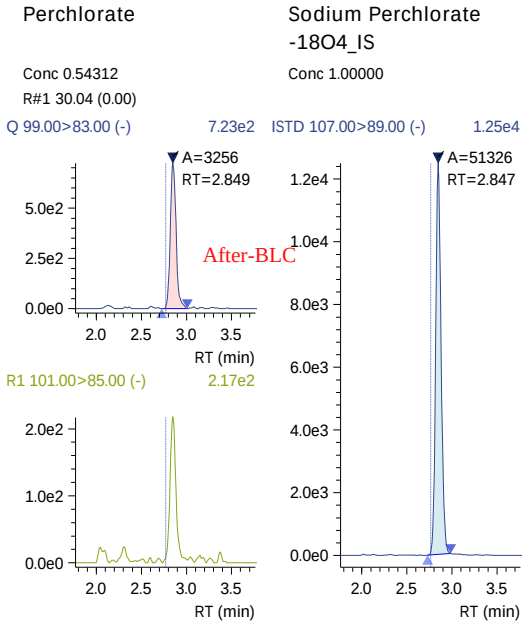
Insight Report

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20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	3256	51326	1	0.54312	ng/mL	0.5000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.847	51326	51326	1	1.00000	ng/mL	1.0000	----



Insight Report

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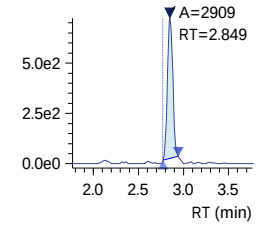
20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

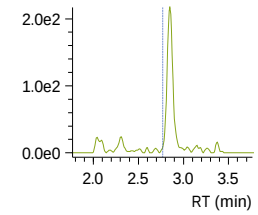
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



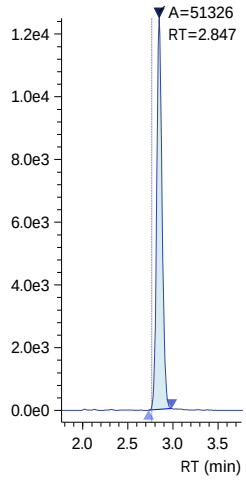
R1 101.00>85.00 (-) 2.17e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



Insight Report

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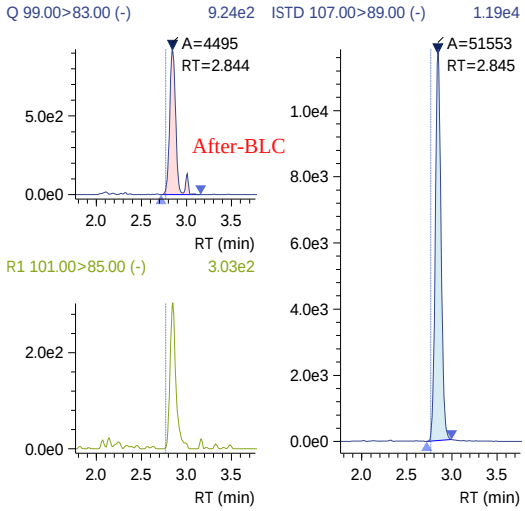
20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.844	4495	51553	1	0.74640	ng/mL	0.7000	31.37
Sodium Perchlorate-18O4 _IS	Auto	2.845	51553	51553	1	1.00000	ng/mL	1.0000	----

Perchlorate

Conc 0.74640
R#1 31.37 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

Printed at 4/29/2021 1:28:28 PM

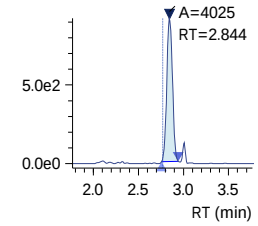
20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

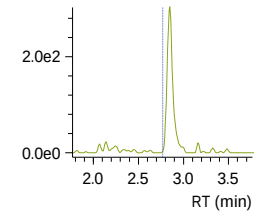
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



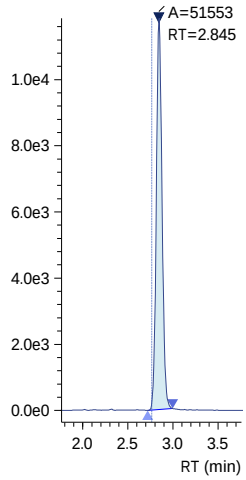
R1 101.00>85.00 (-) 3.03e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



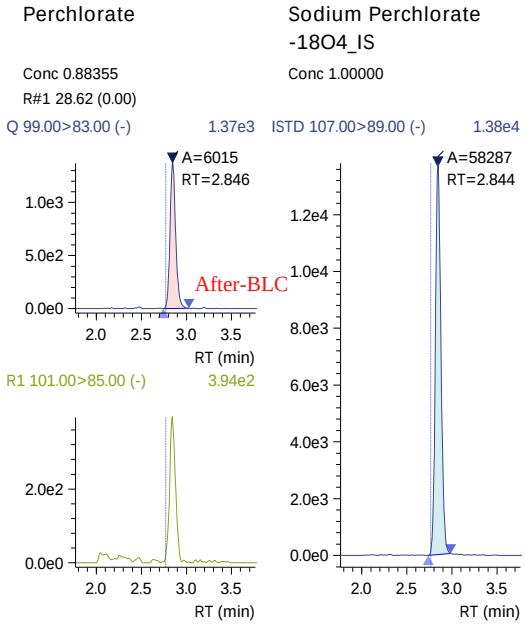
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.846	6015	58287	1	0.88355	ng/mL	1.0000	28.62
Sodium Perchlorate-18O4 _IS	Auto	2.844	58287	58287	1	1.00000	ng/mL	1.0000	----



Insight Report

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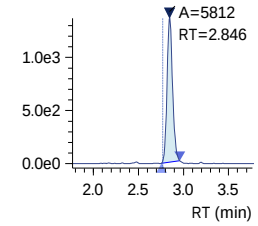
20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

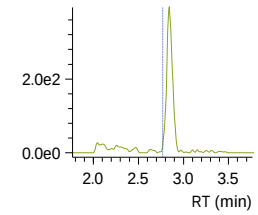
Perchlorate

Conc 0.86245
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.37e3



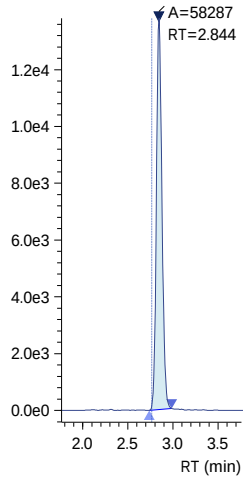
R1 101.00>85.00 (-) 3.94e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



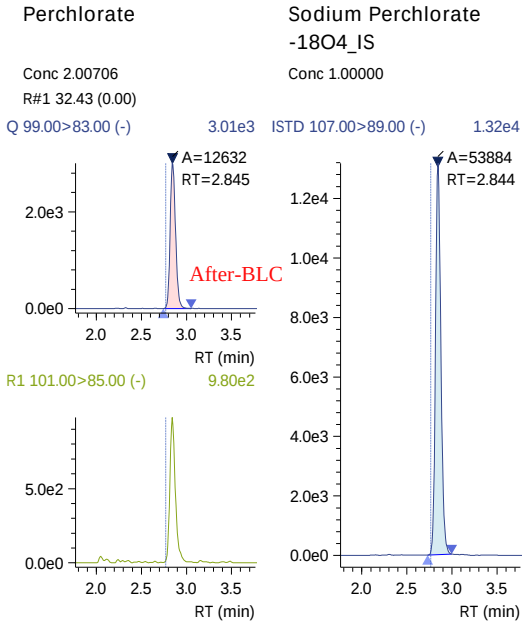
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	12632	53884	1	2.00706	ng/mL	2.0000	32.43
Sodium Perchlorate-18O4 _IS	Auto	2.844	53884	53884	1	1.00000	ng/mL	1.0000	----



Insight Report

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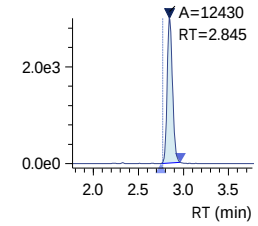
20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

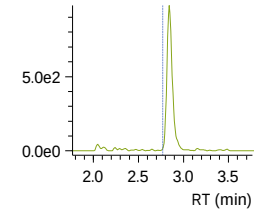
Perchlorate

Conc 1.99532
R#1 32.28 (0.00)

Q 99.00>83.00 (-) 3.01e3



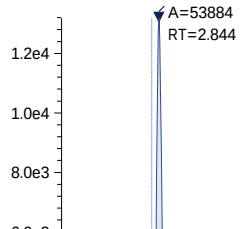
R1 101.00>85.00 (-) 9.80e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.32e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

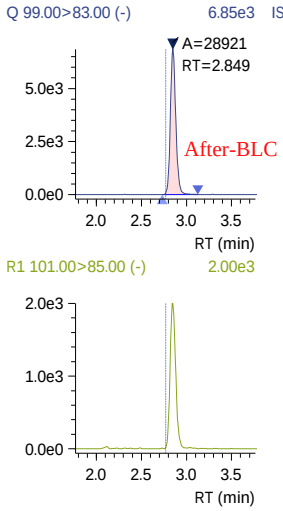
20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	28921	51456	1	4.81188	ng/mL	5.0000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.846	51456	51456	1	1.00000	ng/mL	1.0000	----

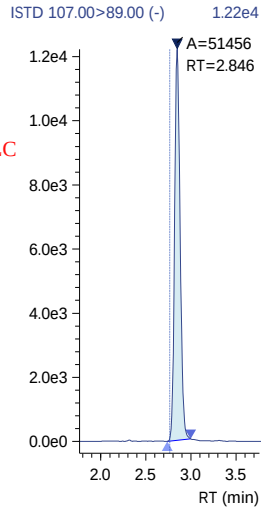
Perchlorate

Conc 4.81188
R#1 30.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

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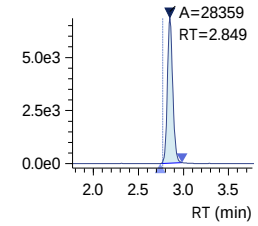
20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

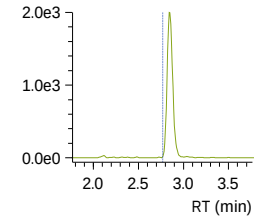
Perchlorate

Conc 4.76710
R#1 30.13 (0.00)

Q 99.00>83.00 (-) 6.85e3



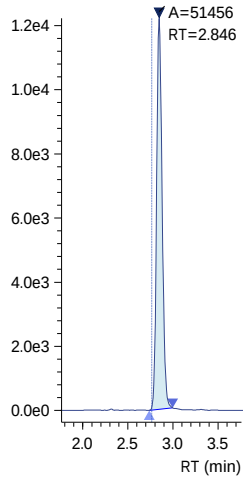
R1 101.00>85.00 (-) 2.00e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

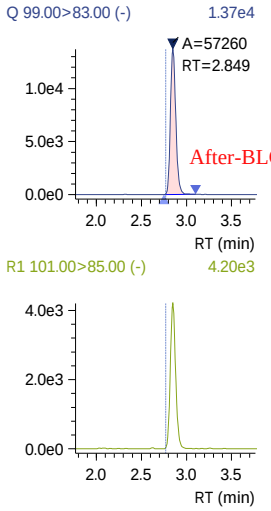
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	57260	50051	1	9.79458	ng/mL	10.0000	30.74
Sodium Perchlorate-18O4 _IS	Auto	2.848	50051	50051	1	1.00000	ng/mL	1.0000	----

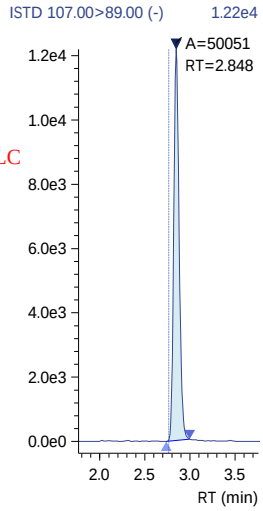
Perchlorate

Conc 9.79458
R#1 30.74 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

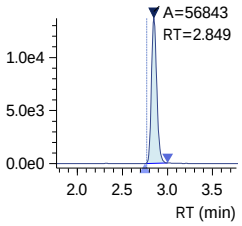
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

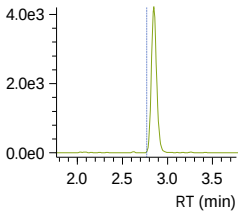
Perchlorate

Conc 9.82335
R#1 30.77 (0.00)

Q 99.00>83.00 (-) 1.37e4



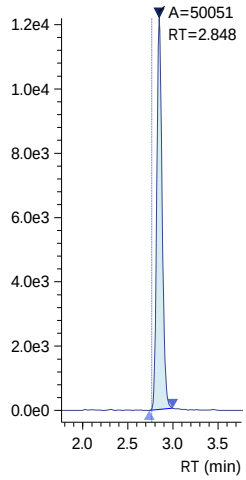
R1 101.00>85.00 (-) 4.20e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

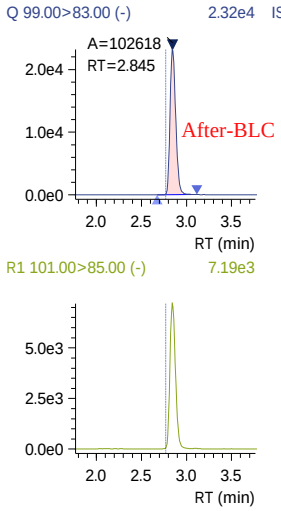
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	102618	52128	1	16.85388	ng/mL	20.0000	30.96
Sodium Perchlorate-18O4_IS	Auto	2.844	52128	52128	1	1.00000	ng/mL	1.0000	----

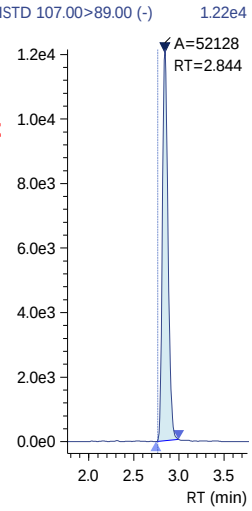
Perchlorate

Conc 16.85388
R#1 30.96 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

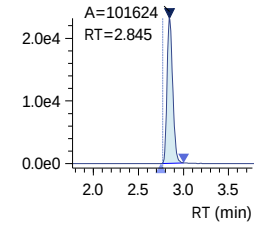
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

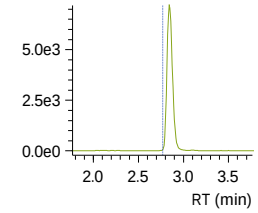
Perchlorate

Conc 16.86268
R#1 30.97 (0.00)

Q 99.00>83.00 (-) 2.32e4



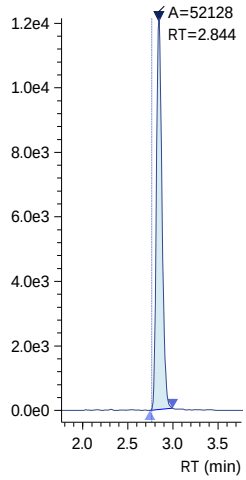
R1 101.00>85.00 (-) 7.19e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

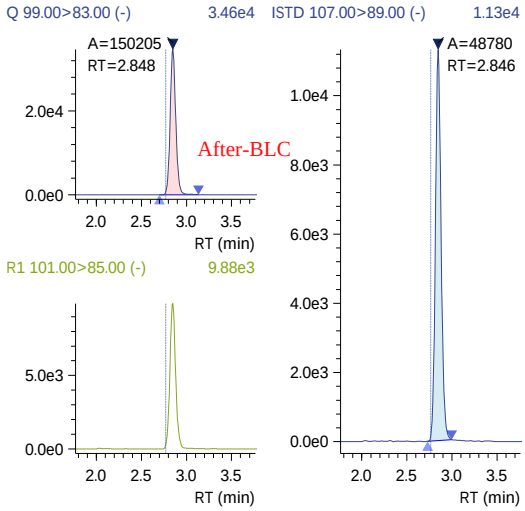
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.848	150205	48780	1	26.36258	ng/mL	30.0000	29.04
Sodium Perchlorate-18O4_IS	Auto	2.846	48780	48780	1	1.00000	ng/mL	1.0000	----

Perchlorate

Conc 26.36258
R#1 29.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

Printed at 4/29/2021 1:28:28 PM

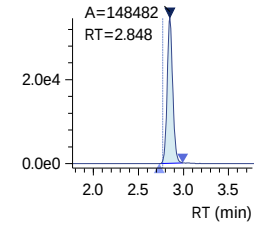
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

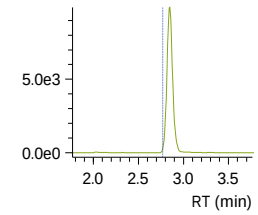
Perchlorate

Conc 26.32873
R#1 29.04 (0.00)

Q 99.00>83.00 (-) 3.46e4



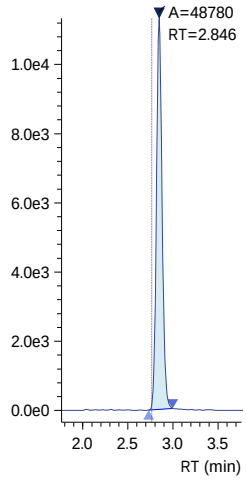
R1 101.00>85.00 (-) 9.88e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

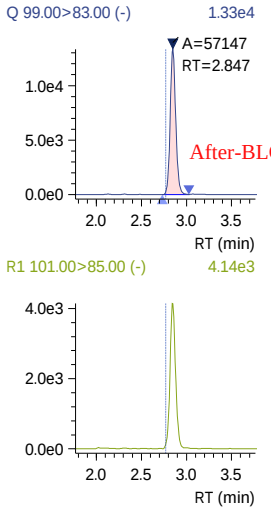
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.847	57147	51740	1	9.45615	ng/mL	10.0000	31.56
Sodium Perchlorate-18O4 _IS	Auto	2.847	51740	51740	1	1.00000	ng/mL	1.0000	----

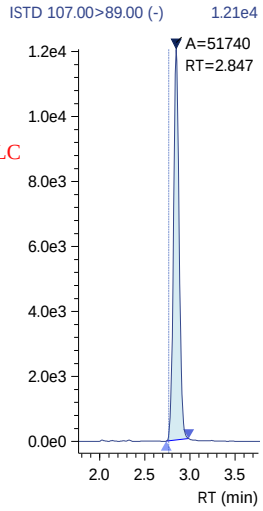
Perchlorate

Conc 9.45615
R#1 31.56 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

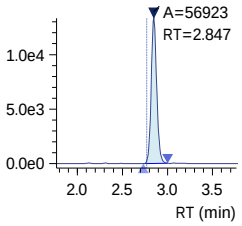
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

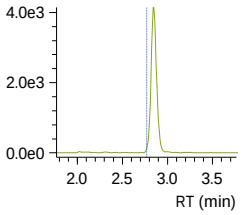
Perchlorate

Conc 9.51618
R#1 31.56 (0.00)

Q 99.00>83.00 (-) 1.33e4



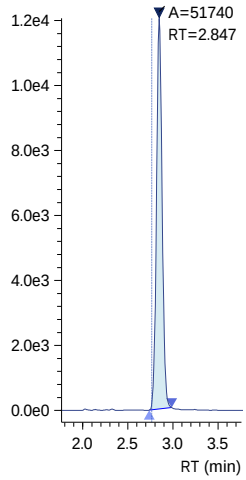
R1 101.00>85.00 (-) 4.14e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



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

20210430

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210430_001	Perchlorate6850b.lcm	1x	☒		4/30/2021 13:53
2	null		20210430_002	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:04
3	IB		20210430_003	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:11
4	IB		20210430_004	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:21
5	ICS		20210430_005	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:30
6	LODV		20210430_006	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:39
7	PERCHLORATE7		20210430_007	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 14:49
8	EQ2100261-01		20210430_008	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:04
9	EQ2100261-02		20210430_009	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:13
10	EQ2100261-03		20210430_010	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:23
11	EQ2100261-04		20210430_011	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:32
12	EQ2100261-05		20210430_012	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:42
13	E2100458-001		20210430_013	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:51
14	E2100459-001DNU		20210430_014	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	4/30/2021 16:00
15	E2100459-002DNU		20210430_015	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	4/30/2021 16:10
16	E2100459-003		20210430_016	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:19
17	E2100459-004		20210430_017	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:29
18	PERCHLORATE7		20210430_018	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 16:38
19	E2100459-005		20210430_019	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:47
20	E2100459-006		20210430_020	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:57
21	E2100459-007DNU		20210430_021	Perchlorate6850b.lcm	1x	☒	DNU:Over Ical Range	4/30/2021 17:06
22	E2100459-008DNU		20210430_022	Perchlorate6850b.lcm	1x	☒	DNU:Over Ical Range	4/30/2021 17:16
23	E2100459-009		20210430_023	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:25
24	E2100459-010-DNU		20210430_024	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 17:34
25	E2100486-001		20210430_025	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:44
26	E2100486-002		20210430_026	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:53
27	E2100486-003		20210430_027	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:02
28	PERCHLORATE7		20210430_028	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 18:12
29	E2100486-004		20210430_029	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:21
30	E2100486-005		20210430_030	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:31
31	E2100486-006		20210430_031	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:40
32	E2100486-007		20210430_032	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:49
33	PERCHLORATE7		20210430_033	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 18:59
34	EQ2100262-01		20210430_034	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:08
35	EQ2100262-02		20210430_035	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:18
36	EQ2100262-03		20210430_036	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:27
37	EQ2100262-04DNU		20210430_037	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 19:36
38	EQ2100262-05DNU		20210430_038	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 19:46
39	E2100460-001		20210430_039	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:55
40	E2100460-002		20210430_040	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:05
41	E2100460-003		20210430_041	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:14
42	E2100460-004		20210430_042	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:23
43	E2100460-005		20210430_043	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:33
44	PERCHLORATE7		20210430_044	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 20:42
45	E2100460-006DNU		20210430_045	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 20:52
46	E2100460-007DNU		20210430_046	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:01
47	E2100460-008		20210430_047	Perchlorate6850b.lcm	1x	☒		4/30/2021 21:10
48	E2100461-001DNU		20210430_048	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:20
49	E2100461-002DNU		20210430_049	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:29
50	E2100461-003DNU		20210430_050	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:38
51	E2100461-004DNU		20210430_051	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:48
52	E2100464-001DNU		20210430_052	Perchlorate6850b.lcm	1x	☒	DNU-Over Ical Range	4/30/2021 21:57
53	E2100464-002		20210430_053	Perchlorate6850b.lcm	1x	☒		4/30/2021 22:07
54	E2100464-003DNU		20210430_054	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:16
55	PERCHLORATE7		20210430_055	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 22:25
56	E2100464-004DNU		20210430_056	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:35
57	E2100464-005DNU		20210430_057	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:44
58	E2100464-006		20210430_058	Perchlorate6850b.lcm	1x	☒		4/30/2021 22:53
59	PERCHLORATE7		20210430_059	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 23:03
60								

20210501

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210501_001	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:07
2	null		20210501_002	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:13
3	IB		20210501_003	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:19
4	IB		20210501_004	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:29
5	ICS		20210501_005	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:38
6	LODV		20210501_006	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:48
7	PERCHLORATE7		20210501_007	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 13:04
8	E2100459-001X5		20210501_008	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:14
9	E2100459-002X5		20210501_009	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:23
10	E2100459-007X10		20210501_010	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:32
11	E2100459-008X2		20210501_011	Perchlorate6850b.lcm	2x	☒		5/1/2021 13:42
12	E2100459-010X10		20210501_012	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:51
13	PERCHLORATE7		20210501_013	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 14:01
14	EQ2100262-04X5		20210501_014	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:10
15	EQ2100262-05X5		20210501_015	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:19
16	E2100460-006X2		20210501_016	Perchlorate6850b.lcm	2x	☒		5/1/2021 14:29
17	E2100460-007X2DNU		20210501_017	Perchlorate6850b.lcm	2x	☒	DNU:INST failed	5/1/2021 14:38
18	E2100461-001X5		20210501_018	Perchlorate6850b.lcm	5x	☒	3100809-02	5/1/2021 14:48
19	E2100461-002X5		20210501_019	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:57
20	E2100461-003X5		20210501_020	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:06
21	E2100461-004X5		20210501_021	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:16
22	E2100464-001X2		20210501_022	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:25
23	E2100464-003X2		20210501_023	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:35
24	PERCHLORATE7		20210501_024	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 15:44
25	E2100464-004X2		20210501_025	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:53
26	E2100464-005X2		20210501_026	Perchlorate6850b.lcm	2x	☒		5/1/2021 16:03
27	PERCHLORATE7		20210501_027	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 16:12
28	EQ2100263-01		20210501_028	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:22
29	EQ2100263-02		20210501_029	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:31
30	EQ2100263-03		20210501_030	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:40
31	E2100469-001		20210501_031	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:50
32	E2100469-002DNU		20210501_032	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 16:59
33	E2100469-003		20210501_033	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:09
34	E2100469-004		20210501_034	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:18
35	E2100469-005		20210501_035	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:27
36	E2100469-006		20210501_036	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:37
37	E2100469-007DNU		20210501_037	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 17:46
38	PERCHLORATE7		20210501_038	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:56
39	E2100470-001DNU		20210501_039	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 18:05
40	E2100470-002DNU		20210501_040	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 18:14
41	E2100492-001-DNU		20210501_041	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:24
42	E2100492-002-DNU		20210501_042	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:33
43	E2100492-003-DNU		20210501_043	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:43
44	E2100492-004-DNU		20210501_044	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:52
45	E2100492-005-DNU		20210501_045	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:01
46	E2100492-006-DNU		20210501_046	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:11
47	E2100493-001-DNU		20210501_047	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:20
48	PERCHLORATE7		20210501_048	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 19:30
49								

20210510

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210510_001	Perchlorate6850b.lcm	1x	☒		5/10/2021 9:57
2	null		20210510_002	Perchlorate6850b.lcm	1x	☒		5/10/2021 10:03
3	IB		20210510_003	Perchlorate6850b.lcm	1x	☒		5/10/2021 10:10
4	IB		20210510_004	Perchlorate6850b.lcm	1x	☒		5/10/2021 10:20
5	PERCHLORATE7		20210510_005	Perchlorate6850b.lcm	1x	☒	3100809-02	5/10/2021 10:29
6	LODV		20210510_006	Perchlorate6850b.lcm	1x	☒		5/10/2021 10:38
7	E2100460-007x10		20210510_007	Perchlorate6850b.lcm	10x	☒		5/10/2021 10:49
8	EQ2100278-01		20210510_008	Perchlorate6850b.lcm	1x	☒		5/10/2021 12:11
9	EQ2100278-02		20210510_009	Perchlorate6850b.lcm	1x	☒		5/10/2021 12:49
10	EQ2100278-03		20210510_010	Perchlorate6850b.lcm	1x	☒		5/10/2021 12:58
11	E2100529-008DNU		20210510_011	Perchlorate6850b.lcm	1x	☒	DNU-INST	5/10/2021 13:08
12	PERCHLORATE7		20210510_012	Perchlorate6850b.lcm	1x	☒	3100809-02	5/10/2021 13:17
13	E2100529-008X10		20210510_013	Perchlorate6850b.lcm	10x	☒		5/10/2021 13:32
14	PERCHLORATE7		20210510_014	Perchlorate6850b.lcm	1x	☒	3100809-02	5/10/2021 13:42
15								
16								
17								
18								
19								

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 4/30/21

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\20210430\20210430_033

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.83	0.1168	0.1149	-1.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 4/30/21

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\20210430\20210430_044

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.71	0.1168	0.1135	-2.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 4/30/21

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\20210430\20210430_055

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.0	0.1168	0.1173	0.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 4/30/21

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\20210430\20210430_059

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.83	0.1168	0.1148	-1.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/ 1/21

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\20210501\20210501_007

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.87	0.1168	0.1153	-1.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/ 1/21

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\20210501\20210501_013

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.23	0.1168	0.1079	-7.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/ 1/21

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\20210501\20210501_024

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.49	0.1168	0.1109	-5.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/ 1/21

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\20210501\20210501_027

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.12	0.1168	0.1065	-8.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/ 1/21

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\20210501\20210501_038

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1168	0.1138	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/10/21

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\20210510\20210510_005

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722771
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.68	0.1168	0.1130	-3.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/10/21

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\20210510\20210510_012

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722771
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.26	0.1168	0.1081	-7.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 5/10/21

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\20210510\20210510_014

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722771
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.47	0.1168	0.1106	-5.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041132

Service Request: E2100460
Date Analyzed: 4/30/21 18:59

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

File ID: I:\LCMS01\DATA\20210430\20210430_033
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2100271-01
Analysis Lot: 722218
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-01	52,539	2.84
Method Blank	EQ2100262-01	48,538	2.84
Lab Control Sample	EQ2100262-02	50,308	2.84
Duplicate Lab Control Sample	EQ2100262-03	51,554	2.84
16EW02-210419	E2100460-001	33,895	2.86
16EW04-210419	E2100460-002	29,054	2.86
16EW08-210419	E2100460-003	39,409	2.84
16WW13-210419	E2100460-004	67,570	2.86
16WW42-210419	E2100460-005	64,726	2.86

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	4/30/21 20:42

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

File ID:	I:\LCMS01\DATA\20210430\20210430_044	**Lab Code:**	EQ2100271-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-02	54,759	2.84
16RW07-210419	E2100460-008	70,098	2.84

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	4/30/21 22:25

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

File ID:	I:\LCMS01\DATA\20210430\20210430_055	**Lab Code:**	EQ2100271-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-03	41,221	2.84

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	4/30/21 23:03

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

File ID:	I:\LCMS01\DATA\20210430\20210430_059	**Lab Code:**	EQ2100271-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-04	34,913	2.84

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/1/21 13:04

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

File ID:	I:\LCMS01\DATA\20210501\20210501_007	**Lab Code:**	EQ2100272-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-01	51,400	2.71

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/1/21 14:01

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

File ID:	I:\LCMS01\DATA\20210501\20210501_013	**Lab Code:**	EQ2100272-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-02	46,369	2.84
16RW05-210419	E2100460-006	44,651	2.84

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/1/21 15:44

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

File ID:	I:\LCMS01\DATA\20210501\20210501_024	**Lab Code:**	EQ2100272-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-03	45,961	2.85

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/1/21 16:12

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

File ID:	I:\LCMS01\DATA\20210501\20210501_027	**Lab Code:**	EQ2100272-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-04	41,773	2.85

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/1/21 17:56

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

File ID:	I:\LCMS01\DATA\20210501\20210501_038	**Lab Code:**	EQ2100272-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-05	42,418	2.85

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/10/21 10:29

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

File ID:	I:\LCMS01\DATA\20210510\20210510_005	**Lab Code:**	EQ2100279-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722771
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100279-01	47,746	2.84
16RW06-210419	E2100460-007	41,930	2.70

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/10/21 13:17

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

File ID:	I:\LCMS01\DATA\20210510\20210510_012	**Lab Code:**	EQ2100279-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722771
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100279-02	49,061	2.83

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:**	E2100460
Project:	HS21041132	**Date Analyzed:**	5/10/21 13:42

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

File ID:	I:\LCMS01\DATA\20210510\20210510_014	**Lab Code:**	EQ2100279-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722771
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100279-03	48,444	2.83

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

Insight Report

Printed at 5/3/2021 9:29:52 AM

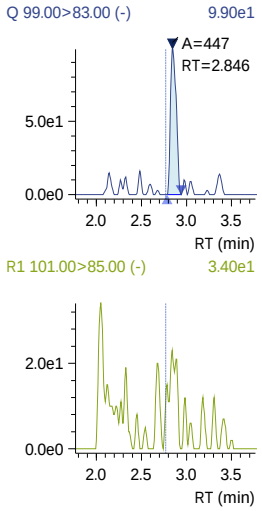
20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	447	64733	1	0.05905	ng/mL	----	12.12
Sodium Perchlorate-18O4 _IS	Auto	2.845	64733	64733	1	1.00000	ng/mL	----	----

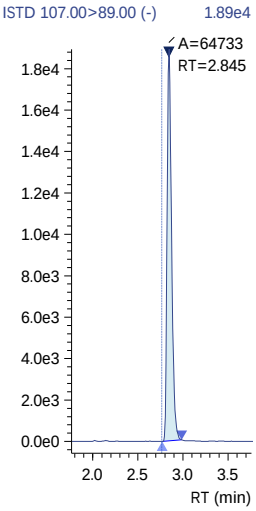
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

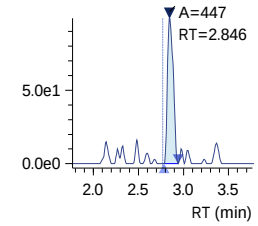
20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

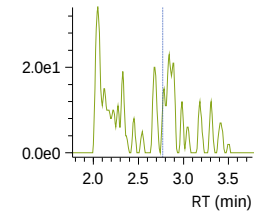
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)

Q 99.00>83.00 (-) 9.90e1



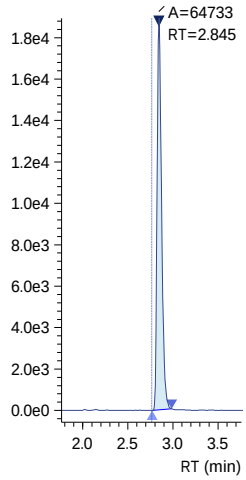
R1 101.00>85.00 (-) 3.40e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.89e4



Insight Report

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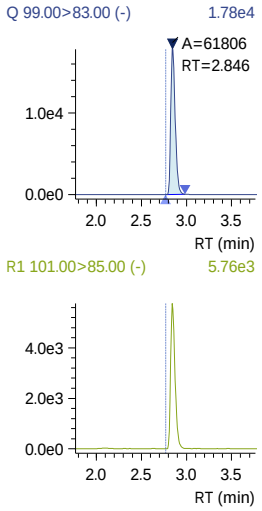
20210430_007

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 2:49:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	61806	56664	1	9.33832	ng/mL	10.0000	32.34
Sodium Perchlorate-18O4 _IS	Auto	2.845	56664	56664	1	1.00000	ng/mL	1.0000	----

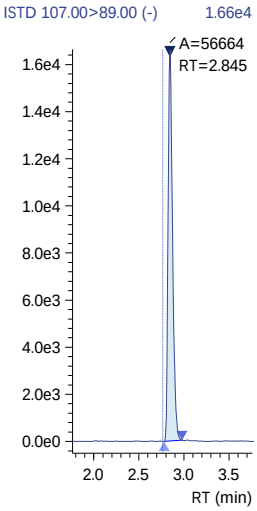
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

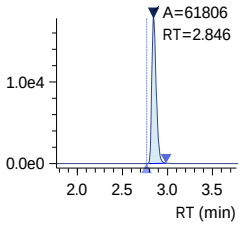
20210430_007

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 2:49:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

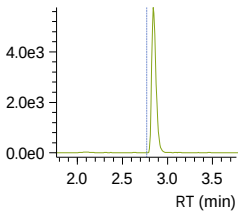
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)

Q 99.00>83.00 (-) 1.78e4



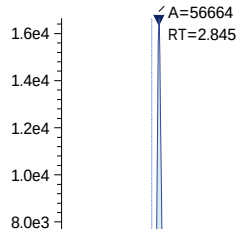
R1 101.00>85.00 (-) 5.76e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.66e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

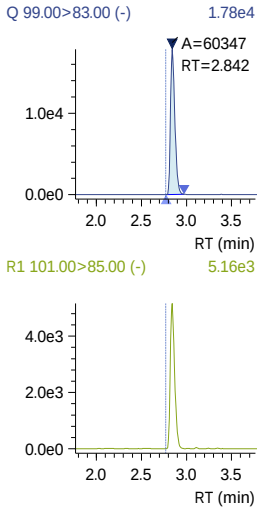
20210430_033

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 6:59:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	60347	52539	1	9.83366	ng/mL	10.0000	28.94
Sodium Perchlorate-18O4 _IS	Auto	2.841	52539	52539	1	1.00000	ng/mL	1.0000	----

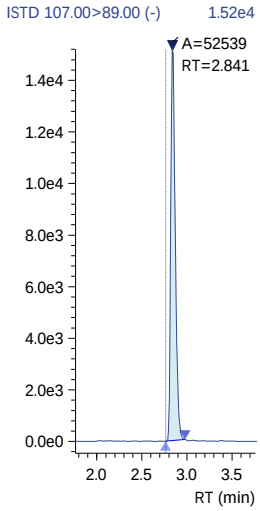
Perchlorate

Conc 9.83366
R#1 28.94 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

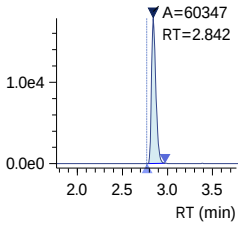
20210430_033

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 6:59:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

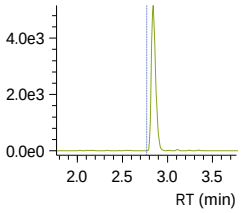
Perchlorate

Conc 9.83366
R#1 28.94 (0.00)

Q 99.00>83.00 (-) 1.78e4



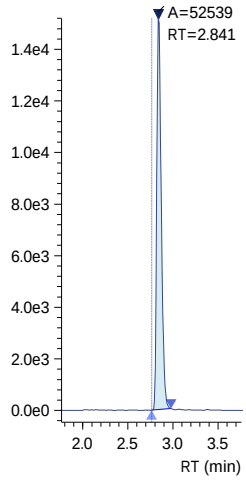
R1 101.00>85.00 (-) 5.16e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.52e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

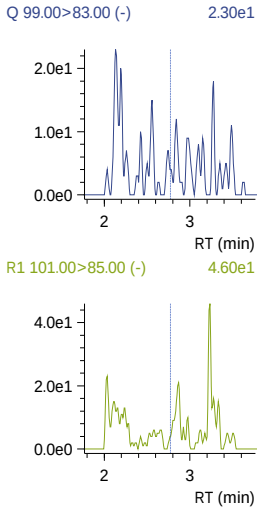
20210430_034

Sample ID: EQ2100262-01
Date Acquired: 4/30/2021 7:08:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_034.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	48538	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.841	48538	48538	1	1.00000	ng/mL	----	----

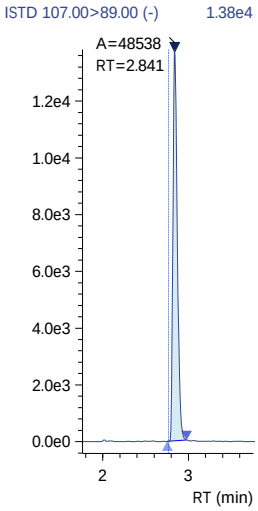
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

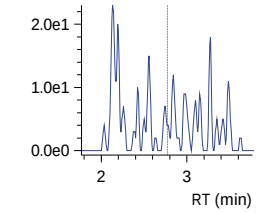
20210430_034

Sample ID: EQ2100262-01
Date Acquired: 4/30/2021 7:08:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_034.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2

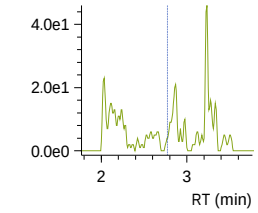
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 2.30e1



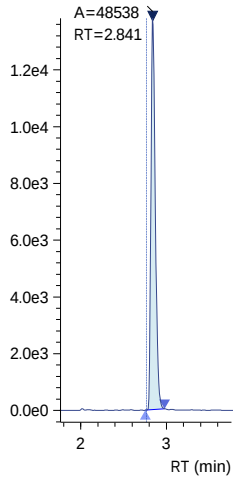
R1 101.00>85.00 (-) 4.60e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

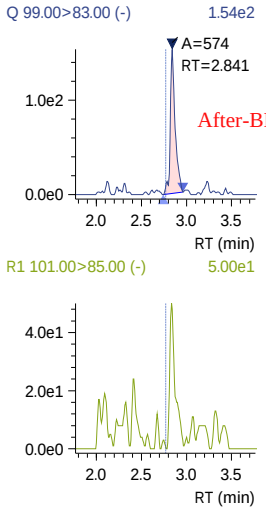
20210430_035

Sample ID: EQ2100262-02
Date Acquired: 4/30/2021 7:18:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_035.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.841	574	50308	1	0.09764	ng/mL	----	32.37
Sodium Perchlorate-18O4 _IS	Auto	2.842	50308	50308	1	1.00000	ng/mL	----	----

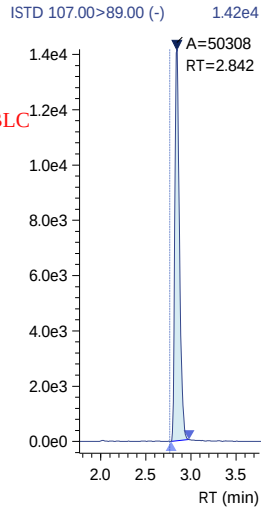
Perchlorate

Conc 0.09764
R#1 32.37 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

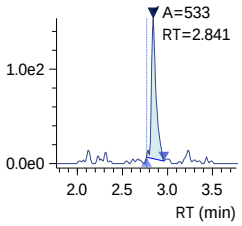
20210430_035

Sample ID: EQ2100262-02
Date Acquired: 4/30/2021 7:18:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_035.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

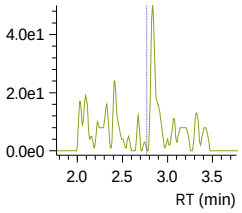
Perchlorate

Conc 0.09062
R#1 35.34 (0.00)

Q 99.00>83.00 (-) 1.54e2



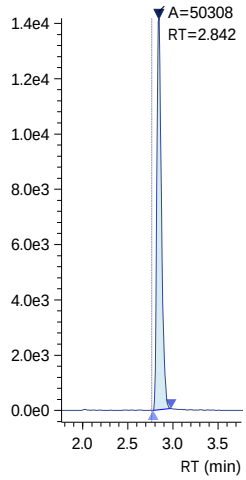
R1 101.00>85.00 (-) 5.00e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.42e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

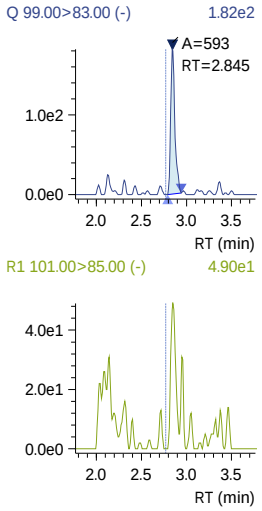
20210430_036

Sample ID: EQ2100262-03
Date Acquired: 4/30/2021 7:27:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_036.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	593	51554	1	0.09840	ng/mL	----	21.91
Sodium Perchlorate-18O4 _IS	Auto	2.843	51554	51554	1	1.00000	ng/mL	----	----

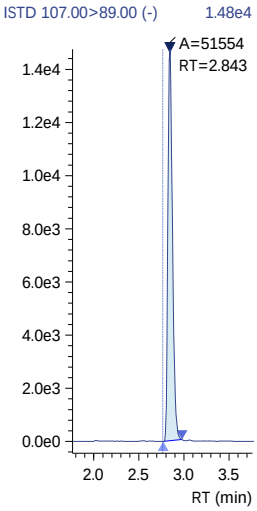
Perchlorate

Conc 0.09840
R#1 21.91 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

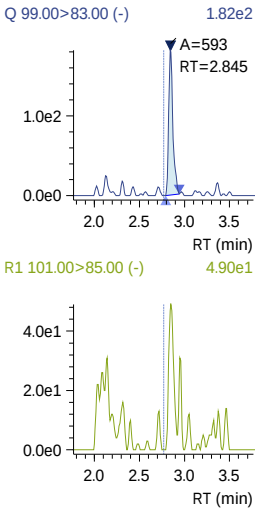
Printed at 5/3/2021 9:31:38 AM

20210430_036

Sample ID: EQ2100262-03
Date Acquired: 4/30/2021 7:27:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_036.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

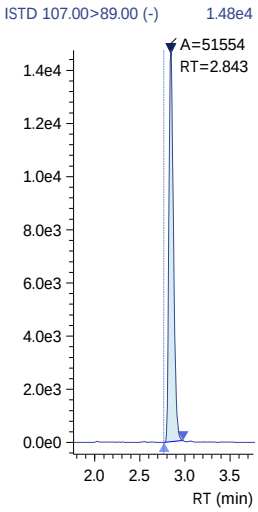
Perchlorate

Conc 0.09840
R#1 21.91 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:29:52 AM

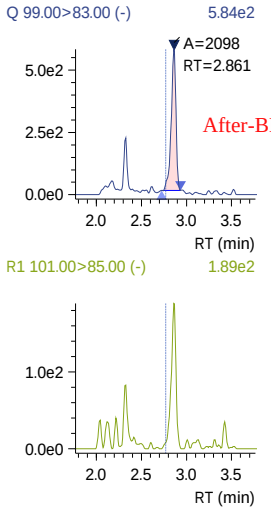
20210430_039

Sample ID: E2100460-001
Date Acquired: 4/30/2021 7:55:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_039.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.861	2098	33895	1	0.52980	ng/mL	----	33.10
Sodium Perchlorate-18O4 _IS	Auto	2.858	33895	33895	1	1.00000	ng/mL	----	----

Perchlorate

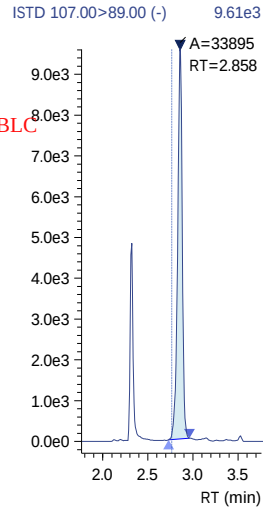
Conc 0.52980
R#1 33.10 (0.00)



After-BLC

Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

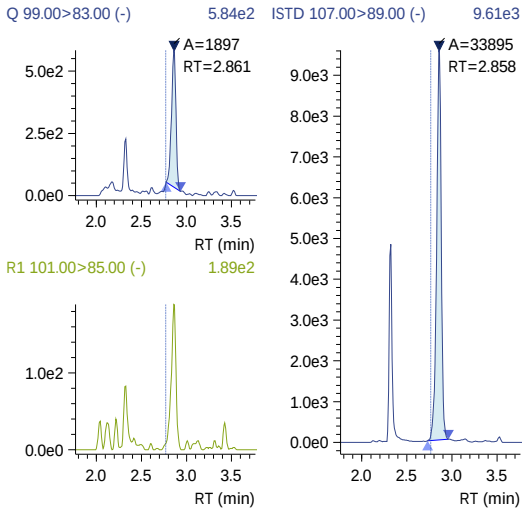
Printed at 5/3/2021 9:31:38 AM

20210430_039

Sample ID: E2100460-001
Date Acquired: 4/30/2021 7:55:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_039.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 2

Perchlorate

Conc 0.47903
R#1 33.33 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

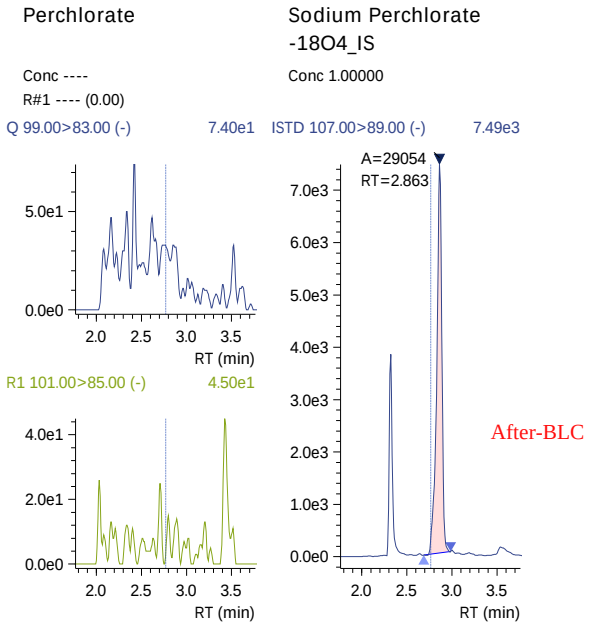
Insight Report

Printed at 5/3/2021 9:29:52 AM

20210430_040

Sample ID: E2100460-002
Date Acquired: 4/30/2021 8:05:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_040.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	29054	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	M	2.863	29054	29054	1	1.00000	ng/mL	----	----



Insight Report

Printed at 5/3/2021 9:31:38 AM

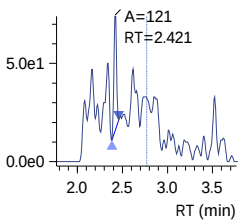
20210430_040

Sample ID: E2100460-002
Date Acquired: 4/30/2021 8:05:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_040.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 2

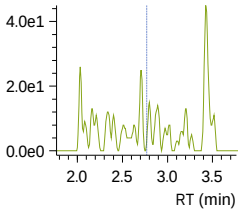
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 7.40e1



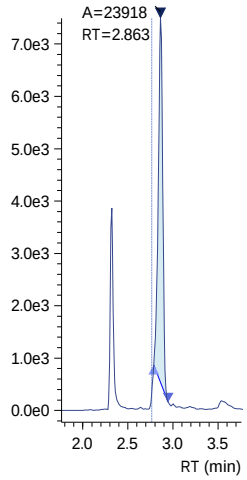
R1 101.00>85.00 (-) 4.50e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.49e3



Insight Report

Printed at 5/3/2021 9:29:52 AM

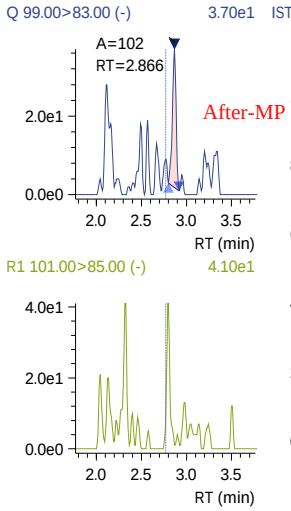
20210430_041

Sample ID: E2100460-003
Date Acquired: 4/30/2021 8:14:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_041.lcd
Vial: 46 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.866	102	39409	1	0.02205	ng/mL	----	0.00
Sodium Perchlorate-18O4 _IS	Auto	2.839	39409	39409	1	1.00000	ng/mL	----	----

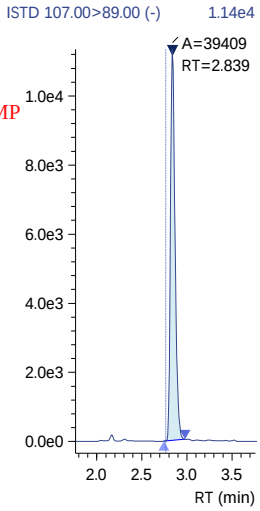
Perchlorate

Conc 0.02205
R#1 0.00 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

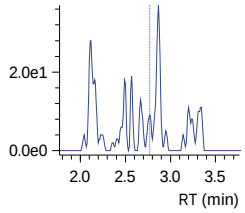
20210430_041

Sample ID: E2100460-003
Date Acquired: 4/30/2021 8:14:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_041.lcd
Vial: 46 | Inj. Volume: 25.0000uL | Tray: 2

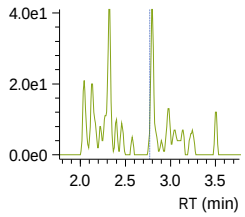
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.70e1



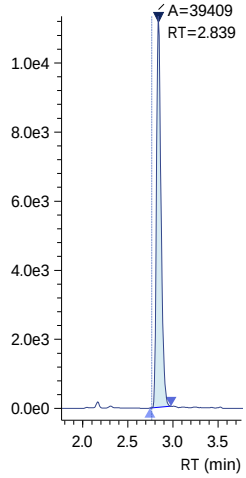
R1 101.00>85.00 (-) 4.10e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.14e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

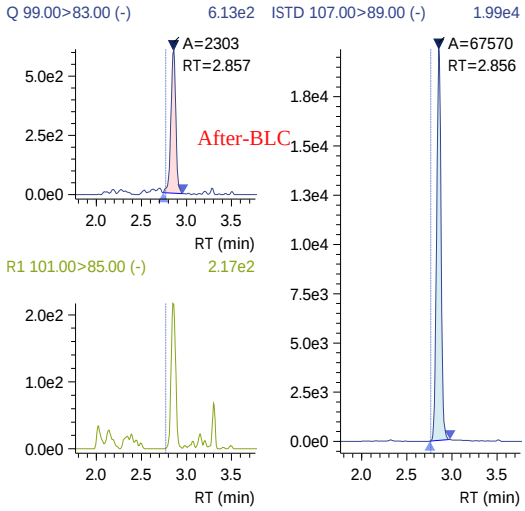
20210430_042

Sample ID: E2100460-004
Date Acquired: 4/30/2021 8:23:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_042.lcd
Vial: 47 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.857	2303	67570	1	0.29174	ng/mL	----	36.94
Sodium Perchlorate-18O4 _IS	Auto	2.856	67570	67570	1	1.00000	ng/mL	----	----

Perchlorate

Conc 0.29174
R#1 36.94 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

Printed at 5/3/2021 9:31:38 AM

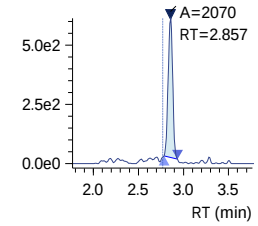
20210430_042

Sample ID: E2100460-004
Date Acquired: 4/30/2021 8:23:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_042.lcd
Vial: 47 | Inj. Volume: 25.0000uL | Tray: 2

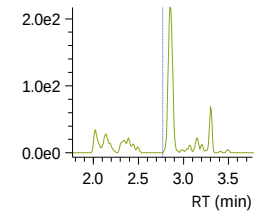
Perchlorate

Conc 0.26225
R#1 38.04 (0.00)

Q 99.00>83.00 (-) 6.13e2



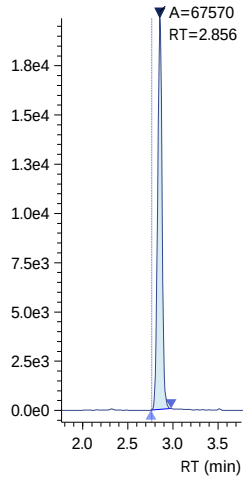
R1 101.00>85.00 (-) 2.17e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.99e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

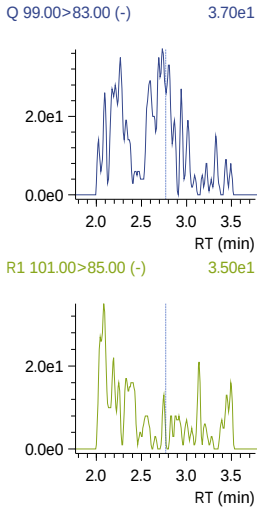
20210430_043

Sample ID: E2100460-005
Date Acquired: 4/30/2021 8:33:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_043.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	64726	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.858	64726	64726	1	1.00000	ng/mL	----	----

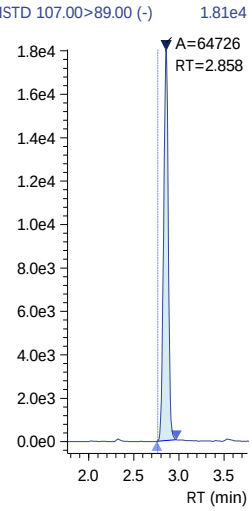
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

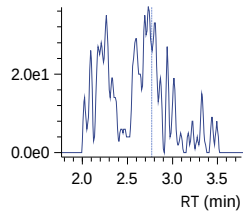
20210430_043

Sample ID: E2100460-005
Date Acquired: 4/30/2021 8:33:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_043.lcd
Vial: 48 | Inj. Volume: 25.0000uL | Tray: 2

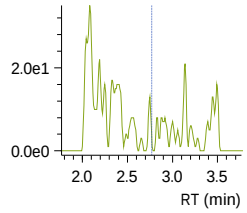
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.70e1



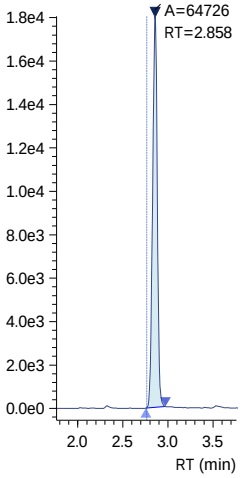
R1 101.00>85.00 (-) 3.50e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.81e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

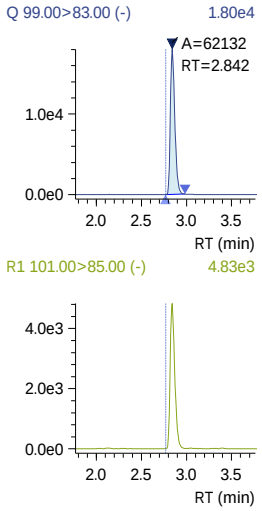
20210430_044

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 8:42:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_044.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	62132	54759	1	9.71420	ng/mL	10.0000	26.86
Sodium Perchlorate-18O4 _IS	Auto	2.840	54759	54759	1	1.00000	ng/mL	1.0000	----

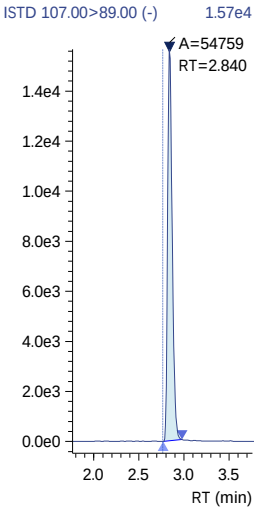
Perchlorate

Conc 9.71420
R#1 26.86 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

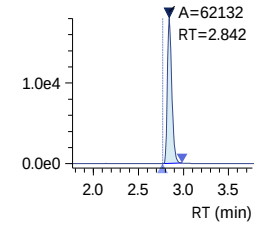
20210430_044

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 8:42:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_044.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

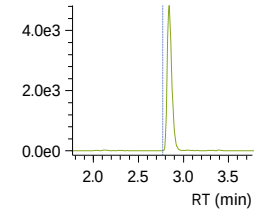
Perchlorate

Conc 9.71420
R#1 26.86 (0.00)

Q 99.00>83.00 (-) 1.80e4



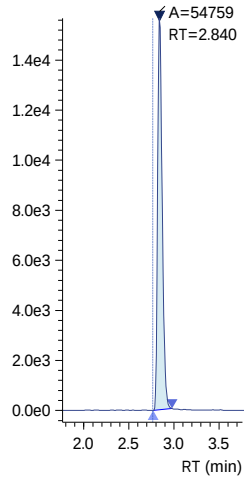
R1 101.00>85.00 (-) 4.83e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.57e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

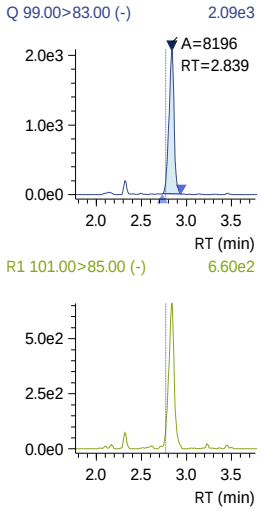
20210430_047

Sample ID: E2100460-008
Date Acquired: 4/30/2021 9:10:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_047.lcd
Vial: 51 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.839	8196	70098	1	1.00096	ng/mL	----	32.00
Sodium Perchlorate-18O4 _IS	Auto	2.838	70098	70098	1	1.00000	ng/mL	----	----

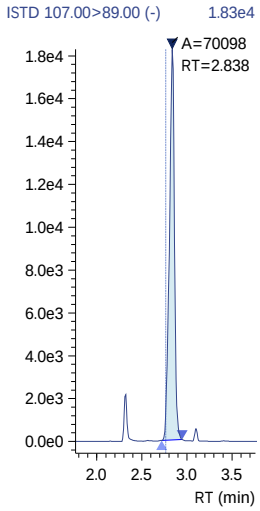
Perchlorate

Conc 1.00096
R#1 32.00 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

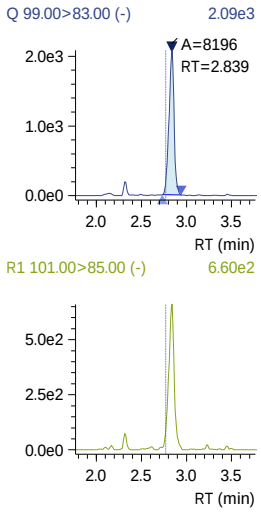
Printed at 5/3/2021 9:31:38 AM

20210430_047

Sample ID: E2100460-008
Date Acquired: 4/30/2021 9:10:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_047.lcd
Vial: 51 | Inj. Volume: 25.0000uL | Tray: 2

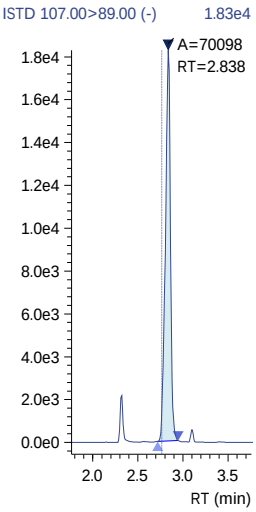
Perchlorate

Conc 1.00096
R#1 32.00 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:29:52 AM

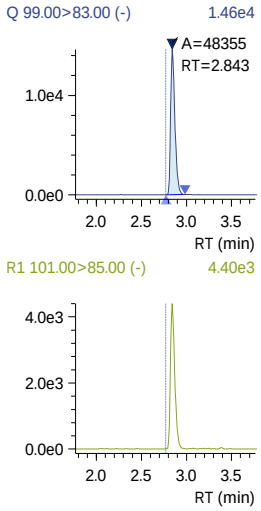
20210430_055

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 10:25:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_055.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.843	48355	41221	1	10.04323	ng/mL	10.0000	30.10
Sodium Perchlorate-18O4_IS	Auto	2.843	41221	41221	1	1.00000	ng/mL	1.0000	----

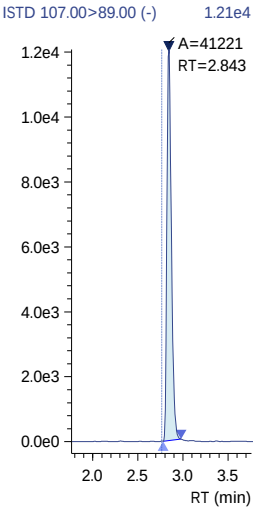
Perchlorate

Conc 10.04323
R#1 30.10 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

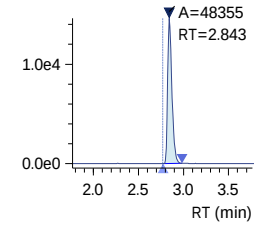
20210430_055

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 10:25:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_055.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

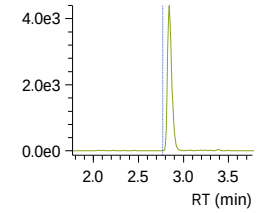
Perchlorate

Conc 10.04323
R#1 30.10 (0.00)

Q 99.00>83.00 (-) 1.46e4



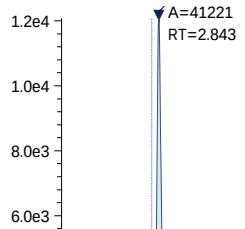
R1 101.00>85.00 (-) 4.40e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

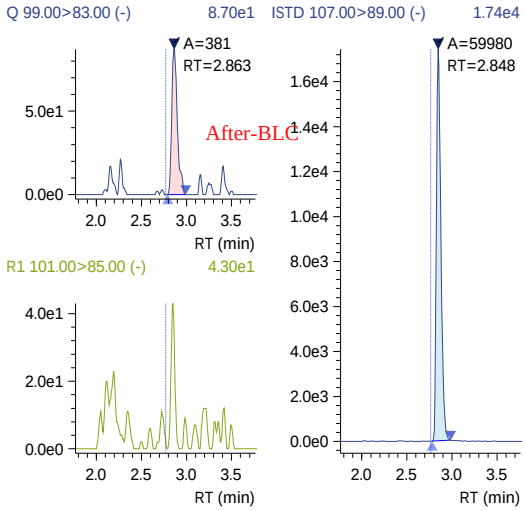
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.863	381	59980	1	0.05431	ng/mL	----	40.70
Sodium Perchlorate-18O4 _IS	Auto	2.848	59980	59980	1	1.00000	ng/mL	----	----

Perchlorate

Conc 0.05431
R#1 40.70 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

After-BLC

Insight Report

Printed at 5/3/2021 9:27:25 AM

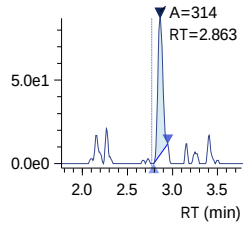
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

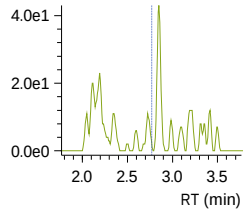
Perchlorate

Conc 0.04482
R#1 46.91 (0.00)

Q 99.00>83.00 (-) 8.70e1



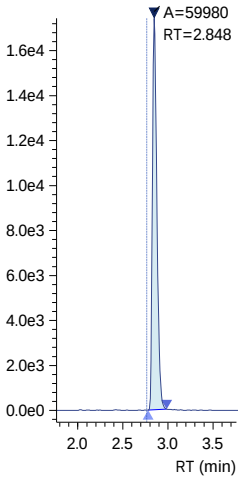
R1 101.00>85.00 (-) 4.30e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.74e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

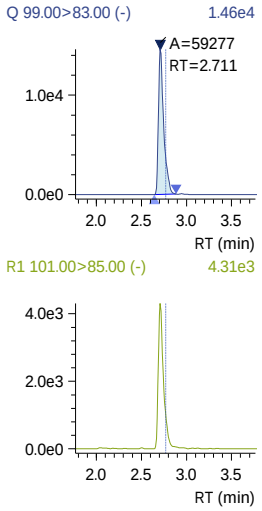
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.711	59277	51400	1	9.87331	ng/mL	10.0000	29.40
Sodium Perchlorate-18O4 _IS	Auto	2.710	51400	51400	1	1.00000	ng/mL	1.0000	----

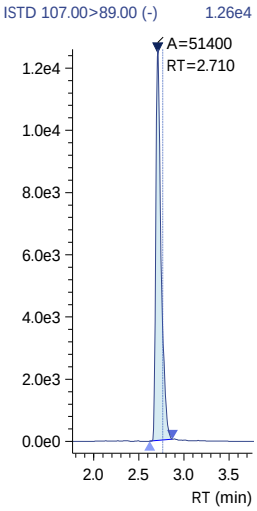
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

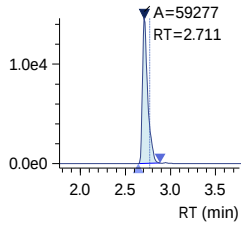
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

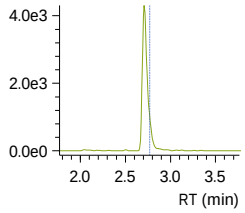
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)

Q 99.00>83.00 (-) 1.46e4



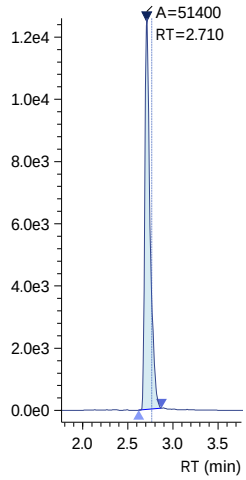
R1 101.00>85.00 (-) 4.31e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.26e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

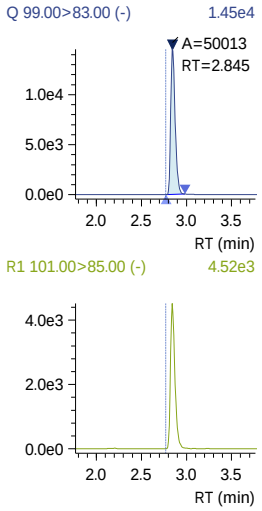
20210501_013

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 2:01:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	50013	46369	1	9.23433	ng/mL	10.0000	31.00
Sodium Perchlorate-18O4 _IS	Auto	2.844	46369	46369	1	1.00000	ng/mL	1.0000	----

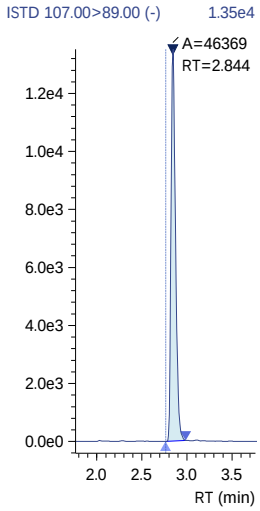
Perchlorate

Conc 9.23433
R#1 31.00 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

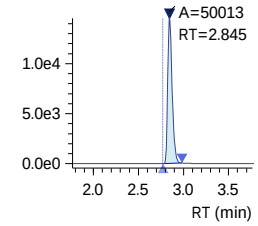
20210501_013

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 2:01:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

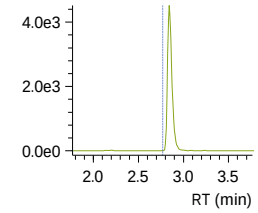
Perchlorate

Conc 9.23433
R#1 31.00 (0.00)

Q 99.00>83.00 (-) 1.45e4



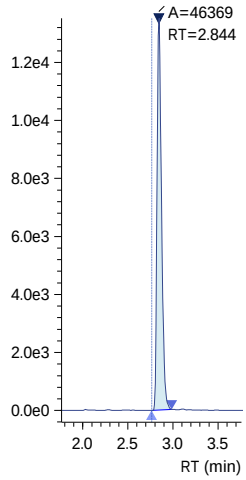
R1 101.00>85.00 (-) 4.52e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.35e4



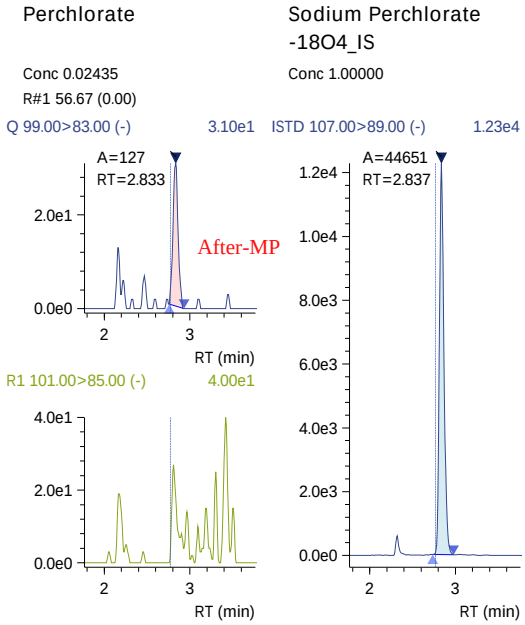
Insight Report

Printed at 5/3/2021 9:25:34 AM

20210501_016

Sample ID: E2100460-006X2
Date Acquired: 5/1/2021 2:29:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_016.lcd
Vial: 49 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.833	127	44651	1	0.02435	ng/mL	----	56.67
Sodium Perchlorate-18O4 _IS	Auto	2.837	44651	44651	1	1.00000	ng/mL	----	----



Insight Report

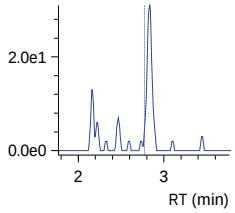
20210501_016

Sample ID: E2100460-006X2
Date Acquired: 5/1/2021 2:29:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_016.lcd
Vial: 49 | Inj. Volume: 25.0000uL | Tray: 2

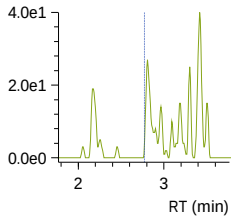
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.10e1



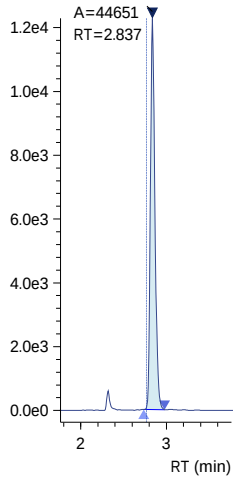
R1 101.00>85.00 (-) 4.00e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.23e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

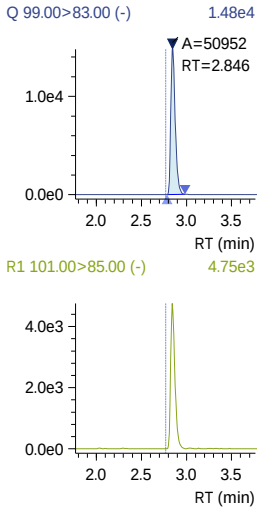
20210501_024

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 3:44:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_024.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	50952	45961	1	9.49107	ng/mL	10.0000	32.18
Sodium Perchlorate-18O4 _IS	Auto	2.845	45961	45961	1	1.00000	ng/mL	1.0000	----

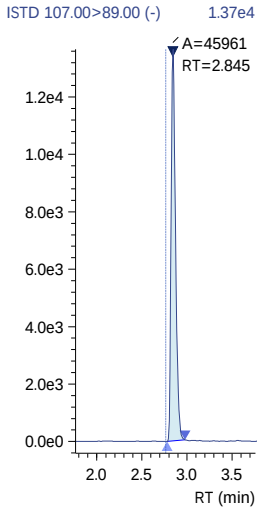
Perchlorate

Conc 9.49107
R#1 32.18 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

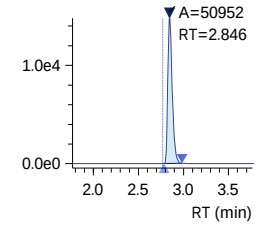
20210501_024

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 3:44:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_024.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

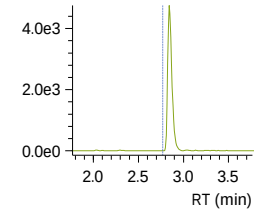
Perchlorate

Conc 9.49107
R#1 32.18 (0.00)

Q 99.00>83.00 (-) 1.48e4



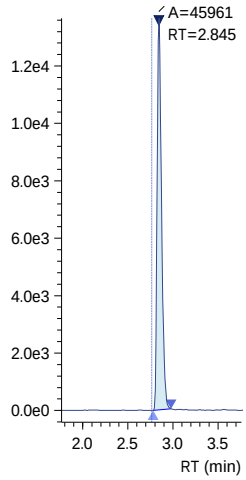
R1 101.00>85.00 (-) 4.75e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.37e4



Insight Report

Printed at 5/10/2021 3:03:28 PM

Method File: I:\LCMS01\DATA\20210510\20210428.lcm
Project File: I:\LCMS01\DATA\20210510\20210510.damlp

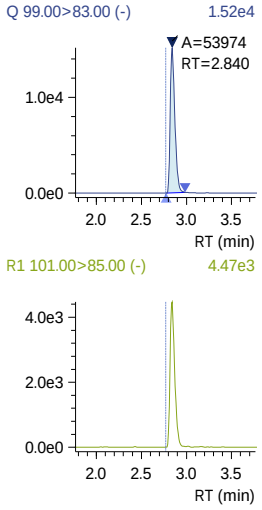
20210510_005

Sample ID: PERCHLORATE7
Date Acquired: 5/10/2021 10:29:27 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\20210510_005.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.840	53974	47746	1	9.67811	ng/mL	----	30.50
Sodium Perchlorate-18O4 _IS	Auto	2.839	47746	47746	1	1.00000	ng/mL	----	----

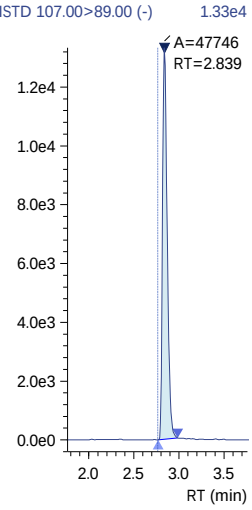
Perchlorate

Conc 9.67811
R#1 30.50 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/10/2021 3:10:27 PM

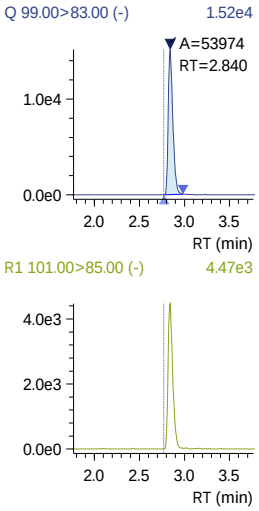
Method File: I:\LCMS01\DATA\20210510\20210428.lcm

20210510_005

Sample ID: PERCHLORATE7
Date Acquired: 5/10/2021 10:29:27 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\Before\20210510_005.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

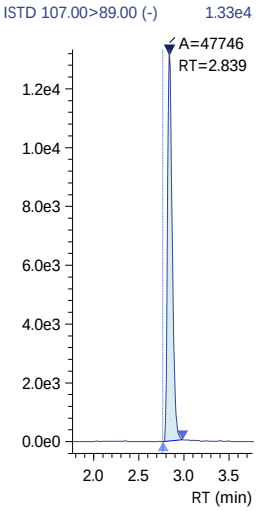
Perchlorate

Conc 9.97792
R#1 30.50 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

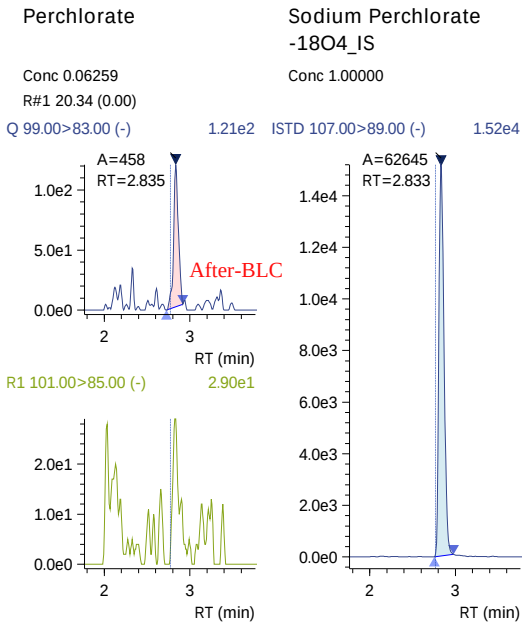
Printed at 5/10/2021 3:17:31 PM

Method File: I:\LCMS01\DATA\20210510\20210428.lcm
Project File: I:\LCMS01\DATA\20210510\20210510.damlp

20210510_006

Sample ID: LODV
Date Acquired: 5/10/2021 10:38:50 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\20210510_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.835	458	62645	1	0.06259	ng/mL	----	20.34
Sodium Perchlorate-18O4 _IS	Auto	2.833	62645	62645	1	1.00000	ng/mL	----	----



Insight Report

Printed at 5/10/2021 3:10:27 PM

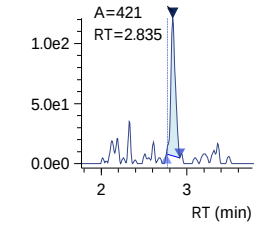
20210510_006

Sample ID: LODV
Date Acquired: 5/10/2021 10:38:50 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\Before\20210510_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

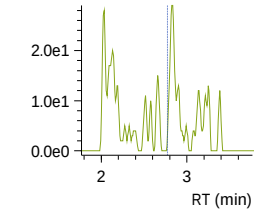
Perchlorate

Conc 0.05925
R#1 22.12 (0.00)

Q 99.00>83.00 (-) 1.21e2



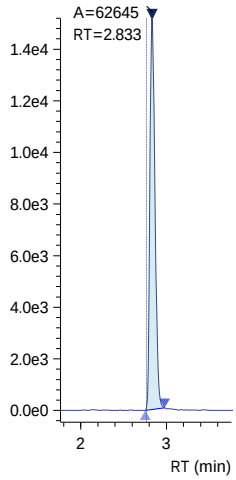
R1 101.00>85.00 (-) 2.90e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.52e4



Insight Report

Printed at 5/10/2021 3:03:28 PM

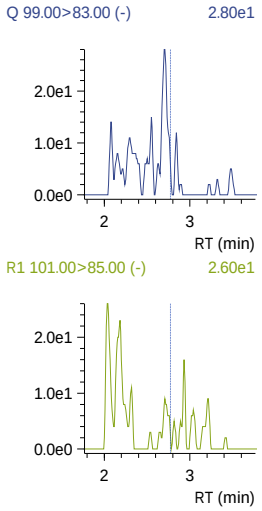
20210510_007

Sample ID: E2100460-007x10
Date Acquired: 5/10/2021 10:49:41 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\20210510_007.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	41930	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.700	41930	41930	1	1.00000	ng/mL	----	----

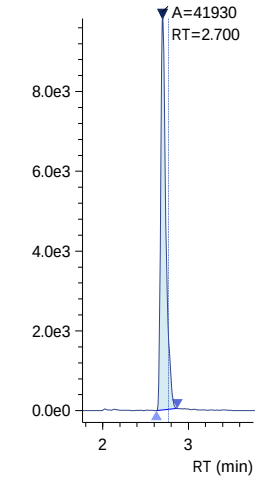
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

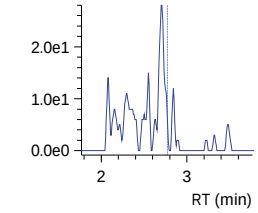
20210510_007

Sample ID: E2100460-007x10
Date Acquired: 5/10/2021 10:49:41 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\Before\20210510_007.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

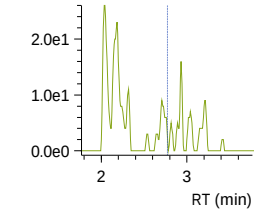
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 2.80e1



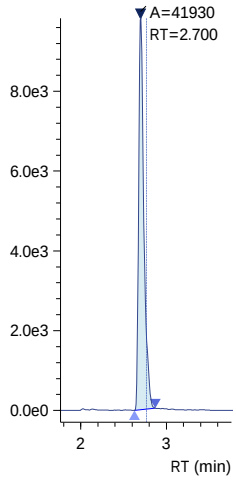
R1 101.00>85.00 (-) 2.60e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 9.83e3



Insight Report

Printed at 5/10/2021 3:03:28 PM

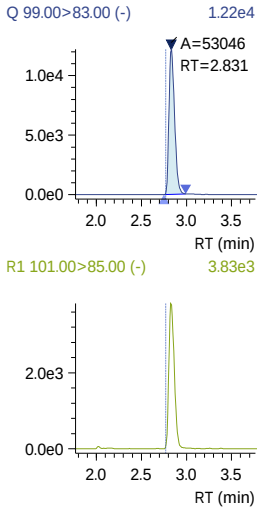
20210510_012

Sample ID: PERCHLORATE7
Date Acquired: 5/10/2021 1:17:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\20210510_012.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.831	53046	49061	1	9.25682	ng/mL	----	31.89
Sodium Perchlorate-18O4 _IS	Auto	2.830	49061	49061	1	1.00000	ng/mL	----	----

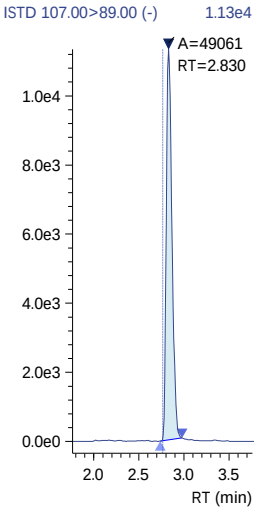
Perchlorate

Conc 9.25682
R#1 31.89 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/10/2021 3:10:27 PM

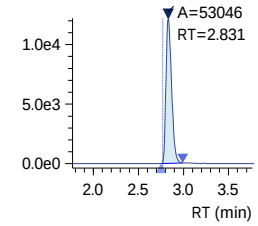
20210510_012

Sample ID: PERCHLORATE7
Date Acquired: 5/10/2021 1:17:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210510\Before\20210510_012.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

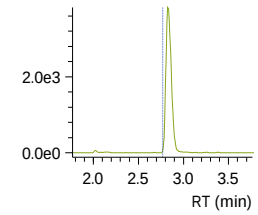
Perchlorate

Conc 9.54357
R#1 31.89 (0.00)

Q 99.00>83.00 (-) 1.22e4



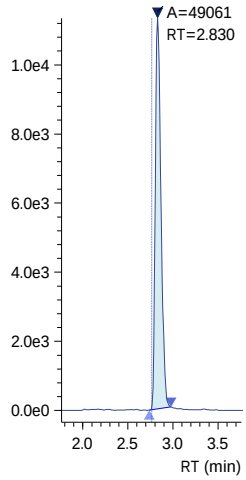
R1 101.00>85.00 (-) 3.83e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



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

WorkOrder: HS21041135

Longhorn Army Ammunition Plant LHAAP 16 April 2021

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

20-May-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

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Chromatogram

HS21041135 Longhorn Army Ammunition Plant
LHAAP 16 April 2021 Final

ALS WO# HS21041135

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

May 05, 2021

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

Work Order: **HS21041135**

Laboratory Results for: **Longhorn Army Ammunition Plant LHAAP 16 April 2021**

Dear Vicki Graves ,

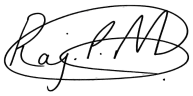
ALS Environmental received 5 sample(s) on Apr 21, 2021 for the analysis presented in the following report.

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

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

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

Sincerely,



Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
Work Order: HS21041135

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21041135-01	16SW01-210419	Groundwater		19-Apr-2021 13:15	21-Apr-2021 10:40	☐
HS21041135-02	16SW01-210419-FD	Groundwater		19-Apr-2021 13:15	21-Apr-2021 10:40	☐
HS21041135-03	16SW02-210419	Groundwater		19-Apr-2021 13:40	21-Apr-2021 10:40	☐
HS21041135-04	16SW03-210419	Groundwater		19-Apr-2021 14:00	21-Apr-2021 10:40	☐
HS21041135-05	Trip Blank-210419	Water		19-Apr-2021 00:00	21-Apr-2021 10:40	☐

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
Work Order: HS21041135

Work Order Comments

- The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

GCMS Volatiles by Method SW8260

Batch ID: R382319

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

Metals by Method SW6020A

Batch ID: 165436

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021 WorkOrder:HS21041135
Sample ID: 16SW01-210419 Lab ID:HS21041135-01
Collection Date: 19-Apr-2021 13:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	23-Apr-2021 13:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:58
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:58
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:58
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	23-Apr-2021 13:58
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:58
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:58
Surr: 1,2-Dichloroethane-d4	*96.6*			**0**	*81-118*	*%REC*	*1*	*23-Apr-2021 13:58*
Surr: 4-Bromofluorobenzene	*89.1*			**0**	*85-114*	*%REC*	*1*	*23-Apr-2021 13:58*
Surr: Dibromofluoromethane	*92.3*			**0**	*80-119*	*%REC*	*1*	*23-Apr-2021 13:58*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*23-Apr-2021 13:58*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 05-May-2021		Analyst: JHD
Arsenic	**0.000933**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:24
Chromium	**0.00235**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:24
Manganese	**0.107**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	05-May-2021 14:24
Nickel	**0.00412**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:24
Thallium	**0.00117**	J	**0.000200**	**0.000500**	**0.00200**	**mg/L**	1	05-May-2021 14:24
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021 WorkOrder:HS21041135
Sample ID: 16SW01-210419-FD Lab ID:HS21041135-02
Collection Date: 19-Apr-2021 13:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	23-Apr-2021 14:19
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:19
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:19
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:19
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	23-Apr-2021 14:19
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:19
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:19
Surr: 1,2-Dichloroethane-d4	*99.6*			**0**	*81-118*	*%REC*	*1*	*23-Apr-2021 14:19*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*1*	*23-Apr-2021 14:19*
Surr: Dibromofluoromethane	*94.7*			**0**	*80-119*	*%REC*	*1*	*23-Apr-2021 14:19*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*23-Apr-2021 14:19*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 05-May-2021		Analyst: JHD
Arsenic	**0.000929**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:26
Chromium	**0.00276**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:26
Manganese	**0.115**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	05-May-2021 14:26
Nickel	**0.00444**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:26
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	05-May-2021 14:26
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021 WorkOrder:HS21041135
Sample ID: 16SW02-210419 Lab ID:HS21041135-03
Collection Date: 19-Apr-2021 13:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	23-Apr-2021 13:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:36
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:36
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:36
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	23-Apr-2021 13:36
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:36
Surr: 1,2-Dichloroethane-d4	*96.9*			**0**	*81-118*	*%REC*	*1*	*23-Apr-2021 13:36*
Surr: 4-Bromofluorobenzene	*90.3*			**0**	*85-114*	*%REC*	*1*	*23-Apr-2021 13:36*
Surr: Dibromofluoromethane	*92.6*			**0**	*80-119*	*%REC*	*1*	*23-Apr-2021 13:36*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*23-Apr-2021 13:36*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 05-May-2021		Analyst: JHD
Arsenic	**0.00101**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:28
Chromium	**0.00336**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:28
Manganese	**0.119**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	05-May-2021 14:28
Nickel	**0.00452**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:28
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	05-May-2021 14:28
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021 WorkOrder:HS21041135
Sample ID: 16SW03-210419 Lab ID:HS21041135-04
Collection Date: 19-Apr-2021 14:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	23-Apr-2021 14:40
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:40
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:40
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:40
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	23-Apr-2021 14:40
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:40
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 14:40
Surr: 1,2-Dichloroethane-d4	*99.6*			**0**	*81-118*	*%REC*	*1*	*23-Apr-2021 14:40*
Surr: 4-Bromofluorobenzene	*92.4*			**0**	*85-114*	*%REC*	*1*	*23-Apr-2021 14:40*
Surr: Dibromofluoromethane	*93.0*			**0**	*80-119*	*%REC*	*1*	*23-Apr-2021 14:40*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*23-Apr-2021 14:40*
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 05-May-2021		Analyst: JHD
Arsenic	**0.00104**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:46
Chromium	**0.00277**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:46
Manganese	**0.106**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	05-May-2021 14:46
Nickel	**0.00451**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	05-May-2021 14:46
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	05-May-2021 14:46
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021 WorkOrder:HS21041135
Sample ID: Trip Blank-210419 Lab ID:HS21041135-05
Collection Date: 19-Apr-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	23-Apr-2021 13:15
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:15
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:15
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:15
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	23-Apr-2021 13:15
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:15
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 13:15
Surr: 1,2-Dichloroethane-d4	*97.3*			**0**	*81-118*	*%REC*	*1*	*23-Apr-2021 13:15*
Surr: 4-Bromofluorobenzene	*95.3*			**0**	*85-114*	*%REC*	*1*	*23-Apr-2021 13:15*
Surr: Dibromofluoromethane	*94.2*			**0**	*80-119*	*%REC*	*1*	*23-Apr-2021 13:15*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*23-Apr-2021 13:15*

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

Weight / Prep Log

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Batch ID: 165436 **Start Date:** 05 May 2021 09:00 **End Date:** 05 May 2021 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041135-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041135-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041135-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS21041135-04		10 (mL)	10 (mL)	1	120 plastic HNO3

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 165436 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS21041135-01	16SW01-210419	19 Apr 2021 13:15		05 May 2021 13:00	05 May 2021 14:24	1
HS21041135-02	16SW01-210419-FD	19 Apr 2021 13:15		05 May 2021 13:00	05 May 2021 14:26	1
HS21041135-03	16SW02-210419	19 Apr 2021 13:40		05 May 2021 13:00	05 May 2021 14:28	1
HS21041135-04	16SW03-210419	19 Apr 2021 14:00		05 May 2021 13:00	05 May 2021 14:46	1
Batch ID: R382319 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21041135-05	Trip Blank-210419	19 Apr 2021 00:00			23 Apr 2021 13:15	1
Batch ID: R382319 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21041135-01	16SW01-210419	19 Apr 2021 13:15			23 Apr 2021 13:58	1
HS21041135-02	16SW01-210419-FD	19 Apr 2021 13:15			23 Apr 2021 14:19	1
HS21041135-03	16SW02-210419	19 Apr 2021 13:40			23 Apr 2021 13:36	1
HS21041135-04	16SW03-210419	19 Apr 2021 14:00			23 Apr 2021 14:40	1
Batch ID: R383059 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS21041135-01	16SW01-210419	19 Apr 2021 13:15			05 May 2021 16:22	1
HS21041135-02	16SW01-210419-FD	19 Apr 2021 13:15			05 May 2021 16:22	1
HS21041135-03	16SW02-210419	19 Apr 2021 13:40			05 May 2021 16:22	1
HS21041135-04	16SW03-210419	19 Apr 2021 14:00			05 May 2021 16:22	1

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

QC BATCH REPORT

Batch ID: 165436 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLKF1-165436** Units: **mg/L** Analysis Date: **05-May-2021 14:21**
Client ID: Run ID: **ICPMS06_383039** SeqNo: **6076989** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U
Chromium	0.00100	0.00500								U
Manganese	0.00250	0.00500								U
Nickel	0.00100	0.00500								U
Thallium	0.000500	0.00200								U

MBLK Sample ID: **MBLK-165436** Units: **mg/L** Analysis Date: **05-May-2021 14:19**
Client ID: Run ID: **ICPMS06_383039** SeqNo: **6076988** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U
Chromium	0.00100	0.00500								U
Manganese	0.00250	0.00500								U
Nickel	0.00100	0.00500								U
Thallium	0.000243	0.00200								J

LCS Sample ID: **LCS-165436** Units: **mg/L** Analysis Date: **05-May-2021 14:23**
Client ID: Run ID: **ICPMS06_383039** SeqNo: **6076990** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04554	0.00500	0.05	0	91.1	84 - 116				
Chromium	0.04749	0.00500	0.05	0	95.0	85 - 116				
Manganese	0.04602	0.00500	0.05	0	92.0	87 - 115				
Nickel	0.04877	0.00500	0.05	0	97.5	85 - 117				
Thallium	0.04368	0.00200	0.05	0	87.4	82 - 116				

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

QC BATCH REPORT

Batch ID: 165436 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MS Sample ID: **HS21041135-03MS** Units: **mg/L** Analysis Date: **05-May-2021 14:32**
Client ID: **16SW02-210419** Run ID: **ICPMS06_383039** SeqNo: **6076995** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04849	0.00500	0.05	0.001013	95.0	84 - 116				
Chromium	0.05078	0.00500	0.05	0.003363	94.8	85 - 116				
Manganese	0.171	0.00500	0.05	0.1187	105	87 - 115				
Nickel	0.05558	0.00500	0.05	0.004516	102	85 - 117				
Thallium	0.05023	0.00200	0.05	0.000023	100	82 - 116				

MSD Sample ID: **HS21041135-03MSD** Units: **mg/L** Analysis Date: **05-May-2021 14:34**
Client ID: **16SW02-210419** Run ID: **ICPMS06_383039** SeqNo: **6076996** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04882	0.00500	0.05	0.001013	95.6	84 - 116	0.04849	0.682	20	
Chromium	0.0516	0.00500	0.05	0.003363	96.5	85 - 116	0.05078	1.61	20	
Manganese	0.1744	0.00500	0.05	0.1187	111	87 - 115	0.171	1.96	20	
Nickel	0.05498	0.00500	0.05	0.004516	101	85 - 117	0.05558	1.1	20	
Thallium	0.05141	0.00200	0.05	0.000023	103	82 - 116	0.05023	2.32	20	

PDS Sample ID: **HS21041135-03PDS** Units: **mg/L** Analysis Date: **05-May-2021 14:36**
Client ID: **16SW02-210419** Run ID: **ICPMS06_383039** SeqNo: **6076997** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1165	0.00500	0.1	0.001013	116	80 - 120				
Chromium	0.117	0.00500	0.1	0.003363	114	80 - 120				
Nickel	0.1239	0.00500	0.1	0.004516	119	80 - 120				
Thallium	0.1175	0.00200	0.1	0.000023	117	80 - 120				

SD Sample ID: **HS21041135-03SD** Units: **mg/L** Analysis Date: **05-May-2021 14:30**
Client ID: **16SW02-210419** Run ID: **ICPMS06_383039** SeqNo: **6076994** PrepDate: **05-May-2021** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.001013	0	10	U
Chromium	0.003377	0.0250					0.003363	0	10	J
Manganese	0.1211	0.0250					0.1187	2.05	10	
Nickel	0.004418	0.0250					0.004516	0	10	J
Thallium	0.00250	0.0100					0.000023	0	10	U

ALS Houston, US Date: 05-May-21

Client:	Aptim Environmental & Infrastucture, Inc.
Project:	Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder:	HS21041135

QC BATCH REPORT

Batch ID:	**165436 (0)**	**Instrument:**	**ICPMS06**	**Method:**	**METALS BY ICPMS BY SW6020A**

The following samples were analyzed in this batch:	HS21041135-01	HS21041135-02	HS21041135-03	HS21041135-04

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

QC BATCH REPORT

Batch ID: R382319 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210423** Units: **ug/L** Analysis Date: **23-Apr-2021 12:54**
Client ID: Run ID: **VOA6_382319** SeqNo: **6059743** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	2.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*48.59*	*1.0*	*50*	*0*	*97.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*45.27*	*1.0*	*50*	*0*	*90.5*	*85 - 114*				
Surr: Dibromofluoromethane	*45.98*	*1.0*	*50*	*0*	*92.0*	*80 - 119*				
Surr: Toluene-d8	*53.8*	*1.0*	*50*	*0*	*108*	*89 - 112*				

LCS Sample ID: **VLCSW-210423** Units: **ug/L** Analysis Date: **23-Apr-2021 12:12**
Client ID: Run ID: **VOA6_382319** SeqNo: **6059742** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	22.45	1.0	20	0	112	80 - 119				
1,1-Dichloroethene	21.76	1.0	20	0	109	71 - 131				
1,2-Dichloroethane	21.06	1.0	20	0	105	73 - 128				
cis-1,2-Dichloroethene	22.4	1.0	20	0	112	78 - 123				
Methylene chloride	23.68	2.0	20	0	118	74 - 124				
Trichloroethene	21.93	1.0	20	0	110	79 - 123				
Vinyl chloride	23.85	1.0	20	0	119	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.43*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*53.54*	*1.0*	*50*	*0*	*107*	*85 - 114*				
Surr: Dibromofluoromethane	*53.15*	*1.0*	*50*	*0*	*106*	*80 - 119*				
Surr: Toluene-d8	*52.72*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

QC BATCH REPORT

Batch ID: R382319 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21041135-03MS** Units: **ug/L** Analysis Date: **23-Apr-2021 16:25**
Client ID: **16SW02-210419** Run ID: **VOA6_382319** SeqNo: **6059753** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	17.84	1.0	20	0	89.2	80 - 119				
1,1-Dichloroethene	19	1.0	20	0	95.0	71 - 131				
1,2-Dichloroethane	18.35	1.0	20	0	91.8	73 - 128				
cis-1,2-Dichloroethene	17.91	1.0	20	0	89.6	78 - 123				
Methylene chloride	18.11	2.0	20	0	90.5	74 - 124				
Trichloroethene	20.15	1.0	20	0	101	79 - 123				
Vinyl chloride	21.08	1.0	20	0	105	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.37*	*1.0*	*50*	*0*	*92.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.46*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.85*	*1.0*	*50*	*0*	*91.7*	*80 - 119*				
Surr: Toluene-d8	*51.29*	*1.0*	*50*	*0*	*103*	*89 - 112*				

MSD Sample ID: **HS21041135-03MSD** Units: **ug/L** Analysis Date: **23-Apr-2021 16:46**
Client ID: **16SW02-210419** Run ID: **VOA6_382319** SeqNo: **6059754** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	17.92	1.0	20	0	89.6	80 - 119	17.84	0.443	20	
1,1-Dichloroethene	17.94	1.0	20	0	89.7	71 - 131	19	5.74	20	
1,2-Dichloroethane	17.62	1.0	20	0	88.1	73 - 128	18.35	4.06	20	
cis-1,2-Dichloroethene	17.03	1.0	20	0	85.2	78 - 123	17.91	5.03	20	
Methylene chloride	18.42	2.0	20	0	92.1	74 - 124	18.11	1.71	20	
Trichloroethene	18.81	1.0	20	0	94.1	79 - 123	20.15	6.88	20	
Vinyl chloride	19.65	1.0	20	0	98.3	58 - 137	21.08	7	20	
Surr: 1,2-Dichloroethane-d4	*47.83*	*1.0*	*50*	*0*	*95.7*	*81 - 118*	*46.37*	*3.12*	*20*	
Surr: 4-Bromofluorobenzene	*49.66*	*1.0*	*50*	*0*	*99.3*	*85 - 114*	*50.46*	*1.6*	*20*	
Surr: Dibromofluoromethane	*45.54*	*1.0*	*50*	*0*	*91.1*	*80 - 119*	*45.85*	*0.68*	*20*	
Surr: Toluene-d8	*51.67*	*1.0*	*50*	*0*	*103*	*89 - 112*	*51.29*	*0.733*	*20*	

The following samples were analyzed in this batch: HS21041135-01 HS21041135-02 HS21041135-03 HS21041135-04 HS21041135-05

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: **HS21041135**

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	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	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, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
Work Order: HS21041135

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21041135-01	16SW01-210419	Login	4/21/2021 6:39:41 PM	NDR	Sub
HS21041135-01	16SW01-210419	Login	4/21/2021 6:39:41 PM	NDR	VOA120

ALS Houston, US Date: 05-May-21

Sample Receipt Checklist

Work Order ID: HS21041135 **Date/Time Received:** 21-Apr-2021 10:40

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

Completed By:	/S/ Nilesh D. Ranchod	21-Apr-2021 18:34	**Reviewed by:**	/S/ RJ Modashia	22-Apr-2021 10:08
	eSignature	Date/Time		eSignature	Date/Time

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

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

Temperature(s)/Thermometer(s):	2.1°C UC/C	IR31
Cooler(s)/Kit(s):	46335	
Date/Time sample(s) sent to storage:	04/21/2021 20:00	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. 501032

Job: **LHAAP 16 April 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)
16SW01-210419	WG	4/19/21/ 1315		5	X					X	X				
16SW01-210419-FD	WG	4/19/21/ 1315		5	X					X	X				
16SW02-210419	WG	4/19/21/ 1340		5	X					X	X				
16SW02-210419-MS	WG	4/19/21/ 1340		5	X					X	X				
16SW02-210419-MSD	WG	4/19/21/ 1340		5	X					X	X				
16SW03-210419	WG	4/19/21/ 1400		5	X					X	X				
TRIP BLANK-210419	W	4/19/21		2	X										

Additional Remarks: Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
	4/20/21	1430									

For Lab Use Only

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

Remarks:

Aptim Environmental & Infrastucture, Inc.
nghorn Army Ammunition Plant LHAAP 16 April 202

HS21041135

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

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

CUSTODY SEAL

Seal Broken By:

Date:

Time: 1430

10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5665
REF: LHAAP-80 77443-RJ
RMA:

FedEx Express

FedEx. 5 16355
TRK# 0221 9473 0841 7400

WED - 21 APR AA
PRIORITY OVERNIGHT

77090

May 05, 2021 Service Request No:E2100461

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

Laboratory Results for: HS21041135

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 21, 2021
For your reference, these analyses have been assigned our service request number **E2100461.**

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.:**	E2100461
Project:	HS21041135	**Date Received:**	04/21/21
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

Four samples were received for analysis at ALS Environmental in Houston on 04/21/21.

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:

EQ2100262: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS/DLCS recoveries are within QC limits. Both the MS and MSD recoveries were above control 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:**E2100461
Project: HS21041135

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100461-001	16SW01-210419	4/19/2021	1315
E2100461-002	16SW01-210419-FD	4/19/2021	1315
E2100461-003	16SW02-210419	4/19/2021	1340
E2100461-004	16SW03-210419	4/19/2021	1400

Service Request Summary

Folder #: **E2100461**
Client Name: ALS Environmental - US
Project Name: HS21041135
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: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041135
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100461-001	16SW01-210419	Ground Water	04/19/21 1315	**IV**
E2100461-002	16SW01-210419-FD	Ground Water	04/19/21 1315	**IV**
E2100461-003	16SW02-210419	Ground Water	04/19/21 1340	**IV**
E2100461-004	16SW03-210419	Ground Water	04/19/21 1400	**IV**

Service Request Summary

Folder #: **E2100461**
Client Name: ALS Environmental - US
Project Name: HS21041135
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: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041135
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	3	Level II due 5/5, IV due 5/12
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD

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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
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: 15966**

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:	HS21041135
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041135-01**	**16SW01-210419**	**Groundwater**	**19 Apr 2021 13:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
2.	**HS21041135-02**	**16SW01-210419-FD**	**Groundwater**	**19 Apr 2021 13:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
3.	**HS21041135-03**	**16SW02-210419**	**Groundwater**	**19 Apr 2021 13:40**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
4.	**HS21041135-04**	**16SW03-210419**	**Groundwater**	**19 Apr 2021 14:00**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS21041135-03 MS/MSD

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **15966**

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 4/12/21 1990

Cooler ID(s): _____ Temperature(s): _____

Cooler Receipt Form

ALS Environmental

Project Chemist CA

Client/Project ALS-H

Thermometer ID 1D31

Date/Time Received: 4/21/21 Initials: CA Date/Time Logged in: 4/21/21 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

3. Were custody seals on coolers? ○ Yes ✓ No 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		4/21/21	1440	CA	0.8	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100460-001	16EW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100460-002	16EW04-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100460-003	16EW08-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100460-004	16WW13-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100460-005	16WW42-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100460-006	16RW05-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100460-007	16RW06-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100460-008	16RW07-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100461-001	16SW01-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100461-002	16SW01-210419-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100461-003	16SW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100461-004	16SW03-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100464-001	16EW01-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100464-002	16EW03-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100464-003	16IW10-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100464-004	16RW11-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2100464-005	16RW11-210421-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2100464-006	16IW20-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
19	EQ2100262-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100262-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2100262-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2100262-04	16SW02-210419 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2100262-05	16SW02-210419 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100262-02	1.00µL	EQ2100262-03	1.00µL	EQ2100262-04	1.00µL	EQ2100262-05	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100460-001	100.00µL	E2100460-002	100.00µL	E2100460-003	100.00µL	E2100460-004	100.00µL	E2100460-005	100.00µL	E2100460-006	100.00µL
E2100460-007	100.00µL	E2100460-008	100.00µL	E2100461-001	100.00µL	E2100461-002	100.00µL	E2100461-003	100.00µL	E2100461-004	100.00µL
E2100464-001	100.00µL	E2100464-002	100.00µL	E2100464-003	100.00µL	E2100464-004	100.00µL	E2100464-005	100.00µL	E2100464-006	100.00µL
EQ2100262-01	100.00µL	EQ2100262-02	100.00µL	EQ2100262-03	100.00µL	EQ2100262-04	100.00µL	EQ2100262-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

Preparation Steps

Step: Preparation
Started: 4/30/21 12:02
Finished: 4/30/21 14:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1315
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW01-210419	**Units:**	µg/L
Lab Code:	E2100461-001	**Basis:**	As Received

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	4/30/21	5/1/21 14:48	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1315
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW01-210419-FD	**Units:**	µg/L
Lab Code:	E2100461-002	**Basis:**	As Received

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	4/30/21	5/1/21 14:57	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1340
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	E2100461-003	**Basis:**	As Received

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	4/30/21	5/1/21 15:06	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1400
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW03-210419	**Units:**	µg/L
Lab Code:	E2100461-004	**Basis:**	As Received

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	4/30/21	5/1/21 15:16	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100262-01	**Basis:**	As Received

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	4/30/21	4/30/21 19:08	378426	722218	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135
Sample Matrix: Ground Water

Service Request: E2100461
Date Analyzed: 4/30/21

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: As Received

Extraction Lot: 378426

	Lab Control Sample EQ2100262-02			Duplicate Lab Control Sample EQ2100262-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0976	0.100	98	0.0984	0.100	98	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:**	E2100461
Project:	HS21041135	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-02	**Basis:**	As Received

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	**0.0976**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:18	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-03	**Basis:**	As Received

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	**0.0984**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:27	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
		Date Analyzed:	5/ 1/21

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

Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	E2100461-003	**Basis:**	As Received

Analytical Method: 6850
Prep Method: Method

		16SW02-210419MS				16SW02-210419DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2100262-04				EQ2100262-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**		**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	ND	0.187	0.100	187	*	0.185	0.100	185	*	84 - 119	1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1340
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	EQ2100262-04	**Basis:**	As Received
Run Type:	Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.187**	J	0.500	0.250	0.125	5	4/30/21	5/1/21 14:10	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1340
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	EQ2100262-05	**Basis:**	As Received
Run Type:	Duplicate Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.185**	J	0.500	0.250	0.125	5	4/30/21	5/1/21 14:19	378426	722220	

HS21041135 8260_W_DOD Raw Data

ALS WO# HS21041135

MSVOA06 -Logbook

Batch: 44312 **Analyst:** Presenta Cabascango

Date: 04-02-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-02-2021 10:32 am	1.00	50 mL	50 mL	X040201.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	04-02-2021 10:53 am	1.00	50 mL	50 mL	X040202.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	04-02-2021 11:35 am	1.00	50 mL	50 mL	X040203.D	Liquid	Y	NA
4	VSTD001	ICAL3	04-02-2021 11:56 am	1.00	50 mL	50 mL	X040204.D	Liquid	Y	NA
5	VSTD002	ICAL4	04-02-2021 12:17 pm	1.00	50 mL	50 mL	X040205.D	Liquid	Y	NA
6	VSTD005	ICAL5	04-02-2021 12:38 pm	1.00	50 mL	50 mL	X040206.D	Liquid	Y	NA
7	VSTD020	ICAL6	04-02-2021 12:59 pm	1.00	50 mL	50 mL	X040207.D	Liquid	Y	NA
8	VSTD050	ICAL7	04-02-2021 01:20 pm	1.00	50 mL	50 mL	X040208.D	Liquid	Y	NA
9	VSTD100	ICAL8	04-02-2021 01:41 pm	1.00	50 mL	50 mL	X040209.D	Liquid	Y	NA
10	VSTD150	ICAL9	04-02-2021 02:02 pm	1.00	50 mL	50 mL	X040210.D	Liquid	Y	NA
11	VSTD200	ICAL	04-02-2021 02:23 pm	1.00	50 mL	50 mL	X040211.D	Liquid	Y	NA
12	BLANK	SAMP	04-02-2021 02:44 pm	1.00	50 mL	50 mL	X040212.D	Liquid	Y	NA
13	CCV	SAMP	04-02-2021 03:05 pm	1.00	50 mL	50 mL	X040213.D	Liquid	Y	NA
14	CCV	CCV	04-02-2021 03:26 pm	1.00	50 mL	50 mL	X040214.D	Liquid	Y	NA
15	CCB	SAMP	04-02-2021 03:47 pm	1.00	50 mL	50 mL	X040215.D	Liquid	Y	NA
16	VLCSW-210402	LCS	04-02-2021 04:08 pm	1.00	50 mL	50 mL	X040216.D	Liquid	Y	NA
17	BLANK	SAMP	04-02-2021 04:29 pm	1.00	50 mL	50 mL	X040217.D	Liquid	Y	NA
18	BLANK	SAMP	04-02-2021 04:50 pm	1.00	50 mL	50 mL	X040218.D	Liquid	Y	NA
19	VBLKW-210402	MBLK	04-02-2021 05:11 pm	1.00	50 mL	50 mL	X040219.D	Liquid	Y	NA
20	HS21031390-28	SAMP	04-02-2021 05:32 pm	1.00	50 mL	50 mL	X040220.D	Liquid	Y	NA
21	HS21031390-01	SAMP	04-02-2021 05:53 pm	1.00	50 mL	50 mL	X040221.D	Liquid	Y	NA
22	HS21031390-02	SAMP	04-02-2021 06:14 pm	1.00	50 mL	50 mL	X040222.D	Liquid	Y	NA
23	HS21031390-08	SAMP	04-02-2021 06:35 pm	1.00	50 mL	50 mL	X040223.D	Liquid	Y	NA
24	HS21031390-14	SAMP	04-02-2021 06:56 pm	1.00	50 mL	50 mL	X040224.D	Liquid	Y	NA
25	HS21031390-06	SAMP	04-02-2021 07:17 pm	10.00	5 mL	50 mL	X040225.D	Liquid	Y	NA
26	HS21031390-09	SAMP	04-02-2021 07:38 pm	5.00	10 mL	50 mL	X040226.D	Liquid	Y	NA
27	HS21031390-28MS	MS	04-02-2021 07:59 pm	1.00	50 mL	50 mL	X040227.D	Liquid	Y	NA
28	HS21031390-28MSD	MSD	04-02-2021 08:20 pm	1.00	50 mL	50 mL	X040228.D	Liquid	Y	NA
29	HS21031390-06	SAMP	04-02-2021 08:41 pm	100.0(	500 µL	50 mL	X040229.D	Liquid	Y	NA
30	HS21031390-09	SAMP	04-02-2021 09:03 pm	25.00	2 mL	50 mL	X040230.D	Liquid	Y	NA
31	HS21031318-29	SAMP	04-02-2021 09:24 pm	1.00	50 mL	50 mL	X040231.D	Liquid	Y	NA
32	HS21040032-03	SAMP	04-02-2021 09:45 pm	1.00	50 mL	50 mL	X040232.D	Liquid	Y	NA
33	BFB	TUNE	04-02-2021 10:06 pm	1.00	50 mL	50 mL	Y040201.D	Liquid	Y	NA
34	CCV	CCV	04-02-2021 10:27 pm	1.00	50 mL	50 mL	Y040202a.D	Liquid	Y	NA
35	CCV	CCV	04-02-2021 10:48 pm	1.00	50 mL	50 mL	Y040203.D	Liquid	Y	NA
36	CCB	SAMP	04-02-2021 11:09 pm	1.00	50 mL	50 mL	Y040204.D	Liquid	Y	NA
37	VLCSW-210402	LCS	04-02-2021 11:30 pm	1.00	50 mL	50 mL	Y040205.D	Liquid	Y	NA
38	BLANK	SAMP	04-02-2021 11:51 pm	1.00	50 mL	50 mL	Y040206.D	Liquid	Y	NA
39	VBLKW-210402	MBLK	04-03-2021 12:12 am	1.00	50 mL	50 mL	Y040207.D	Liquid	Y	NA
40	HS21031399-49	SAMP	04-03-2021 12:33 am	1.00	50 mL	50 mL	Y040208.D	Liquid	Y	NA
41	HS21031390-31	SAMP	04-03-2021 12:54 am	1.00	50 mL	50 mL	Y040209.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS21031390-33	SAMP	04-03-2021 01:15 am	1.00	50 mL	50 mL	Y040210.D	Liquid	Y	NA
43	HS21031390-31MS	MS	04-03-2021 01:36 am	1.00	50 mL	50 mL	Y040211.D	Liquid	Y	NA
44	HS21031390-31MSD	MSD	04-03-2021 01:57 am	1.00	50 mL	50 mL	Y040212.D	Liquid	Y	NA
45	BLANK	SAMP	04-03-2021 02:18 am	1.00	50 mL	50 mL	Y040213.D	Liquid	Y	NA
46	BLANK	SAMP	04-03-2021 02:39 am	1.00	50 mL	50 mL	Y040214.D	Liquid	Y	NA
47	HS21031399-38	SAMP	04-03-2021 03:00 am	1.00	50 mL	50 mL	Y040215.D	Liquid	Y	NA
48	HS21031399-39	SAMP	04-03-2021 03:21 am	1.00	50 mL	50 mL	Y040216.D	Liquid	Y	NA
49	HS21031399-41	SAMP	04-03-2021 03:43 am	1.00	50 mL	50 mL	Y040217.D	Liquid	Y	NA
50	HS21031399-42	SAMP	04-03-2021 04:04 am	1.00	50 mL	50 mL	Y040218.D	Liquid	Y	NA
51	HS21031399-43	SAMP	04-03-2021 04:25 am	1.00	50 mL	50 mL	Y040219.D	Liquid	Y	NA
52	HS21031399-44	SAMP	04-03-2021 04:46 am	1.00	50 mL	50 mL	Y040220.D	Liquid	Y	NA
53	HS21031399-45	SAMP	04-03-2021 05:07 am	1.00	50 mL	50 mL	Y040221.D	Liquid	Y	NA
54	HS21031399-46	SAMP	04-03-2021 05:28 am	1.00	50 mL	50 mL	Y040222.D	Liquid	Y	NA
55	HS21031565-01	SAMP	04-03-2021 05:49 am	1.00	50 mL	50 mL	Y040223.D	Liquid	Y	NA
56	HS21031565-05	SAMP	04-03-2021 06:10 am	1.00	50 mL	50 mL	Y040224.D	Liquid	Y	NA
57	HS21031565-06	SAMP	04-03-2021 06:31 am	1.00	50 mL	50 mL	Y040225.D	Liquid	Y	NA
58	HS21031565-07	SAMP	04-03-2021 06:52 am	1.00	50 mL	50 mL	Y040226.D	Liquid	Y	NA
59	HS21031565-08	SAMP	04-03-2021 07:13 am	1.00	50 mL	50 mL	Y040227.D	Liquid	Y	NA
60	HS21031565-11	SAMP	04-03-2021 07:35 am	1.00	50 mL	50 mL	Y040228.D	Liquid	Y	NA
61	HS21031565-14	SAMP	04-03-2021 07:56 am	1.00	50 mL	50 mL	Y040229.D	Liquid	Y	NA
62	HS21031565-15	SAMP	04-03-2021 08:17 am	1.00	50 mL	50 mL	Y040230.D	Liquid	Y	NA
63	HS21031390-32	SAMP	04-03-2021 08:38 am	1.00	50 mL	50 mL	Y040231.D	Liquid	Y	NA
64	BLANJ	SAMP	04-03-2021 08:59 am	1.00	50 mL	50 mL	Y040240.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	46.17	92	80-120
Methylene Chloride	50.00	45.57	91	80-120
1,1-Dichloroethene	50.00	46.21	92	80-120
1,2-Dichloroethane	50.00	47.48	95	80-120
cis-1,2-Dichloroethene	50.00	46.33	93	80-120
1,1,2-Trichloroethane	50.00	48.15	96	80-120
Trichloroethene	50.00	50.43	101	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM V

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Lab File ID: X040201 BFB Injection Date: 04/02/21

Instrument ID: VOA6 BFB Injection Time: 1032

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	22.5
75	30.0 - 60.0% of mass 95	53.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	Greater than 50.0% of mass 95	83.8
175	5.0 - 9.0% of mass 174	6.3 (7.6)1
176	95.0 - 101.0% of mass 174	81.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.4 (5.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X040202	04/02/21	1053
02	VSTD000.5	VSTD000.5	X040203	04/02/21	1135
03	VSTD001	VSTD001	X040204	04/02/21	1156
04	VSTD002	VSTD002	X040205	04/02/21	1217
05	VSTD005	VSTD005	X040206	04/02/21	1238
06	VSTD020	VSTD020	X040207	04/02/21	1259
07	VSTD050	VSTD050	X040208	04/02/21	1320
08	VSTD100	VSTD100	X040209	04/02/21	1341
09	VSTD150	VSTD150	X040210	04/02/21	1402
10	VSTD200	VSTD200	X040211	04/02/21	1423
11	ICV	ICV	X040214	04/02/21	1526
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF0.25: X040202 RF0.5: X040203 RF1: X040204
RF2: X040205 RF5: X040206 RF20: X040207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.844	0.943	0.758	0.756	0.736
Methylene Chloride		2167	4155	7271	17205	63925
1,1-Dichloroethene		0.748	0.754	0.752	0.776	0.659
1,2-Dichloroethane		0.560	0.634	0.506	0.530	0.475
cis-1,2-Dichloroethene		0.588	0.711	0.624	0.604	0.542
1,1,2-Trichloroethane		0.276	0.355	0.300	0.320	0.251
Trichloroethene		0.263	0.401	0.364	0.376	0.308
Dibromofluoromethane		1934	3862	6870	17824	68668
1,2-Dichloroethane-d4		2323	4438	7506	20809	80475
Toluene-d8		6330	12313	22274	56112	218999
4-Bromofluorobenzene		2889	4647	7732	19193	81621

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104113

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.74959896	12.472	15.000
Methylene Chloride	LINR	2.966e-002	1.78818120	0.9978871	0.9900000
1,1-Dichloroethene	AVRG		0.71193342	6.418	15.000
1,2-Dichloroethane	AVRG		0.52923847	8.569	15.000
cis-1,2-Dichloroethene	AVRG		0.61120734	7.506	15.000
1,1,2-Trichloroethane	AVRG		0.29044925	10.722	15.000
Trichloroethene	AVRG		0.34228157	11.637	15.000
Dibromofluoromethane	LINR	8.656e-003	1.68407127	0.9996746	0.9900000
1,2-Dichloroethane-d4	LINR	9.666e-003	1.40410549	0.9998489	0.9900000
Toluene-d8	LINR	3.71e-002	0.74922718	0.9979532	0.9900000
4-Bromofluorobenzene	LINR	3.301e-002	2.01663185	0.9986184	0.9900000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

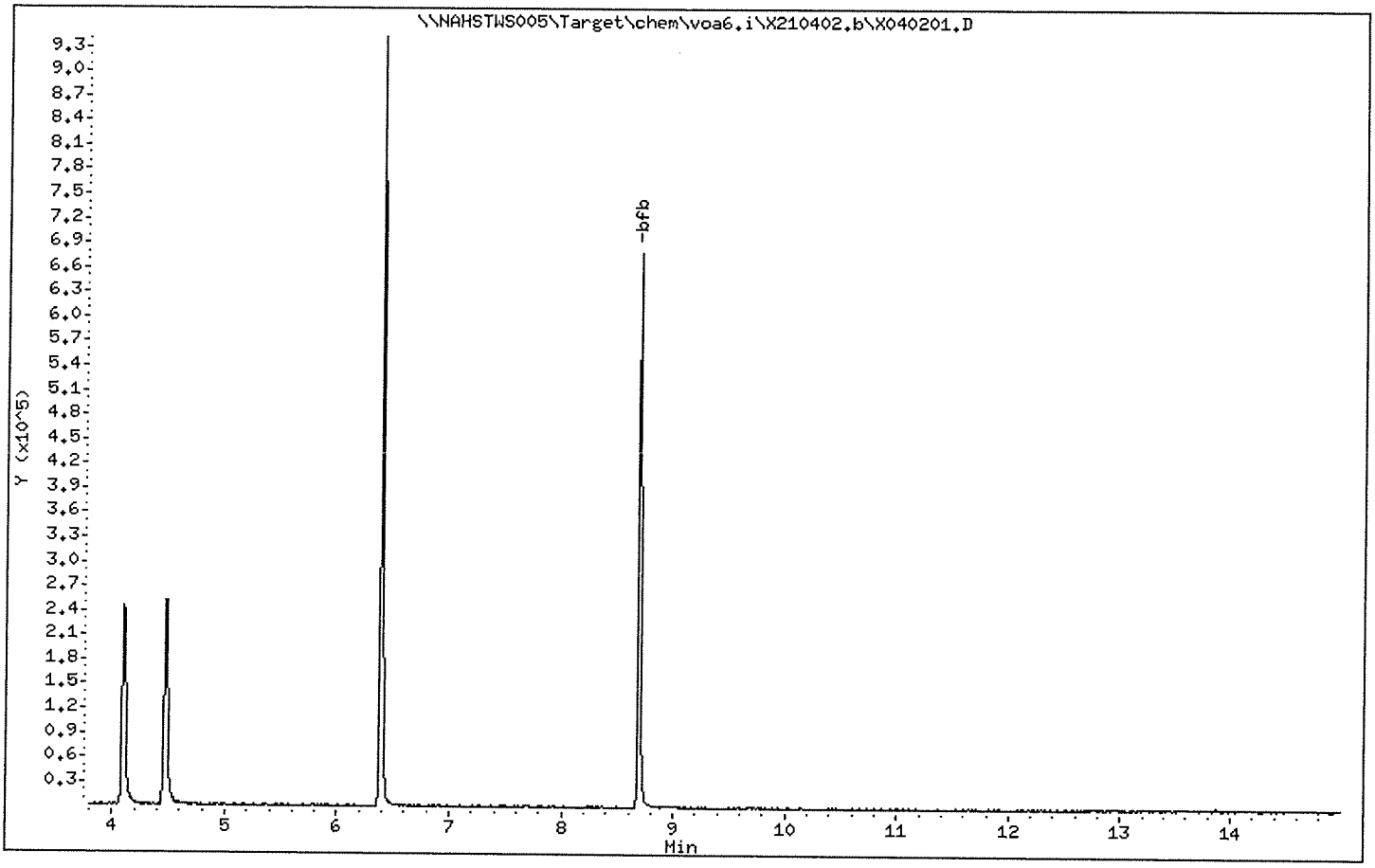
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

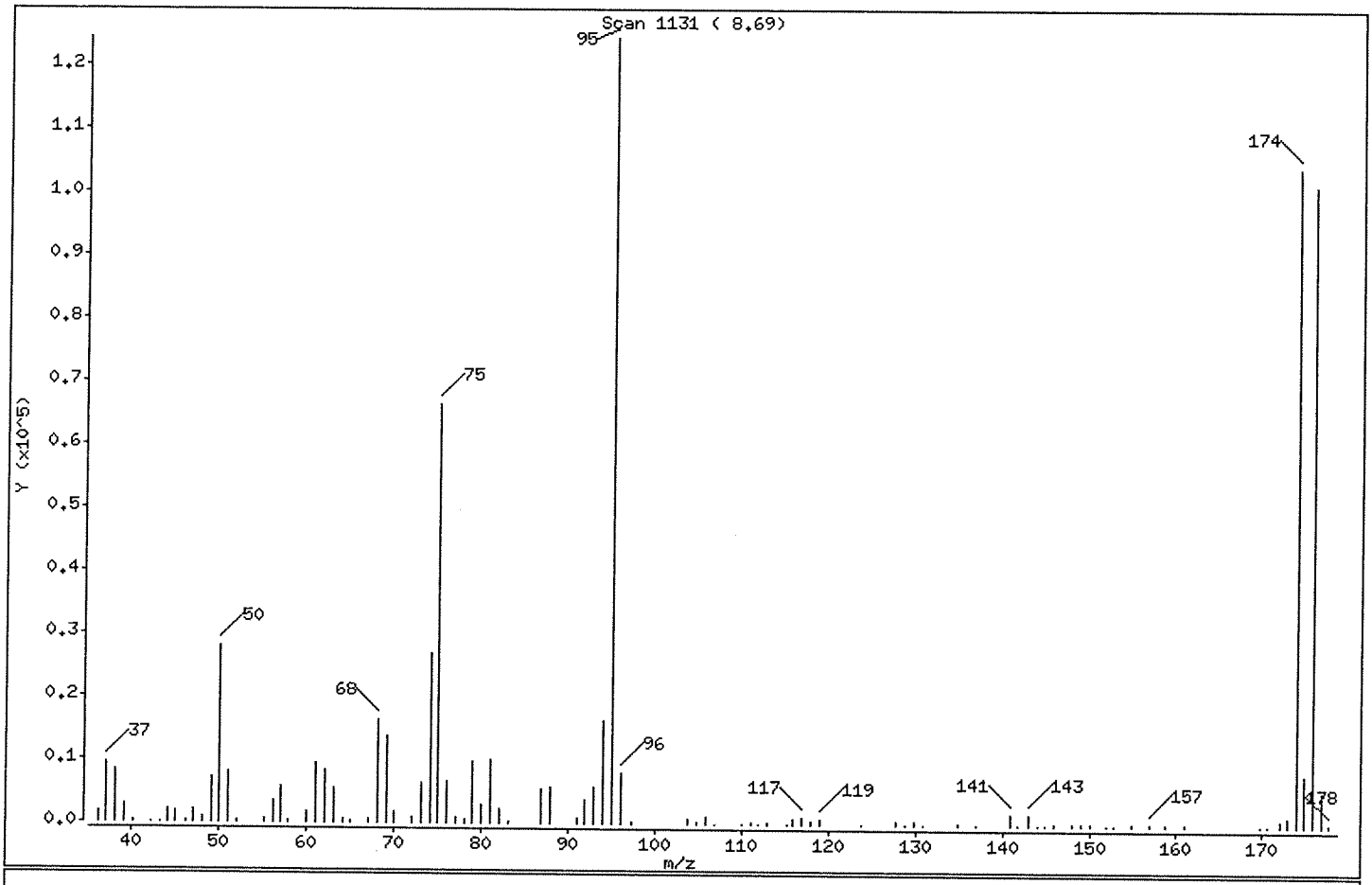
Volume Injected (uL): 2.0

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	22.51
75	30.00 - 60.00% of mass 95	53.31
96	5.00 - 9.00% of mass 95	6.51
173	Less than 2.00% of mass 174	1.06 (1.26)
174	Greater than 50.00% of mass 95	83.79
175	5.00 - 9.00% of mass 174	6.34 (7.56)
176	95.00 - 101.00% of mass 174	81.37 (97.11)
177	5.00 - 9.00% of mass 176	4.40 (5.40)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

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: X040201.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1732	64.00	599	95.00	124200	141.70	84
37.00	9290	65.00	153	96.00	8090	142.90	1576
38.00	8308	67.00	500	97.20	217	143.90	75
39.00	2929	68.00	16384	103.70	740	144.80	94
40.10	424	69.00	13717	104.80	164	145.90	148
42.20	74	70.00	1785	105.80	1029	147.90	250
43.20	72	72.10	777	106.90	112	148.90	155
44.00	2050	73.00	6328	109.90	136	150.00	286
45.00	1795	74.00	26912	111.00	268	151.80	52
46.10	242	75.00	66216	111.90	85	152.70	124
47.00	1874	76.00	6620	112.90	237	154.80	284
48.00	988	77.10	800	115.10	59	156.80	312
49.00	7094	78.10	446	115.80	811	158.80	260
50.00	27952	78.90	9818	116.90	1154	161.00	258
51.00	7947	79.90	2794	117.80	635	169.80	139
51.90	391	80.90	10133	118.90	930	170.60	140
55.20	631	82.00	2269	123.70	57	172.20	893
56.10	3391	83.00	193	127.70	679	172.90	1311
57.00	5690	86.90	5298	128.70	113	173.90	104064
57.90	400	87.90	5776	129.70	519	174.90	7871
59.90	1604	90.90	805	130.80	68	175.90	101056
61.00	9323	91.90	3707	134.80	220	176.90	5459
62.00	8245	92.90	5610	136.80	123	177.80	373
63.00	5418	94.00	16192	140.90	1678		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-APR-2021 10:53
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

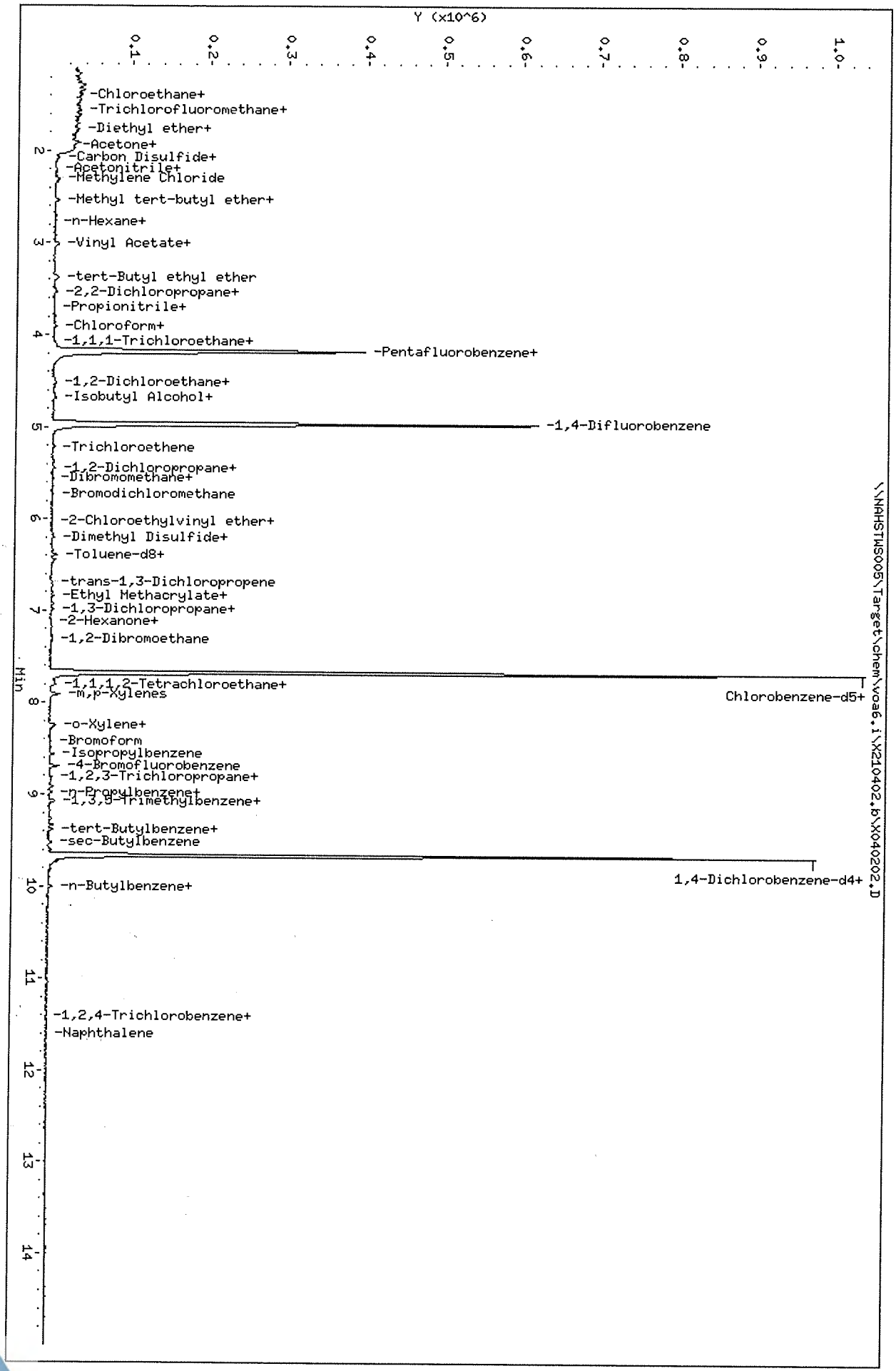
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	311555	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	505232	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	450629	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197083	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	968	0.25000	0.69(M)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1238	0.25000	0.76(TM)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	4819	0.25000	2.25
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3592	0.25000	2.45
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	995	0.25000	0.38(a)
11 1,1-Dichloroethene	96	1.904	1.904	(0.455)	1567	0.25000	0.35(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	1597	0.25000	0.29(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	893	0.25000	0.23(M)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2054	0.25000	2.07(aM)
38 Trichloroethene	130	5.221	5.221	(1.052)	988	0.25000	0.28(M)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1614	0.25000	0.34(M)

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\X210402.b\X040202.D
Date : 02-APR-2021 10:53
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\X210402.b\X040203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-APR-2021 11:35
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 10:53 Cal File: X040202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

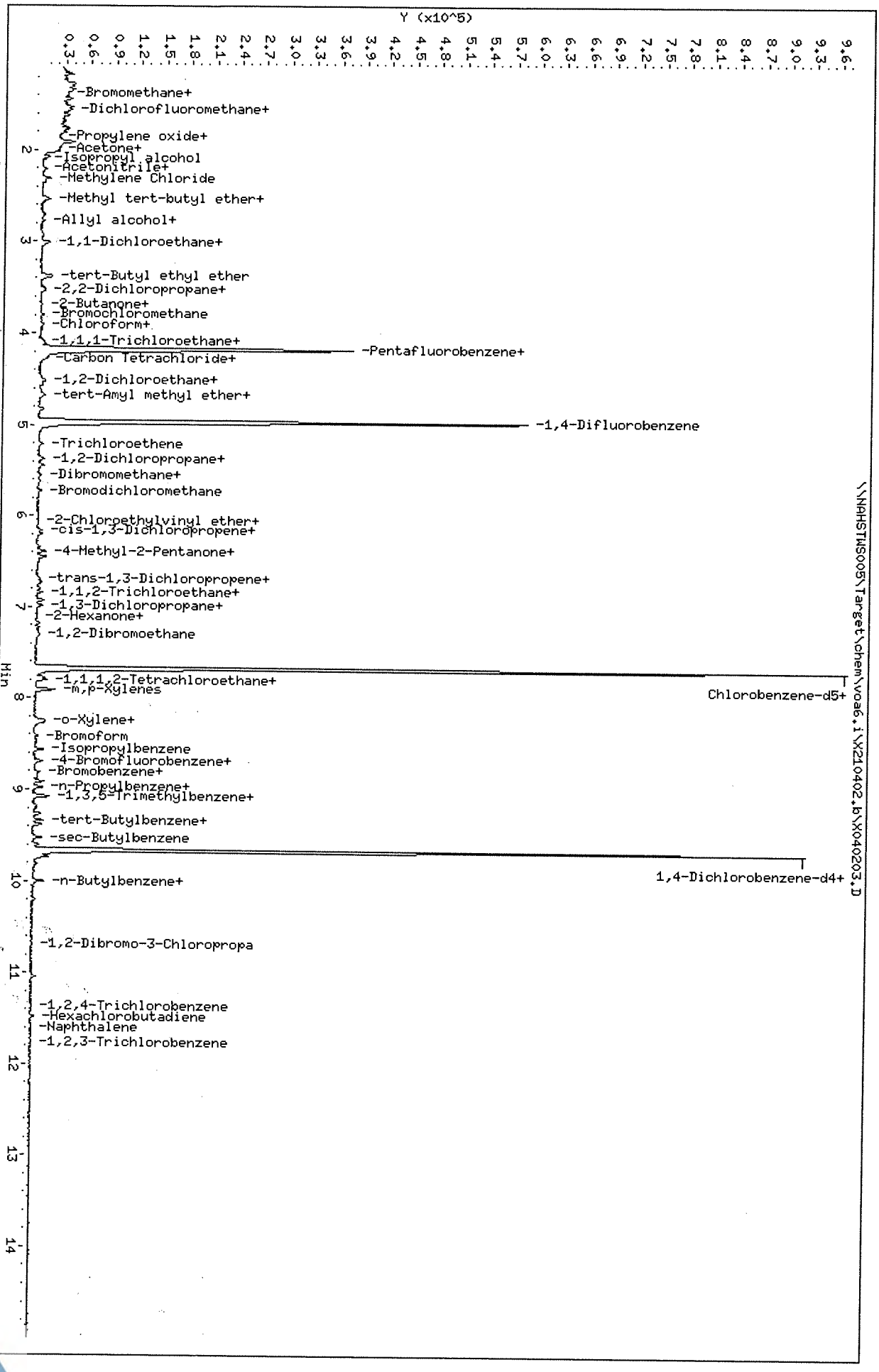
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	292480	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	476531	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	420545	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	191809	50.0000	
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1934	0.50000	0.98
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2323	0.50000	1.04(T)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	6330	0.50000	2.41(T)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2889	0.50000	2.34
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1162	0.50000	0.47(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2188	0.50000	0.52(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	2669	0.50000	0.52(aM)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.848)	1721	0.50000	0.48
17 Methylene Chloride	84	2.306	2.306	(0.551)	2167	0.50000	2.14(aM)
38 Trichloroethene	130	5.214	5.214	(1.049)	1254	0.50000	0.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2470	0.50000	0.56

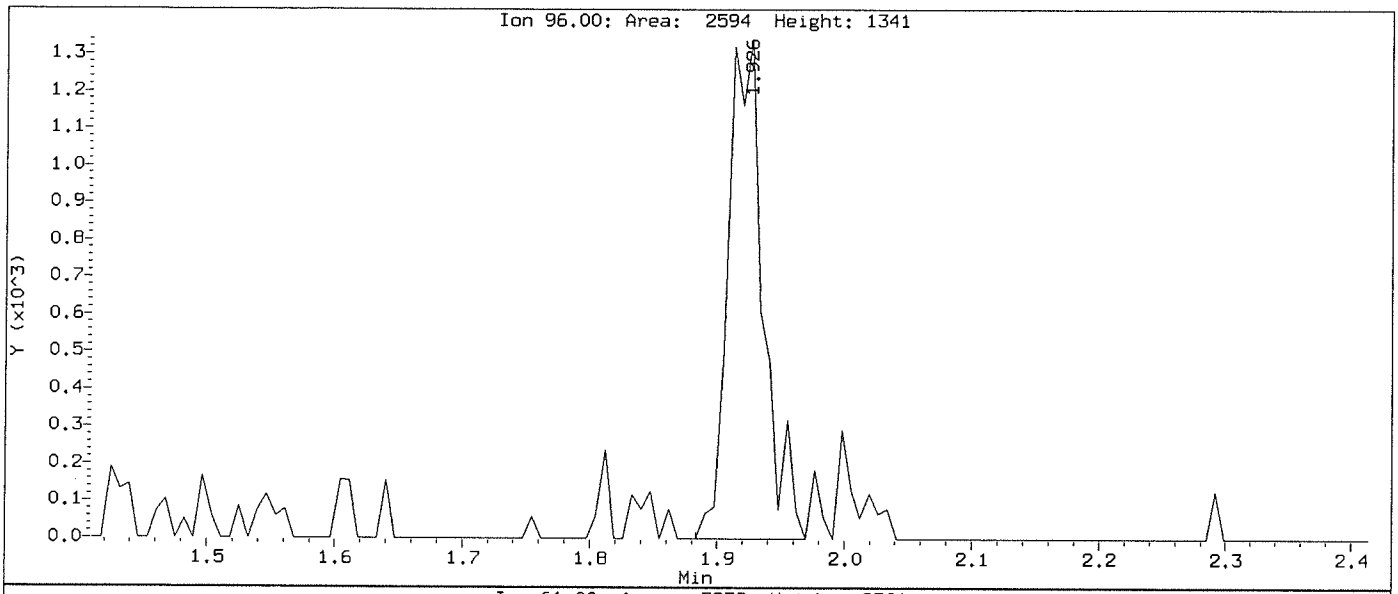
QC Flag Legend

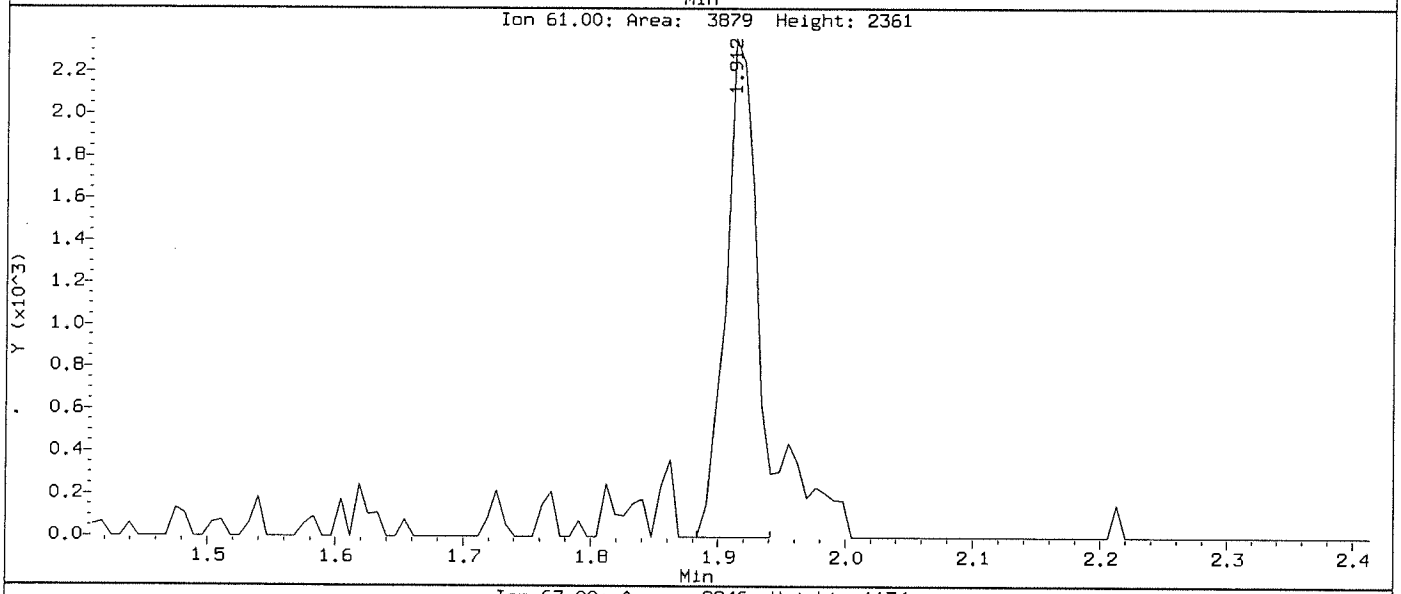
T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

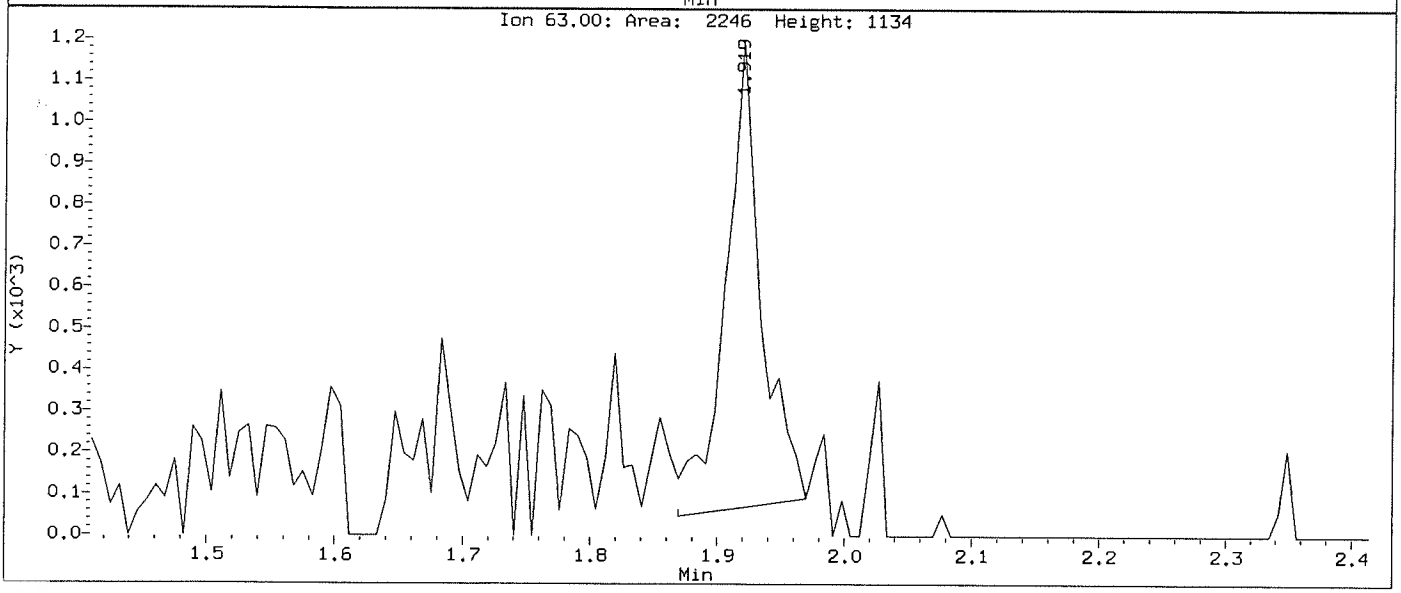

Y (x10^5)
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Date : 02-APR-2021 11:35
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Min
-Bromomethane+
-Dichlorofluoromethane+
-Propylene oxide+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Methyl tert-butyl ether+
-Allyl alcohol+
-1,1-Dichloroethane+
-tert-Butyl ethyl ether
-2,2-Dichloropropane+
-2-Butanone+
-Bromochloromethane
-Chloroform+
-1,1,1-Trichloroethane+
-Pentafluorobenzene+
-Carbon Tetrachloride+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-1,2-Dichloropropane+
-Dibromomethane+
-Bromodichloromethane
-2-Chloroethylvinyl ether+
-cis-1,3-Dichloropropene+
-4-Methyl-2-Pentanone+
-trans-1,3-Dichloropropene+
-1,1,2-Trichloroethane+
-1,3-Dichloropropane+
-2-Hexanone+
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene+
-Bromobenzene+
-n-Propylbenzene+
-1,3,5-Trimethylbenzene+
-tert-Butylbenzene+
-sec-Butylbenzene
-n-Butylbenzene+
1,4-Dichlorobenzene-d4+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

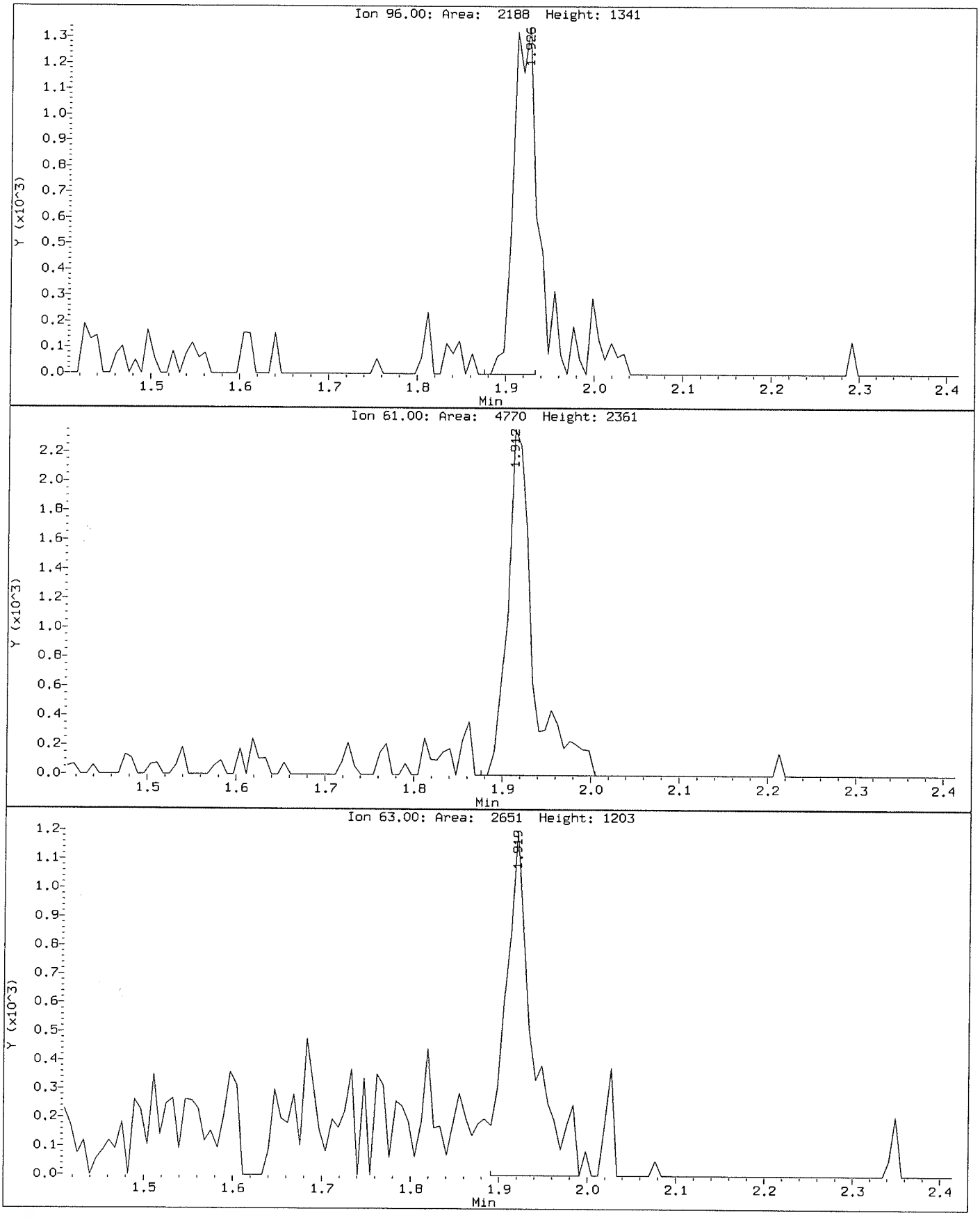






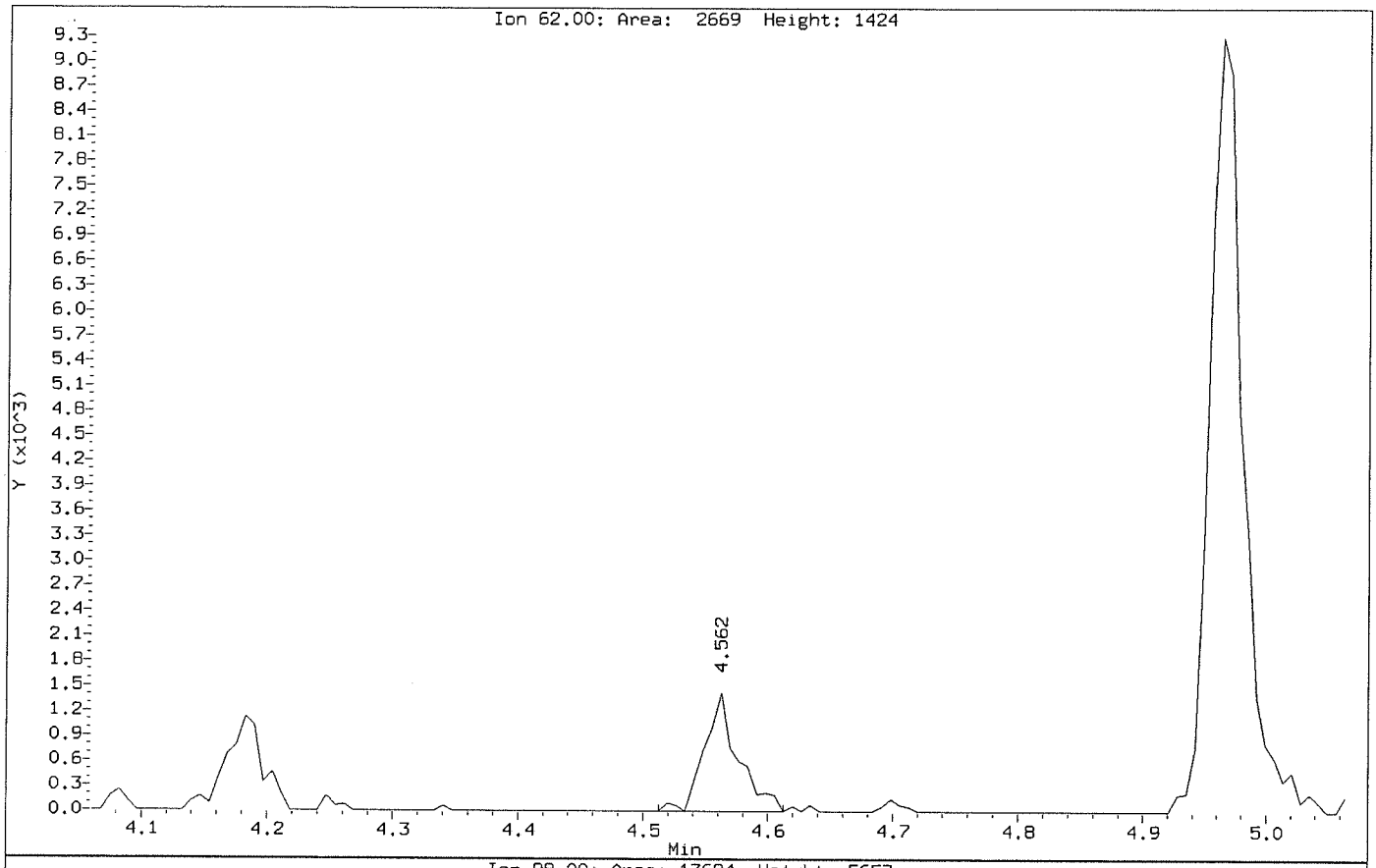
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

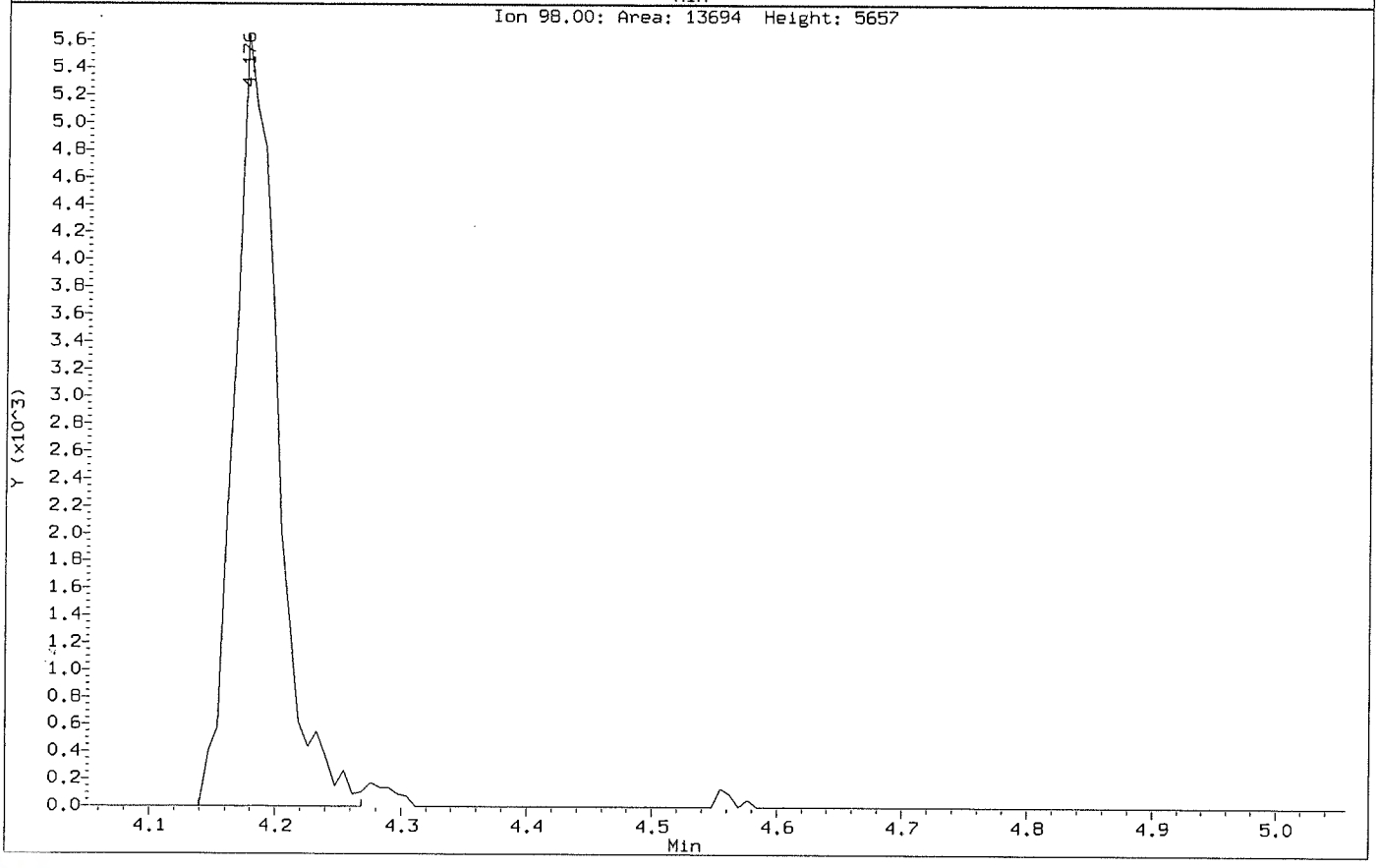
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

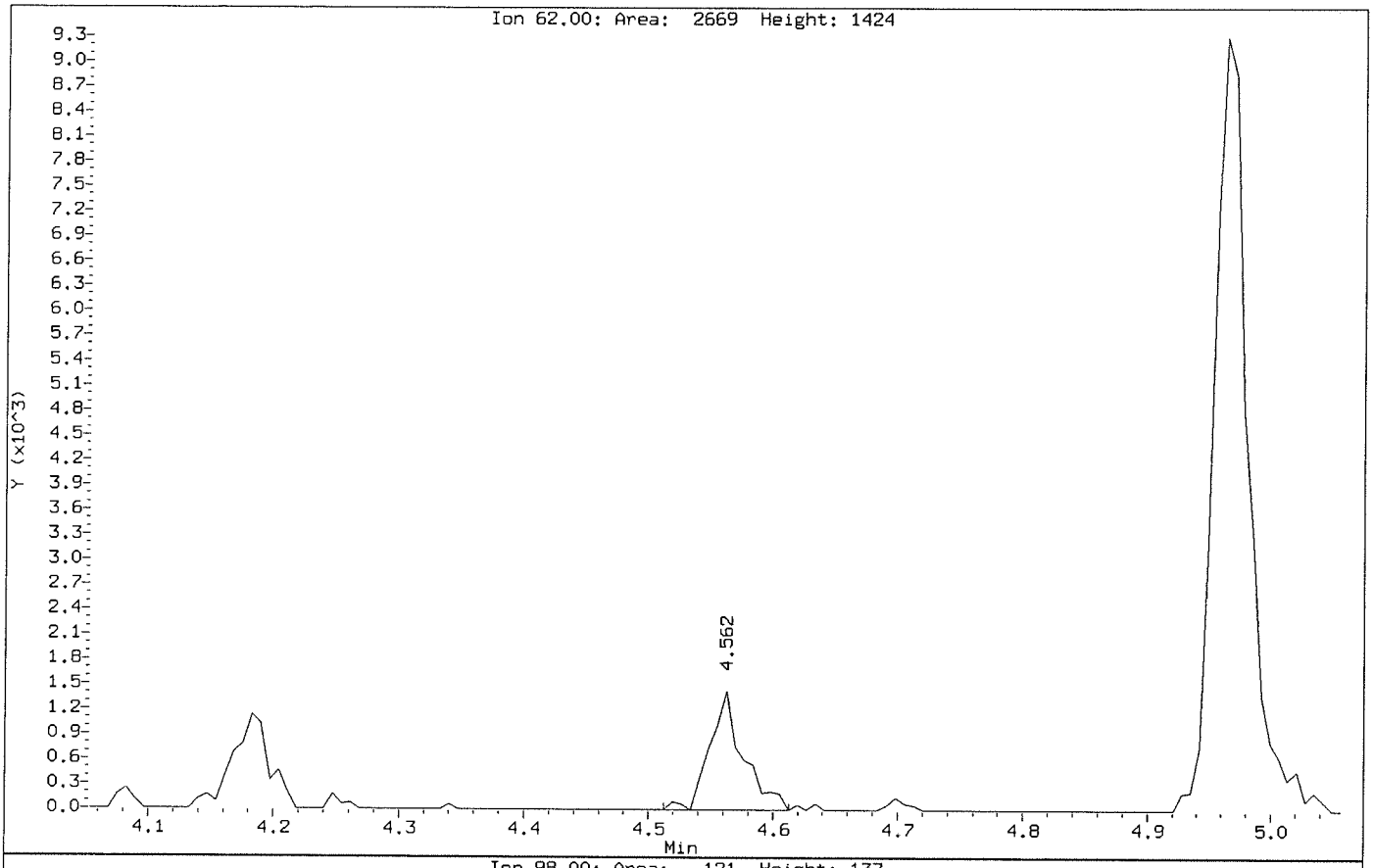
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

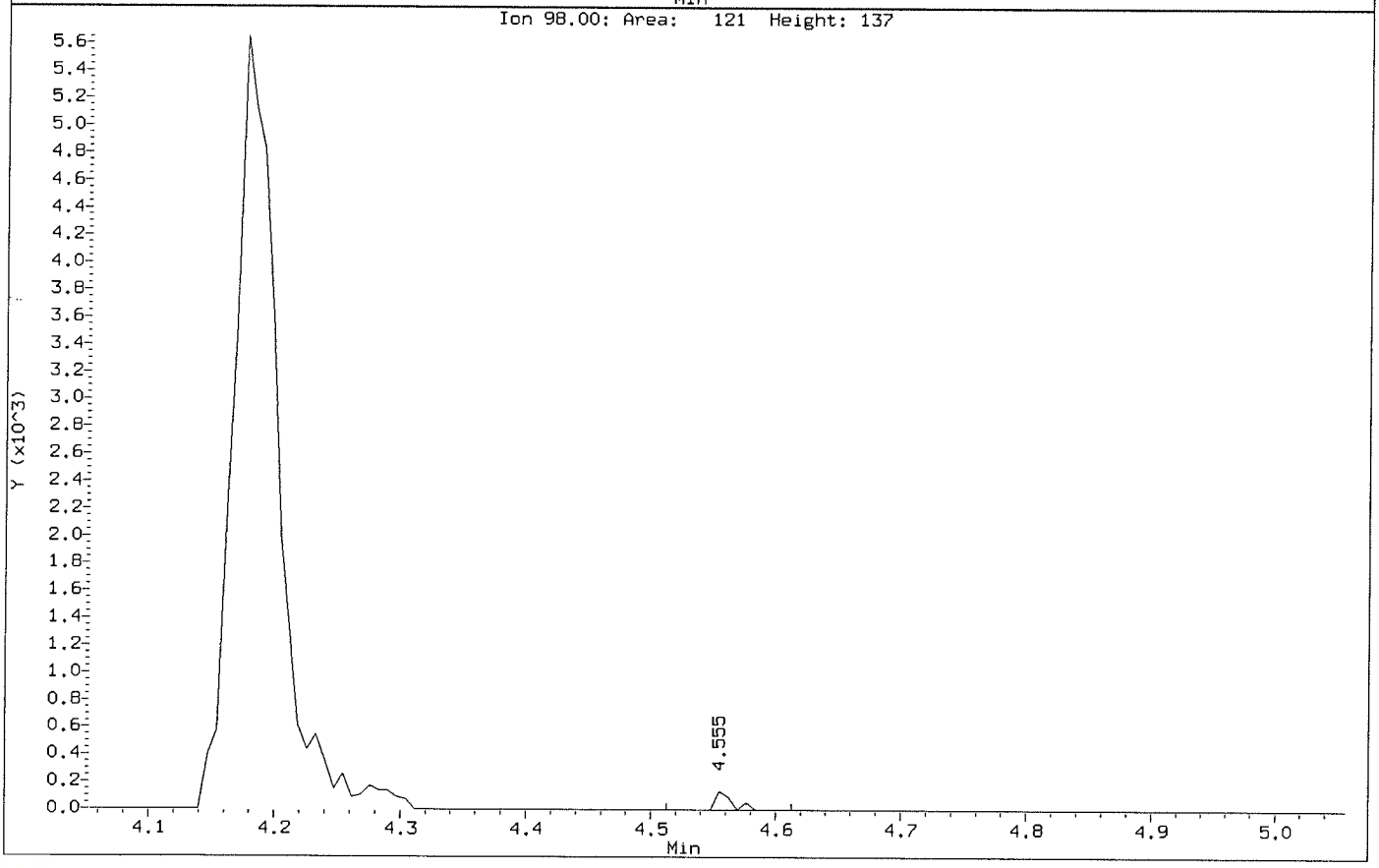




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

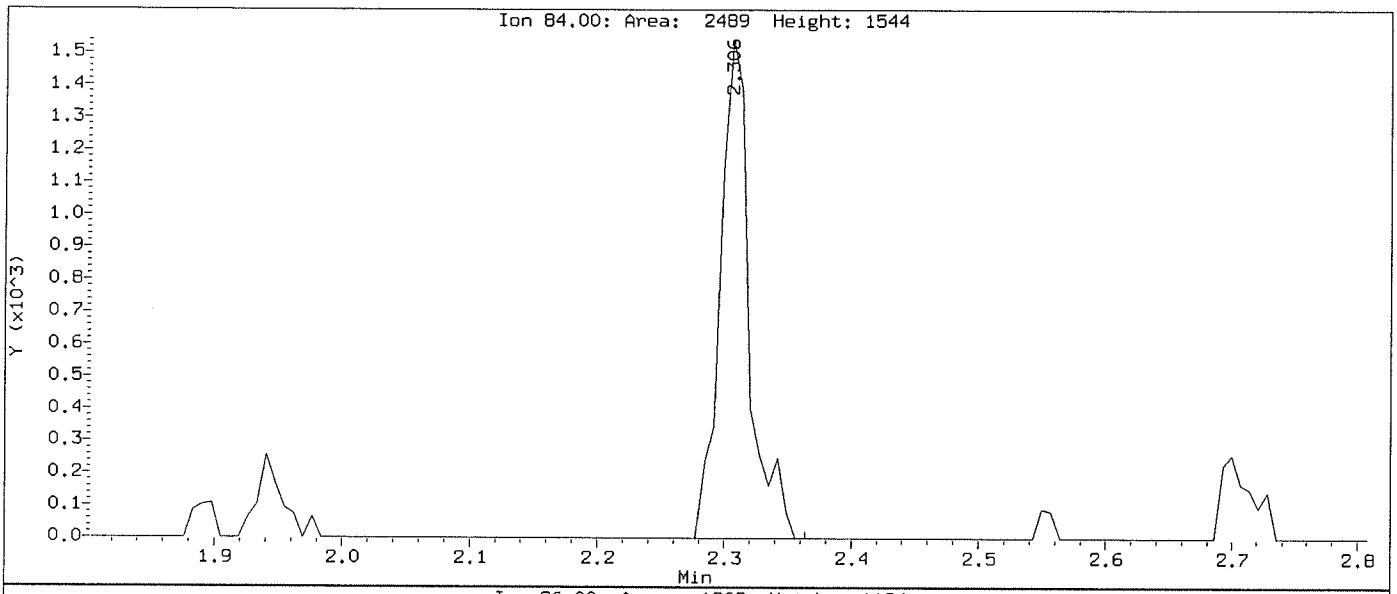
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

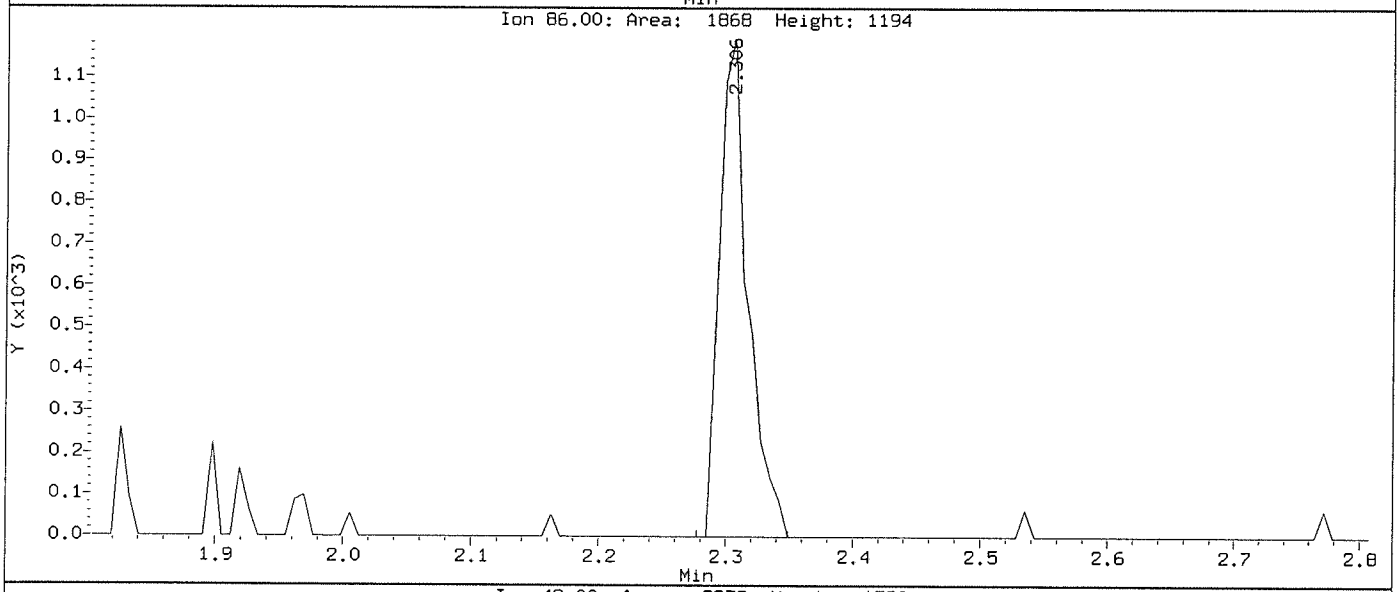


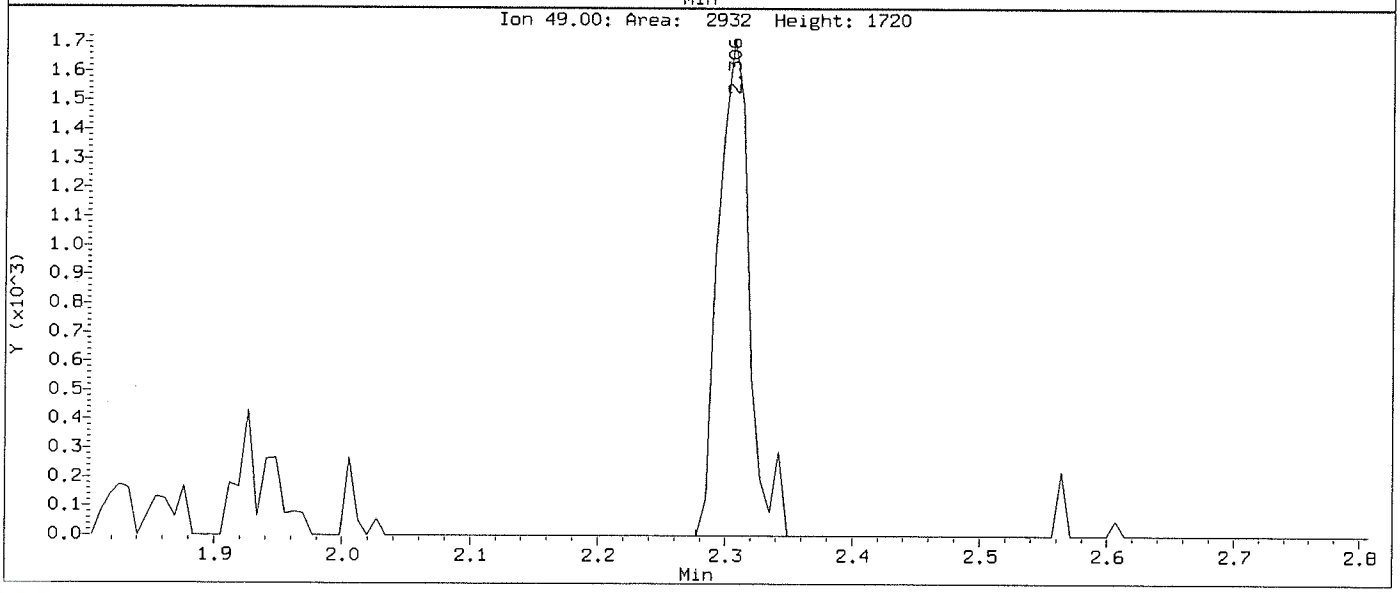


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

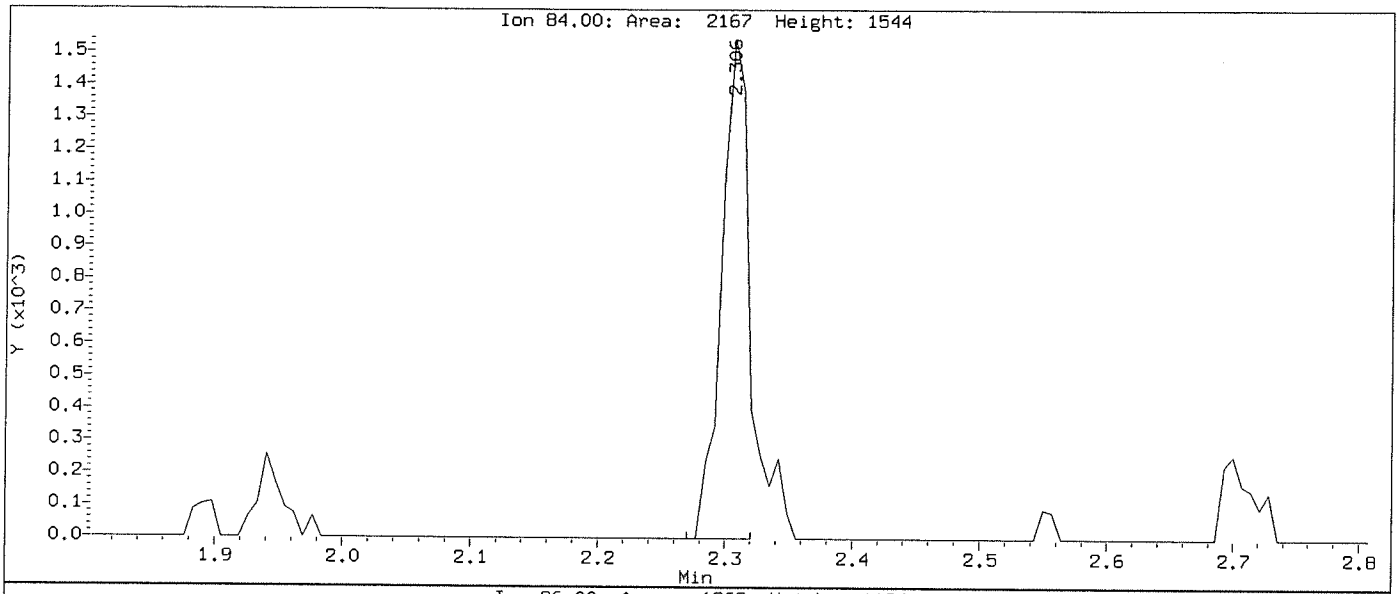


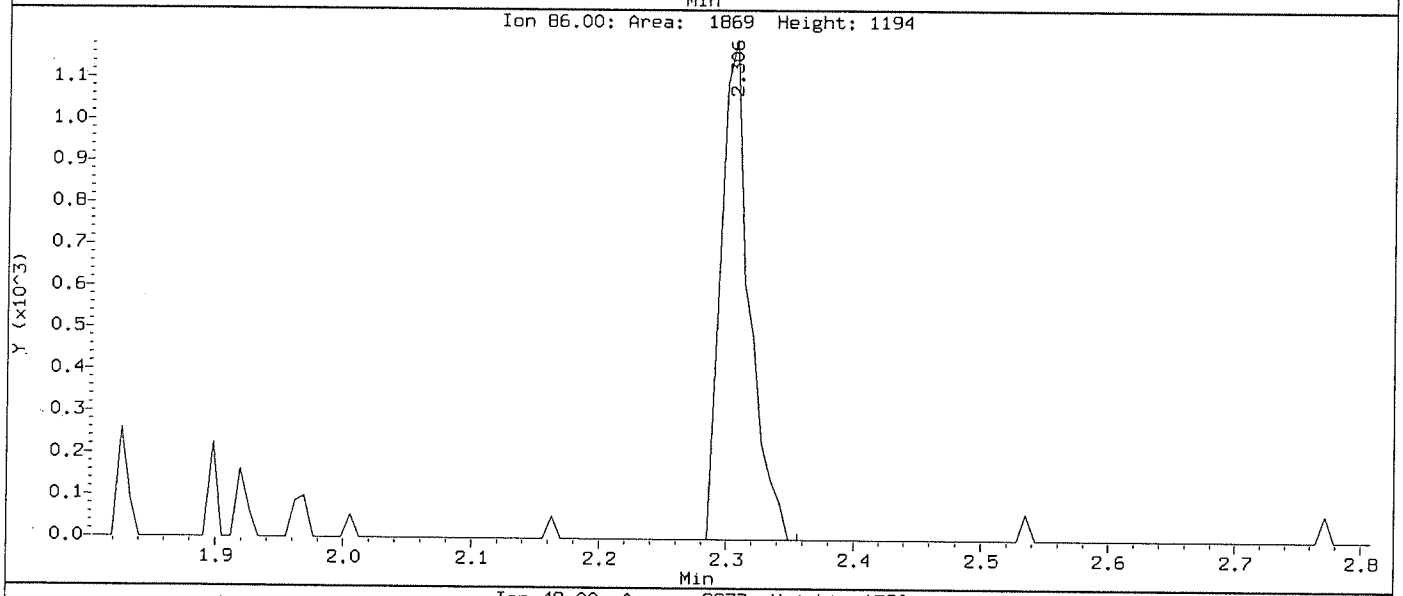


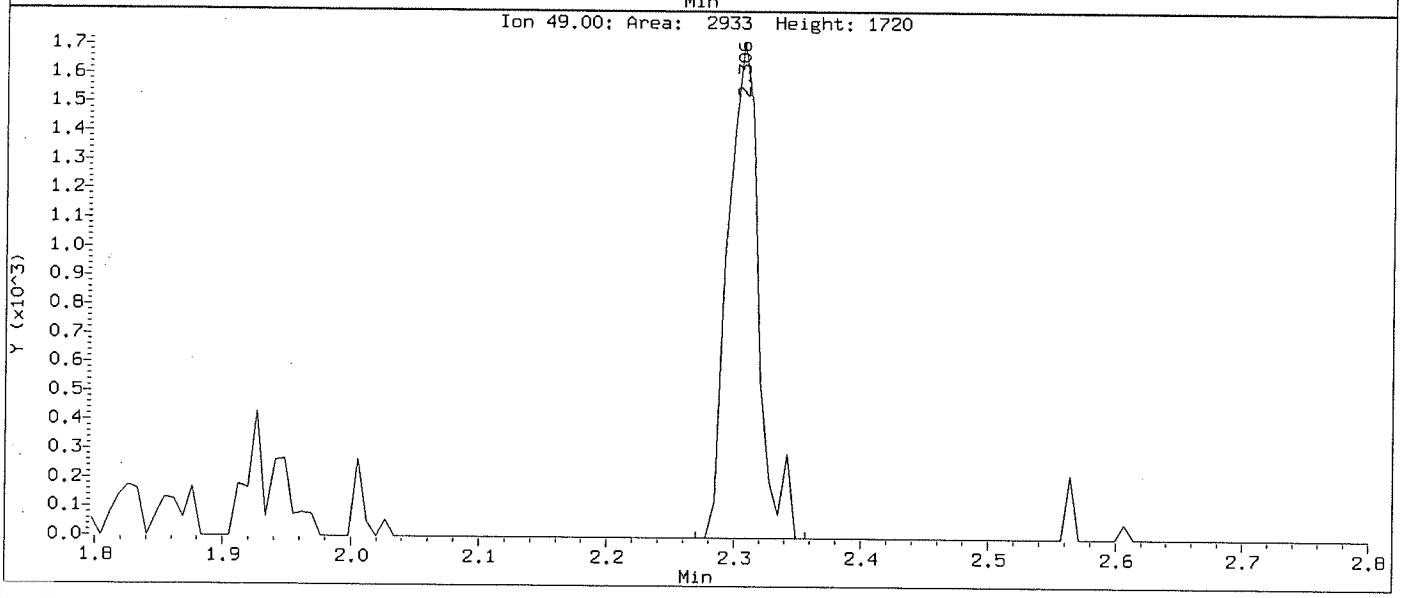


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-APR-2021 11:56
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:35 Cal File: X040203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

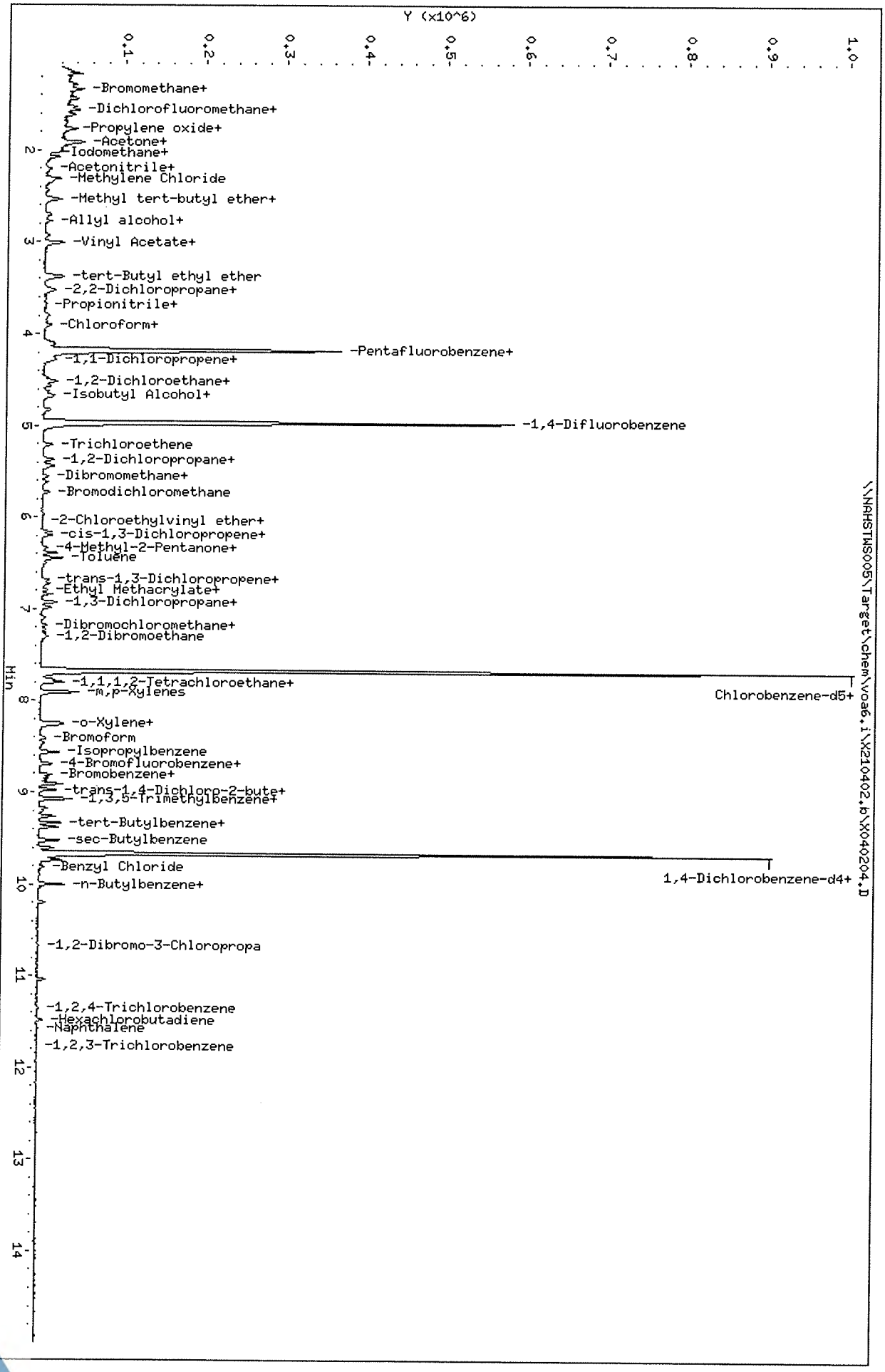
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278422	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	467952	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	425730	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	185938	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3862	1.00000	1.60
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4438	1.00000	1.60
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	12313	1.00000	2.93
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4647	1.00000	2.75
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	3024	1.00000	1.22(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4199	1.00000	1.05(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	5931	1.00000	1.19(aM)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3959	1.00000	1.16
17 Methylene Chloride	84	2.298	2.298	(0.550)	4155	1.00000	2.81(aM)
38 Trichloroethene	130	5.207	5.207	(1.049)	3757	1.00000	1.17(M)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	5253	1.00000	1.25(M)

QC Flag Legend

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



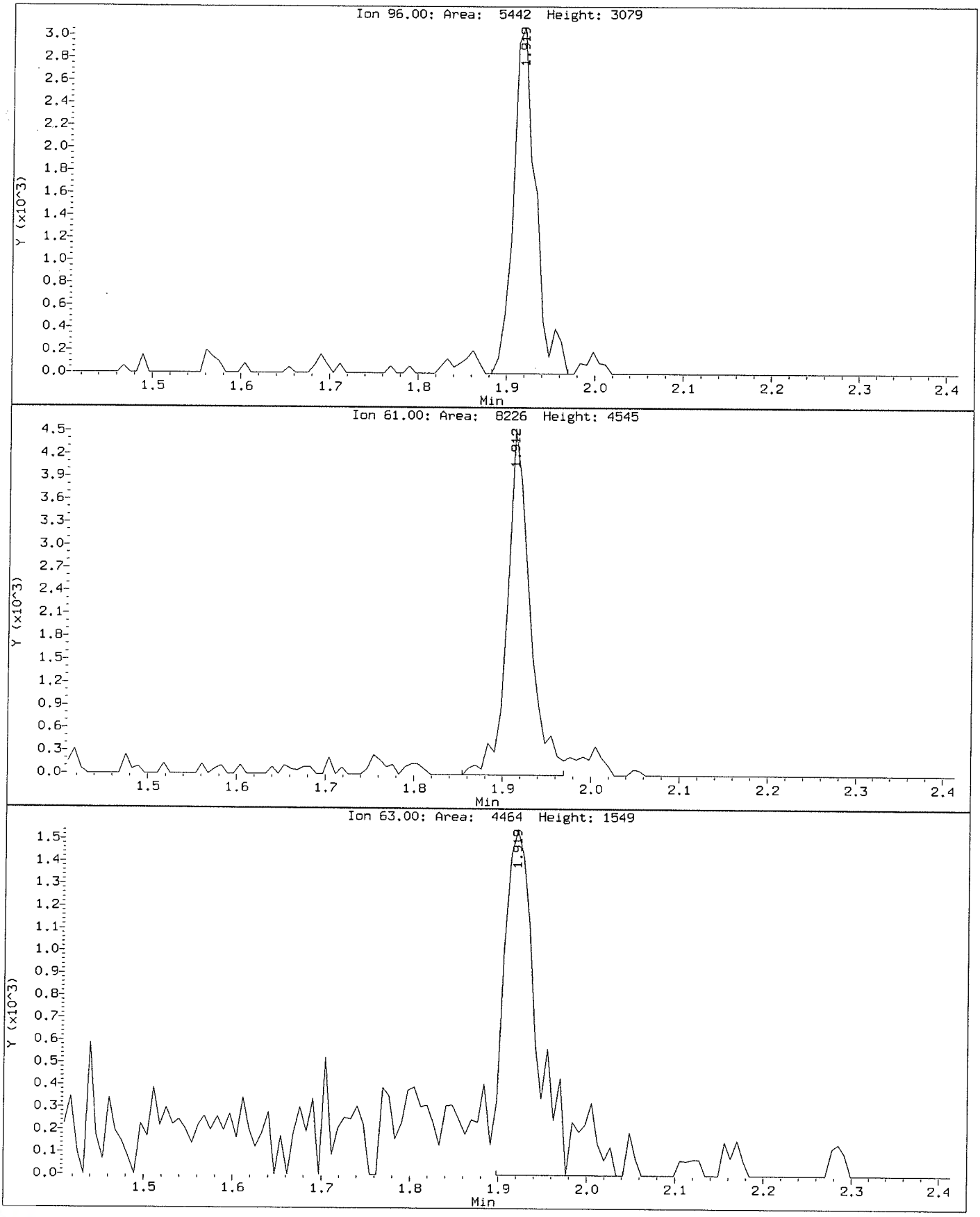
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Date : 02-APR-2021 11:56
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D

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

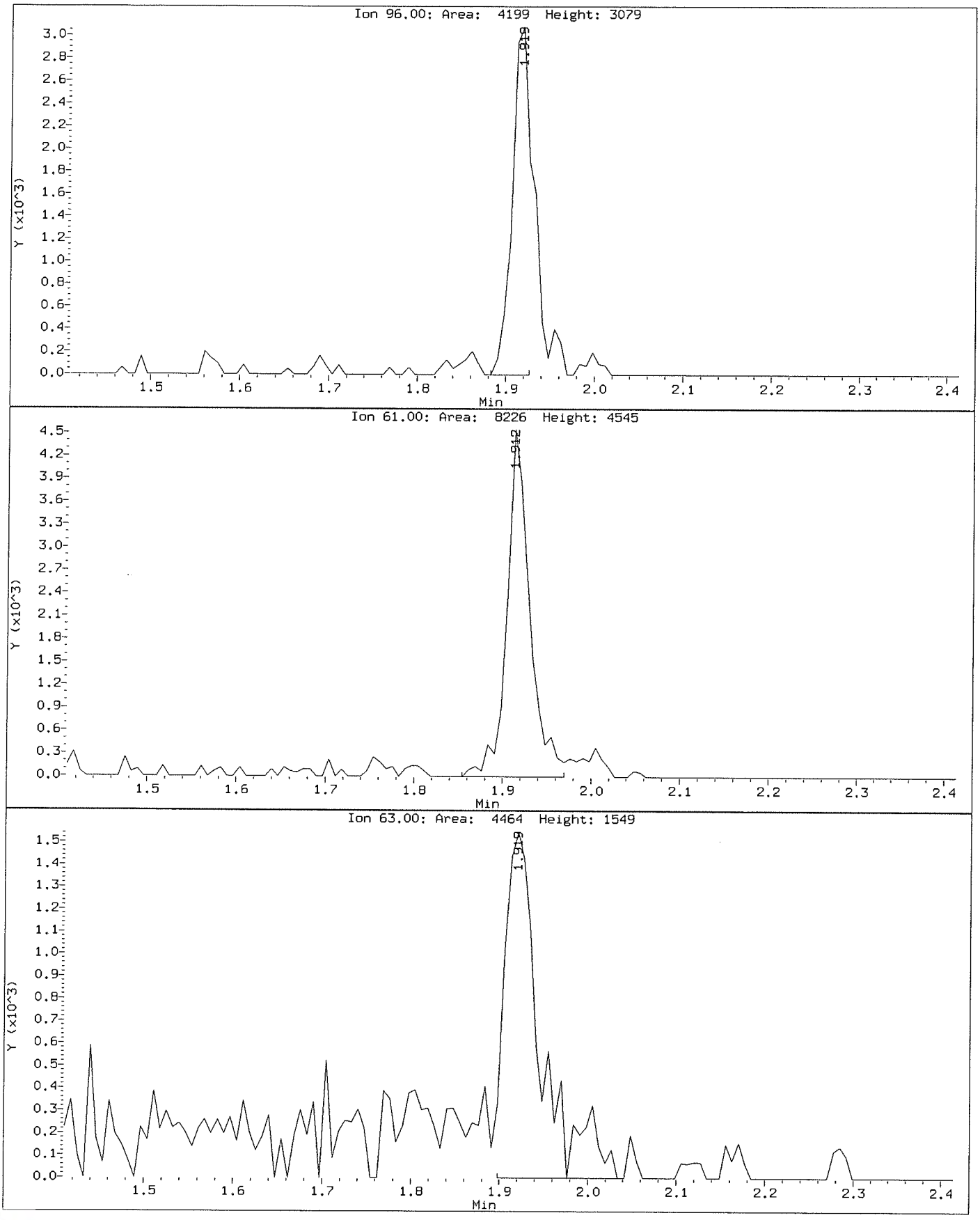
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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



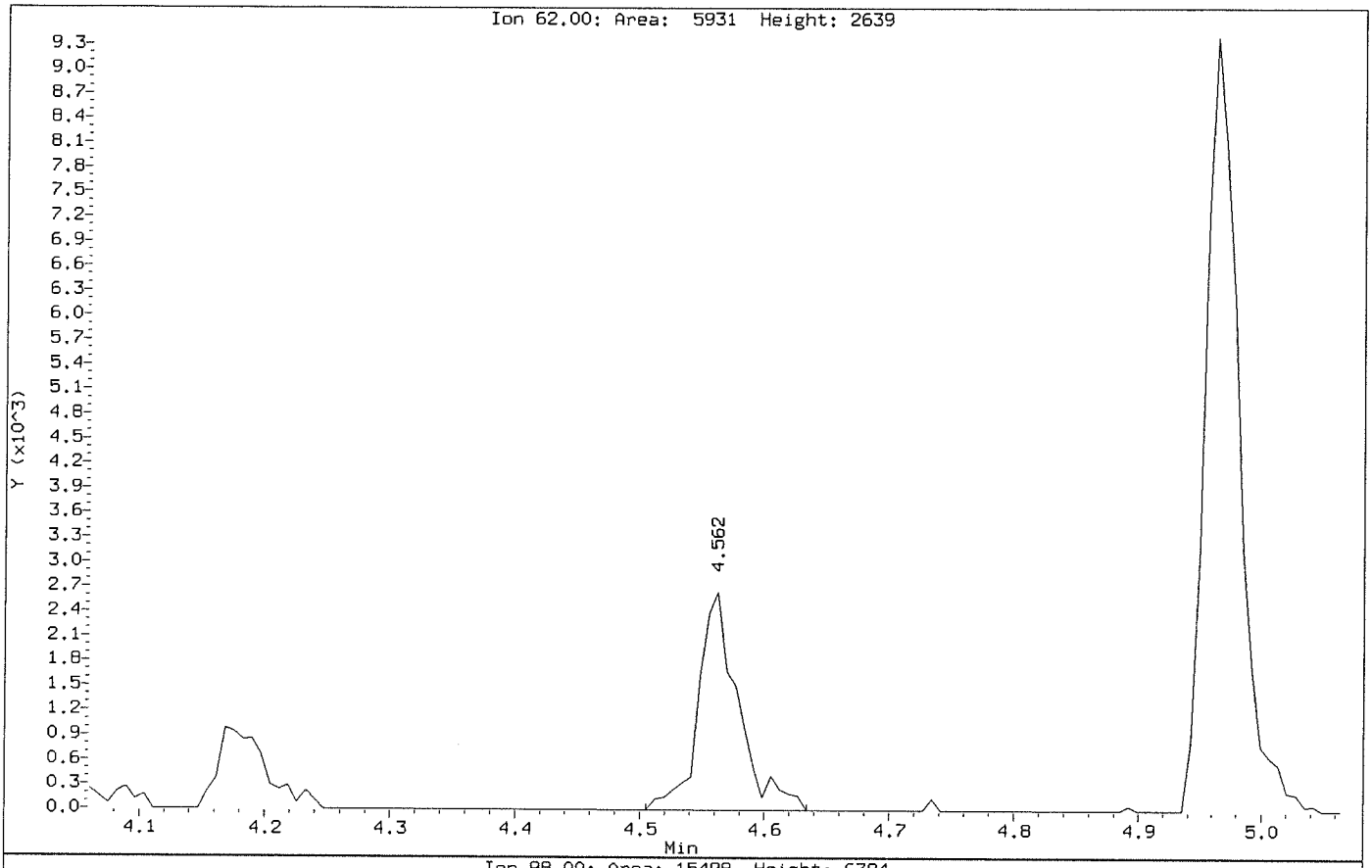
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

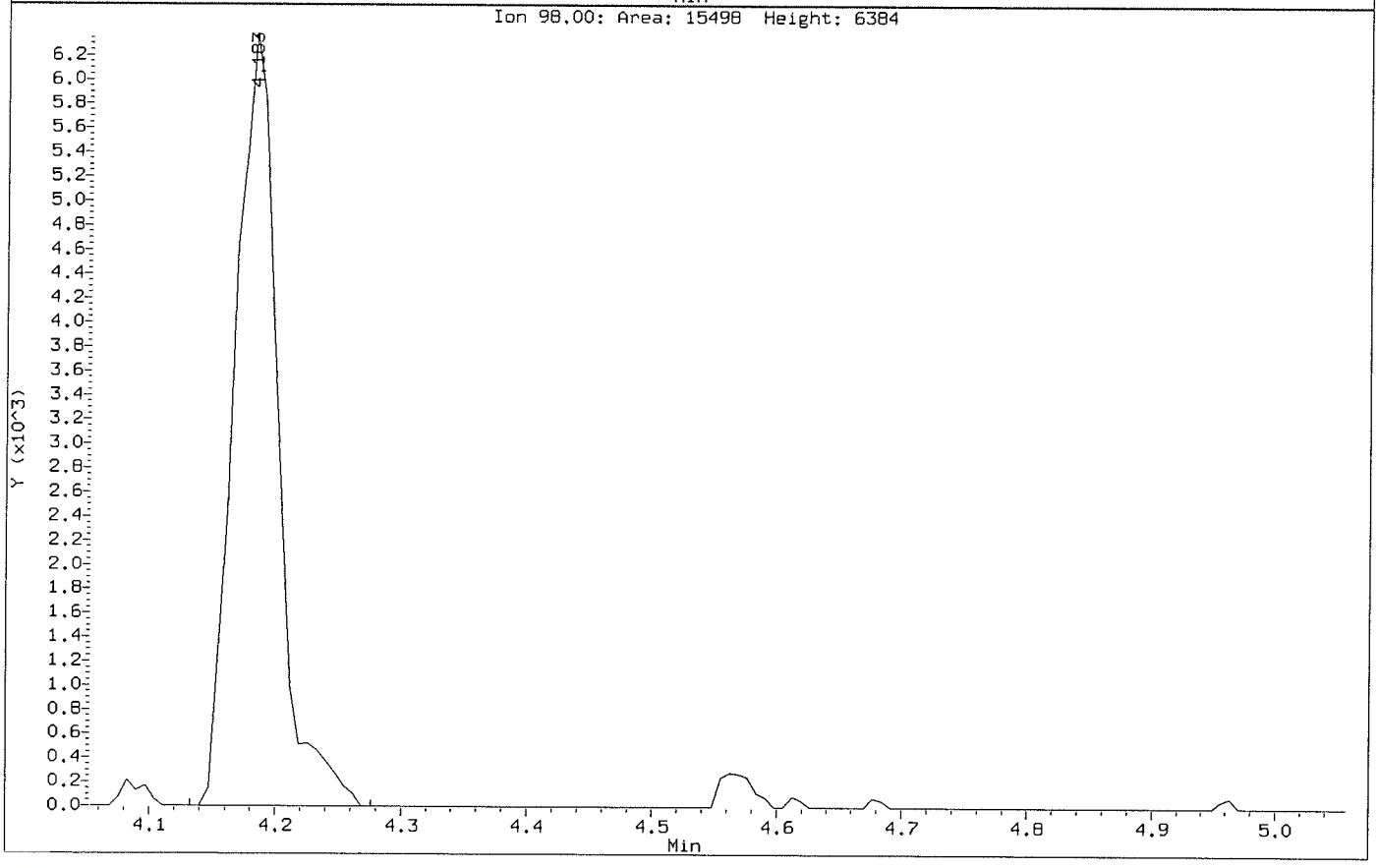
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

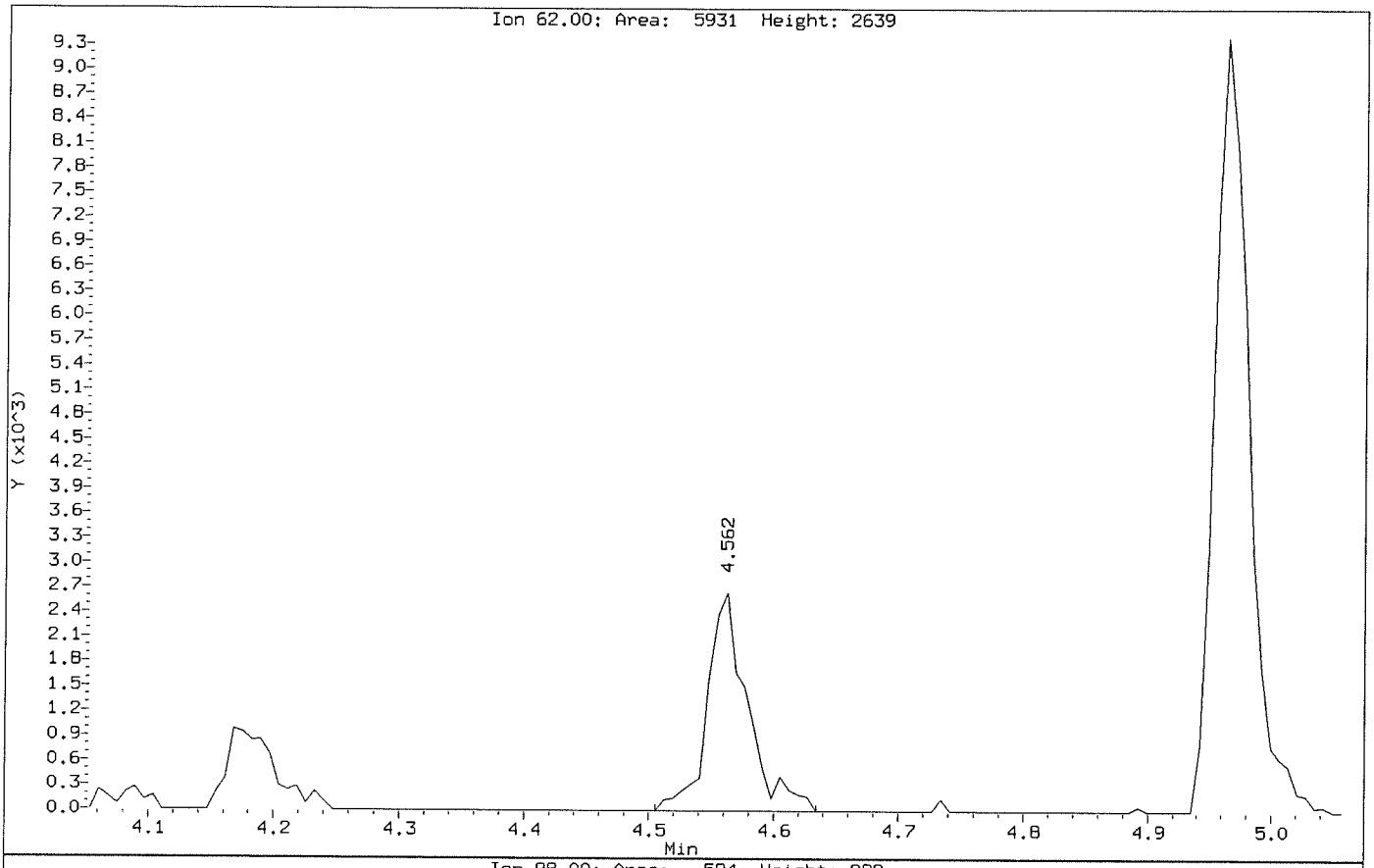
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

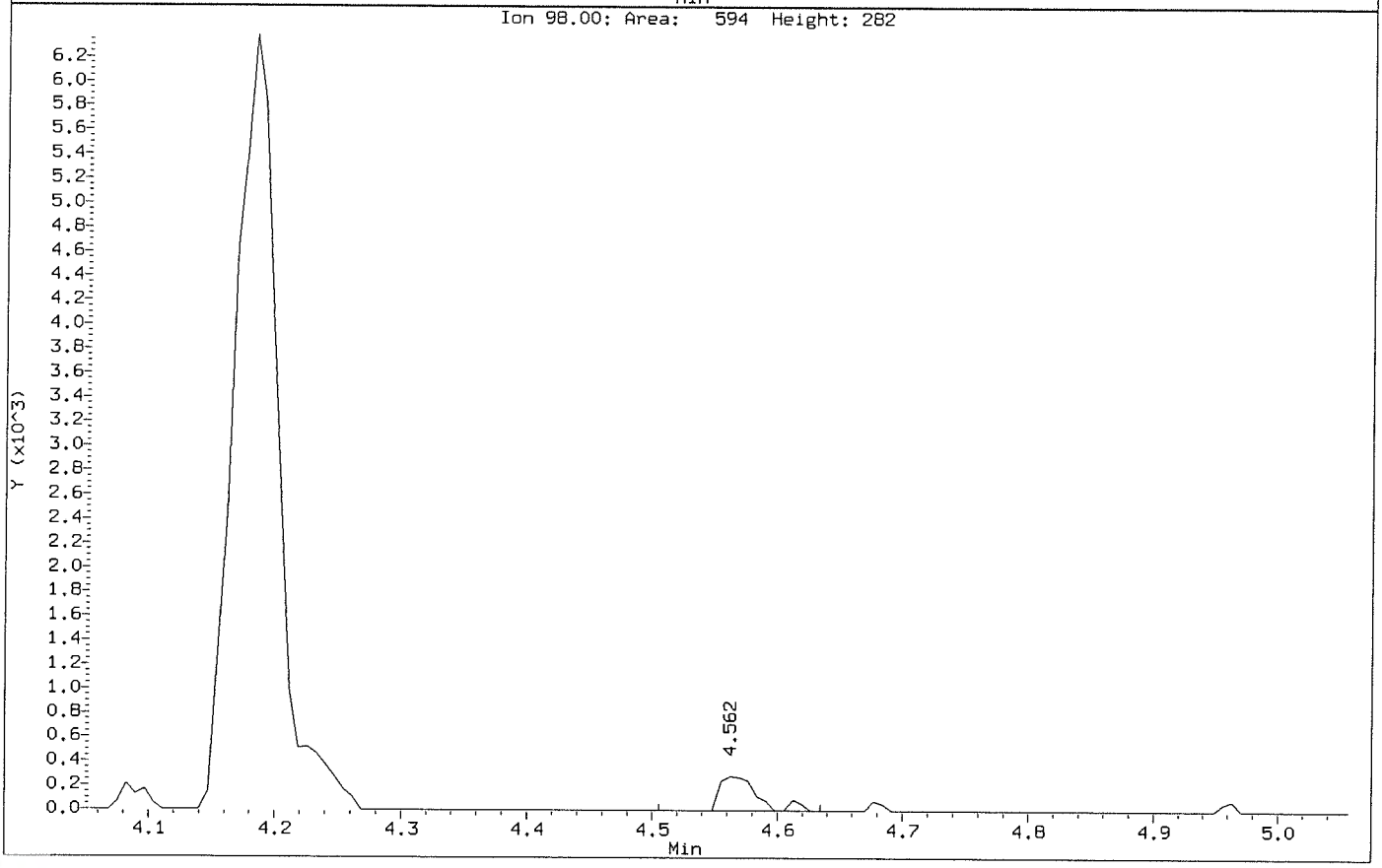




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

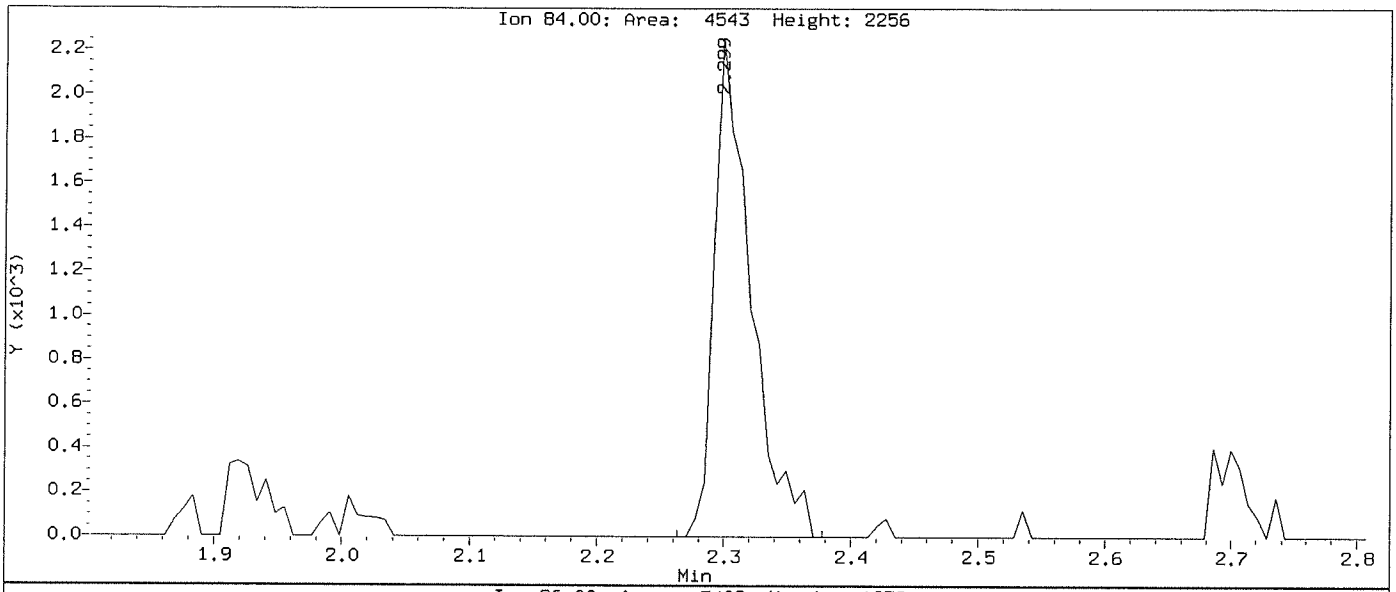
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

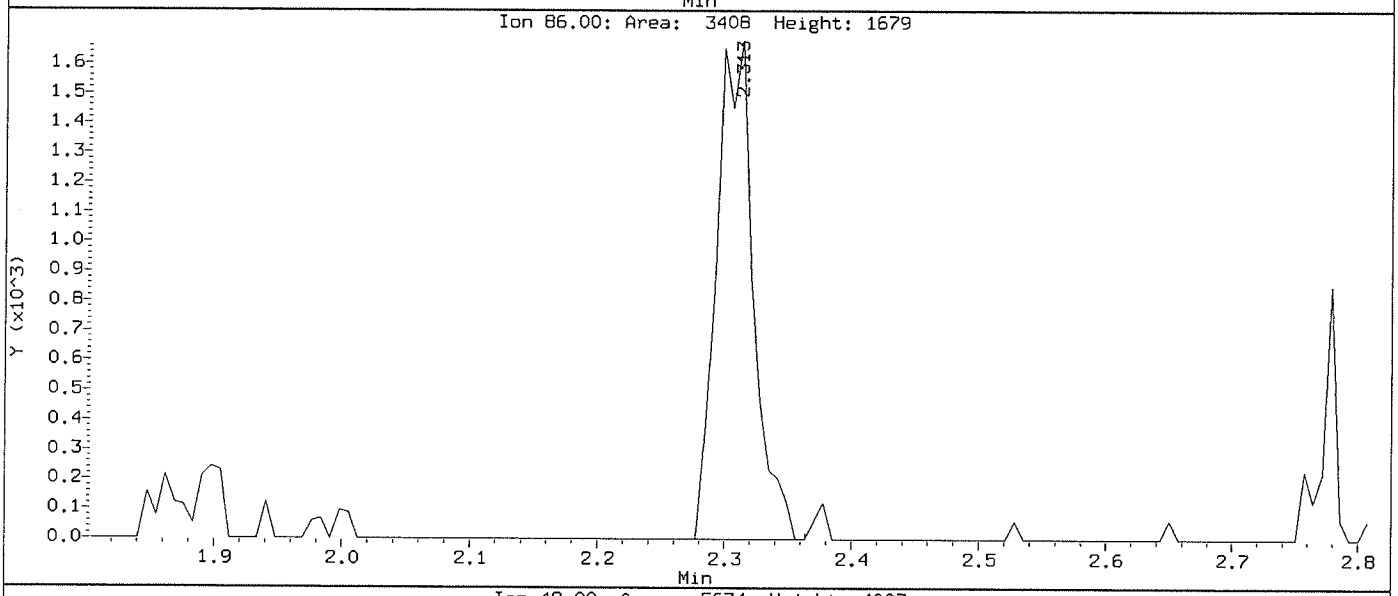


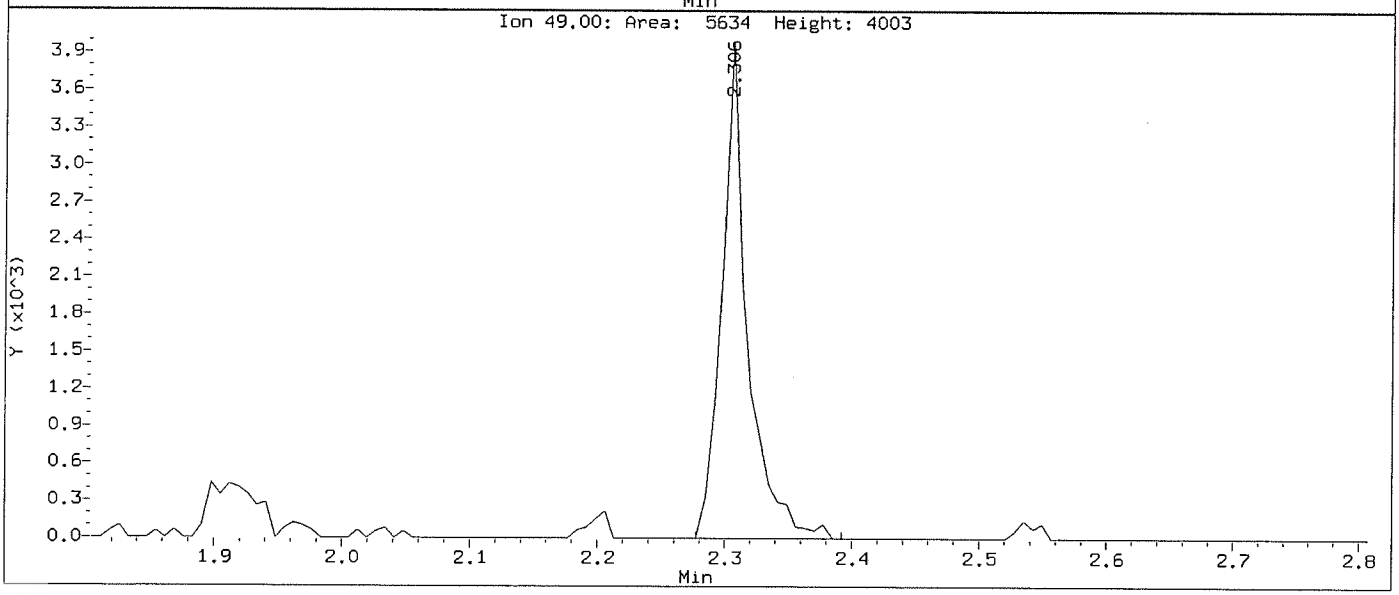


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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

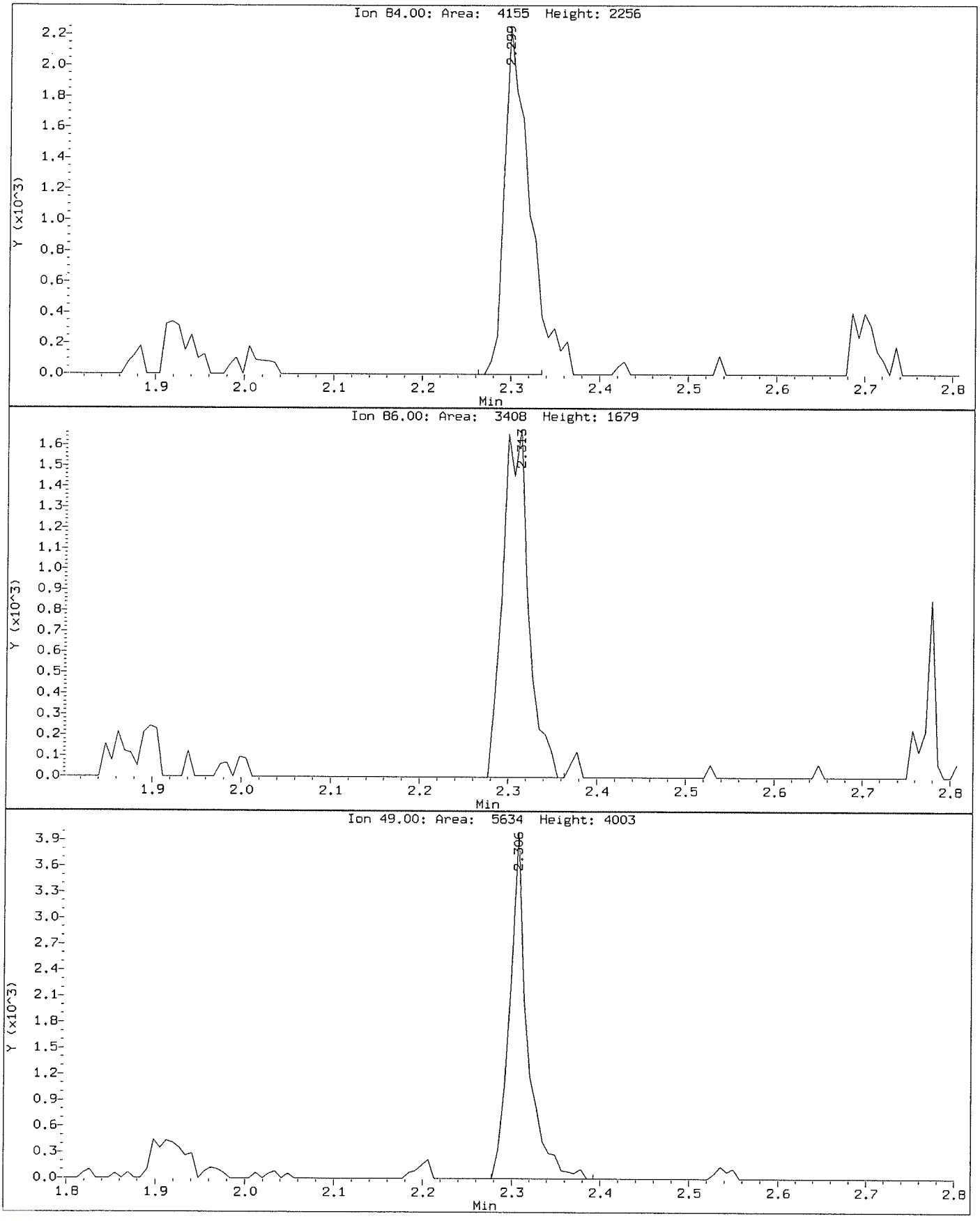






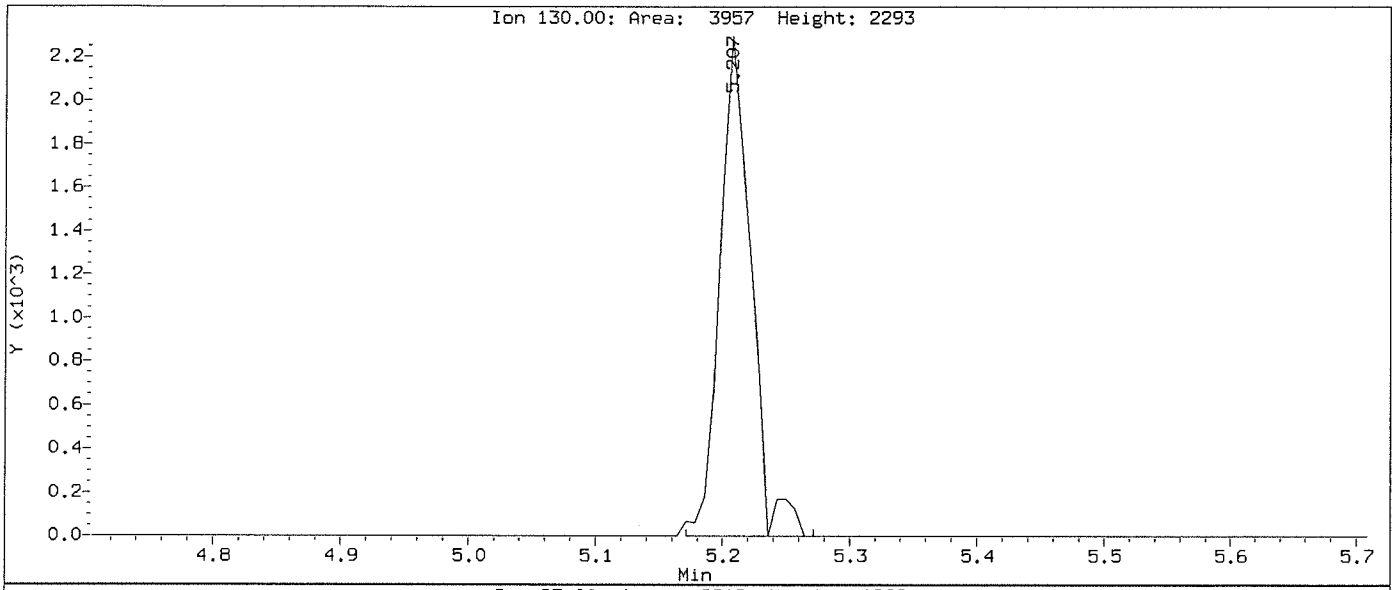
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

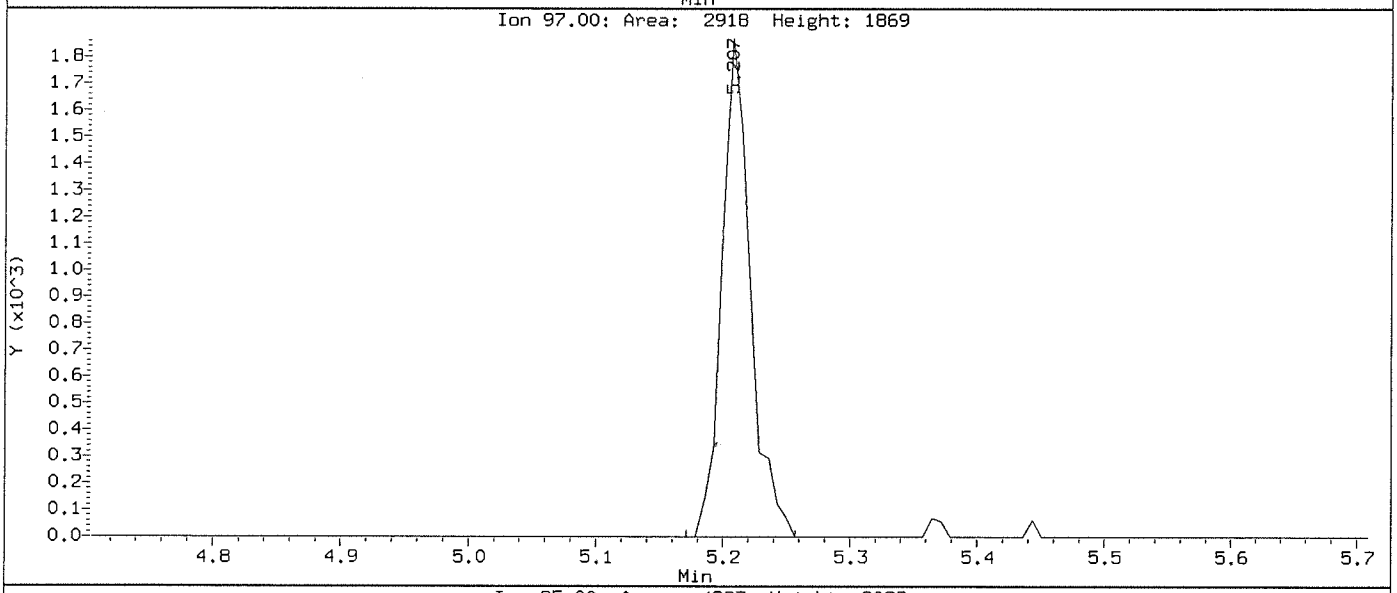
Compound: Methylene Chloride
CAS Number: 75-09-2

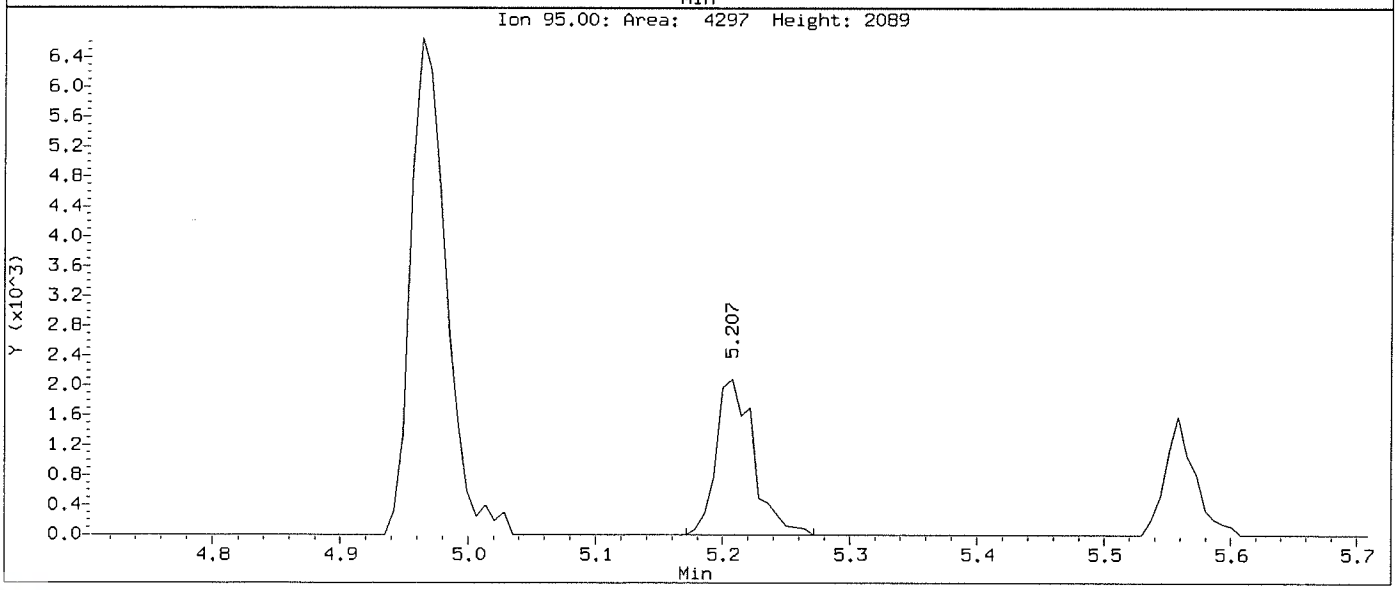


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

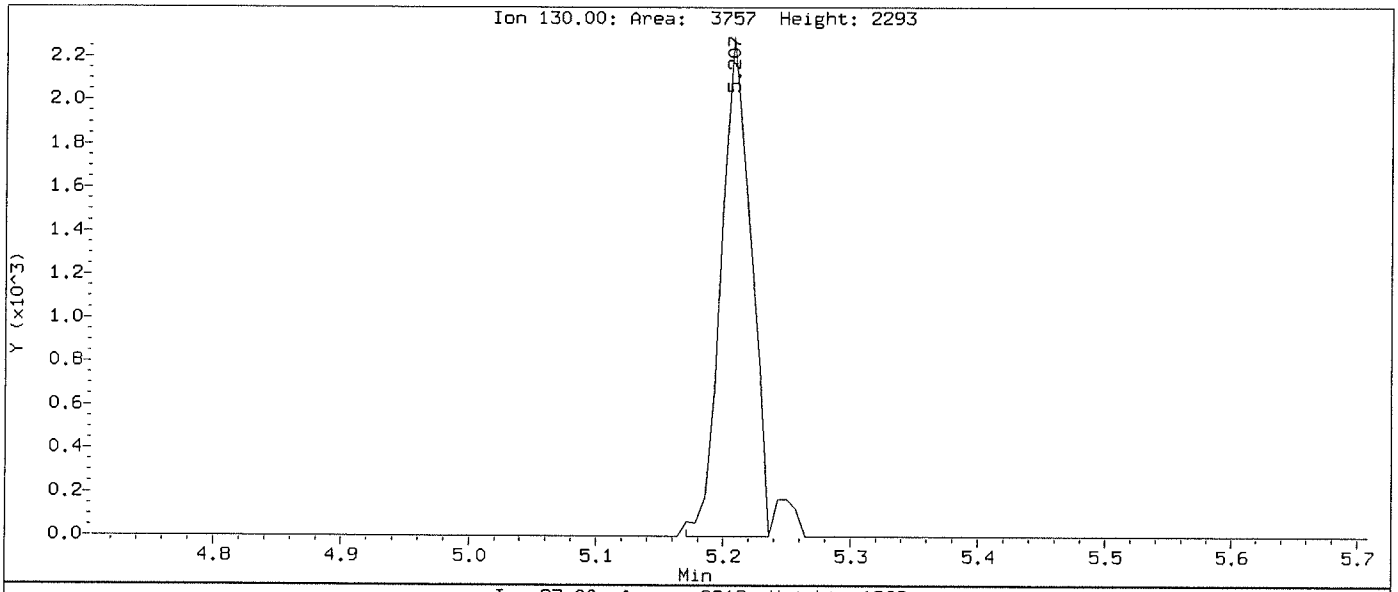


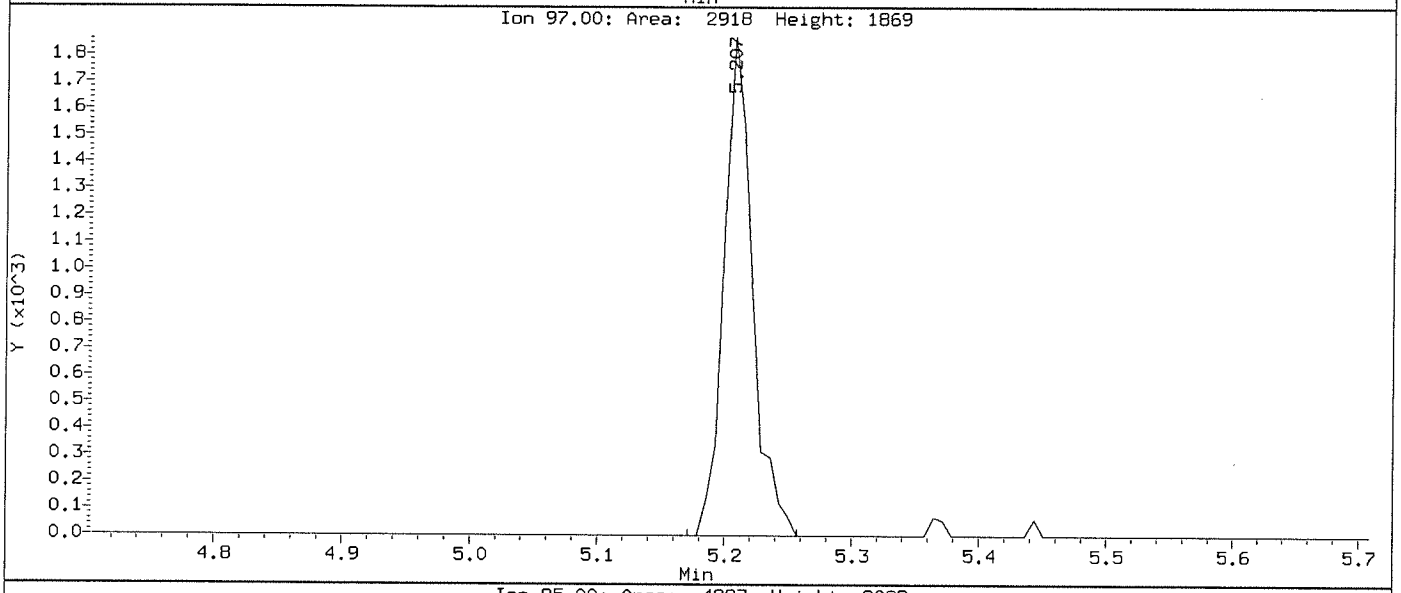


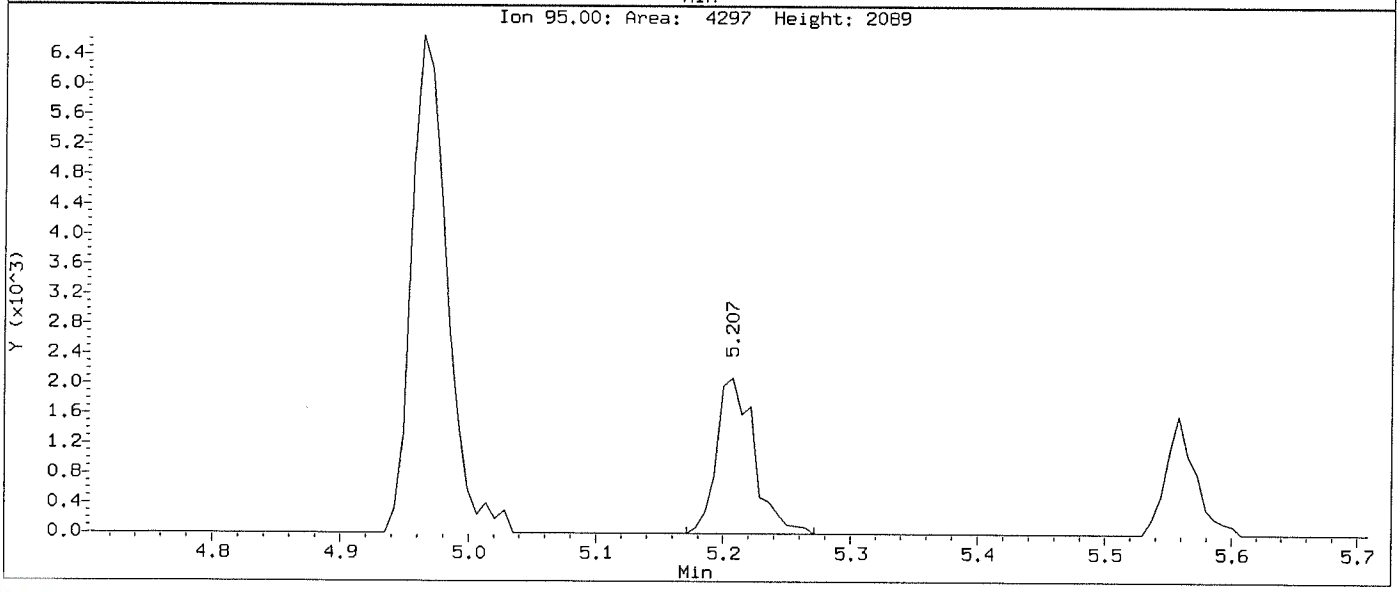


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

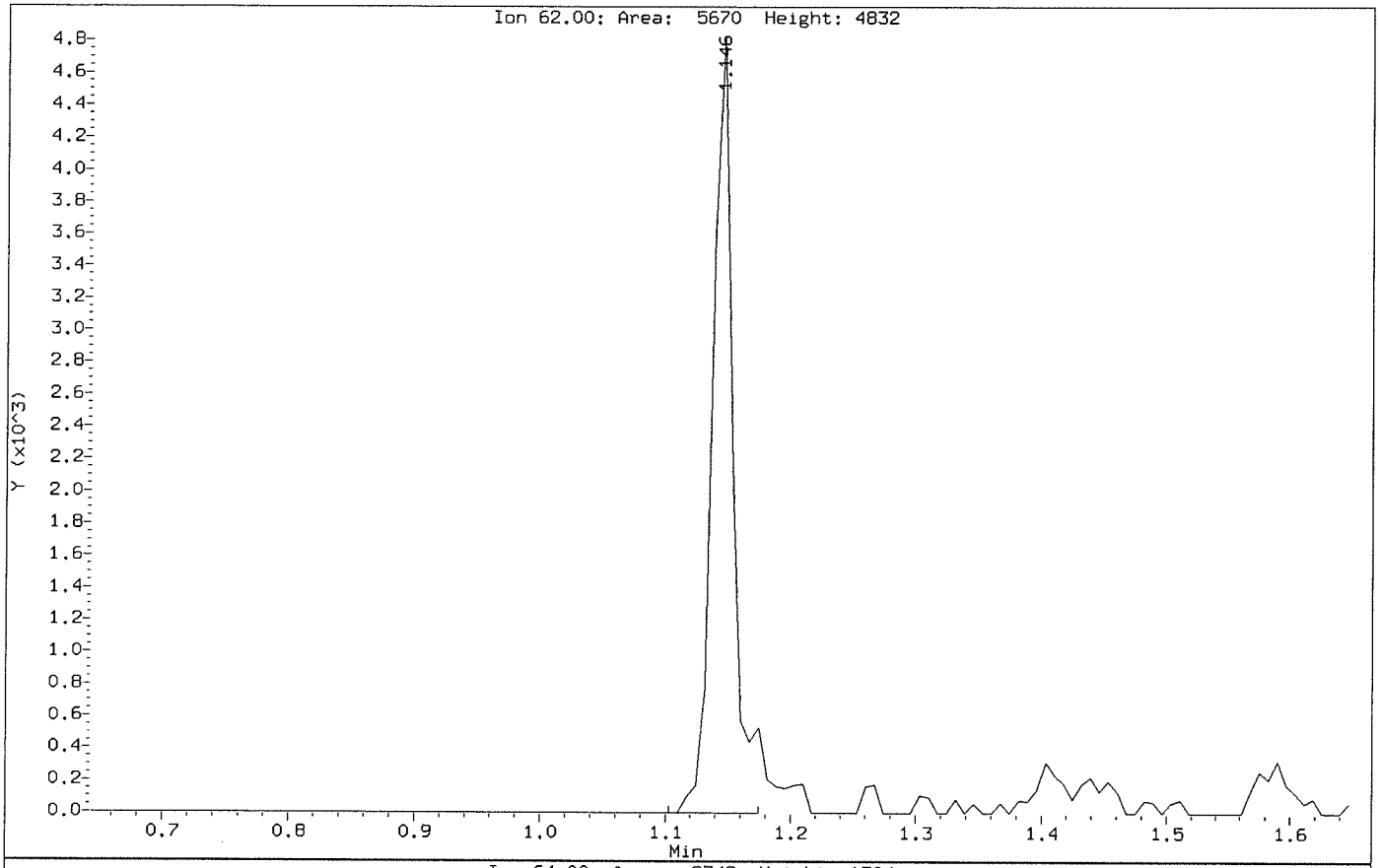


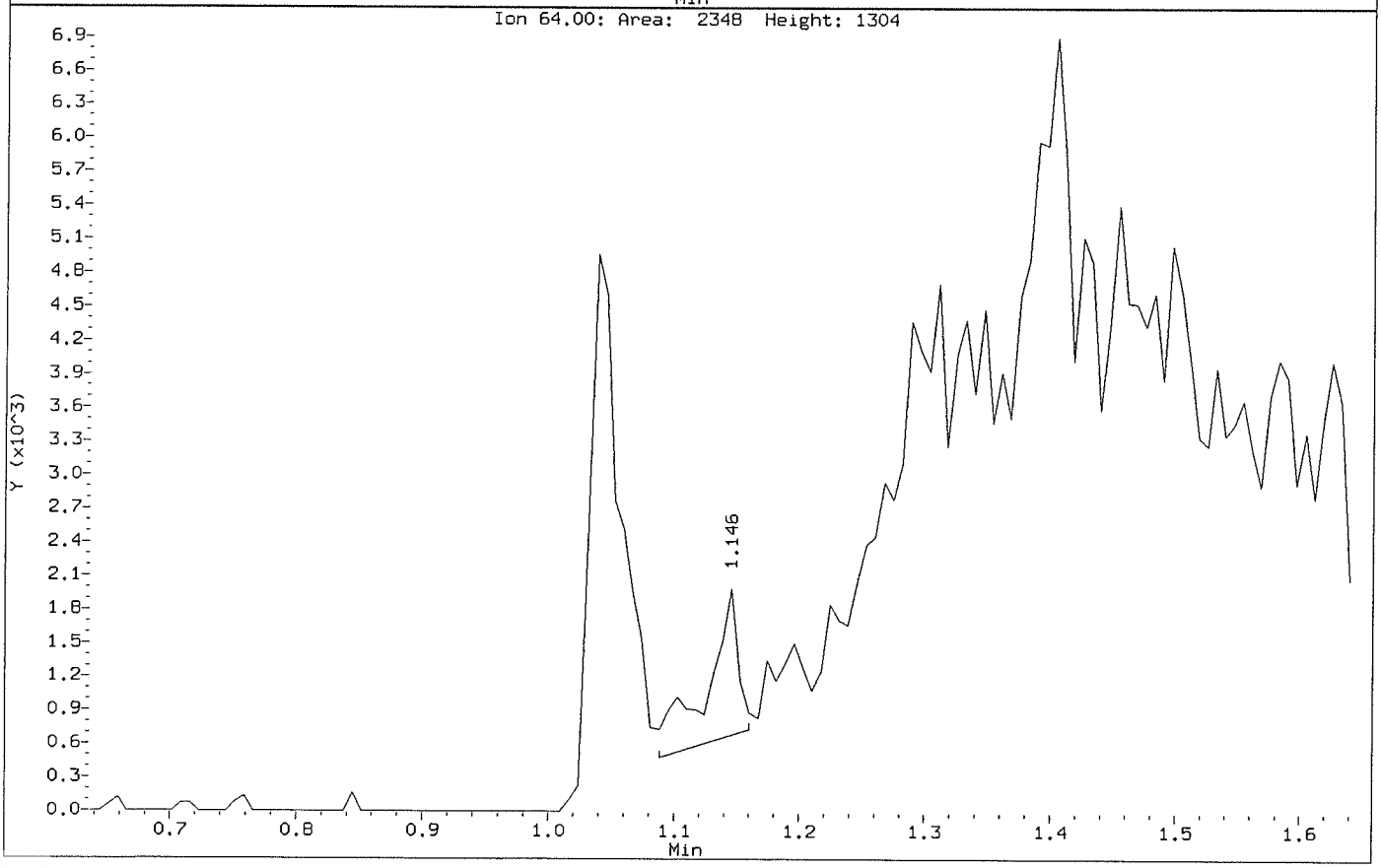




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

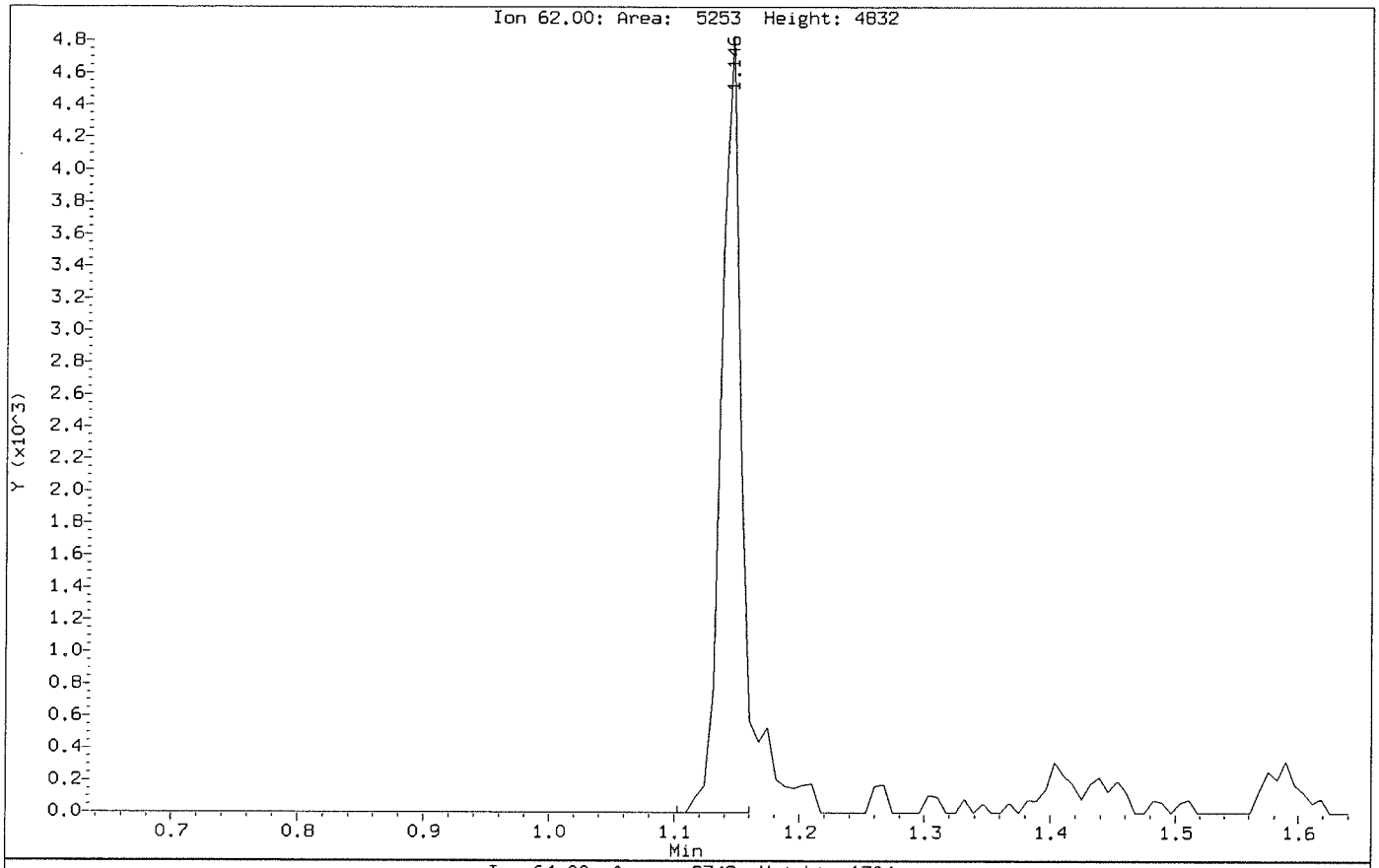
Compound: Vinyl Chloride
CAS Number: 75-01-4

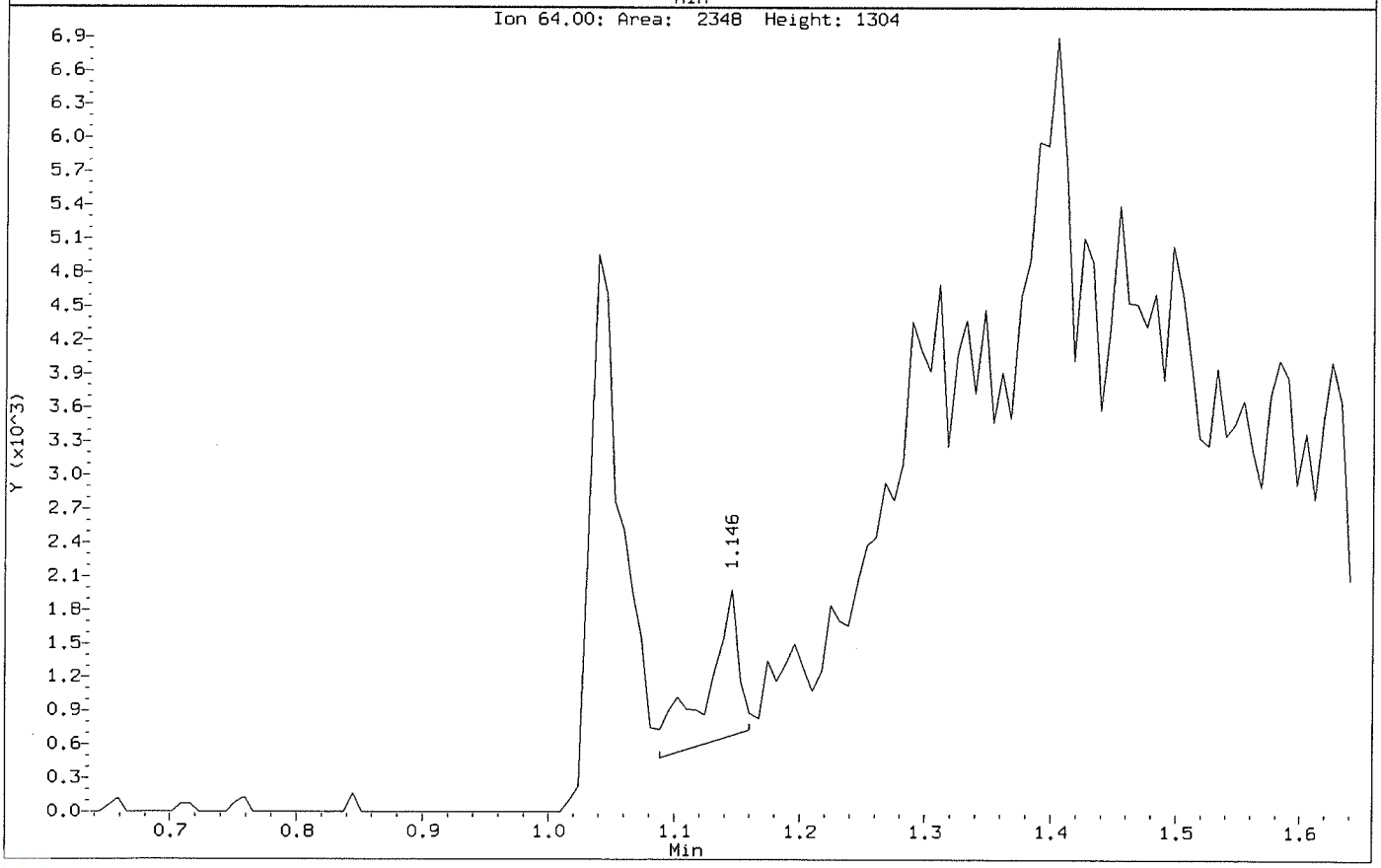




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-APR-2021 12:17
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:56 Cal File: X040204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

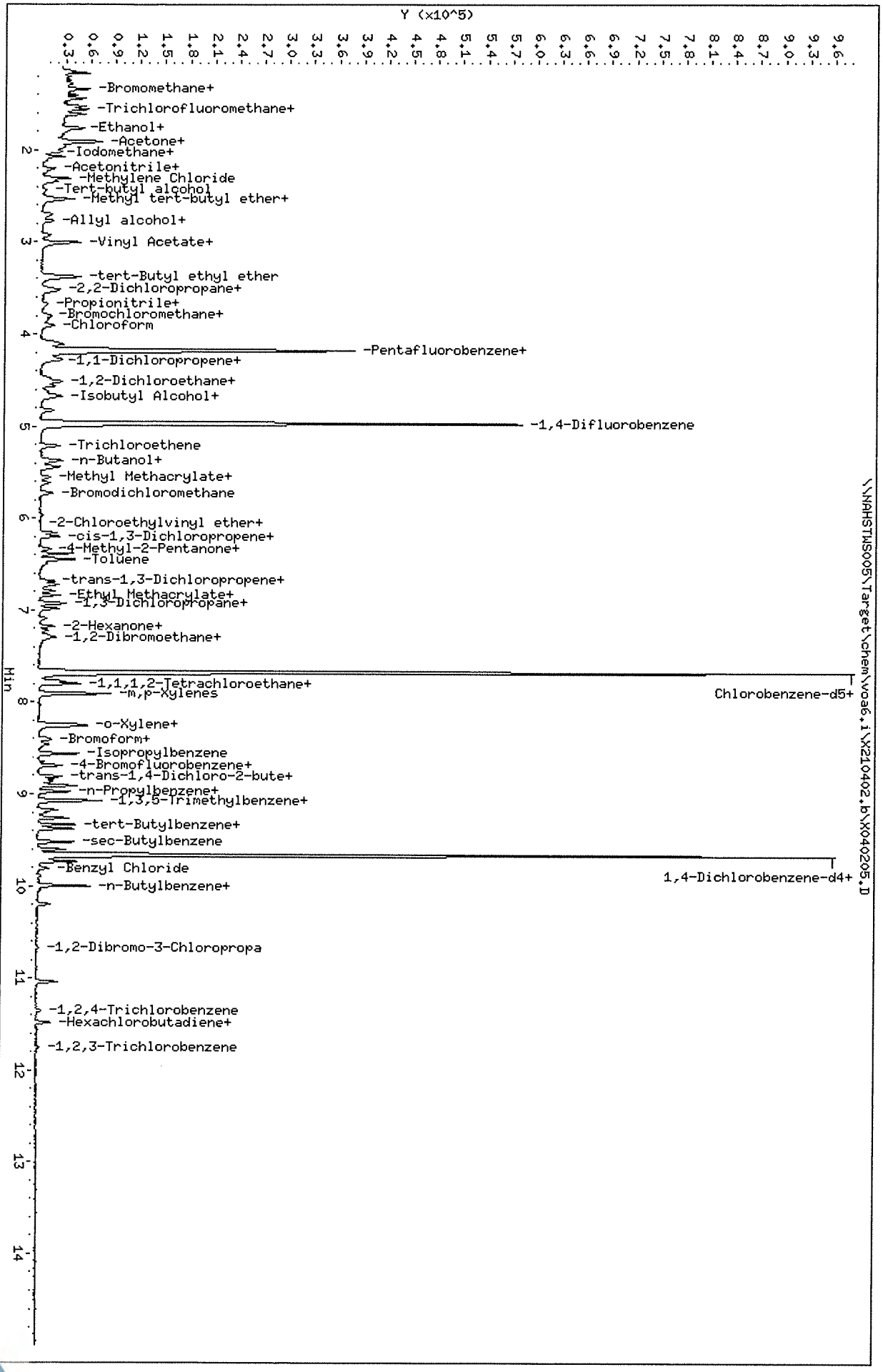
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278535	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	469682	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	424642	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	187429	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	6870	2.00000	2.50
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7506	2.00000	2.37
$	48 Toluene-d8	98	6.388	6.388	(0.833)	22274	2.00000	3.81
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7732	2.00000	3.48
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5102	2.00000	2.06(a)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	8383	2.00000	2.11(aM)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	9508	2.00000	1.91(aM)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6948	2.00000	2.04
	17 Methylene Chloride	84	2.305	2.305	(0.551)	7271	2.00000	3.81(a)
	38 Trichloroethene	130	5.206	5.206	(1.048)	6830	2.00000	2.12
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	8442	2.00000	2.02(M)

QC Flag Legend

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

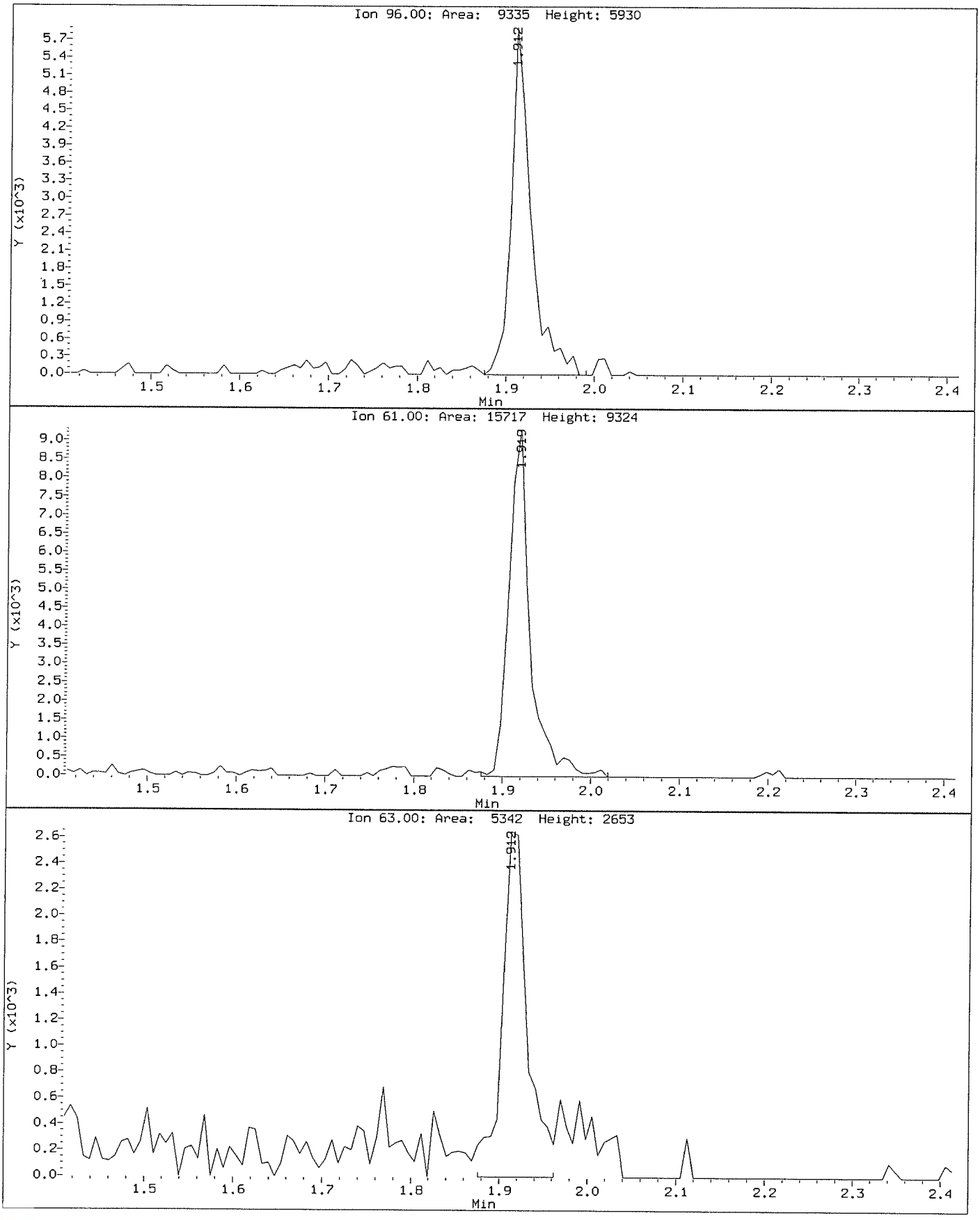


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Date : 02-APR-2021 12:17
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

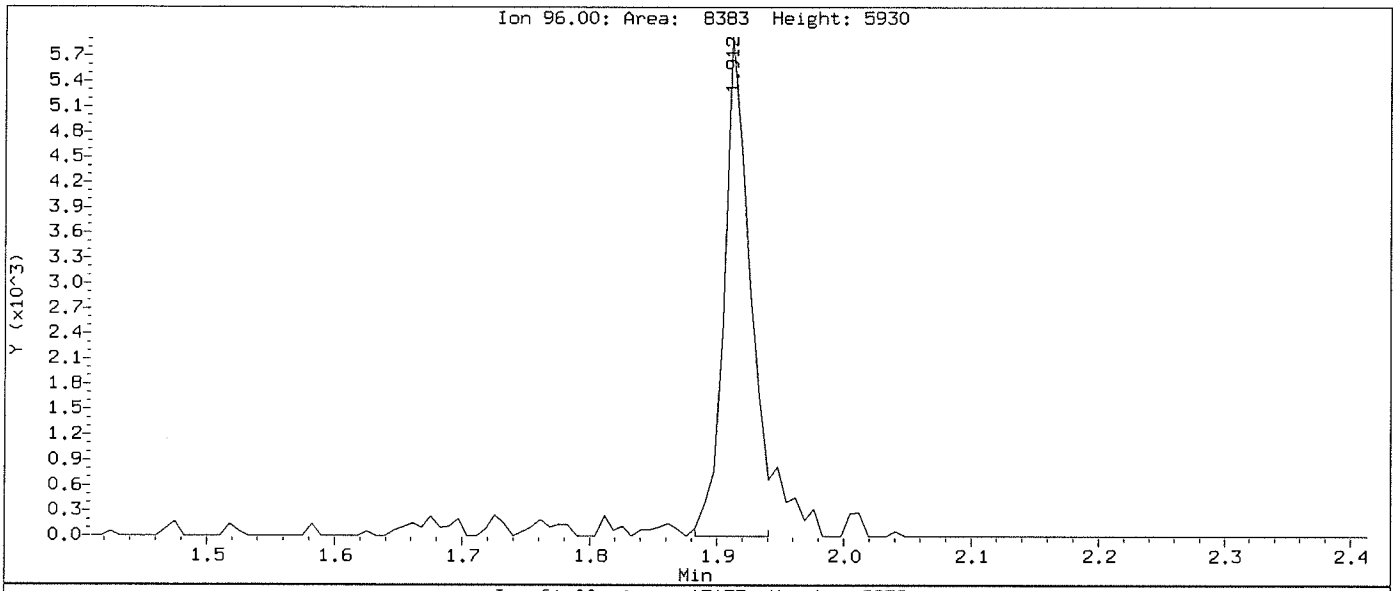
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

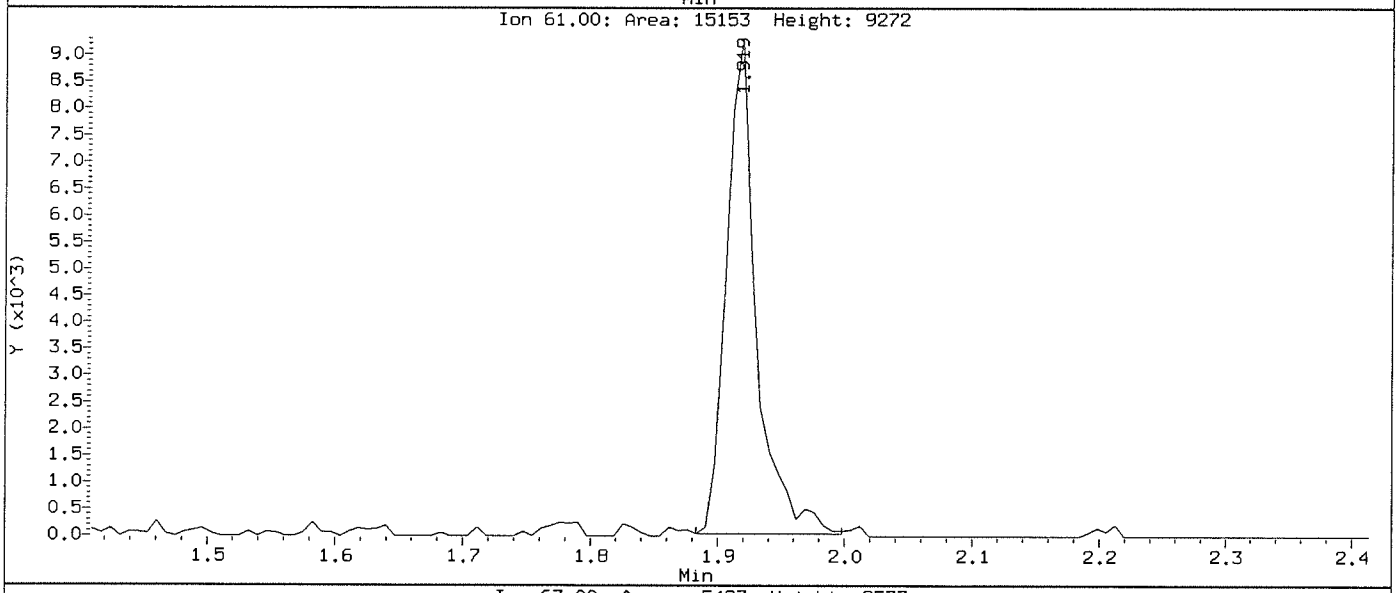
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

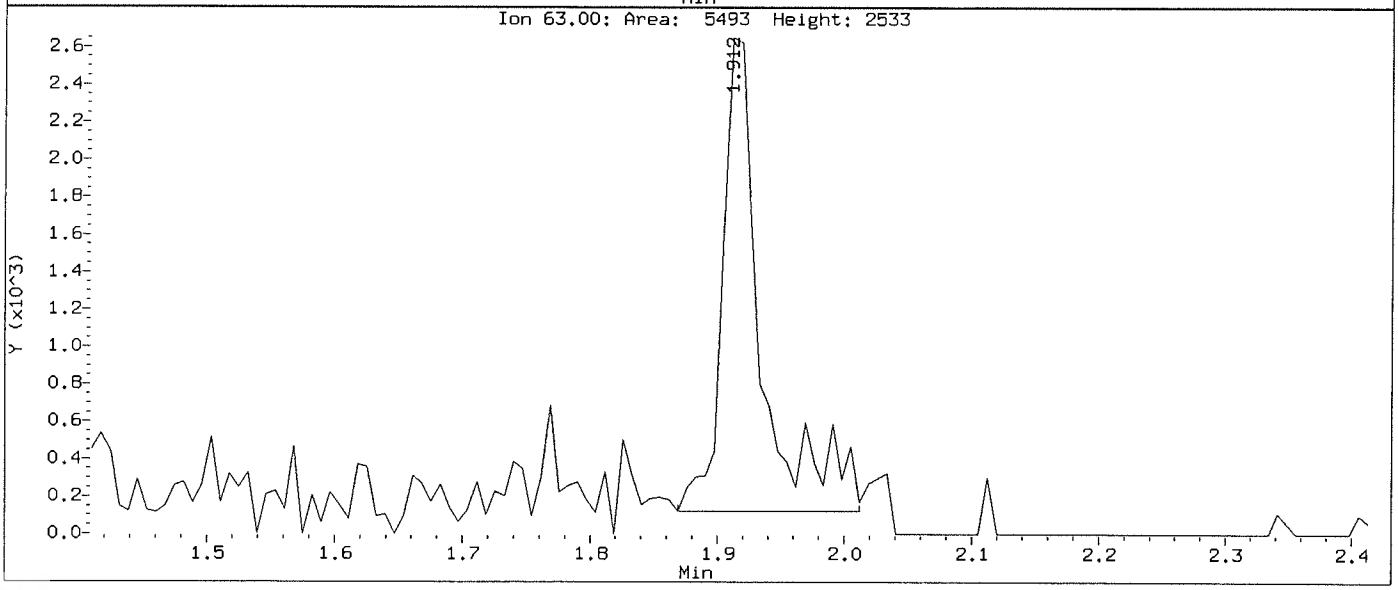


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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

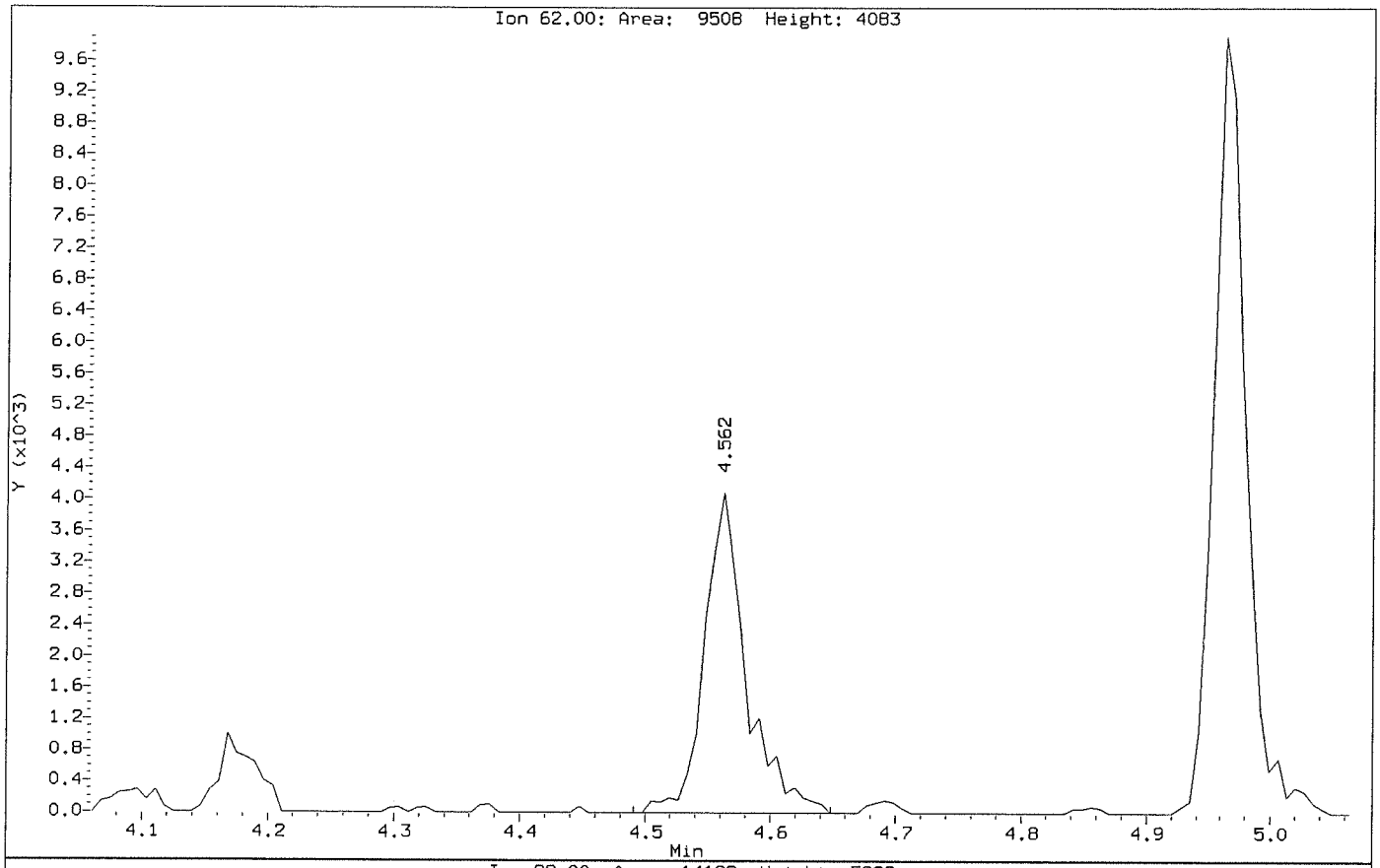


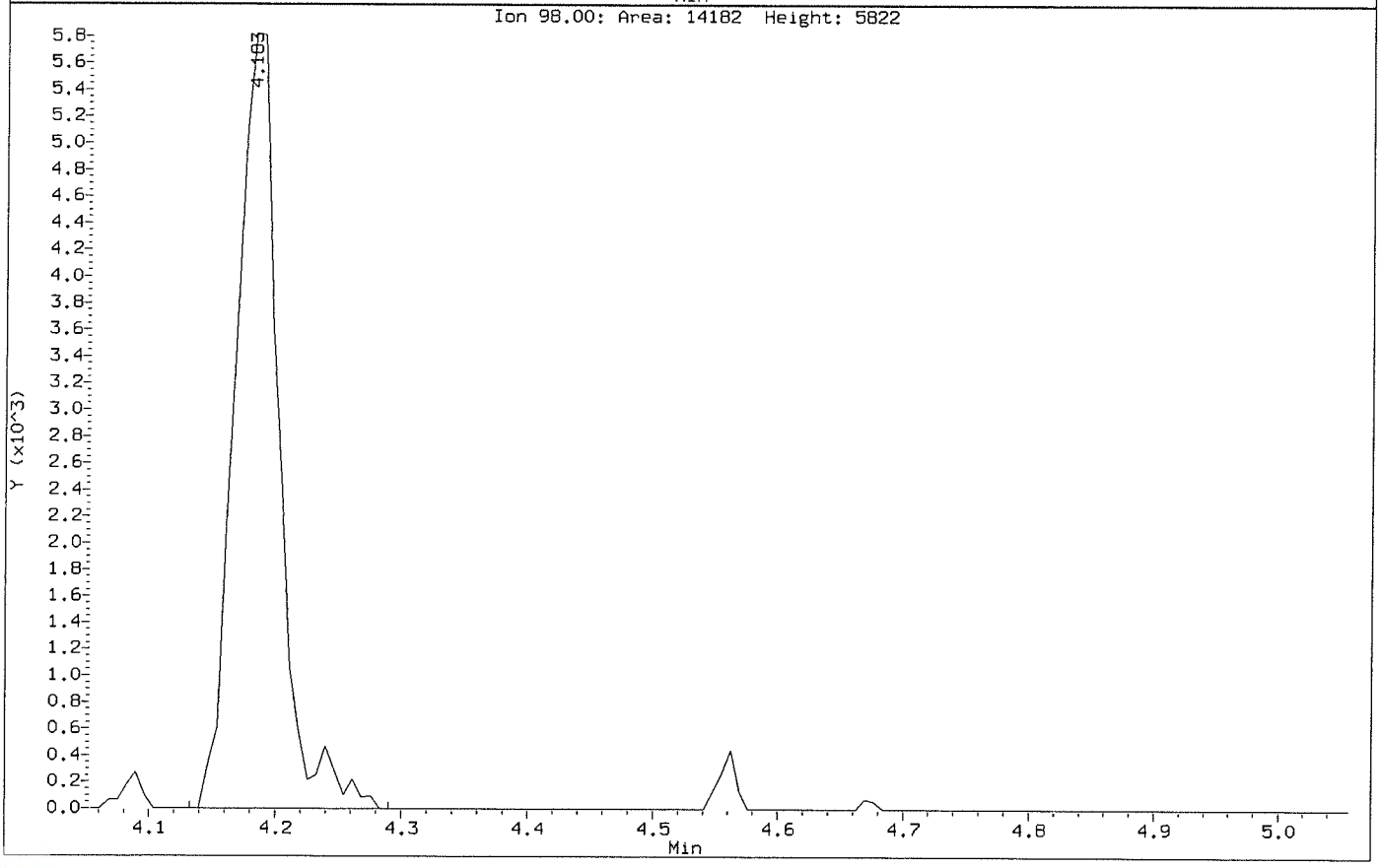




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

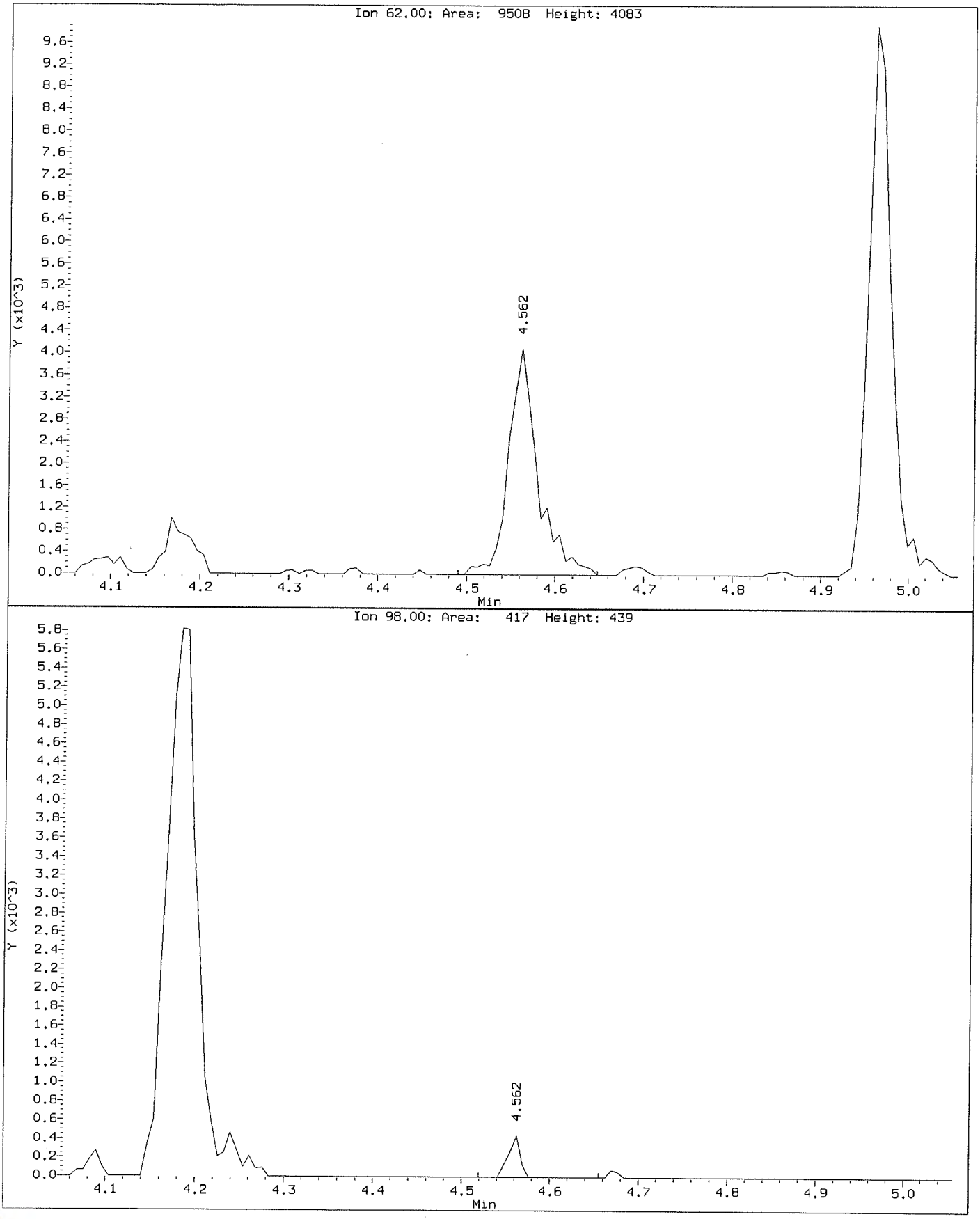
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2





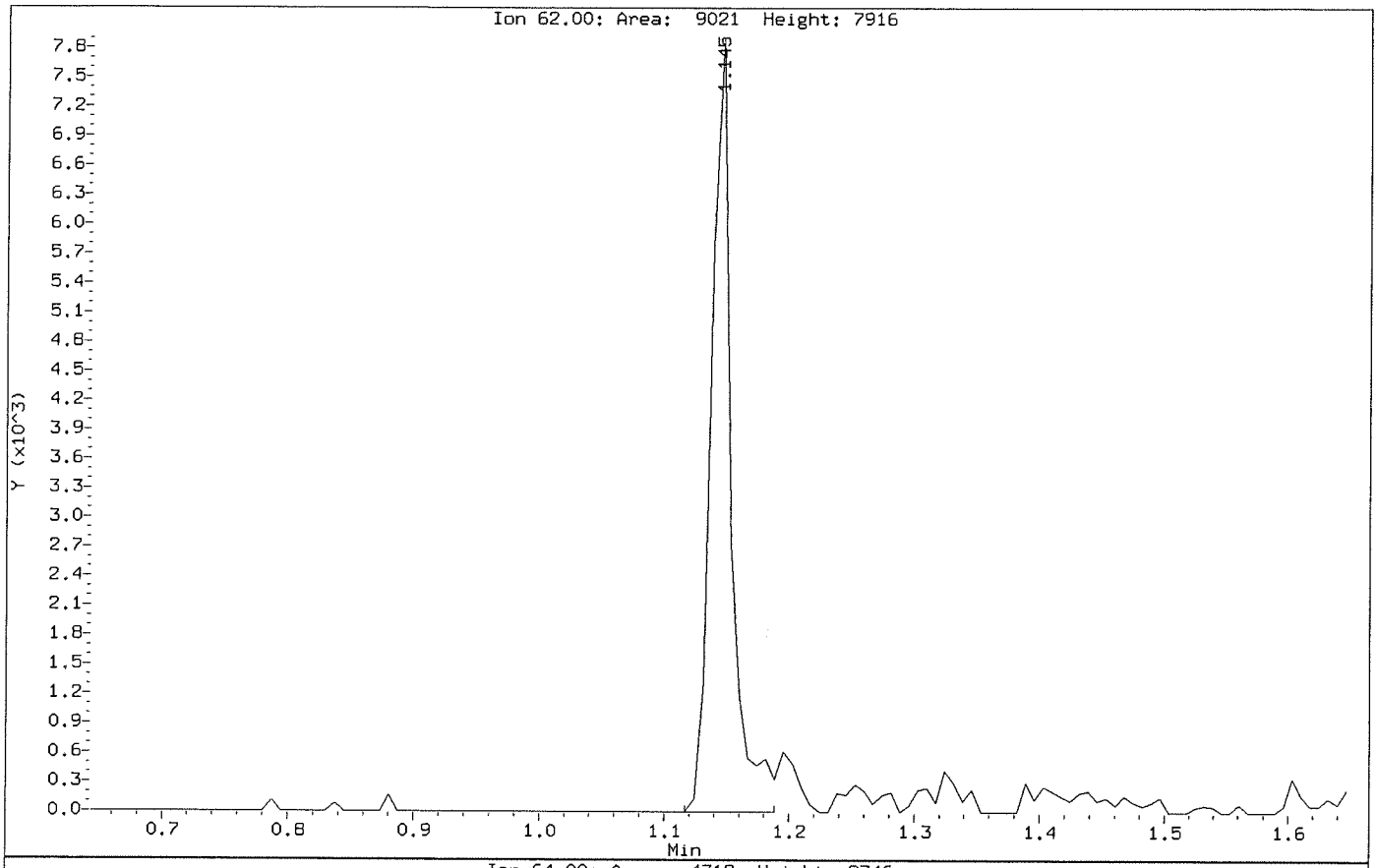
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

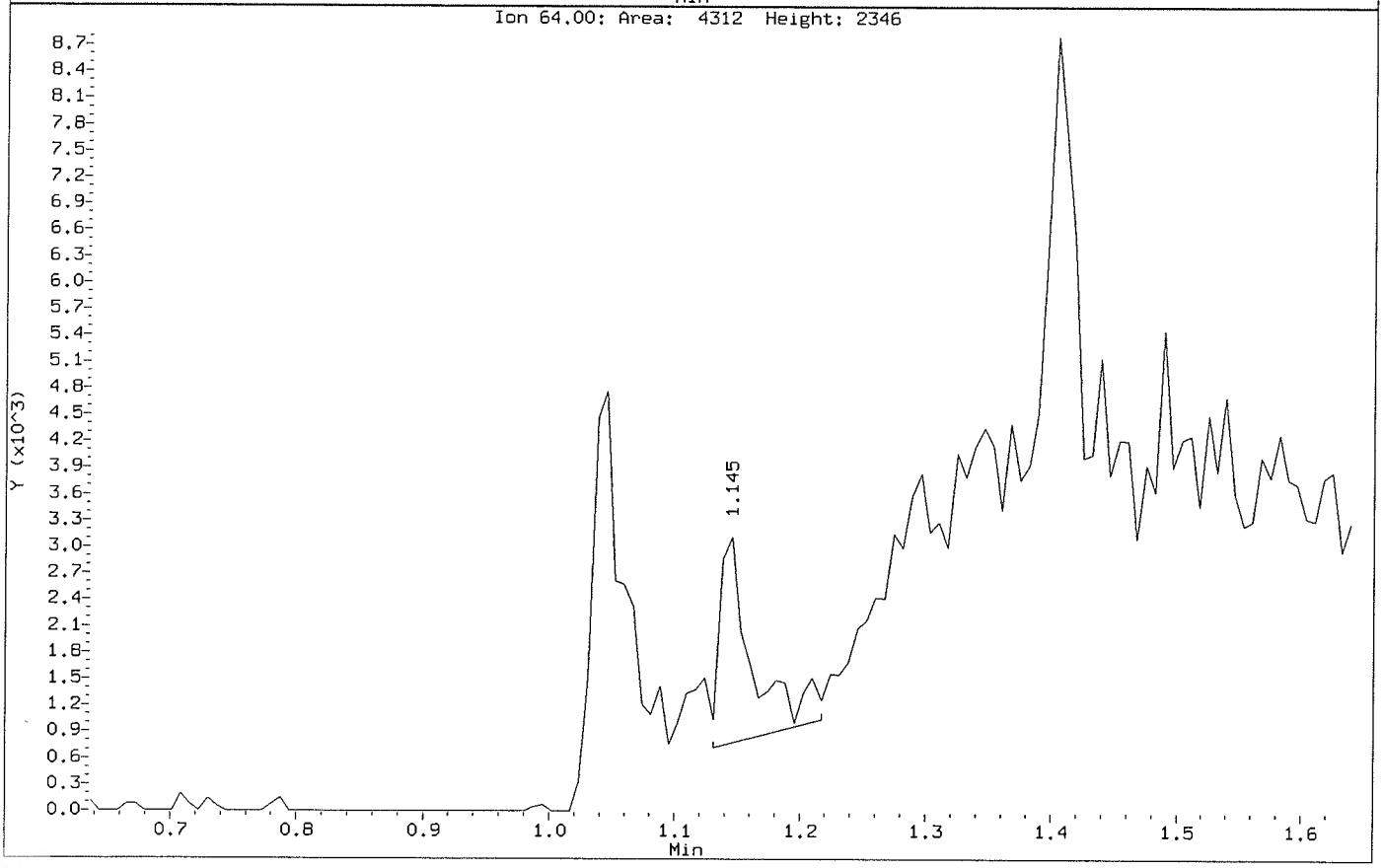
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

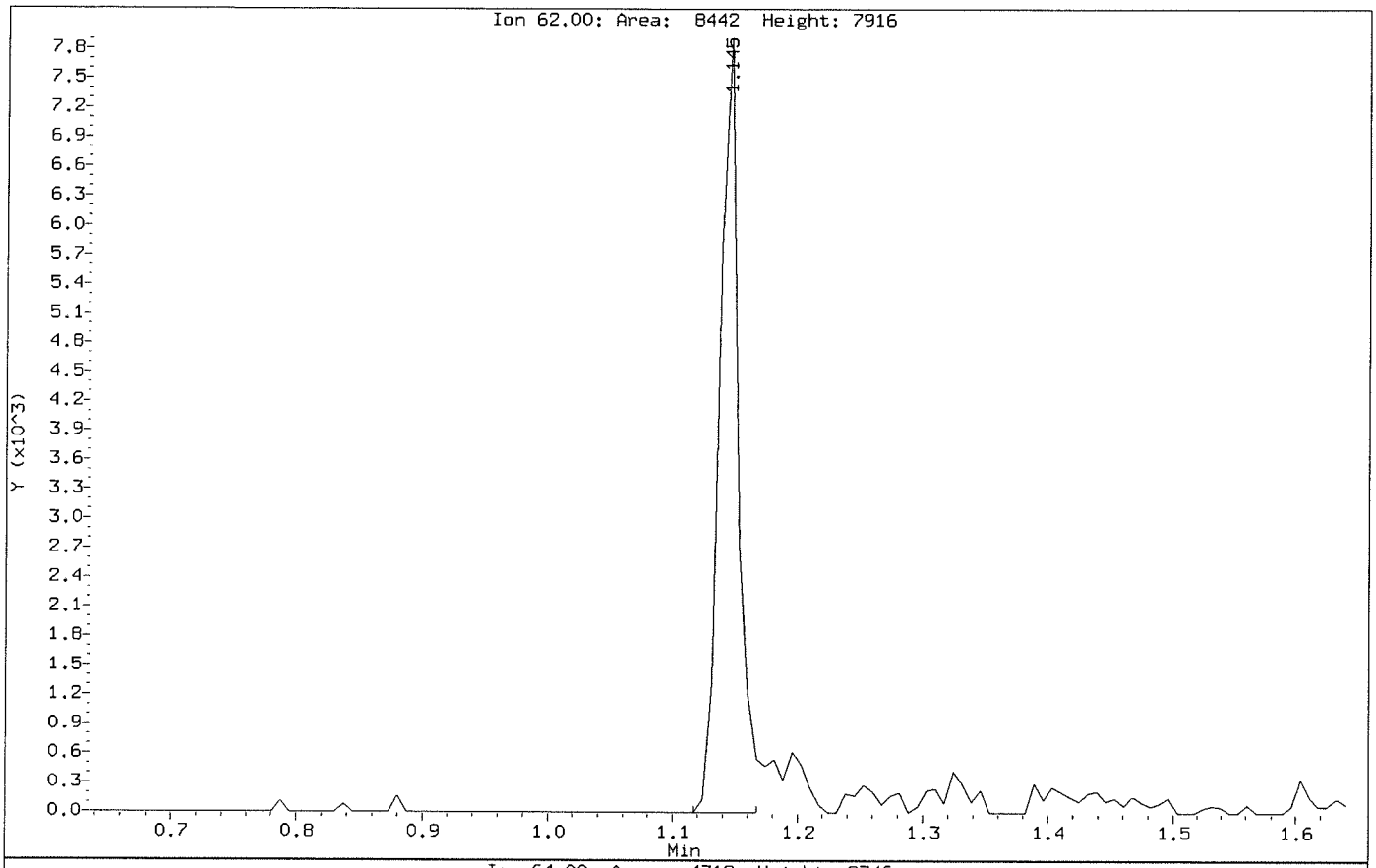
Compound: Vinyl Chloride
CAS Number: 75-01-4

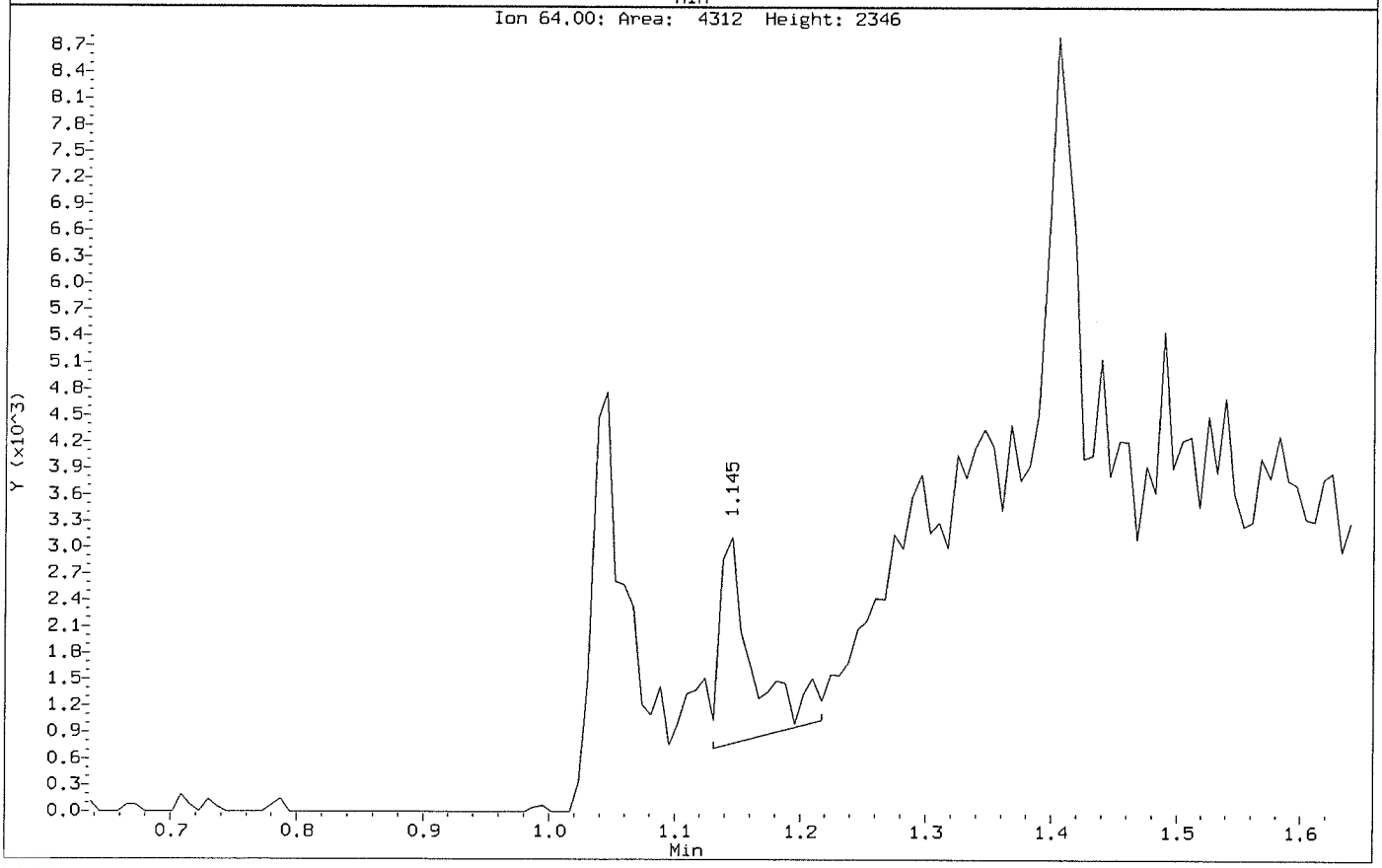




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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





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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-APR-2021 12:38
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:17 Cal File: X040205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

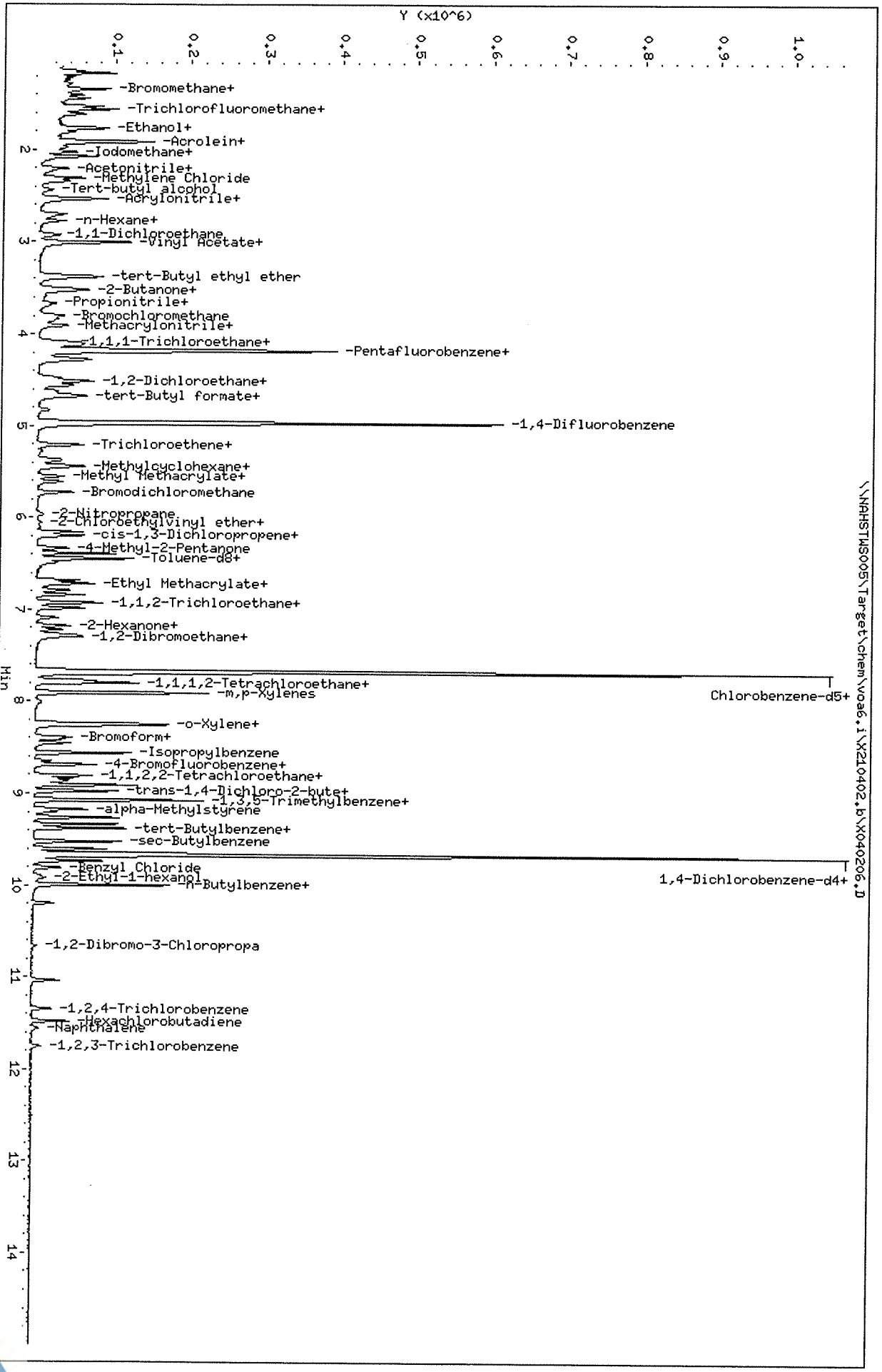
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	291823	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	482057	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	440939	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	205433	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	17824	5.00000	5.57
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	20809	5.00000	5.48
$	48 Toluene-d8	98	6.388	6.388	(0.833)	56112	5.00000	6.62
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	19193	5.00000	6.03
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	14112	5.00000	5.50
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	22632	5.00000	5.44
	33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	25538	5.00000	5.00
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17639	5.00000	4.94
	17 Methylene Chloride	84	2.306	2.306	(0.551)	17205	5.00000	6.75
	38 Trichloroethene	130	5.207	5.207	(1.049)	18140	5.00000	5.49
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	22066	5.00000	5.04(M)

QC Flag Legend

M - Compound response manually integrated.

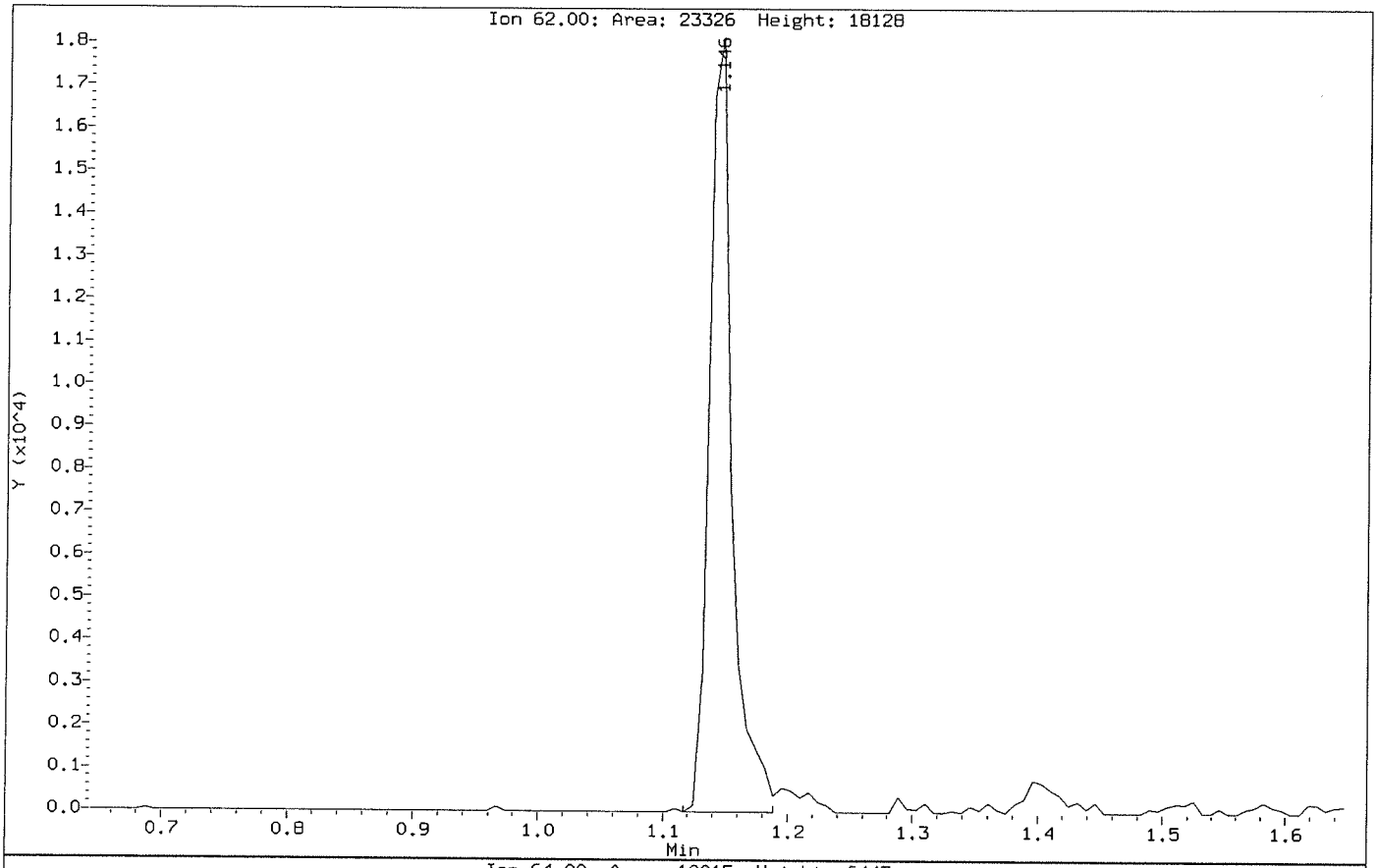


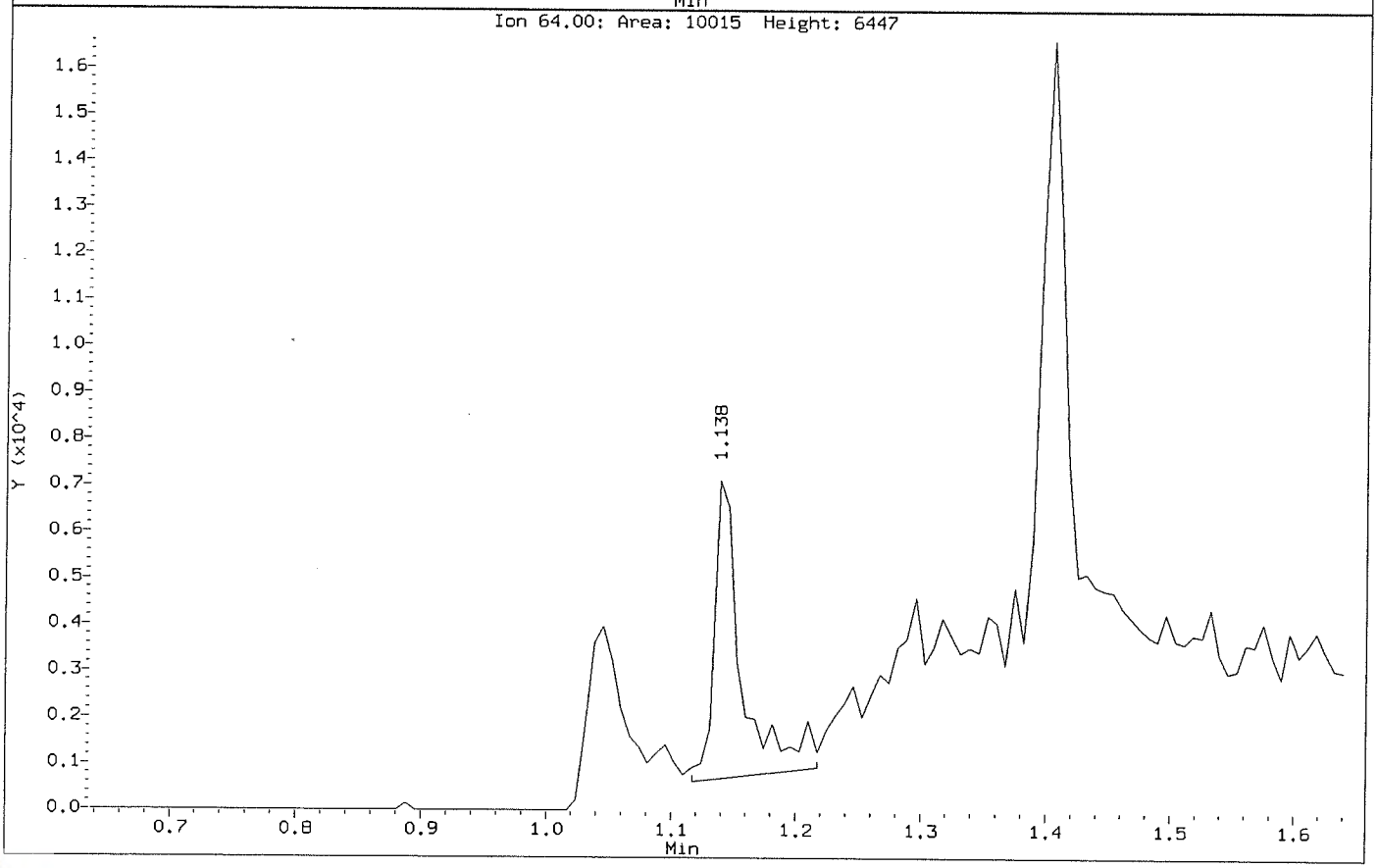
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Date : 02-APR-2021 12:38
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

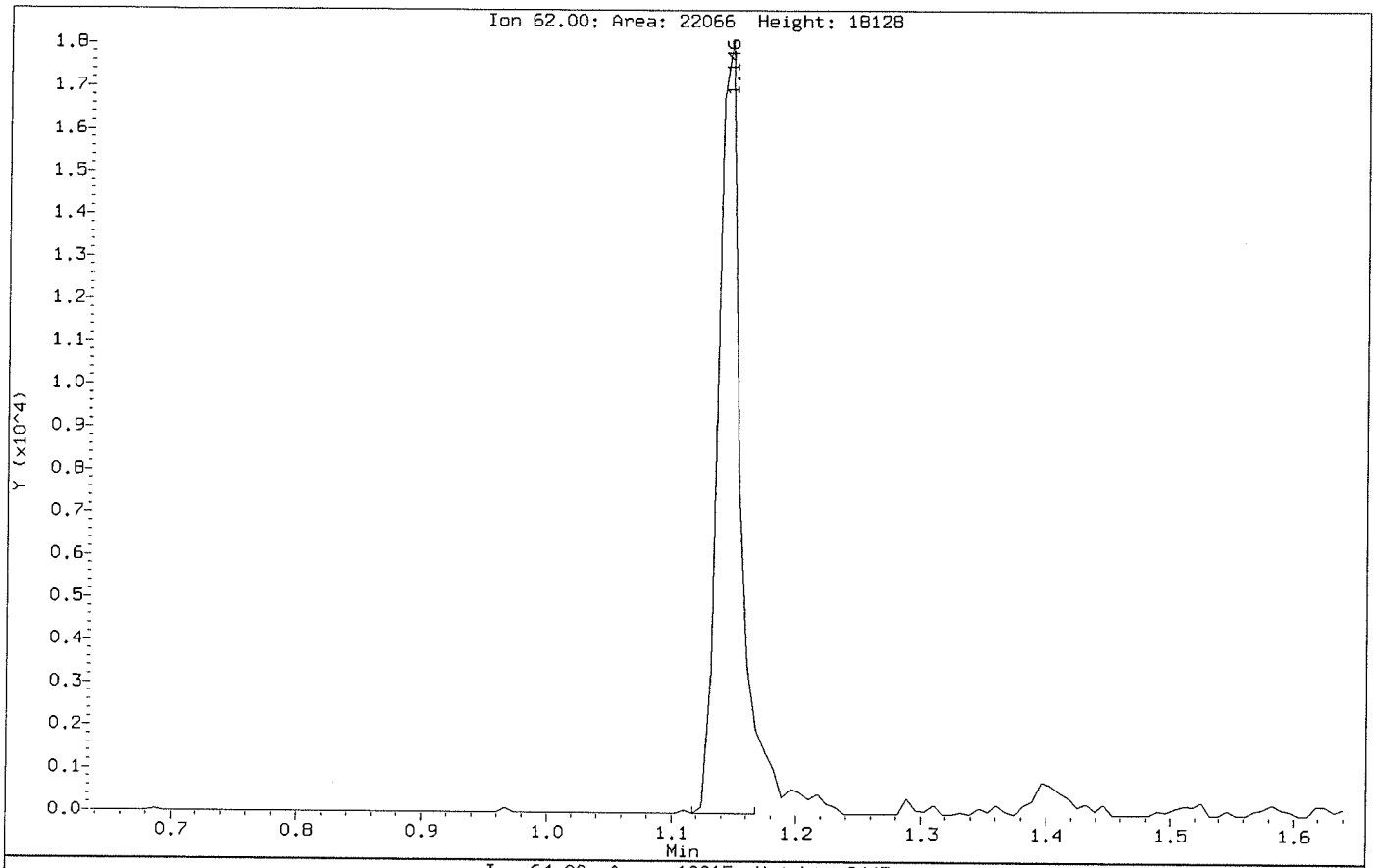
Compound: Vinyl Chloride
CAS Number: 75-01-4

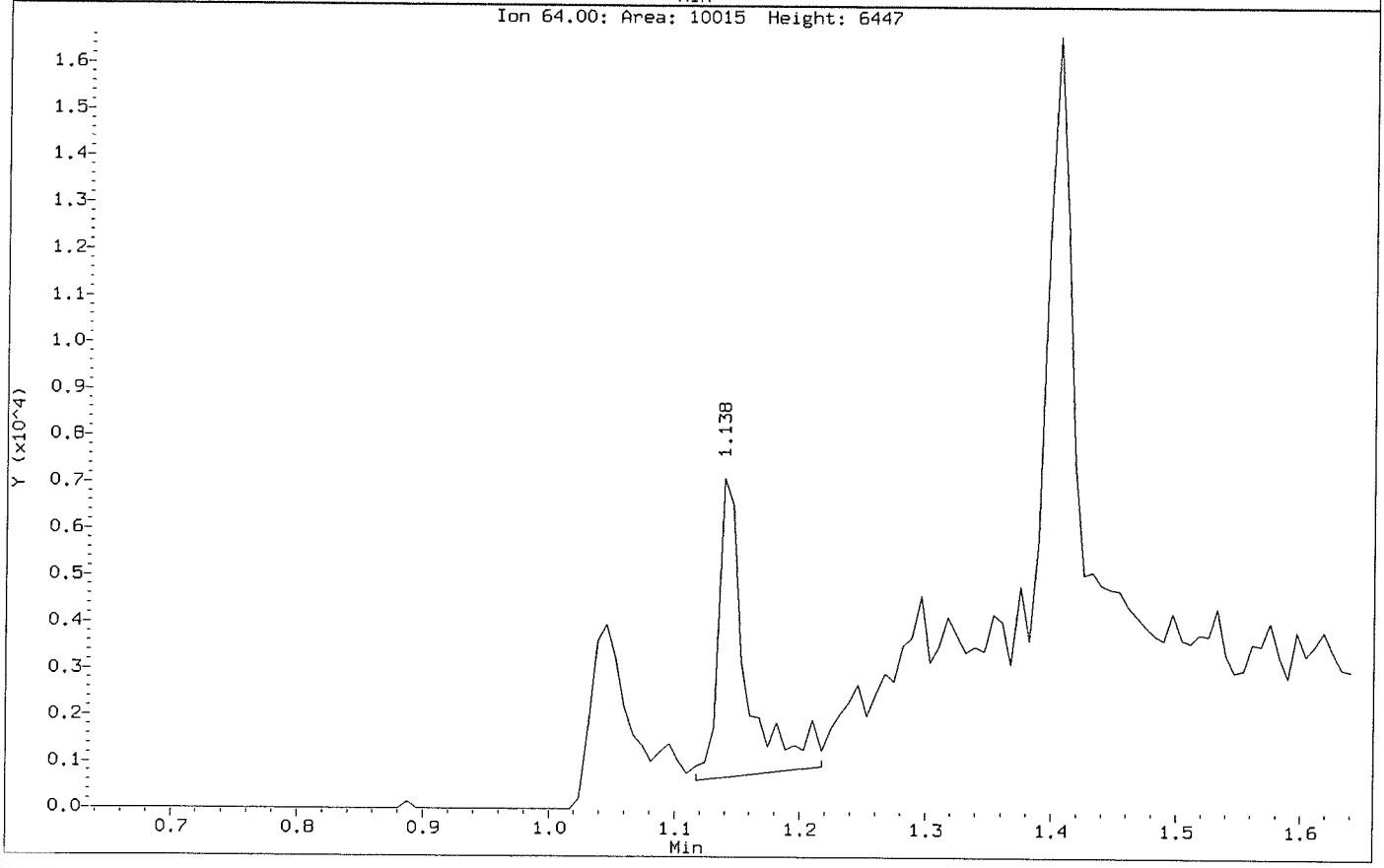




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D Page 1
Report Date: 04-May-2021 11:39

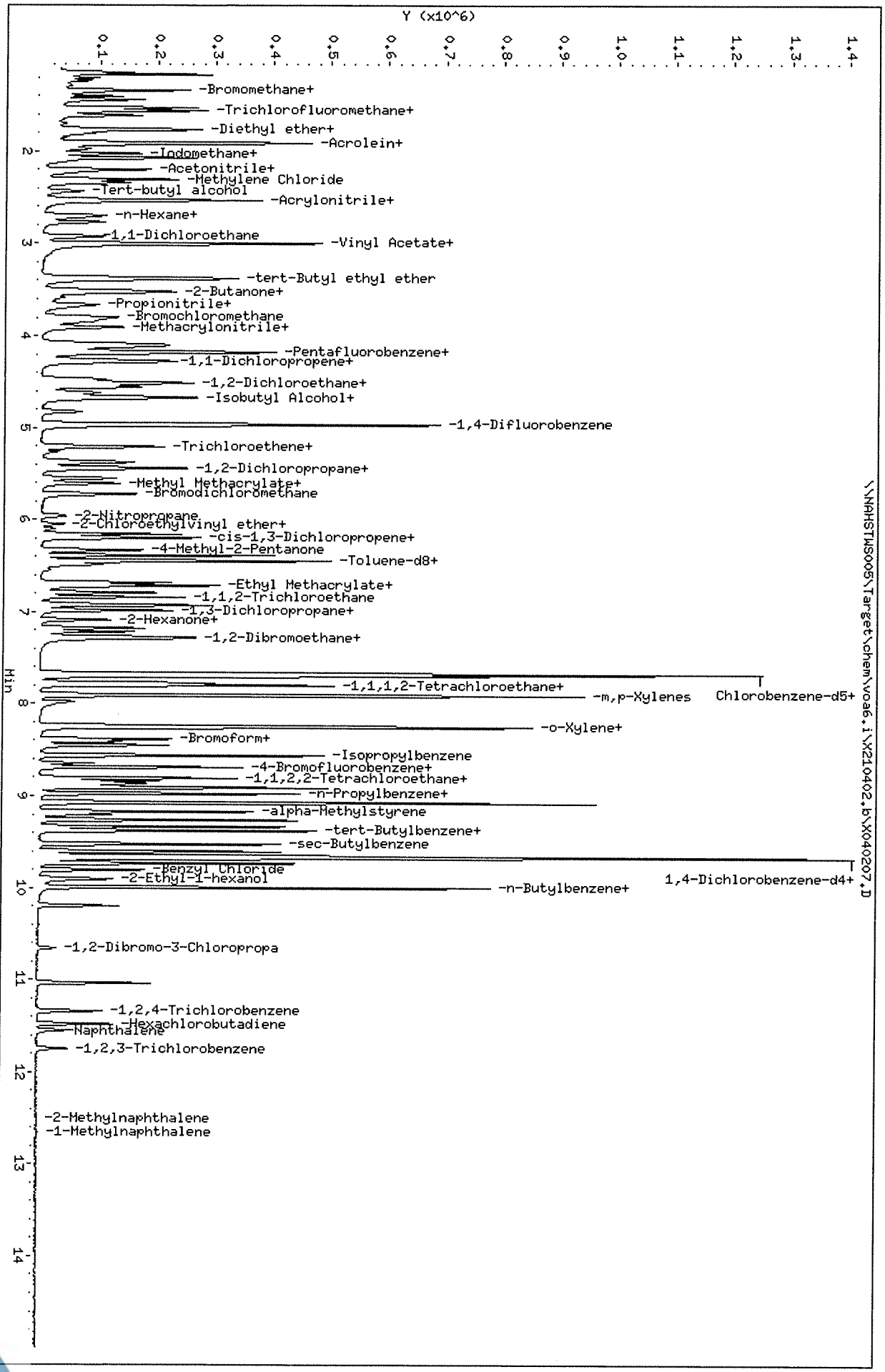
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-APR-2021 12:59
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:38 Cal File: X040206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	303845	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	500849	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	505360	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244406	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	68668	20.0000	19.46
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	80475	20.0000	19.07
$	48 Toluene-d8	98	6.388	6.388	(0.833)	218999	20.0000	18.08
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	81621	20.0000	17.93
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	50828	20.0000	17.31
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	80105	20.0000	18.51
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	95203	20.0000	17.95
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	65903	20.0000	17.74
	17 Methylene Chloride	84	2.305	2.305	(0.551)	63925	20.0000	20.29
	38 Trichloroethene	130	5.206	5.206	(1.049)	61652	20.0000	17.98
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	89514	20.0000	19.65



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Date : 02-APR-2021 12:59
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\X210402.b\X040208.D Page 1
Report Date: 04-May-2021 11:39

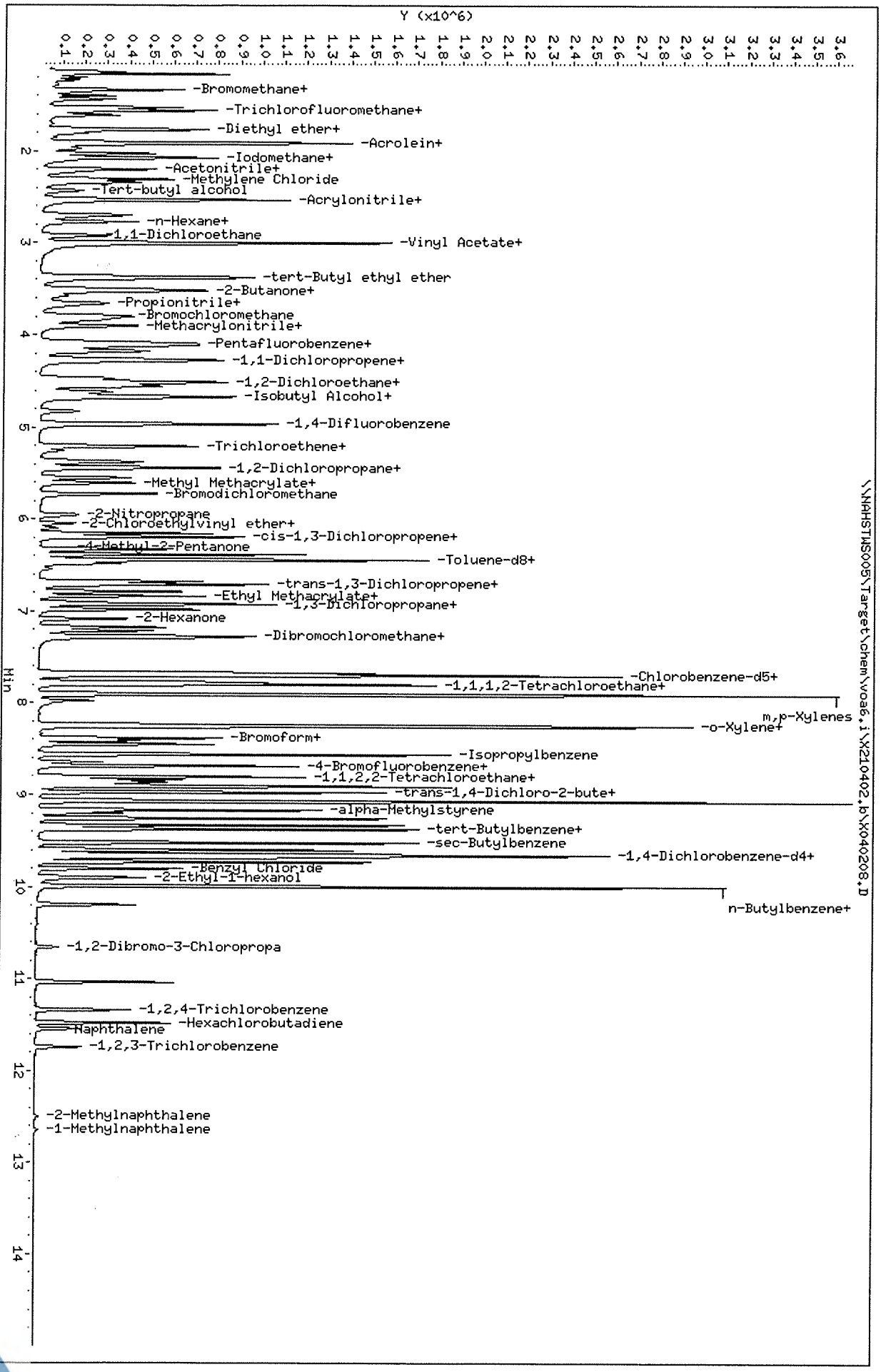
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 02-APR-2021 13:20
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:59 Cal File: X040207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	359684	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	598485	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	588191	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	309539	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	201590	50.0000	47.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243778	50.0000	48.06
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	658700	50.0000	43.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	267013	50.0000	47.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	155825	50.0000	45.60
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	240341	50.0000	46.92
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	309702	50.0000	48.88
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	208514	50.0000	47.42
17 Methylene Chloride	84	2.305	2.305	(0.551)	173954	50.0000	44.72
38 Trichloroethene	130	5.206	5.206	(1.049)	206412	50.0000	50.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	256013	50.0000	47.47



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Date : 02-APR-2021 13:20
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\X210402.b\X040209.D Page 1
Report Date: 04-May-2021 11:39

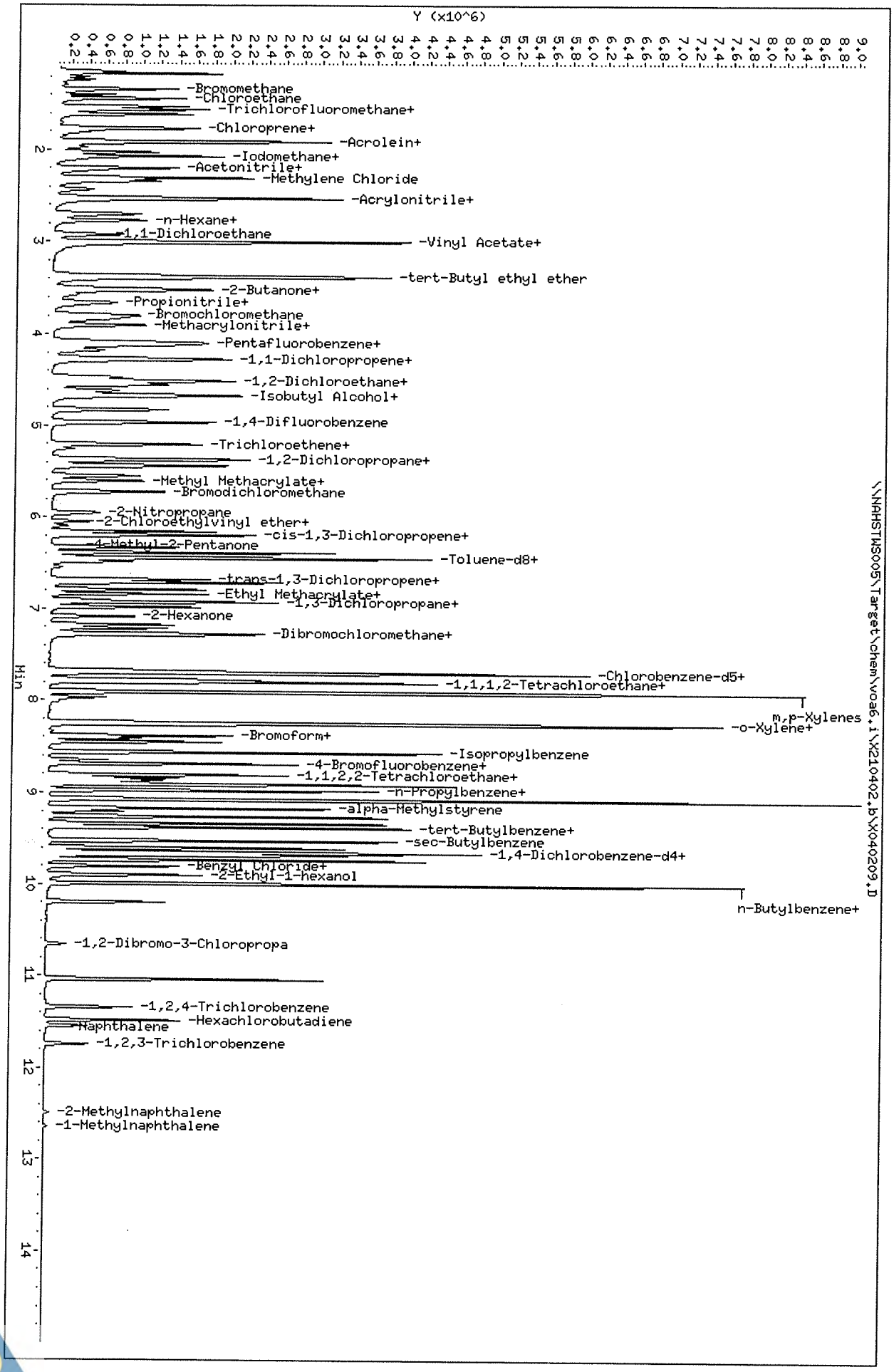
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-APR-2021 13:41
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	397825	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	683502	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	652649	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	339759	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	476731	100.000	101.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	568806	100.000	100.86
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1733824	100.000	101.37
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	624362	100.000	98.11
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	366869	100.000	96.76
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	544587	100.000	96.14
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	718135	100.000	99.26
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	487101	100.000	100.16
17 Methylene Chloride	84	2.305	2.305	(0.551)	420832	100.000	96.06
38 Trichloroethene	130	5.206	5.206	(1.049)	478548	100.000	102.27
5 Vinyl Chloride	62	1.145	1.145	(0.274)	541798	100.000	90.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Date : 02-APR-2021 13:41
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

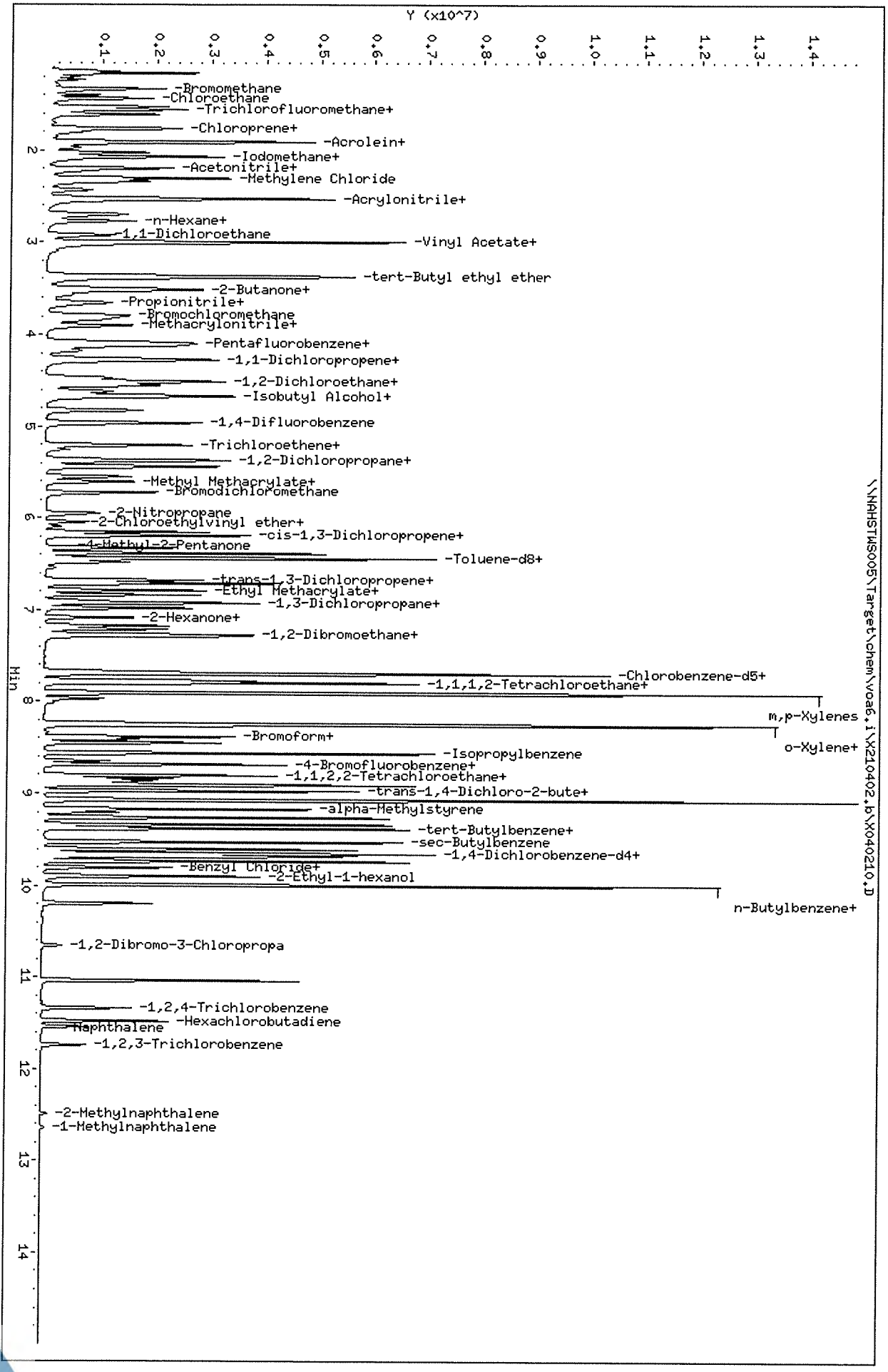
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-APR-2021 14:02
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:41 Cal File: X040209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432906	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	745206	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	707197	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	375287	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	758989	150.000	148.06
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	919399	150.000	149.58
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2714142	150.000	145.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1011725	150.000	145.90
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	595658	150.000	144.99
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	861197	150.000	139.71
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	1146217	150.000	145.31
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	789545	150.000	149.19
17 Methylene Chloride	84	2.298	2.298	(0.550)	703062	150.000	146.68
38 Trichloroethene	130	5.207	5.207	(1.049)	752757	150.000	147.55
5 Vinyl Chloride	62	1.138	1.138	(0.272)	862204	150.000	132.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Date : 02-APR-2021 14:02
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\X210402.b\X040211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-APR-2021 14:23
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:02 Cal File: X040210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

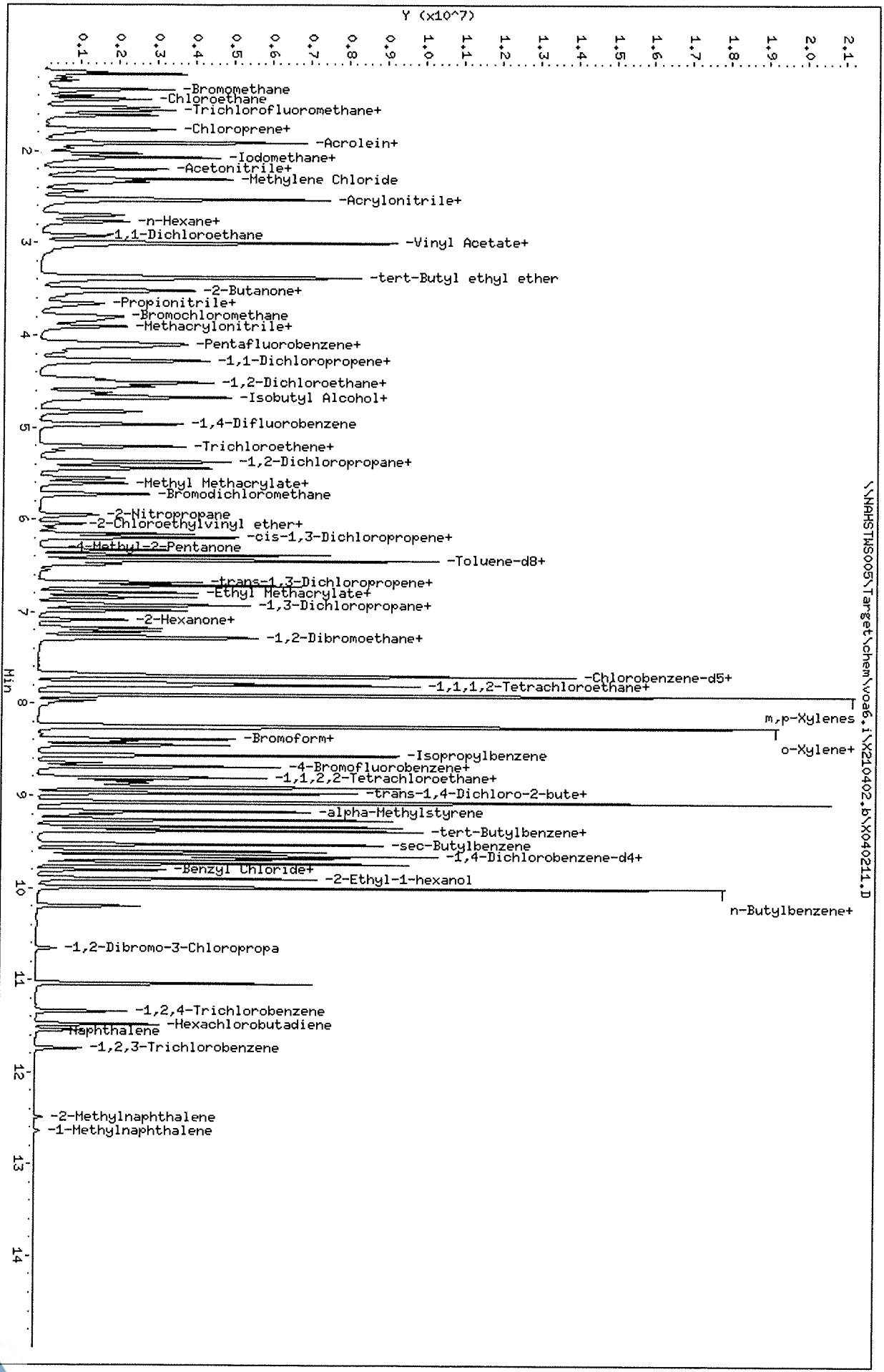
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	444815	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	788136	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	732576	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	399401	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1061294	200.000	201.33(A)
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	1266674	200.000	200.40(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	3949224	200.000	203.80(A)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1473828	200.000	204.50(A)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	832139	200.000	195.54
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1249794	200.000	197.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	1584950	200.000	189.99
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	1123271	200.000	206.57(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	1013494	200.000	205.19(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	1061444	200.000	196.73
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1159290	200.000	173.84

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Date : 02-APR-2021 14:23
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\X210402.b\X040214.D Page 1
Report Date: 04-May-2021 11:39

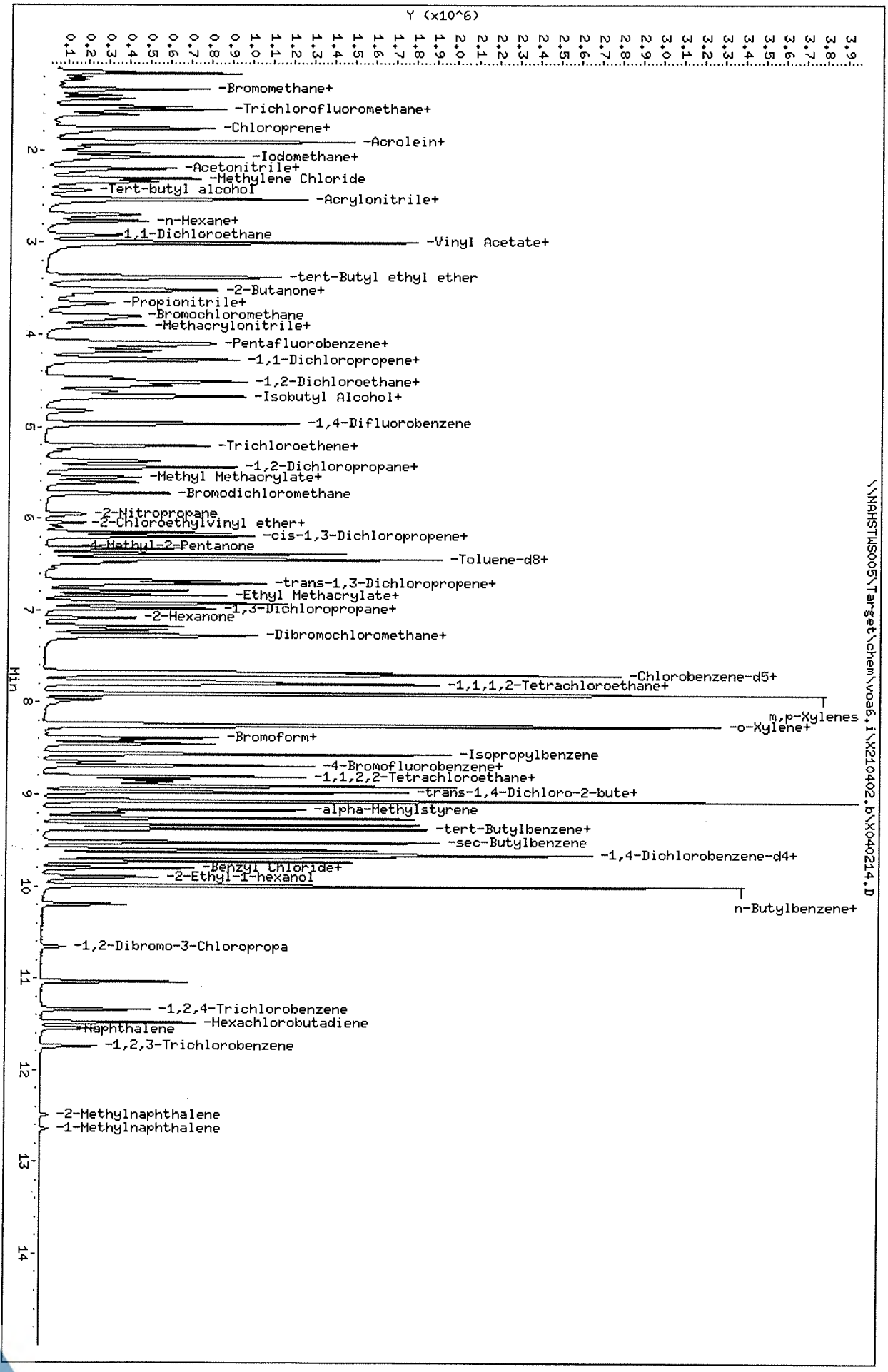
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-APR-2021 15:26
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	403237	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	674704	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	639311	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	322985	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	233448	49.1812	49.18
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	278339	48.9433	48.94
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	812891	49.4873	49.48
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	292882	47.8435	47.84
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178830	48.1535	48.15
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	265347	46.2152	46.21
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	339122	47.4855	47.48
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	228412	46.3383	46.33
17 Methylene Chloride	84	2.305	2.305	(0.551)	198869	45.5779	45.57
38 Trichloroethene	130	5.206	5.206	(1.049)	232943	50.4339	50.43
5 Vinyl Chloride	62	1.145	1.138	(0.274)	279152	46.1765	46.17



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Date : 02-APR-2021 15:26
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: 44544 **Analyst:** Presenta Cabascango

Date: 04-23-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-23-2021 10:40 am	1.00	50 mL	50 mL	X042301.D	Liquid	Y	NA
2	CCV	CCV	04-23-2021 11:01 am	1.00	50 mL	50 mL	X042302a.D	Liquid	Y	NA
3	CCV	CCV	04-23-2021 11:22 am	1.00	50 mL	50 mL	X042303.D	Liquid	Y	NA
4	CCB	SAMP	04-23-2021 11:43 am	1.00	50 mL	50 mL	X042304.D	Liquid	Y	NA
5	VLCSW-210423	LCS	04-23-2021 12:12 pm	1.00	50 mL	50 mL	X042305.D	Liquid	Y	NA
6	BLANK	SAMP	04-23-2021 12:33 pm	1.00	50 mL	50 mL	X042306.D	Liquid	Y	NA
7	VBLKW-210423	MBLK	04-23-2021 12:54 pm	1.00	50 mL	50 mL	X042307.D	Liquid	Y	NA
8	HS21041135-05	SAMP	04-23-2021 01:15 pm	1.00	50 mL	50 mL	X042308.D	Liquid	Y	NA
9	HS21041135-03	SAMP	04-23-2021 01:36 pm	1.00	50 mL	50 mL	X042309.D	Liquid	Y	NA
10	HS21041135-01	SAMP	04-23-2021 01:58 pm	1.00	50 mL	50 mL	X042310.D	Liquid	Y	NA
11	HS21041135-02	SAMP	04-23-2021 02:19 pm	1.00	50 mL	50 mL	X042311.D	Liquid	Y	NA
12	HS21041135-04	SAMP	04-23-2021 02:40 pm	1.00	50 mL	50 mL	X042312.D	Liquid	Y	NA
13	HS21041132-03	SAMP	04-23-2021 03:01 pm	1.00	50 mL	50 mL	X042313.D	Liquid	Y	NA
14	HS21041132-04	SAMP	04-23-2021 03:22 pm	1.00	50 mL	50 mL	X042314.D	Liquid	Y	NA
15	HS21041132-05	SAMP	04-23-2021 03:43 pm	1.00	50 mL	50 mL	X042315.D	Liquid	Y	NA
16	HS21041102-08	SAMP	04-23-2021 04:04 pm	5.00	10 mL	50 mL	X042316.D	Liquid	Y	NA
17	HS21041135-03MS	MS	04-23-2021 04:25 pm	1.00	50 mL	50 mL	X042317.D	Liquid	Y	NA
18	HS21041135-03MSD	MSD	04-23-2021 04:46 pm	1.00	50 mL	50 mL	X042318.D	Liquid	Y	NA
19	HS21041102-08	SAMP	04-23-2021 05:07 pm	50.00	1 mL	50 mL	X042319.D	Liquid	Y	NA
20	HS21041102-09	SAMP	04-23-2021 05:28 pm	25.00	2 mL	50 mL	X042320.D	Liquid	Y	NA
21	HS21041132-06	SAMP	04-23-2021 05:49 pm	1.00	50 mL	50 mL	X042321.D	Liquid	Y	NA
22	HS21041132-07	SAMP	04-23-2021 06:10 pm	1.00	50 mL	50 mL	X042322.D	Liquid	Y	NA
23	HS21041169-06	SAMP	04-23-2021 06:31 pm	1.00	50 mL	50 mL	X042323.D	Liquid	Y	NA
24	HS21041132-08	SAMP	04-23-2021 06:52 pm	1.00	50 mL	50 mL	X042324.D	Liquid	Y	NA
25	HS21041132-08	SAMP	04-23-2021 07:13 pm	25.00	2 mL	50 mL	X042325.D	Liquid	Y	NA
26	HS21041132-02	SAMP	04-23-2021 07:35 pm	10.00	5 mL	50 mL	X042326.D	Liquid	Y	NA
27	HS21041132-02	SAMP	04-23-2021 07:56 pm	100.0(	500 µL	50 mL	X042327.D	Liquid	Y	NA
28	HS21041132-01	SAMP	04-23-2021 08:17 pm	25.00	2 mL	50 mL	X042328.D	Liquid	Y	NA
29	HS21041132-01	SAMP	04-23-2021 08:38 pm	250.0(	200 µL	50 mL	X042329.D	Liquid	Y	NA
30	CCV-END	CCV	04-23-2021 08:59 pm	1.00	50 mL	50 mL	X042330.D	Liquid	Y	NA
31	BLANK	SAMP	04-23-2021 09:20 pm	1.00	50 mL	50 mL	X042340.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE) #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-210423	106	109	105	107	0
02	VBLKW-210423	92	97	108	90	0
03	HS21041135-05	94	97	106	95	0
04	HS21041135-03	93	97	106	90	0
05	HS21041135-01	92	97	108	89	0
06	HS21041135-02	95	100	108	95	0
07	HS21041135-04	93	100	108	92	0
08	HS21041135-03MS	92	93	102	101	0
09	HS21041135-03MSD	91	96	103	99	0
10						
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28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(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-210423

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Lab File ID: X042307 Lab Sample ID: VBLKW-210423

Date Analyzed: 04/23/21 Time Analyzed: 1254

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-210423	VLCSW-210423	X042305	1212
02	HS21041135-05	HS21041135-05	X042308	1315
03	HS21041135-03	HS21041135-03	X042309	1336
04	HS21041135-01	HS21041135-01	X042310	1358
05	HS21041135-02	HS21041135-02	X042311	1419
06	HS21041135-04	HS21041135-04	X042312	1440
07	HS21041135-03MS	HS21041135-03MS	X042317	1625
08	HS21041135-03MSD	HS21041135-03MSD	X042318	1646
09				
10				
11				
12				
13				
14				
15				
16				
17				
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22				
23				
24				
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26				
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28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Lab File ID: X042301 BFB Injection Date: 04/23/21

Instrument ID: VOA6 BFB Injection Time: 1040

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	18.3
75	30.0 - 60.0% of mass 95	46.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	5.7
173	Less than 2.0% of mass 174	1.0 (1.2)1
174	Greater than 50.0% of mass 95	80.9
175	5.0 - 9.0% of mass 174	6.4 (7.9)1
176	95.0 - 101.0% of mass 174	81.0 (100.1)1
177	5.0 - 9.0% of mass 176	5.0 (6.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X042303	04/23/21	1122
02	VLCSW-210423	VLCSW-210423	X042305	04/23/21	1212
03	VBLKW-210423	VBLKW-210423	X042307	04/23/21	1254
04	HS21041135-05	HS21041135-05	X042308	04/23/21	1315
05	HS21041135-03	HS21041135-03	X042309	04/23/21	1336
06	HS21041135-01	HS21041135-01	X042310	04/23/21	1358
07	HS21041135-02	HS21041135-02	X042311	04/23/21	1419
08	HS21041135-04	HS21041135-04	X042312	04/23/21	1440
09	HS21041135-03MS	HS21041135-03MS	X042317	04/23/21	1625
10	HS21041135-03MSD	HS21041135-03MSD	X042318	04/23/21	1646
11	CCV-END	CCV-END	X042330	04/23/21	2059
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Instrument ID: VOA6 Calibration Date: 04/23/21 Time: 1122

Lab File ID: X042303 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.7001918	0.7001918	0.1	6.64	20.00	AVRG
Methylene Chloride	51.071347	50.000000	0.5546236	0.1	-2.14	20.00	LINR
1,1-Dichloroethene	0.7120000	0.6009898	0.6009898	0.1	15.59	20.00	AVRG
1,2-Dichloroethane	0.5290000	0.5157407	0.5157407	0.1	2.51	20.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6212177	0.6212177	0.1	-1.67	20.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.2816699	0.2816699	0.1	2.87	20.00	AVRG
Trichloroethene	0.3420000	0.3334702	0.3334702	0.2	2.49	20.00	AVRG
Dibromofluoromethane	53.554194	50.000000	0.6308685	0.1	-7.11	20.00	LINR
1,2-Dichloroethane-d4	55.278480	50.000000	0.7804992	0.1	-10.56	20.00	LINR
Toluene-d8	51.331948	50.000000	1.3207521	0.1	-2.66	20.00	LINR
4-Bromofluorobenzene	55.429836	50.000000	0.5333590	0.1	-10.86	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Instrument ID: VOA6 Calibration Date: 04/23/21 Time: 2059

Lab File ID: X042330 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.8171111	0.8171111	0.1	-8.95	50.00	AVRG
Methylene Chloride	52.875514	50.000000	0.5748024	0.1	-5.75	50.00	LINR
1,1-Dichloroethene	0.7120000	0.7128928	0.7128928	0.1	-0.12	50.00	AVRG
1,2-Dichloroethane	0.5290000	0.5464335	0.5464335	0.1	-3.30	50.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6501990	0.6501990	0.1	-6.42	50.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3180305	0.3180305	0.1	-9.66	50.00	AVRG
Trichloroethene	0.3420000	0.3401588	0.3401588	0.2	0.54	50.00	AVRG
Dibromofluoromethane	59.574229	50.000000	0.7023623	0.1	-19.15	50.00	LINR
1,2-Dichloroethane-d4	59.629610	50.000000	0.8424764	0.1	-19.26	50.00	LINR
Toluene-d8	54.576488	50.000000	1.4073624	0.1	-9.15	50.00	LINR
4-Bromofluorobenzene	56.179253	50.000000	0.5407913	0.1	-12.36	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Lab File ID (Standard): X042303 Date Analyzed: 04/23/21

Instrument ID: VOA6 Time Analyzed: 1122

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	400486	4.18	674651	4.97	644744	7.67
	UPPER LIMIT	800972	4.68	1349302	5.47	1289488	8.17
	LOWER LIMIT	200243	3.68	337326	4.47	322372	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-210423	334958	4.18	589014	4.96	564684	7.67
02	VBLKW-210423	410293	4.18	656250	4.97	591009	7.67
03	HS21041135-05	408320	4.18	654079	4.96	590409	7.67
04	HS21041135-03	411475	4.18	653835	4.96	577767	7.67
05	HS21041135-01	410533	4.18	645925	4.96	566497	7.67
06	HS21041135-02	405340	4.18	656358	4.96	570986	7.67
07	HS21041135-04	401370	4.18	644815	4.97	554737	7.67
08	HS21041135-03MS	426612	4.18	684424	4.96	663475	7.67
09	HS21041135-03MSD	432945	4.18	697264	4.97	666027	7.67
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041135

Lab File ID (Standard): X042303 Date Analyzed: 04/23/21

Instrument ID: VOA6 Time Analyzed: 1122

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	312454	9.66				
	UPPER LIMIT	624908	10.16				
	LOWER LIMIT	156227	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-210423	258969	9.66				
02	VBLKW-210423	249819	9.66				
03	HS21041135-05	261416	9.66				
04	HS21041135-03	240253	9.66				
05	HS21041135-01	232866	9.66				
06	HS21041135-02	249149	9.66				
07	HS21041135-04	241237	9.66				
08	HS21041135-03MS	305215	9.66				
09	HS21041135-03MSD	298080	9.66				
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Page 1

Date : 23-APR-2021 10:40

Client ID: BFB

Instrument: voa6.i

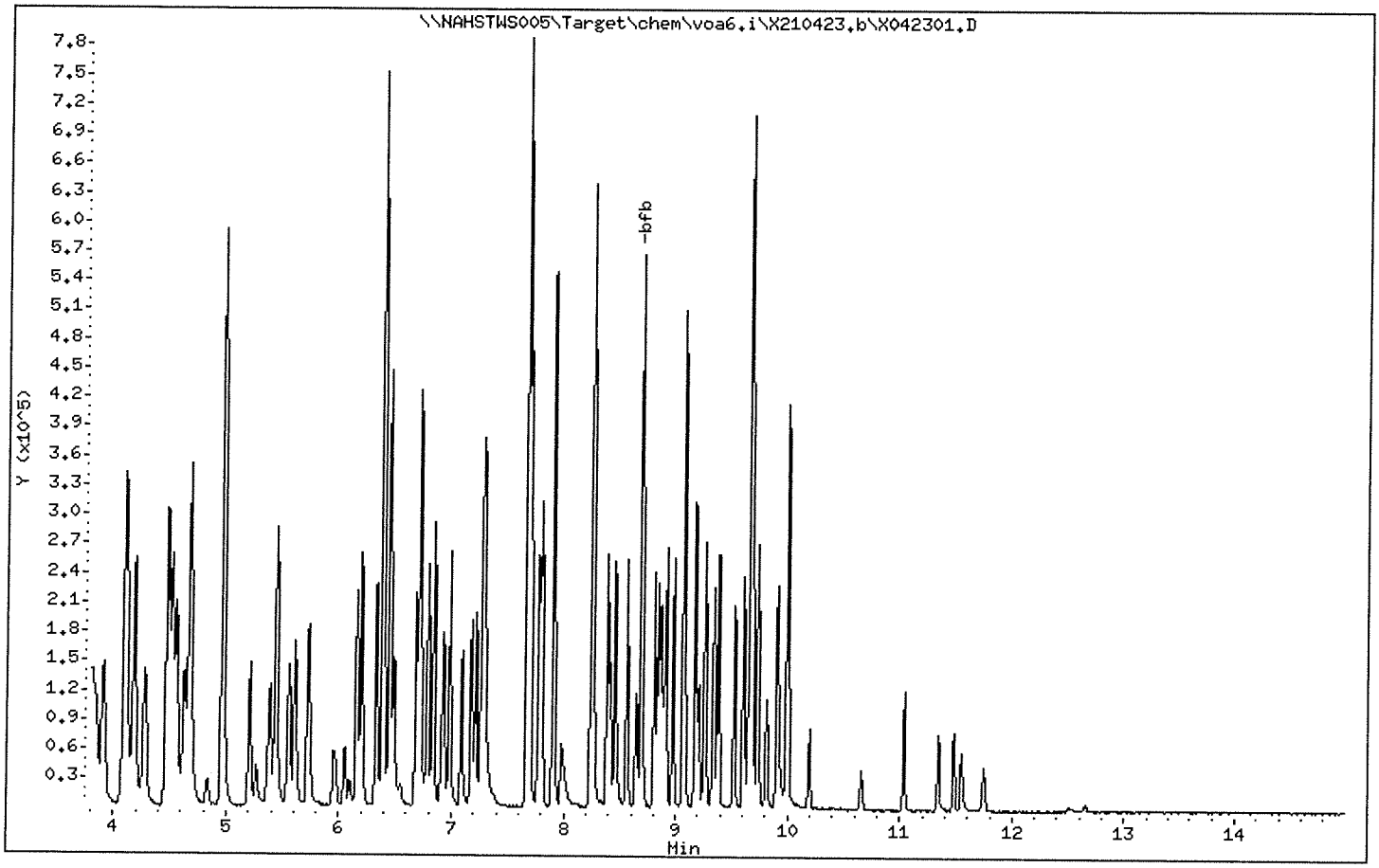
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

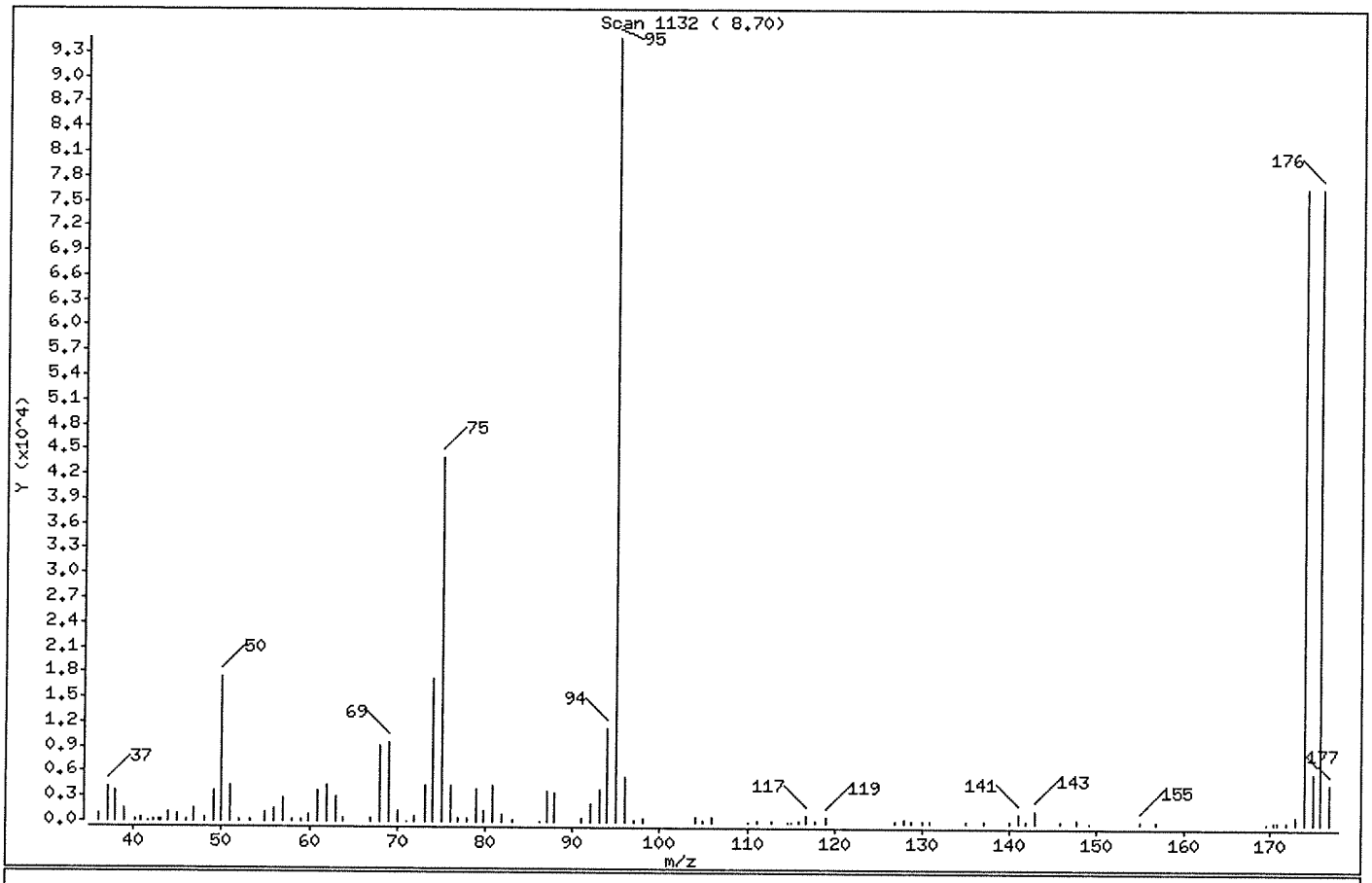
Volume Injected (uL): 2.0

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	18.34
75	30.00 - 60.00% of mass 95	46.36
96	5.00 - 9.00% of mass 95	5.70
173	Less than 2.00% of mass 174	0.96 (1.18)
174	Greater than 50.00% of mass 95	80.86
175	5.00 - 9.00% of mass 174	6.41 (7.92)
176	95.00 - 101.00% of mass 174	80.97 (100.14)
177	5.00 - 9.00% of mass 176	5.05 (6.23)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

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: X042301.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	799	59.00	190	87.00	3716	128.80	144
37.00	4109	59.90	859	87.90	3417	129.90	296
38.00	3758	61.00	3800	91.00	406	130.90	149
39.00	1543	62.00	4356	92.00	2110	134.90	173
40.10	281	63.00	2980	93.00	3935	137.00	121
40.90	451	63.90	383	93.90	11332	140.00	149
41.70	66	67.00	487	95.00	94728	141.00	1108
42.20	124	68.00	9063	96.00	5404	141.80	143
42.90	203	69.00	9667	97.00	219	142.90	1418
43.10	202	70.00	1275	98.10	331	145.70	147
44.00	1074	71.10	71	104.00	724	147.70	336
44.90	975	72.00	682	104.90	192	149.00	81
46.00	123	73.10	4276	105.90	733	154.80	134
46.90	1431	74.00	17304	110.00	100	156.80	122
48.00	494	75.00	43912	111.10	132	169.70	63
49.00	3728	76.00	4248	112.80	181	170.50	138
50.00	17376	76.90	459	114.70	61	170.90	144
51.00	4321	78.00	470	115.10	52	171.80	175
52.00	290	78.90	4004	115.80	302	173.00	906
53.20	123	79.90	1335	116.70	849	173.90	76600
55.00	1005	80.90	4280	117.80	206	174.90	6070
56.00	1421	81.90	763	118.90	557	175.90	76704
57.00	2789	83.10	124	126.80	201	176.90	4782
58.10	125	86.20	80	128.00	474		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D Page 1
Report Date: 13-May-2021 09:14

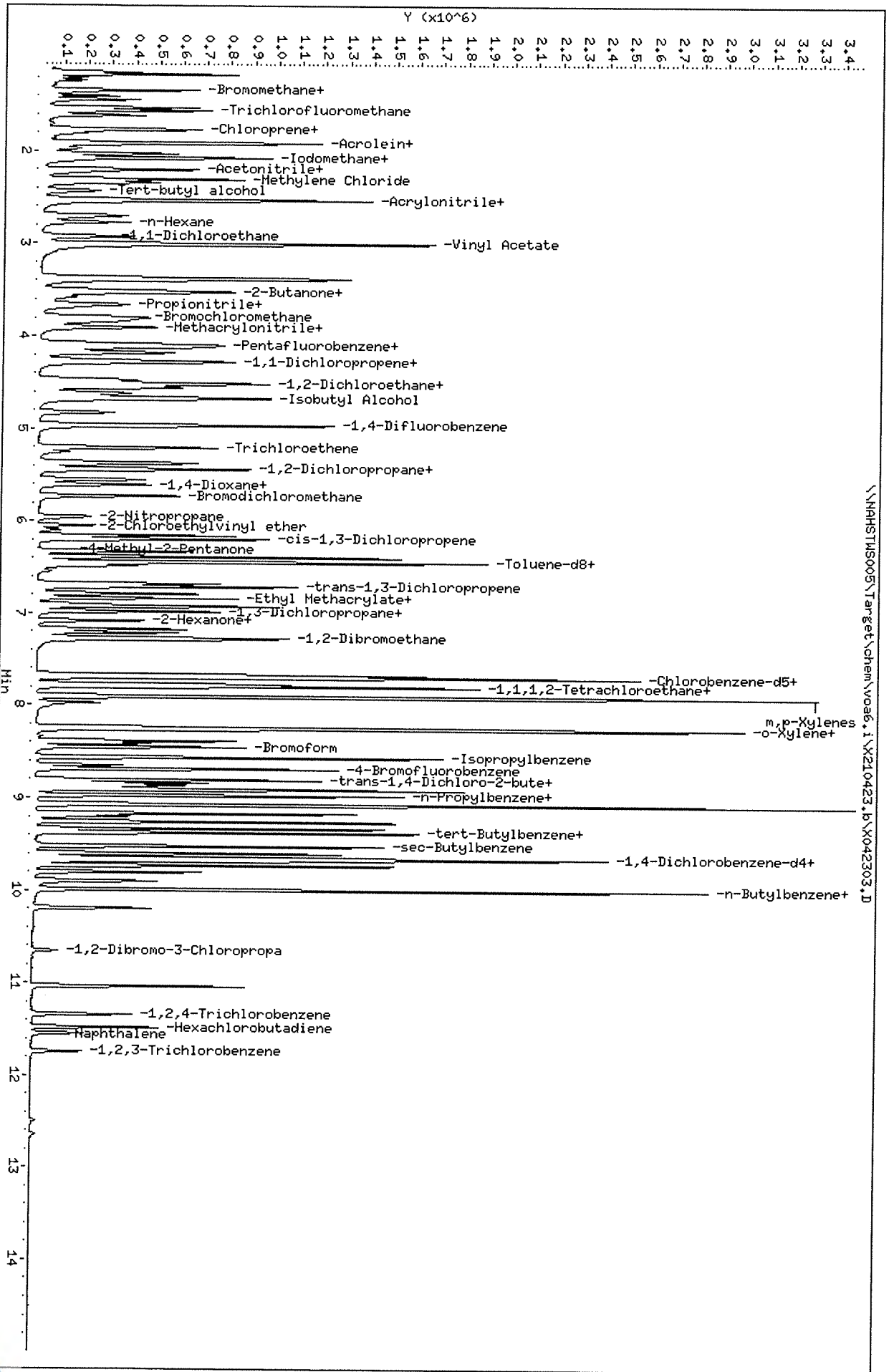
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 23-APR-2021 11:22
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	400486	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	674651	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	644744	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	312454	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	252654	50.0000	53.55
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	312579	50.0000	55.27
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	851547	50.0000	51.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	343880	50.0000	55.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	181605	50.0000	48.48
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	240688	50.0000	42.20
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	347945	50.0000	48.72
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	248789	50.0000	50.81
17 Methylene Chloride	84	2.306	2.306	(0.551)	222119	50.0000	51.07
38 Trichloroethene	130	5.207	5.207	(1.048)	224976	50.0000	48.71
5 Vinyl Chloride	62	1.145	1.145	(0.274)	280417	50.0000	46.70



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D
Date : 23-APR-2021 11:22
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\X210423.b\X042305.D Page 1
Report Date: 13-May-2021 09:14

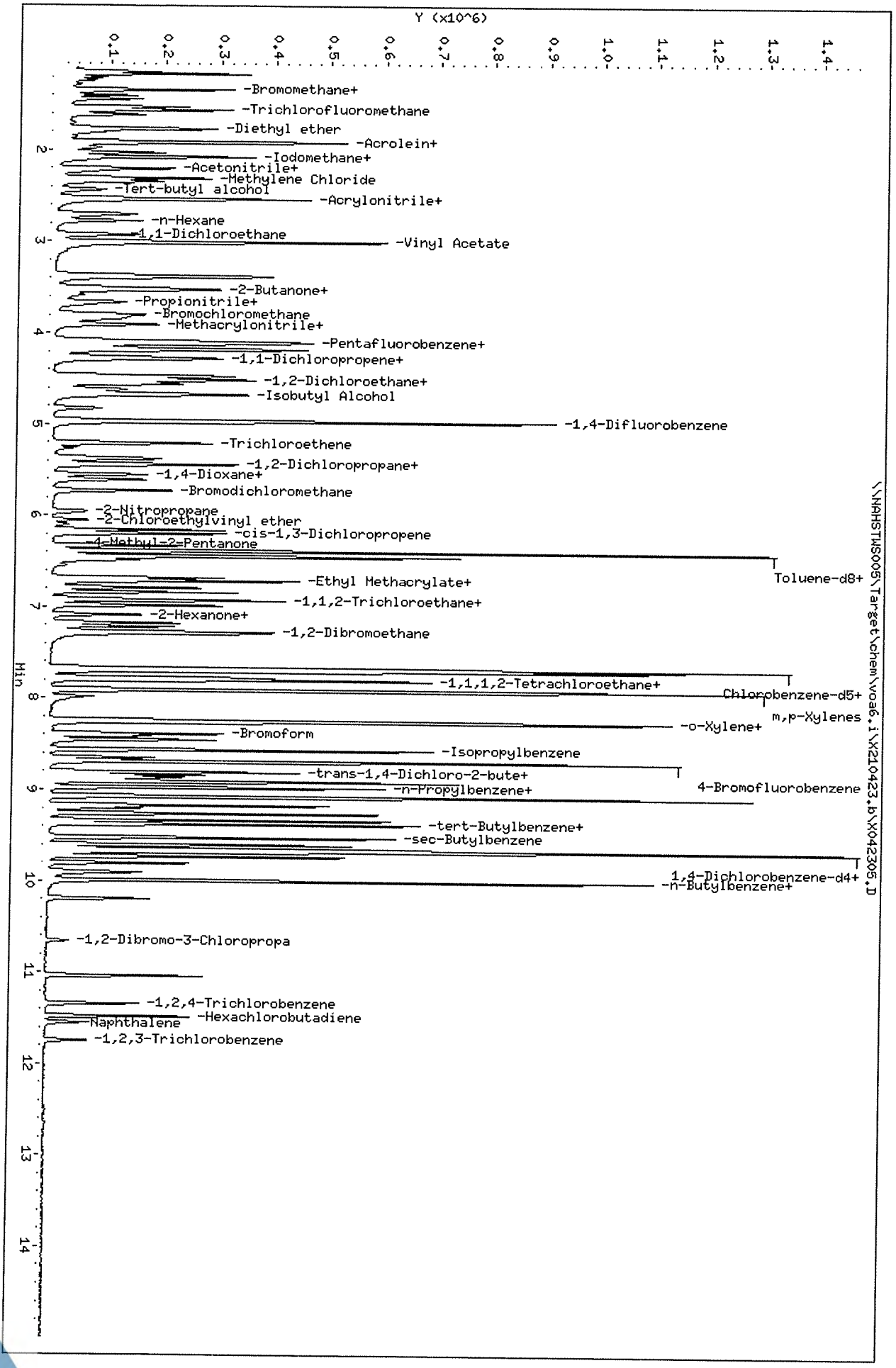
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042305.D
Lab Smp Id: VLCSW-210423 Client Smp ID: VLCSW-210423
Inj Date : 23-APR-2021 12:12
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210423;VLCSW-210423;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	334958	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	589014	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	564684	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	258969	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	209698	53.1478	53.14
$	35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	257389	54.4306	54.43
$	48 Toluene-d8	98	6.388	6.388	(0.833)	766805	52.7249	52.72
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	290578	53.5368	53.53
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	73641	22.4499	22.44
	11 1,1-Dichloroethene	96	1.912	1.919	(0.457)	103799	21.7637	21.76
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	131313	21.0621	21.06
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	91706	22.3969	22.39
	17 Methylene Chloride	84	2.306	2.306	(0.551)	83158	23.6800	23.68
	38 Trichloroethene	130	5.207	5.207	(1.049)	88438	21.9331	21.93
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	119780	23.8526	23.85



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042305.D
Date : 23-APR-2021 12:12
Client ID: VLCSW-210423
Sample Info: VLCSW-210423;VLCSW-210423;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\X210423.b\X042307.D Page 1
Report Date: 13-May-2021 09:14

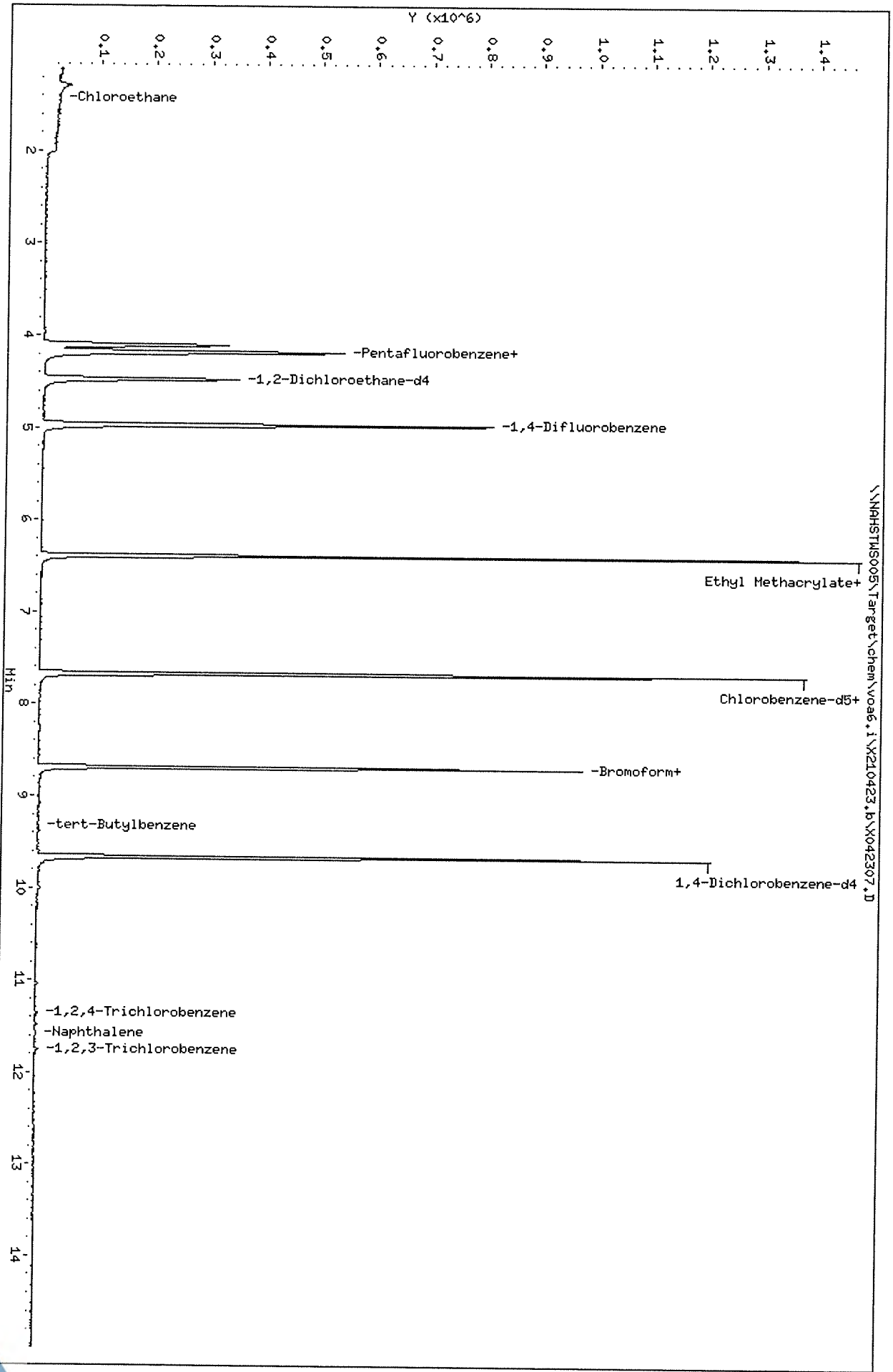
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042307.D
Lab Smp Id: VBLKW-210423 Client Smp ID: VBLKW-210423
Inj Date : 23-APR-2021 12:54
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210423;VBLKW-210423;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	410293	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	656250	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	591009	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	249819	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	221934	45.9799	45.97
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281168	48.5940	48.59
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	819568	53.8034	53.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	255661	45.2685	45.26



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042307.D
Date : 23-APR-2021 12:54
Client ID: VBLKW-210423
Sample Info: VBLKW-210423;VBLKW-210423;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\X210423.b\X042308.D Page 1
Report Date: 13-May-2021 09:15

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042308.D
Lab Smp Id: HS21041135-05 Client Smp ID: HS21041135-05
Inj Date : 23-APR-2021 13:15
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-05;HS21041135-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

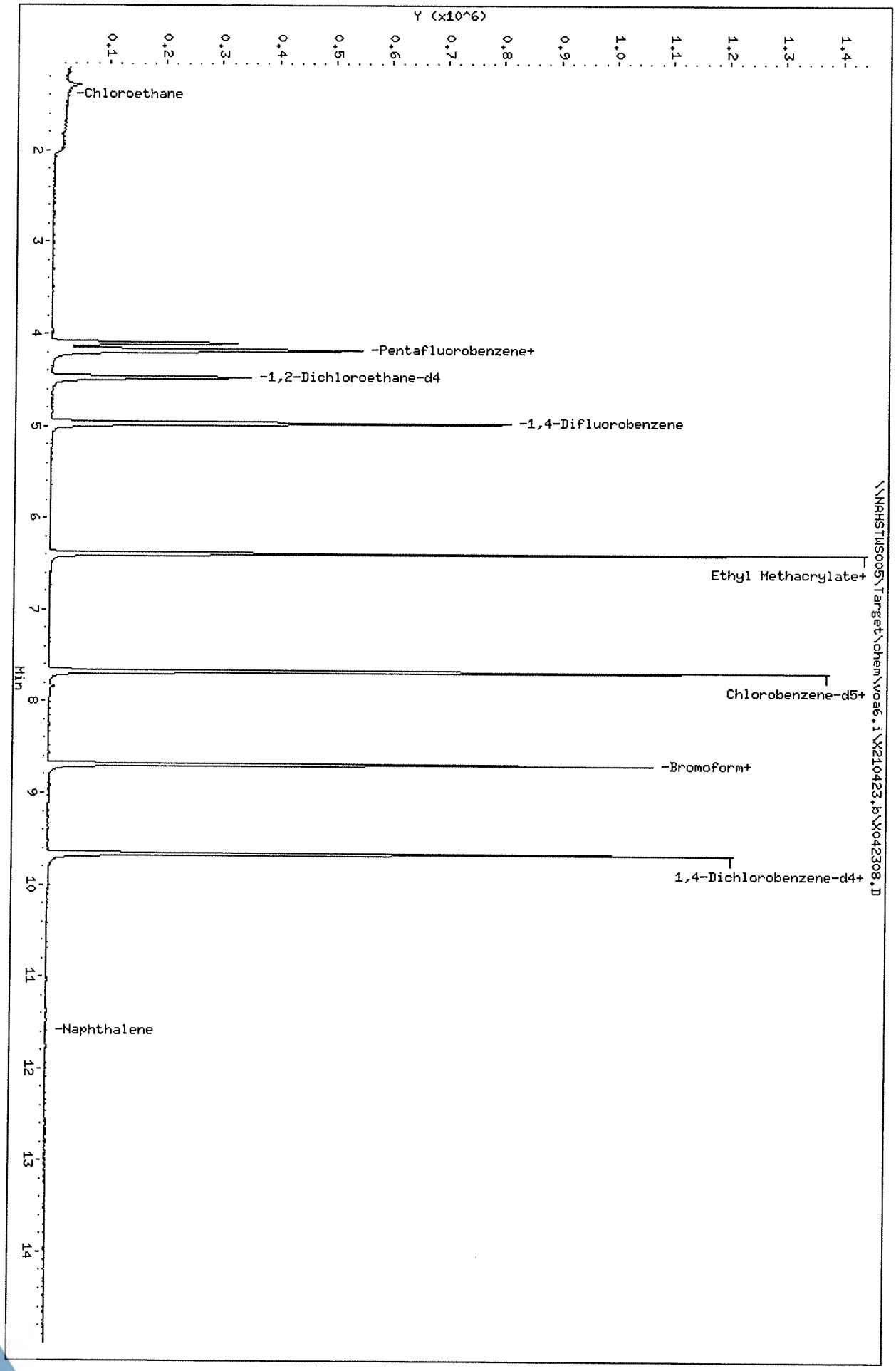
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	408320	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	654079	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	590409	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	261416	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	226194	47.0784	47.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	280186	48.6576	48.65
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	808561	53.1578	53.15
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	269300	47.6422	47.64

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042308.D
Date : 23-APR-2021 13:15
Client ID: HS21041135-05
Sample Info: HS21041135-05;HS21041135-05;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042309.D Page 1
Report Date: 13-May-2021 09:15

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042309.D
Lab Smp Id: HS21041135-03 Client Smp ID: HS21041135-03
Inj Date : 23-APR-2021 13:36
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-03;HS21041135-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

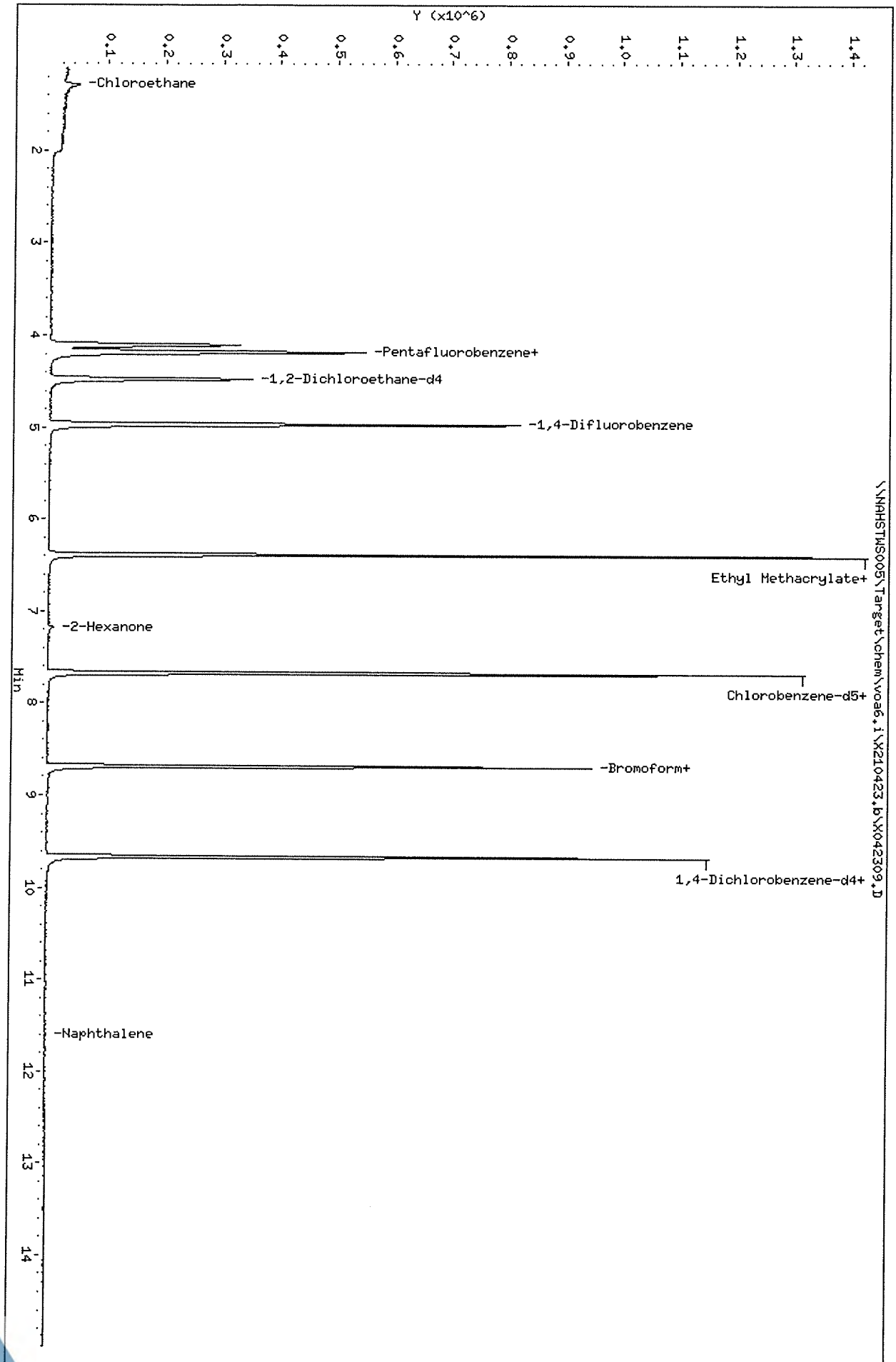
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	411475	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	653835	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	577767	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	240253	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.981)	224159	46.3043	46.30
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	281260	48.4715	48.47
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	790843	53.1316	53.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	249331	45.1635	45.16

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042309.D
Date : 23-APR-2021 13:36
Client ID: HS21041135-03
Sample Info: HS21041135-03;HS21041135-03;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042310.D Page 1
Report Date: 13-May-2021 09:15

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042310.D
Lab Smp Id: HS21041135-01 Client Smp ID: HS21041135-01
Inj Date : 23-APR-2021 13:58
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-01;HS21041135-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

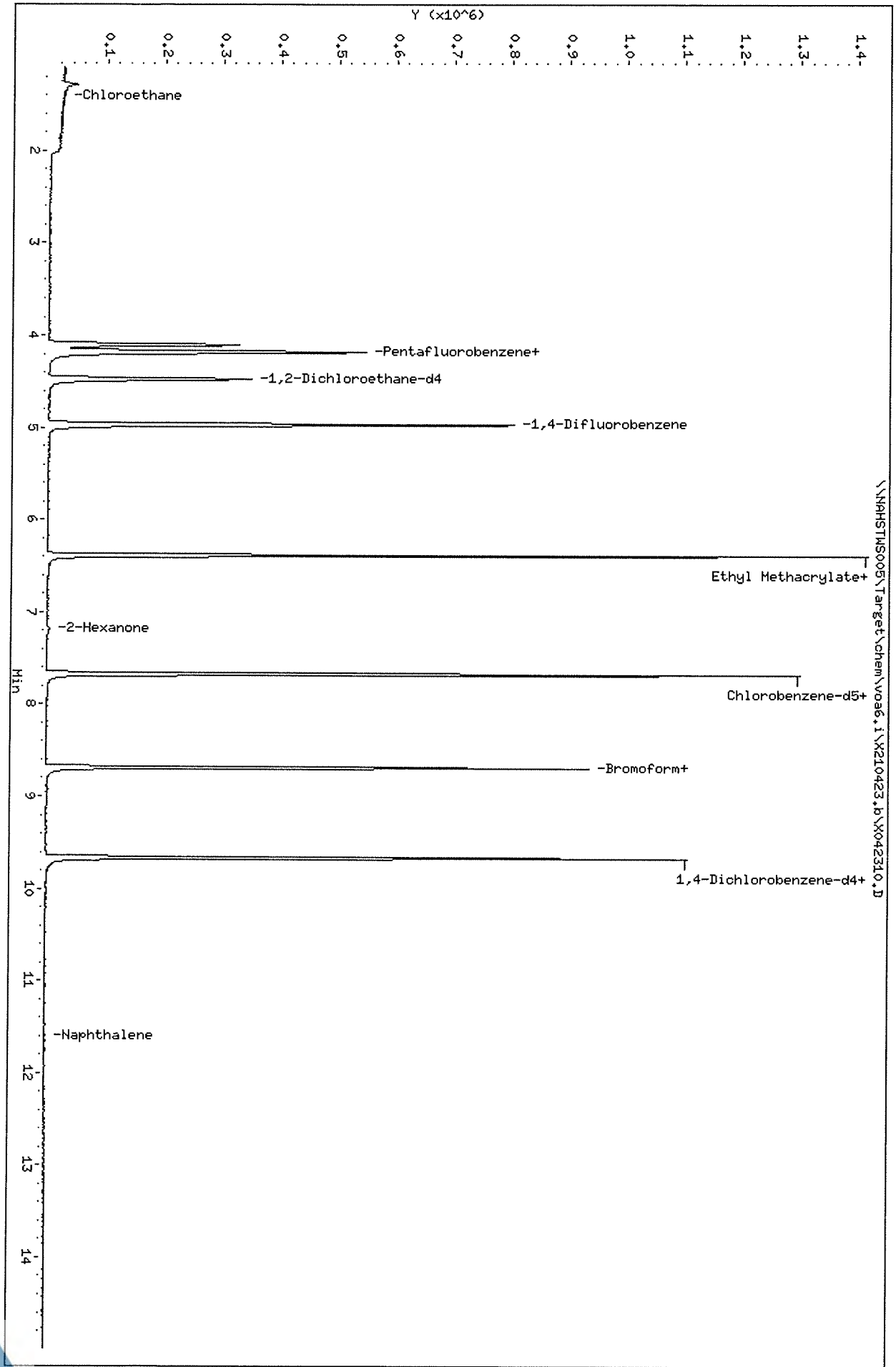
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	410533	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	645925	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	566497	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	232866	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	222784	46.1276	46.12
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	279614	48.3001	48.30
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	787446	53.9271	53.92
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	241105	44.5650	44.56

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042310.D
Date : 23-APR-2021 13:58
Client ID: HS21041135-01
Sample Info: HS21041135-01;HS21041135-01;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042311.D Page 1
Report Date: 13-May-2021 09:15

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042311.D
Lab Smp Id: HS21041135-02 Client Smp ID: HS21041135-02
Inj Date : 23-APR-2021 14:19
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-02;HS21041135-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

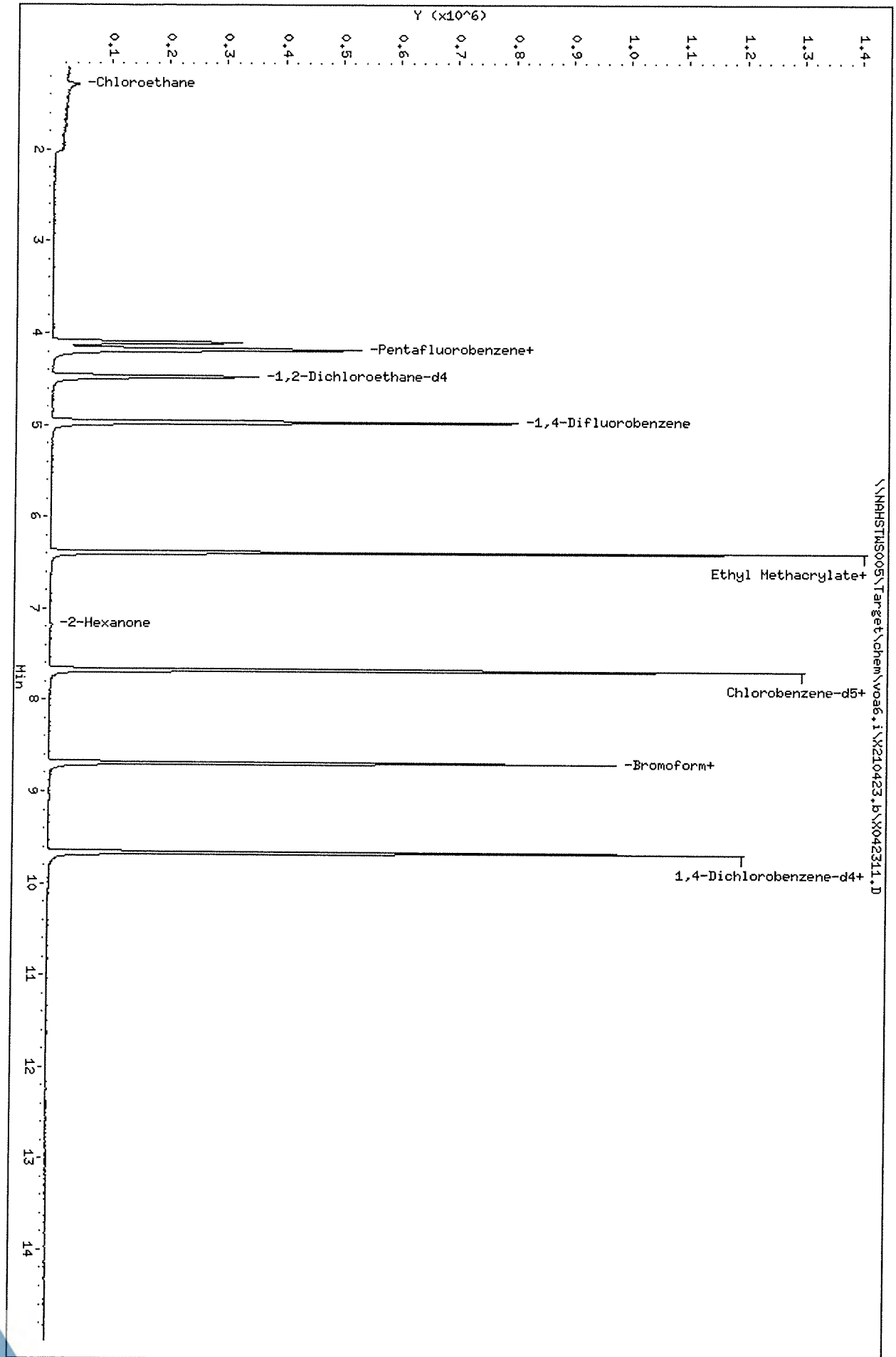
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	405340	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	656358	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	570986	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	249149	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	225850	47.3499	47.34
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	284878	49.8245	49.82
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	792373	53.8409	53.84
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	260830	47.7109	47.71

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042311.D
Date : 23-APR-2021 14:19
Client ID: HS21041135-02
Sample Info: HS21041135-02;HS21041135-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042312.D Page 1
Report Date: 13-May-2021 09:15

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042312.D
Lab Smp Id: HS21041135-04 Client Smp ID: HS21041135-04
Inj Date : 23-APR-2021 14:40
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-04;HS21041135-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

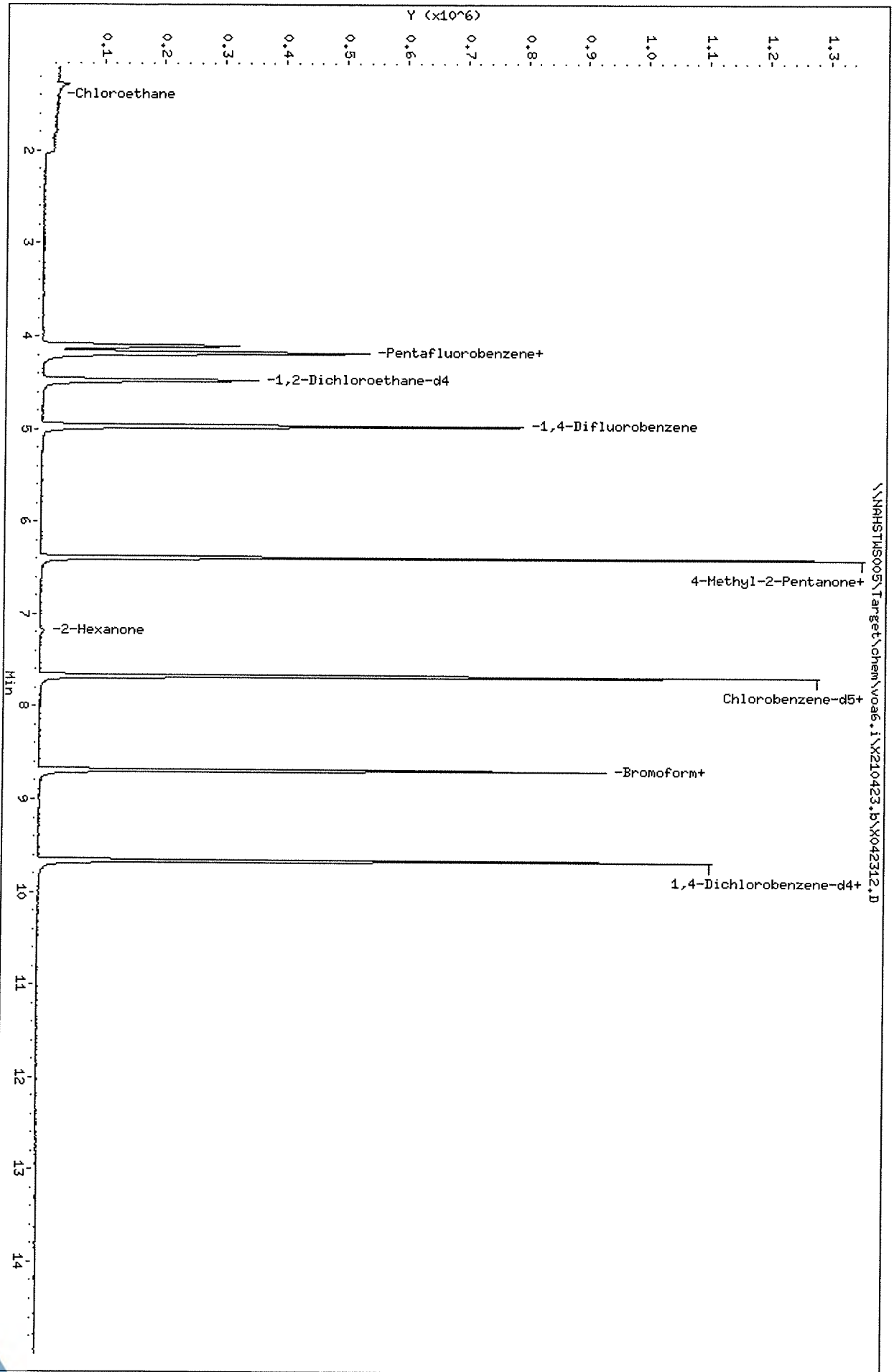
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	401370	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	644815	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	554737	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	241237	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	219655	46.5143	46.51
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281840	49.7811	49.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	769979	53.8514	53.85
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	245125	46.2055	46.20

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042312.D
Date : 23-APR-2021 14:40
Client ID: HS21041135-04
Sample Info: HS21041135-04;HS21041135-04;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D Page 1
Report Date: 13-May-2021 09:14

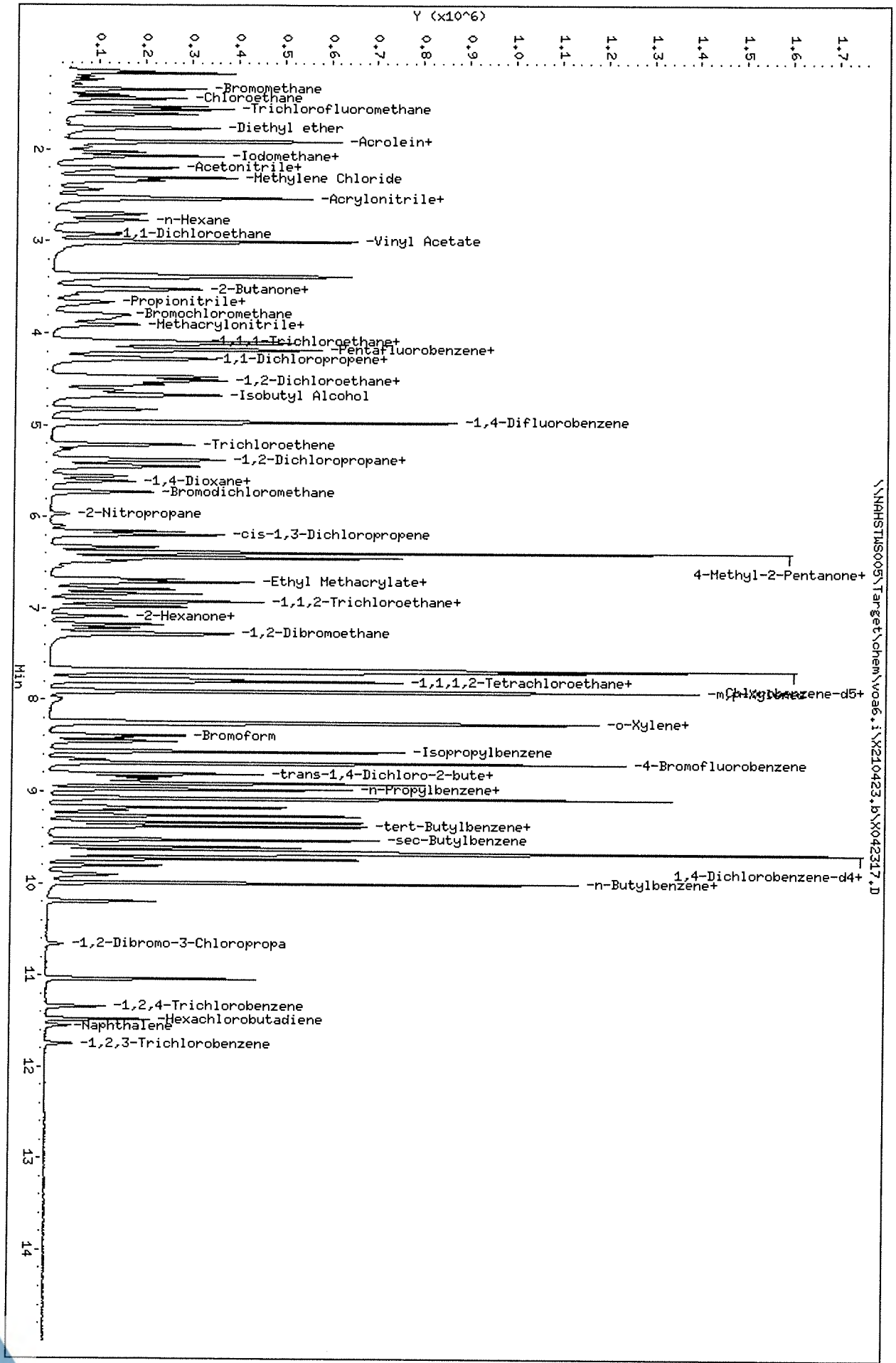
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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D
Lab Smp Id: HS21041135-03MS Client Smp ID: HS21041135-03MS
Inj Date : 23-APR-2021 16:25
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-03MS;HS21041135-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 17 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	426612	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	684424	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	663475	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	305215	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	230082	45.8458	45.84
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	278807	46.3651	46.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	875607	51.2936	51.29
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	321175	50.4610	50.46
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	68767	17.8425	17.84
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	115385	18.9953	18.99
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	132951	18.3521	18.35
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	93405	17.9109	17.91
17 Methylene Chloride	84	2.305	2.306	(0.551)	79332	18.1093	18.10
38 Trichloroethene	130	5.206	5.207	(1.049)	94432	20.1549	20.15
5 Vinyl Chloride	62	1.145	1.145	(0.274)	134815	21.0788	21.07



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D
Date : 23-APR-2021 16:25
Client ID: HS21041135-03MS
Sample Info: HS21041135-03MS;HS21041135-03MS;3;;HS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042318.D Page 1
Report Date: 13-May-2021 09:14

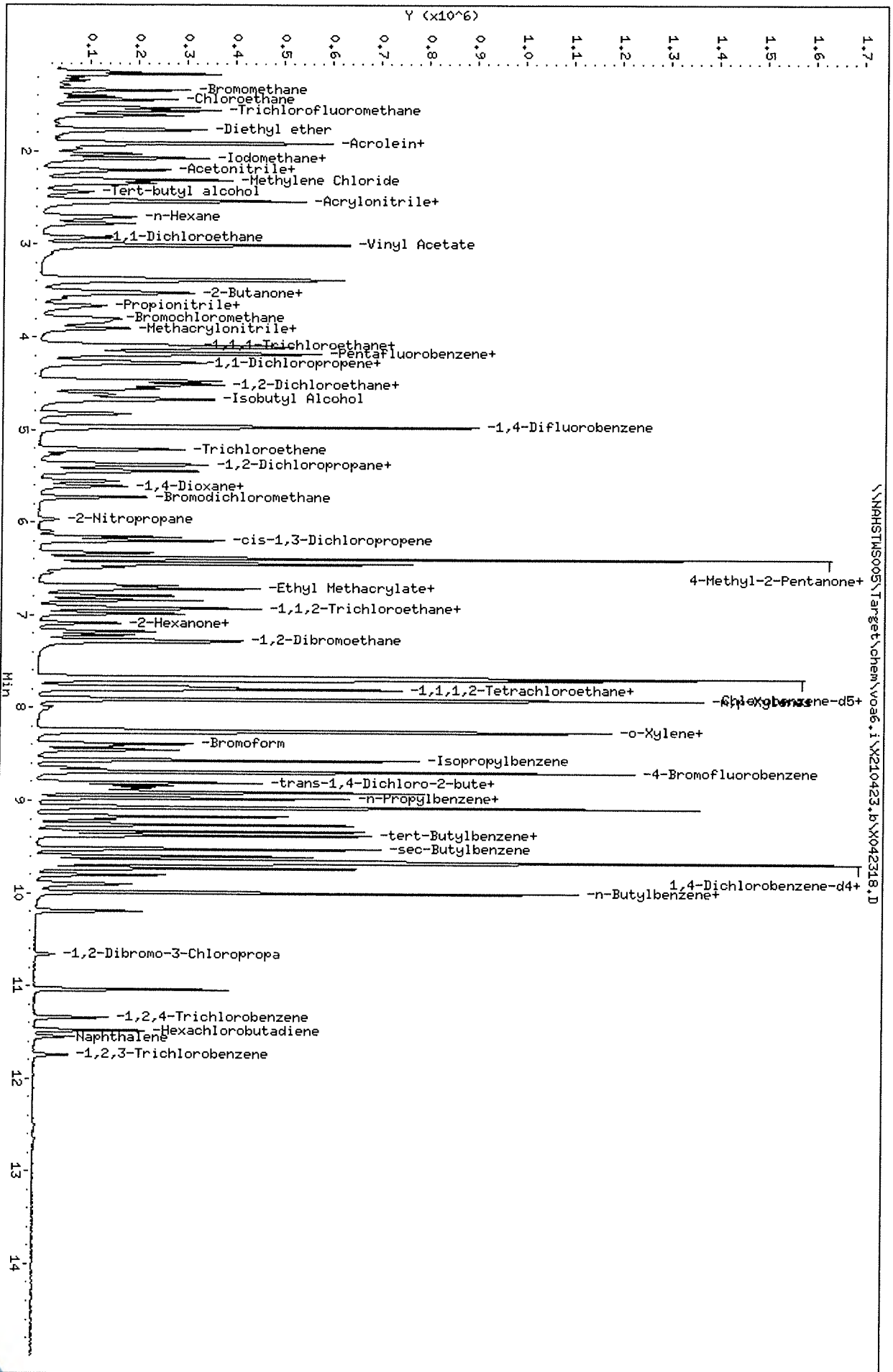
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042318.D
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Inj Date : 23-APR-2021 16:46
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-03MSD;HS21041135-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 17 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432945	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	697264	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	666027	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	298080	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	231900	45.5351	45.53
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	292010	47.8349	47.83
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	885680	51.6707	51.67
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	317112	49.6588	49.65
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	69338	17.9217	17.92
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	110565	17.9356	17.93
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	130057	17.6220	17.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	90140	17.0320	17.03
17 Methylene Chloride	84	2.306	2.306	(0.551)	82026	18.4225	18.42
38 Trichloroethene	130	5.207	5.207	(1.048)	89805	18.8144	18.81
5 Vinyl Chloride	62	1.145	1.145	(0.274)	127563	19.6532	19.65



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210423,b\X042318,D
Date : 23-APR-2021 16:46
Client ID: HS21041135-03MSD
Sample Info: HS21041135-03MSD;HS21041135-03MSD;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\X210423.b\X042330.D Page 1
Report Date: 13-May-2021 09:14

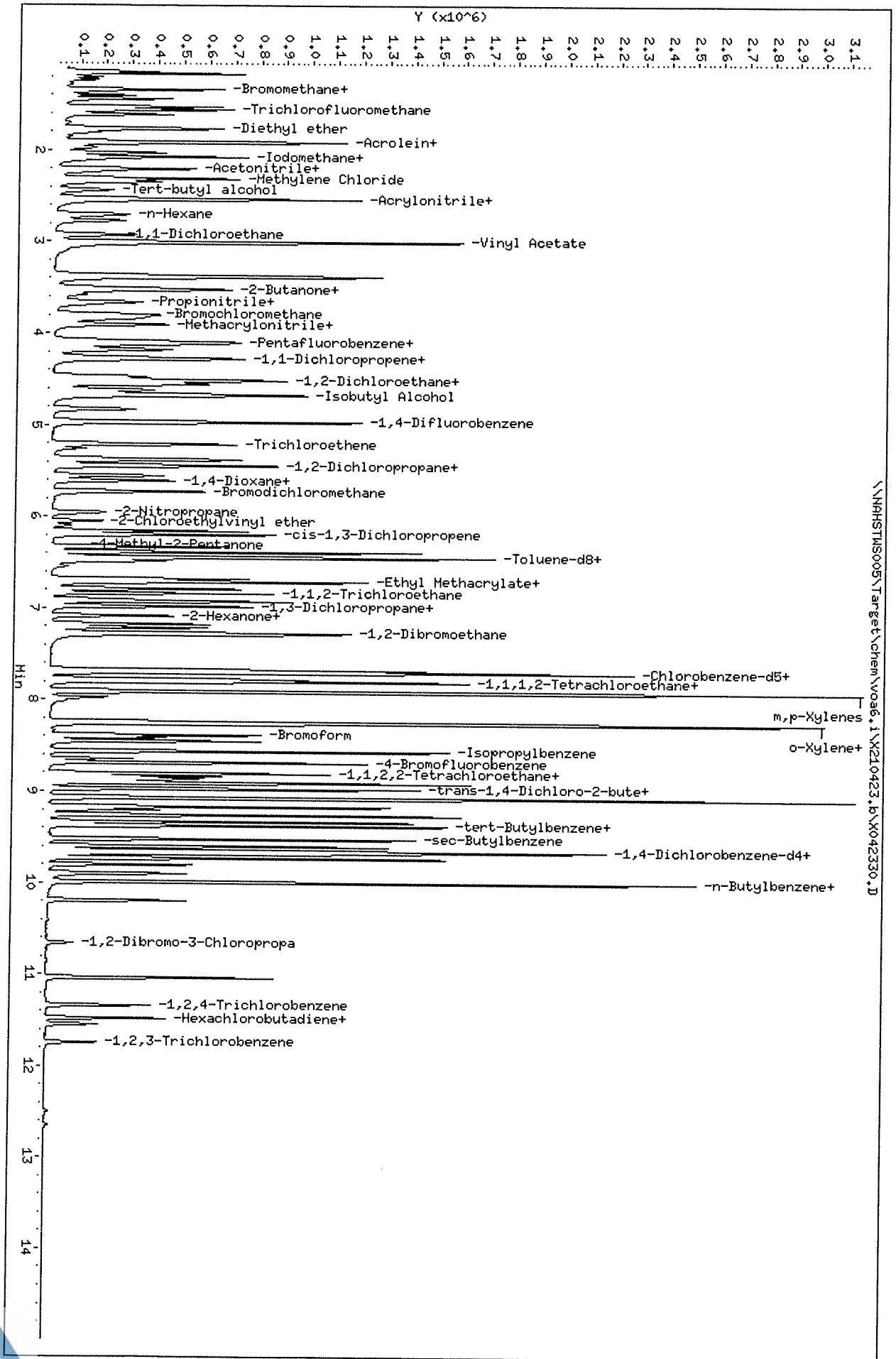
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 23-APR-2021 20:59
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\X210423.b\8260W.m
Meth Date : 13-May-2021 09:14 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 29 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	323158	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	607966	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	579020	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	290005	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	226974	50.0000	59.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	272253	50.0000	59.62
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	814891	50.0000	54.57
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	313129	50.0000	56.17
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	184146	50.0000	54.74
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	230377	50.0000	50.06
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	332213	50.0000	51.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	210117	50.0000	53.18
17 Methylene Chloride	84	2.305	2.305	(0.551)	185752	50.0000	52.87
38 Trichloroethene	130	5.206	5.206	(1.049)	206805	50.0000	49.68
5 Vinyl Chloride	62	1.145	1.145	(0.274)	264056	50.0000	54.50



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D
Date : 23-APR-2021 20:59
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

HS21041135 - ME - ICP_W_DOD

ALS WO# HS21041135

ALS Houston, US Date: 15-May-21

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Aptim Environmental & Infrastucture, Inc. Instrument:ICPMS06
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		ArHe
24	Magnesium	Germanium		ArHe
27	Aluminum	Germanium		ArHe
39	Potassium	Germanium		ArHe
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
82	Selenium	Germanium		Ar
88	Strontium	Indium		Ar
95	Molybdenum	Indium		Ar
105	Palladium	Germanium		Ar
107	Silver	Indium		Ar
114	Cadmium	Indium		Ar
118	Tin	Indium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Houston, US Date: 15-May-21

FORM 12 - PREPARATION LOG

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135
Start Date: 05-May-2021 09:00 End Date: 05-May-2021 13:00

Batch ID: 165436
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS21041135-01	16SW01-210419	Groundwater		10	10	1
HS21041135-02	16SW01-210419-FD	Groundwater		10	10	1
HS21041135-03	16SW02-210419	Groundwater		10	10	1
HS21041135-03MS				10	10	1
HS21041135-03MSD				10	10	1
HS21041135-03PDS				10	10	1
HS21041135-03SD				10	10	1
HS21041135-04	16SW03-210419	Groundwater		10	10	1
LCS-165436				10	10	1
MBLK-165436				10	10	1
MBLKF1-165436				10	10	1

ALS Houston, US Date: 15-May-21

FORM 13 - ANALYSIS RUN LOG

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135
Start Date: 05-May-2021 End Date: 05-May-2021

Run ID:ICPMS06_383039
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS06_383039_Tune	1	05-May-2021 00:00	ICPMS06_383039_Tune_1	
CAL BLK	1	05-May-2021 11:05	012CALB.d_6076861	AS CR MN NI TL
2/10/200	1	05-May-2021 11:07	013CALS.d_6076862	AS CR MN NI TL
5/25/500	1	05-May-2021 11:08	014CALS.d_6076863	AS CR MN NI TL
10/50/100	1	05-May-2021 11:10	015CALS.d_6076864	AS CR MN NI TL
100/500/10K	1	05-May-2021 11:12	016CALS.d_6076865	AS CR MN NI TL
200/1000/20K	1	05-May-2021 11:14	017CALS.d_6076866	AS CR MN NI TL
ICV	1	05-May-2021 11:18	019_ICV.d_6076868	AS CR MN NI TL
ICB	1	05-May-2021 11:20	020_ICB.d_6076869	AS CR MN NI TL
LLICV2	1	05-May-2021 11:22	021LCV2.d_6076870	AS CR MN NI TL
LLICV5	1	05-May-2021 11:24	022LCV5.d_6076871	AS CR MN NI TL
ICSA	1	05-May-2021 11:39	023ICSA.d_6076872	AS CR MN NI TL
ICSAB	1	05-May-2021 11:41	024ICSB.d_6076873	AS CR MN NI TL
CCB 1	1	05-May-2021 14:09	086_CCB.d_6076986	AS CR MN NI TL
CCV 1	1	05-May-2021 14:13	087_CCV.d_6076987	AS CR MN NI TL
MBLK-165436	1	05-May-2021 14:19	088SMPL.d_6076988	AS CR MN NI TL
MBLKF1-165436	1	05-May-2021 14:21	089SMPL.d_6076989	AS CR MN NI TL
LCS-165436	1	05-May-2021 14:23	090SMPL.d_6076990	AS CR MN NI TL
16SW01-210419	1	05-May-2021 14:24	091SMPL.d_6076991	AS CR MN NI TL
16SW01-210419-FD	1	05-May-2021 14:26	092SMPL.d_6076992	AS CR MN NI TL
16SW02-210419	1	05-May-2021 14:28	093SMPL.d_6076993	AS CR MN NI TL
16SW02-210419SD	5	05-May-2021 14:30	094SMPL.d_6076994	AS CR MN NI TL
16SW02-210419MS	1	05-May-2021 14:32	095SMPL.d_6076995	AS CR MN NI TL
16SW02-210419MSD	1	05-May-2021 14:34	096SMPL.d_6076996	AS CR MN NI TL
16SW02-210419PDS	1	05-May-2021 14:36	097SMPL.d_6076997	AS CR NI TL
CCV 2	1	05-May-2021 14:38	098_CCV.d_6076998	AS CR MN NI TL
CCB 2	1	05-May-2021 14:44	100_CCB.d_6077000	AS CR MN NI TL
16SW03-210419	1	05-May-2021 14:46	101SMPL.d_6077001	AS CR MN NI TL
CCV 3	1	05-May-2021 15:01	104_CCV.d_6077184	AS CR MN NI TL
CCB 3	1	05-May-2021 15:03	105_CCB.d_6077185	AS CR MN NI TL

Form 2 - Initial and Continuing Calibration Verification

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Run ID: ICPMS06_383039
Instrument: ICPMS06
Method: SW6020A

ICV	Date: 05-May-2021 11:18		Seq: 6076868	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	96.478	97	90-110	
Chromium	100	94.834	95	90-110	
Manganese	100	94.482	95	90-110	
Nickel	100	99.907	100	90-110	
Thallium	100	102.379	102	90-110	

CCV1	Date: 05-May-2021 14:13		Seq: 6076987	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	96.558	97	90-110	
Chromium	100	95.098	95	90-110	
Manganese	100	93.868	94	90-110	
Nickel	100	96.67	97	90-110	
Thallium	100	90.83	91	90-110	

CCV2	Date: 05-May-2021 14:38		Seq: 6076998	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	97.284	97	90-110	
Chromium	100	95.467	96	90-110	
Manganese	100	94.162	94	90-110	
Nickel	100	97.366	97	90-110	
Thallium	100	95.123	95	90-110	

CCV3	Date: 05-May-2021 15:01		Seq: 6077184	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	95.196	95	90-110	
Chromium	100	92.735	93	90-110	
Manganese	100	91.516	92	90-110	
Nickel	100	96.784	97	90-110	
Thallium	100	93.297	93	90-110	

Form 3 - BLANKS

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Run ID: ICPMS06_383039
Instrument: ICPMS06
Method: SW6020A

ICB	Date: 05-May-2021 11:20		Seq: 6076869		ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**		
Arsenic	5	0.4	5	U		
Chromium	5	0.4	5	U		
Manganese	5	0.7	5	U		
Nickel	5	0.6	5	U		
Thallium	2	0.2	2	U		
CCB1	Date: 05-May-2021 14:09		Seq: 6076986		CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**		
Arsenic	2	0.4	2	U		
Chromium	4	0.4	4	U		
Manganese	5	0.7	5	U		
Nickel	2	0.6	2	U		
Thallium	0.87	0.2	2	J		
MBLK-165436	Date: 05-May-2021 14:19		Seq: 6076988		MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**		
Arsenic	5	0.4	5	U		
Chromium	5	0.4	5	U		
Manganese	5	0.7	5	U		
Nickel	5	0.6	5	U		
Thallium	0.243	0.2	2	J		
MBLKF1-165436	Date: 05-May-2021 14:21		Seq: 6076989		MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**		
Arsenic	5	0.4	5	U		
Chromium	5	0.4	5	U		
Manganese	5	0.7	5	U		
Nickel	5	0.6	5	U		
Thallium	2	0.2	2	U		
CCB2	Date: 05-May-2021 14:44		Seq: 6077000		CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**		
Arsenic	2	0.4	2	U		
Chromium	4	0.4	4	U		
Manganese	5	0.7	5	U		
Nickel	2	0.6	2	U		
Thallium	2	0.2	2	U		
CCB3	Date: 05-May-2021 15:03		Seq: 6077185		CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**		
Arsenic	2	0.4	2	U		
Chromium	4	0.4	4	U		
Manganese	5	0.7	5	U		
Nickel	2	0.6	2	U		
Thallium	0.992	0.2	2	J		

ALS Houston, US Date: 15-May-21

Form 4 - ICP Interference Check Sample

Client: Aptim Environmental & Infrastucture, Inc. Run ID:ICPMS06_383039
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021 Instrument:ICPMS06
WorkOrder: HS21041135 Method:SW6020A

ICSA	Date: 05-May-2021 11:39	Seq: 6076872	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Arsenic		0.02	0	
Chromium		2.111	0	
Manganese		0.383	0	
Nickel		0.14	0	
Thallium		0.053	0	

ICSAB	Date: 05-May-2021 11:41	Seq: 6076873	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Arsenic	100	98.16	98.2	
Chromium	100	95.93	95.9	
Manganese	100	94.44	94.4	
Nickel	100	94.61	94.6	
Thallium	100	99.61	99.6	

ALS Houston, US Date: 15-May-21

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Date Analyzed: 05-May-2021 14:34
Date Extracted: 05-May-2021 13:00
Units: ug/L

Matrix Spike: HS21041135-03MS
Client Sample ID: 16SW02-210419

Analysis Method: SW6020A

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Arsenic	1.013	48.49	50.00	95.0	48.82	50.00	95.6	84-116	0.682	20
Chromium	3.363	50.78	50.00	94.8	51.60	50.00	96.5	85-116	1.61	20
Manganese	118.7	171.0	50.00	105	174.4	50.00	111	87-115	1.96	20
Nickel	4.516	55.58	50.00	102	54.98	50.00	101	85-117	1.10	20
Thallium	2.000	50.23	50.00	100	51.41	50.00	103	82-116	2.32	20

ALS Houston, US Date: 15-May-21

Form 5B - Post Digest Sample Recovery

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Date Analyzed: 05-May-2021 14:36
Date Extracted: 05-May-2021 13:00
Units: ug/L

Lab Sample ID: HS21041135-03PDS
Client Sample ID: 16SW02-210419
Analysis Method: SW6020A

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Arsenic	1.013	116.5	100	116	80-120
Chromium	3.363	117	100	114	80-120
Nickel	4.516	123.9	100	119	80-120
Thallium	0	117.5	100	117	80-120

ALS Houston, US Date: 15-May-21

Form 7 - Laboratory Control Sample

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Date Analyzed: 05-May-2021 14:23
Date Extracted: 05-May-2021 13:00
Units: ug/L

Lab Sample ID: LCS-165436 Analysis Method: SW6020A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Arsenic	50	45.54	91	84-116
Chromium	50	47.49	95	85-116
Manganese	50	46.02	92	87-115
Nickel	50	48.77	98	85-117
Thallium	50	43.68	87	82-116

ALS Houston, US

Date: 15-May-21

Form 8 - ICP Serial Dilutions

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant LHAAP 16 April 2021
WorkOrder: HS21041135

Date Analyzed: 05-May-2021 14:30
Date Extracted: 05-May-2021 13:00
Units: ug/L

Lab Sample ID: HS21041135-03SD
Client Sample ID:16SW02-210419

Analysis Method: SW6020A

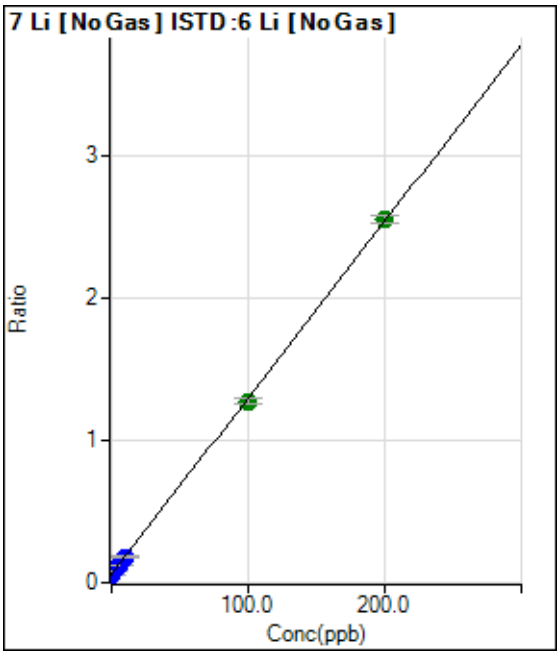
Analyte	Sample Result	C	SD Result	C	RPD	Q
Arsenic	1.013	J	0	U	0	
Chromium	3.363	J	3.377	J	0	
Manganese	118.7		121.1		2	
Nickel	4.516	J	4.418	J	2	
Thallium	0	U	0	U	0	

Calibration for 228_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\050521A.b\
Analysis File: 050521A.batch.bin
DA Date-Time: 5/5/2021 10:25:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	221CALB.d	CAL BLK	5/5/2021 10:11:12 PM
2	222CALS.d	2/10/200	5/5/2021 10:13:11 PM
3	223CALS.d	5/25/500	5/5/2021 10:15:09 PM
4	224CALS.d	10/50/100	5/5/2021 10:17:09 PM
5	225CALS.d	100/500/10K	5/5/2021 10:19:07 PM
6	226CALS.d	200/1000/20K	5/5/2021 10:20:59 PM

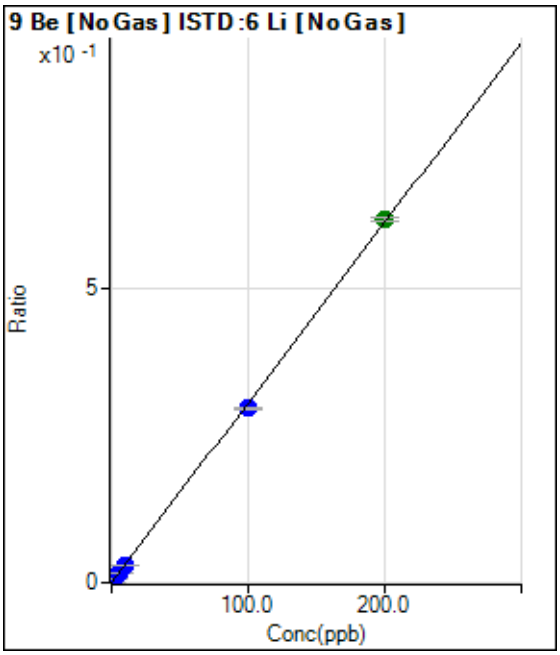
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116001.56	0.0592	P	4.2
2	☐	2.000	2.072	161985.69	0.0849	P	1.3
3	☐	5.000	5.111	231229.50	0.1225	P	1.9
4	☐	10.000	9.926	349817.00	0.1820	P	0.2
5	☐	100.000	98.198	2304935.17	1.2741	A	3.0
6	☐	200.000	200.901	4325525.15	2.5448	A	2.0

y = 0.0124 * x + 0.0592
R = 0.9999
DL = 0.6088
BEC = 4.787

Weight: <None>
Min Conc: <None>

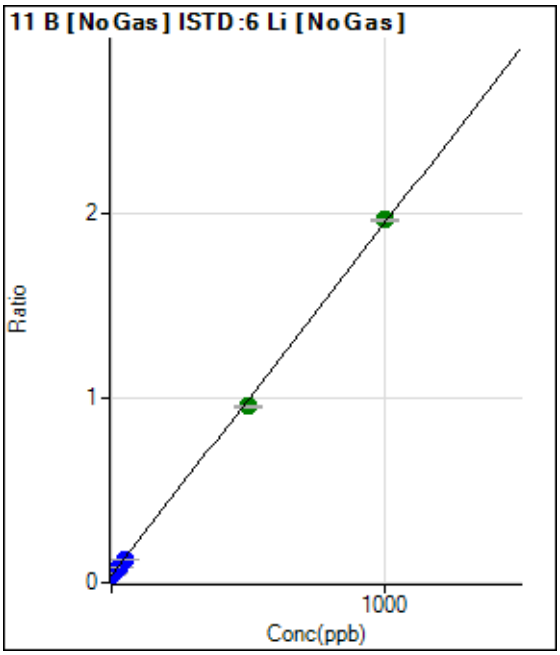


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	9.7
2	☐	2.000	1.933	11337.97	0.0059	P	2.1
3	☐	5.000	4.896	28355.33	0.0150	P	2.8
4	☐	10.000	9.455	55716.53	0.0290	P	0.6
5	☐	100.000	96.792	536712.86	0.2967	P	2.0
6	☐	200.000	201.634	1050688.92	0.6181	A	1.1

y = 0.0031 * x + 1.1882E-005
R = 0.9998
DL = 0.001132
BEC = 0.003876

Weight: <None>
Min Conc: <None>

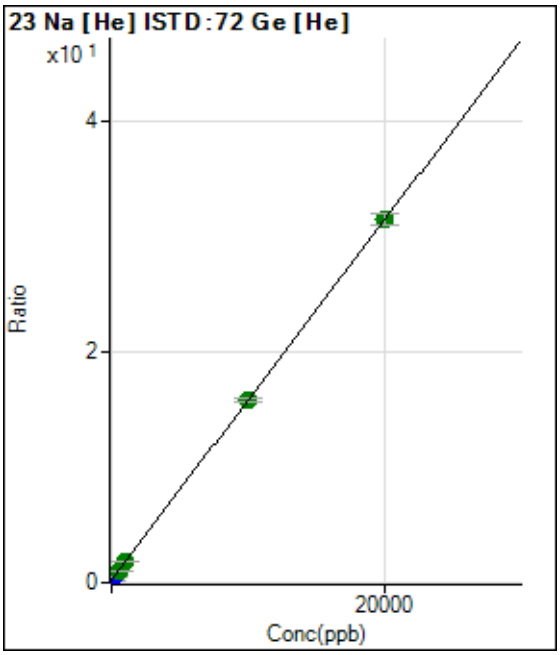
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	78026.76	0.0398	P	3.2
2	☐	10.000	8.755	107838.68	0.0565	P	1.1
3	☐	25.000	22.751	156897.09	0.0831	P	3.9
4	☐	50.000	44.949	240876.48	0.1253	P	1.2
5	☐	500.000	479.969	1724021.80	0.9529	A	1.4
6	☐	1000.000	1010.337	3335395.37	1.9618	A	0.6

y = 0.0019 * x + 0.0398
R = 0.9997
DL = 2.013
BEC = 20.94

Weight: <None>
Min Conc: <None>

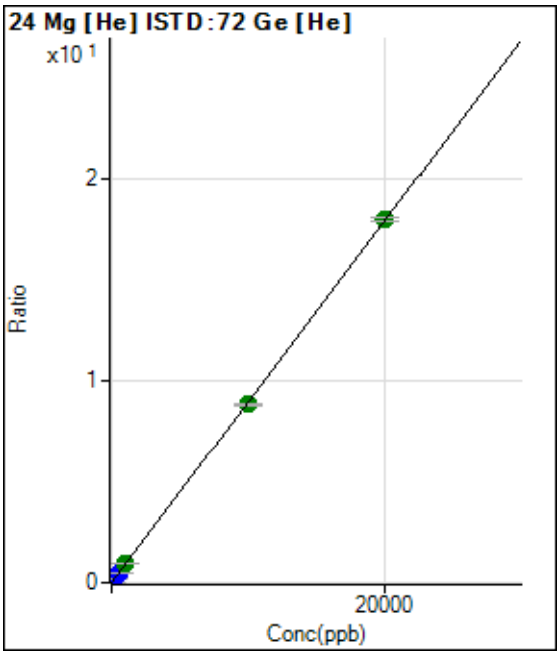


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	221521.00	0.2378	P	1.2
2	☐	200.000	200.128	510820.02	0.5500	P	1.0
3	☐	500.000	509.198	960936.73	1.0321	A	1.7
4	☐	1000.000	1040.034	1700905.86	1.8602	A	2.6
5	☐	10000.00	9997.142	14154596.46	15.8331	A	1.1
6	☐	20000.00	19999.19	27147144.60	31.4361	A	3.0

y = 0.0016 * x + 0.2378
R = 1.0000
DL = 5.418
BEC = 152.4

Weight: <None>
Min Conc: <None>

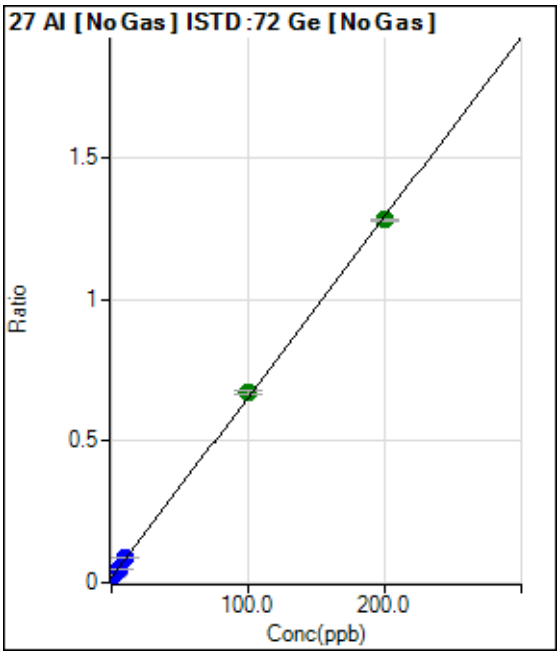
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	470.02	0.0005	P	13.9
2	☐	200.000	207.040	172612.58	0.1858	P	0.7
3	☐	500.000	521.996	435469.17	0.4678	P	0.8
4	☐	1000.000	1053.822	863028.97	0.9438	A	1.9
5	☐	10000.00	9850.387	7883245.71	8.8181	A	1.0
6	☐	20000.00	20071.49	15517286.02	17.9675	A	1.2

y = 8.9515E-004 * x + 5.0444E-004
R = 1.0000
DL = 0.2341
BEC = 0.5635

Weight: <None>
Min Conc: <None>

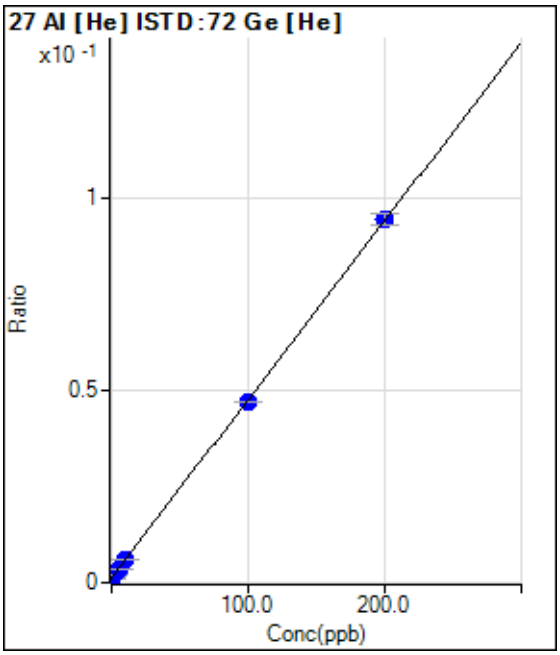


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64024.01	0.0185	P	2.1
2	☐	2.000	1.397	94522.97	0.0273	P	1.9
3	☐	5.000	4.946	173403.85	0.0499	P	1.4
4	☐	10.000	10.846	297882.81	0.0875	P	2.6
5	☐	100.000	103.024	2236038.30	0.6746	A	1.9
6	☐	200.000	198.453	4148479.94	1.2823	A	0.7

y = 0.0064 * x + 0.0185
R = 0.9998
DL = 0.1869
BEC = 2.897

Weight: <None>
Min Conc: <None>

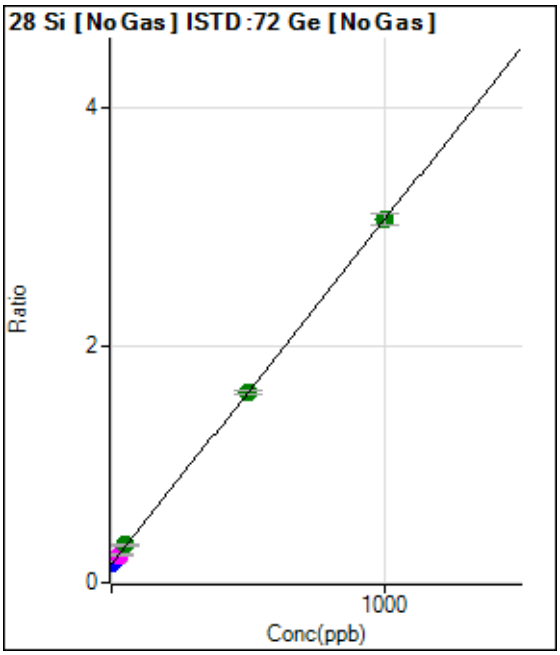
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1160.07	0.0012	P	8.0
2	☐	2.000	1.388	1753.47	0.0019	P	7.2
3	☐	5.000	4.681	3180.42	0.0034	P	3.8
4	☐	10.000	10.245	5481.17	0.0060	P	3.5
5	☐	100.000	98.669	42013.76	0.0470	P	0.2
6	☐	200.000	200.667	81421.12	0.0943	P	3.2

y = 4.6365E-004 * x + 0.0012
R = 1.0000
DL = 0.6444
BEC = 2.685

Weight: <None>
Min Conc: <None>

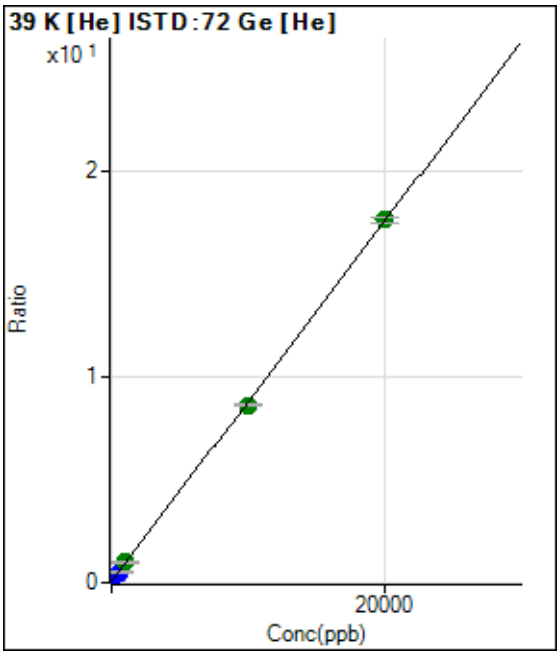


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	540687.92	0.1558	P	0.3
2	☐	10.000	10.334	642263.30	0.1859	P	0.7
3	☐	25.000	26.682	810143.79	0.2334	M	2.3
4	☐	50.000	55.252	1076811.94	0.3164	A	2.8
5	☐	500.000	500.192	5334140.97	1.6092	A	1.9
6	☐	1000.000	999.596	9895742.98	3.0603	A	3.3

y = 0.0029 * x + 0.1558
R = 1.0000
DL = 0.4887
BEC = 53.63

Weight: <None>
Min Conc: <None>

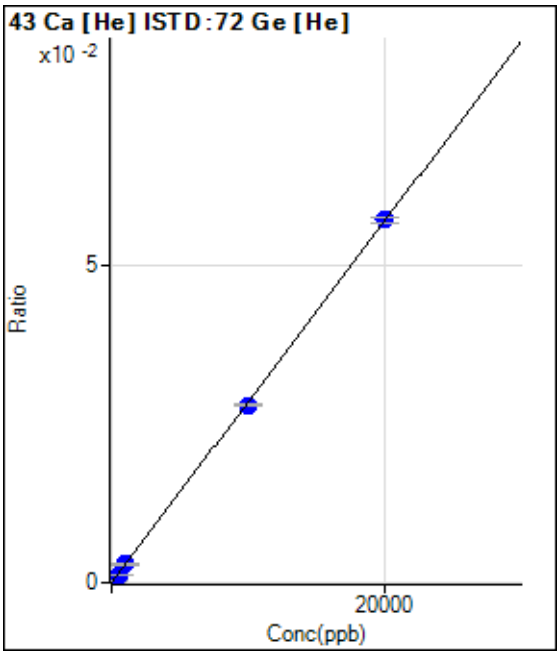
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62005.66	0.0666	P	1.0
2	☐	200.000	203.609	227090.04	0.2445	P	0.3
3	☐	500.000	510.211	477011.93	0.5124	P	1.3
4	☐	1000.000	1046.666	897181.21	0.9812	A	2.3
5	☐	10000.00	9806.056	7720795.72	8.6359	A	0.2
6	☐	20000.00	20094.34	15222690.61	17.6266	A	1.5

y = 8.7388E-004 * x + 0.0666
R = 0.9999
DL = 2.223
BEC = 76.16

Weight: <None>
Min Conc: <None>

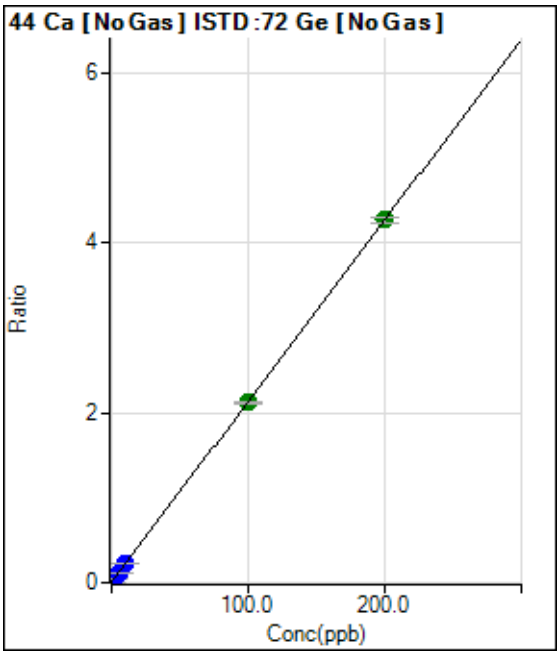


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	0.5
2	☐	200.000	161.587	446.68	0.0005	P	19.7
3	☐	500.000	450.232	1210.08	0.0013	P	0.8
4	☐	1000.000	1010.623	2643.63	0.0029	P	2.4
5	☐	10000.00	9838.793	24993.04	0.0280	P	0.6
6	☐	20000.00	20081.70	49258.24	0.0570	P	1.9

y = 2.8392E-006 * x + 2.1466E-005
R = 1.0000
DL = 0.1055
BEC = 7.561

Weight: <None>
Min Conc: <None>

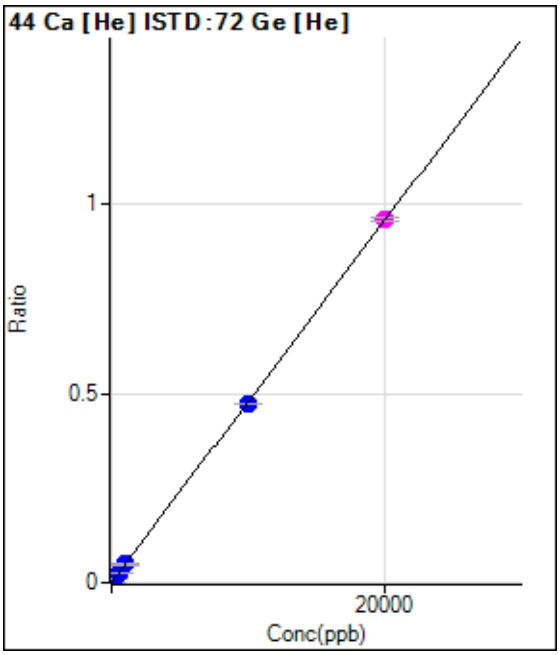
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17237.73	0.0050	P	2.4
2	☐	2.000	2.026	166166.69	0.0481	P	1.6
3	☐	5.000	5.128	396183.29	0.1141	P	0.7
4	☐	10.000	10.259	760036.86	0.2233	P	2.9
5	☐	100.000	99.348	7026304.69	2.1194	A	1.4
6	☐	200.000	200.310	13806263.54	4.2681	A	1.9

y = 0.0213 * x + 0.0050
R = 1.0000
DL = 0.01652
BEC = 0.2335

Weight: <None>
Min Conc: <None>

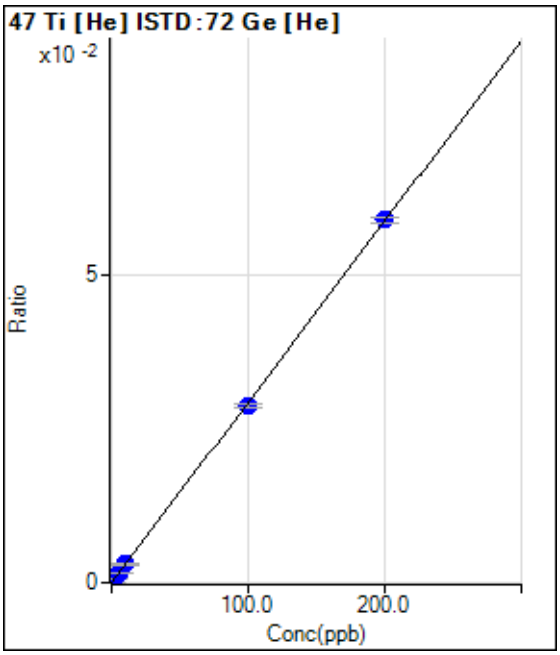


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	366.68	0.0004	P	23.0
2	☐	200.000	207.004	9563.48	0.0103	P	5.7
3	☐	500.000	506.352	22909.44	0.0246	P	2.4
4	☐	1000.000	1003.947	44278.20	0.0484	P	1.6
5	☐	10000.00	9893.513	423381.40	0.4736	P	0.5
6	☐	20000.00	20052.81	828625.09	0.9595	M	1.1

y = 4.7827E-005 * x + 3.9368E-004
R = 1.0000
DL = 5.687
BEC = 8.231

Weight: <None>
Min Conc: <None>

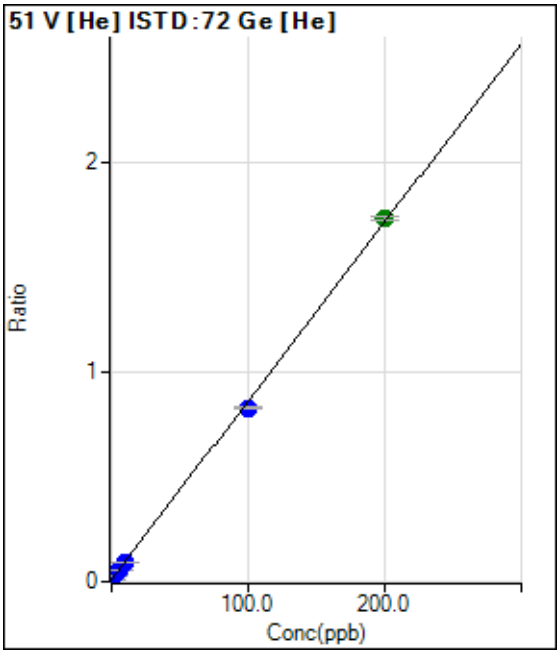
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	43.8
2	☐	2.000	1.944	543.35	0.0006	P	10.4
3	☐	5.000	5.071	1400.09	0.0015	P	3.5
4	☐	10.000	10.195	2750.33	0.0030	P	7.6
5	☐	100.000	98.098	25767.88	0.0288	P	2.1
6	☐	200.000	200.940	50978.19	0.0590	P	1.7

y = 2.9369E-004 * x + 1.4330E-005
R = 0.9999
DL = 0.06415
BEC = 0.04879

Weight: <None>
Min Conc: <None>

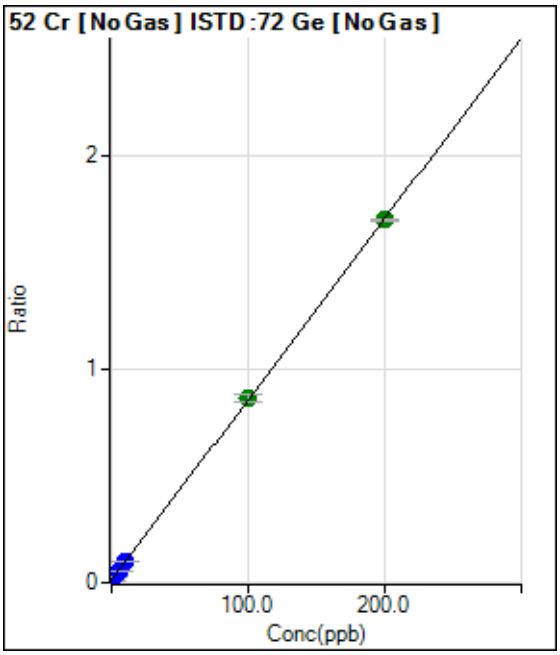


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9825.78	0.0105	P	0.9
2	☐	2.000	1.899	24826.91	0.0267	P	0.3
3	☐	5.000	4.858	48344.90	0.0519	P	1.0
4	☐	10.000	9.844	86337.67	0.0944	P	0.6
5	☐	100.000	96.087	741253.05	0.8291	P	0.9
6	☐	200.000	201.969	1495158.79	1.7312	A	1.2

y = 0.0085 * x + 0.0105
R = 0.9997
DL = 0.03409
BEC = 1.238

Weight: <None>
Min Conc: <None>

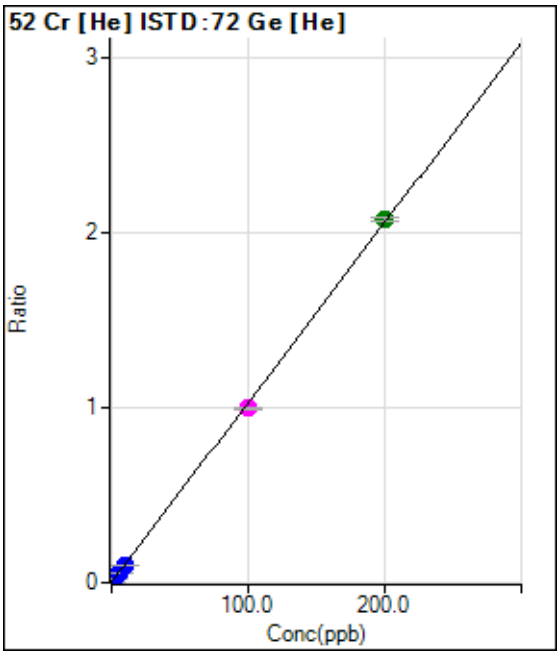
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	39517.50	0.0114	P	2.3
2	☐	2.000	2.064	99613.72	0.0288	P	1.4
3	☐	5.000	5.167	191035.42	0.0550	P	2.2
4	☐	10.000	10.376	337040.28	0.0990	P	2.9
5	☐	100.000	100.788	2858691.00	0.8627	A	3.6
6	☐	200.000	199.582	5490995.96	1.6971	A	0.8

y = 0.0084 * x + 0.0114
R = 1.0000
DL = 0.09331
BEC = 1.348

Weight: <None>
Min Conc: <None>

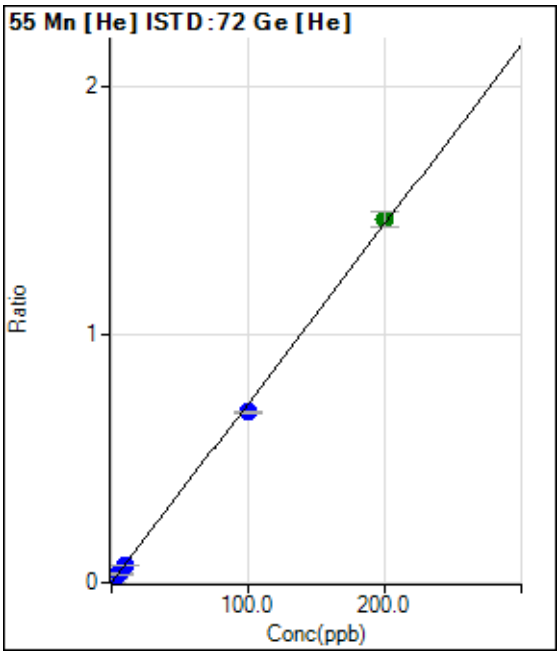


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1973.51	0.0021	P	6.4
2	☐	2.000	1.949	20522.32	0.0221	P	4.1
3	☐	5.000	4.890	48653.26	0.0523	P	1.0
4	☐	10.000	9.766	93518.30	0.1022	P	0.9
5	☐	100.000	96.666	888054.26	0.9933	M	0.5
6	☐	200.000	201.682	1787769.61	2.0700	A	1.1

y = 0.0103 * x + 0.0021
R = 0.9998
DL = 0.0396
BEC = 0.2066

Weight: <None>
Min Conc: <None>

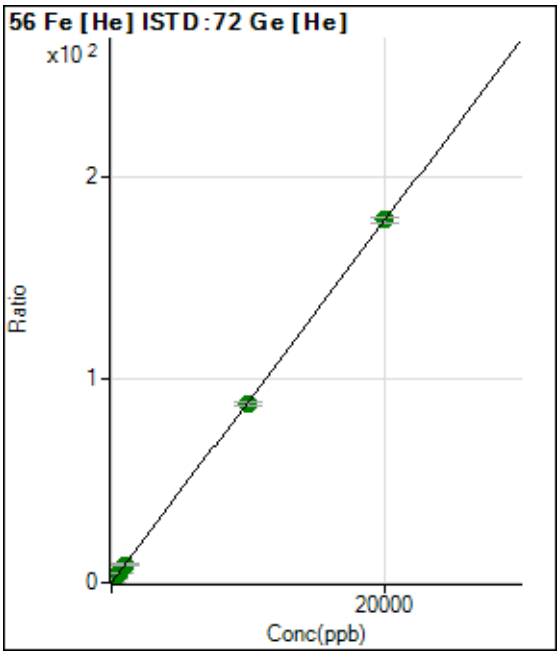
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	356.68	0.0004	P	28.7
2	☐	2.000	1.918	13239.93	0.0143	P	0.5
3	☐	5.000	4.801	32676.02	0.0351	P	1.4
4	☐	10.000	9.580	63711.82	0.0697	P	1.5
5	☐	100.000	95.179	615681.28	0.6887	P	0.6
6	☐	200.000	202.437	1264480.82	1.4643	A	4.1

y = 0.0072 * x + 3.8294E-004
R = 0.9996
DL = 0.04565
BEC = 0.05295

Weight: <None>
Min Conc: <None>

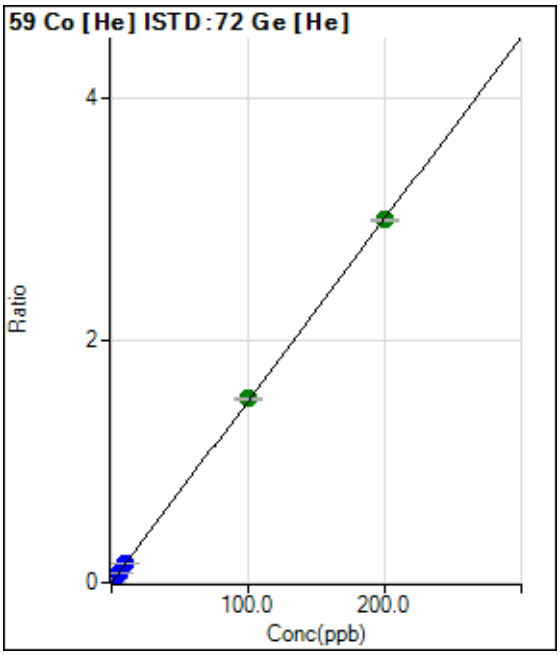


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23757.71	0.0255	P	3.6
2	☐	200.000	208.838	1751929.35	1.8861	A	0.5
3	☐	500.000	512.534	4274860.77	4.5918	A	0.2
4	☐	1000.000	1004.859	8210972.59	8.9780	A	0.7
5	☐	10000.00	9900.845	78877385.49	88.2339	A	1.7
6	☐	20000.00	20048.93	154284704.3	178.645	A	1.4

y = 0.0089 * x + 0.0255
R = 1.0000
DL = 0.3075
BEC = 2.862

Weight: <None>
Min Conc: <None>

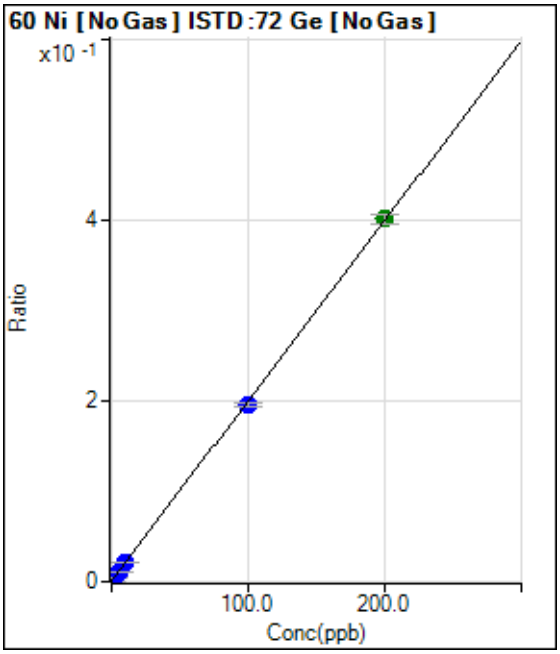
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	89.9
2	☐	2.000	2.027	28282.96	0.0305	P	2.3
3	☐	5.000	5.024	70200.38	0.0754	P	0.2
4	☐	10.000	10.147	139219.63	0.1522	P	1.8
5	☐	100.000	101.053	1355254.04	1.5158	A	0.6
6	☐	200.000	199.465	2584056.73	2.9920	A	0.8

y = 0.0150 * x + 4.2900E-005
R = 1.0000
DL = 0.007711
BEC = 0.00286

Weight: <None>
Min Conc: <None>

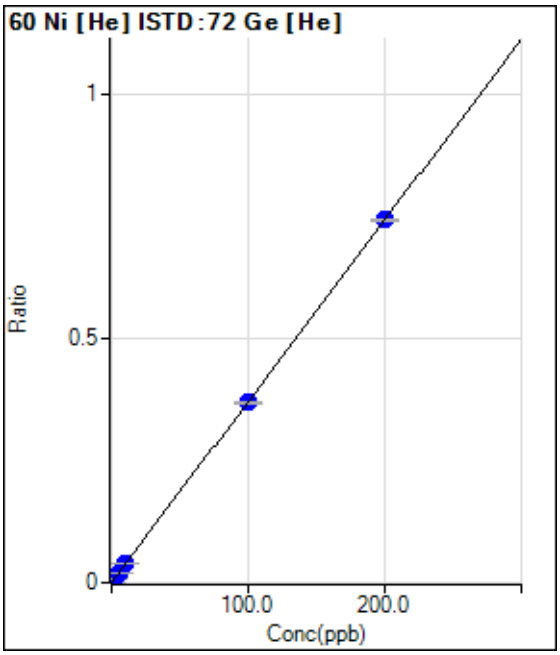


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3053.72	0.0009	P	3.7
2	☐	2.000	2.028	17000.86	0.0049	P	1.4
3	☐	5.000	5.082	38200.57	0.0110	P	1.9
4	☐	10.000	10.201	72154.16	0.0212	P	2.7
5	☐	100.000	97.828	648745.50	0.1957	P	2.7
6	☐	200.000	201.074	1298155.42	0.4014	A	2.4

y = 0.0020 * x + 8.7975E-004
R = 0.9999
DL = 0.04895
BEC = 0.4417

Weight: <None>
Min Conc: <None>

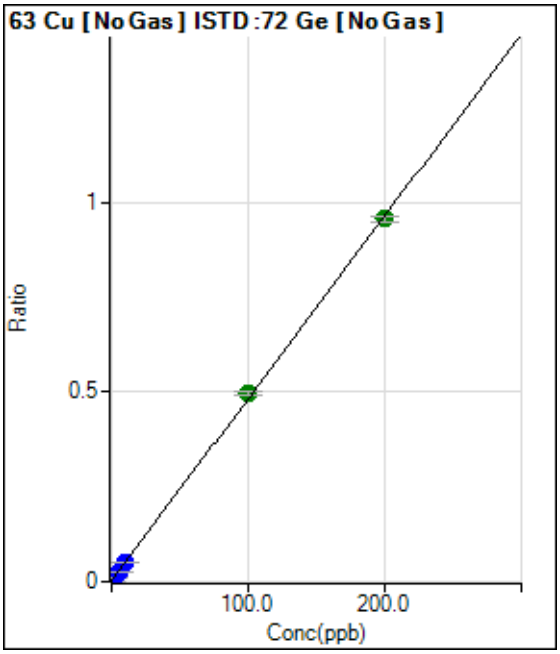
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	260.01	0.0003	P	16.6
2	☐	2.000	2.091	7455.52	0.0080	P	4.9
3	☐	5.000	5.209	18229.17	0.0196	P	4.5
4	☐	10.000	10.313	35195.66	0.0385	P	0.8
5	☐	100.000	99.356	329301.07	0.3683	P	0.5
6	☐	200.000	200.300	641073.45	0.7423	P	0.6

y = 0.0037 * x + 2.7901E-004
R = 1.0000
DL = 0.03744
BEC = 0.07532

Weight: <None>
Min Conc: <None>

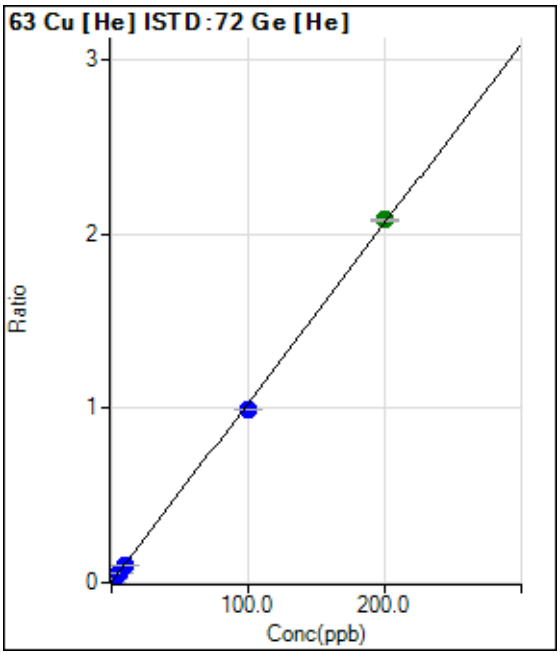


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8392.75	0.0024	P	0.8
2	☐	2.000	1.946	40681.20	0.0118	P	2.0
3	☐	5.000	4.991	91701.56	0.0264	P	1.1
4	☐	10.000	10.282	176468.48	0.0518	P	2.7
5	☐	100.000	102.799	1646234.46	0.4966	A	1.9
6	☐	200.000	198.587	3096257.35	0.9572	A	1.4

y = 0.0048 * x + 0.0024
R = 0.9999
DL = 0.01238
BEC = 0.5031

Weight: <None>
Min Conc: <None>

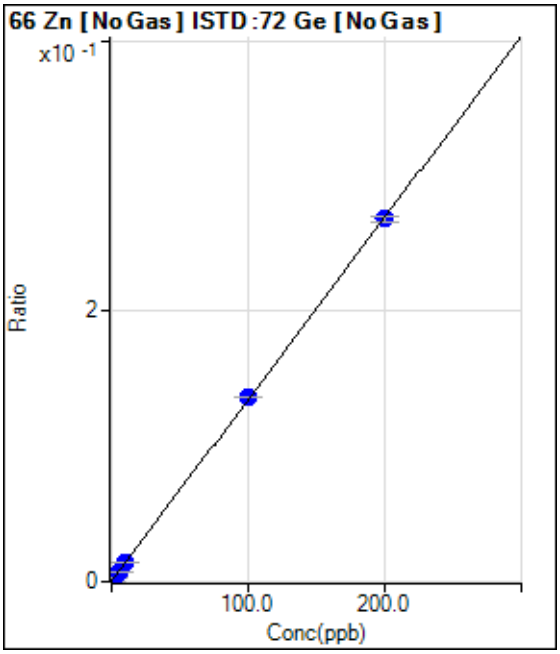
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2223.56	0.0024	P	8.4
2	☐	2.000	1.829	19714.62	0.0212	P	4.1
3	☐	5.000	4.808	48316.09	0.0519	P	1.2
4	☐	10.000	9.787	94355.83	0.1032	P	0.5
5	☐	100.000	95.987	885919.83	0.9909	P	0.4
6	☐	200.000	202.024	1798866.43	2.0829	A	0.9

y = 0.0103 * x + 0.0024
R = 0.9997
DL = 0.05831
BEC = 0.2317

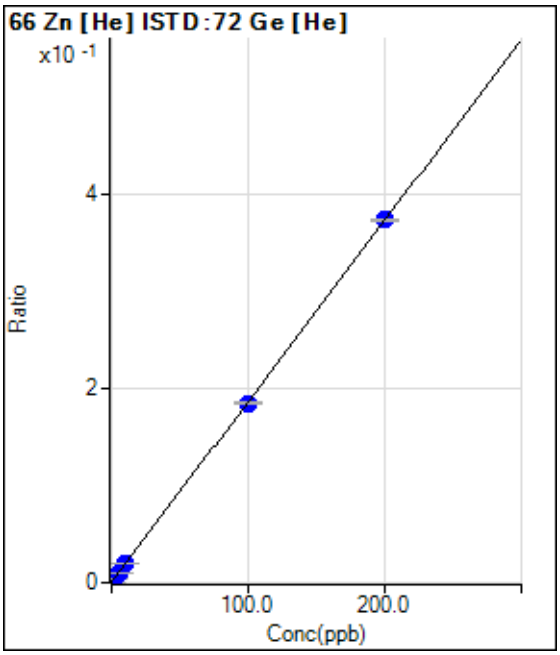
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1226.74	0.0004	P	8.7
2	☐	2.000	2.035	10677.72	0.0031	P	1.4
3	☐	5.000	5.208	25534.36	0.0074	P	4.3
4	☐	10.000	10.301	48342.97	0.0142	P	1.1
5	☐	100.000	101.192	452248.21	0.1364	P	0.6
6	☐	200.000	199.384	868235.66	0.2684	P	1.7

y = 0.0013 * x + 3.5359E-004
R = 1.0000
DL = 0.06893
BEC = 0.263

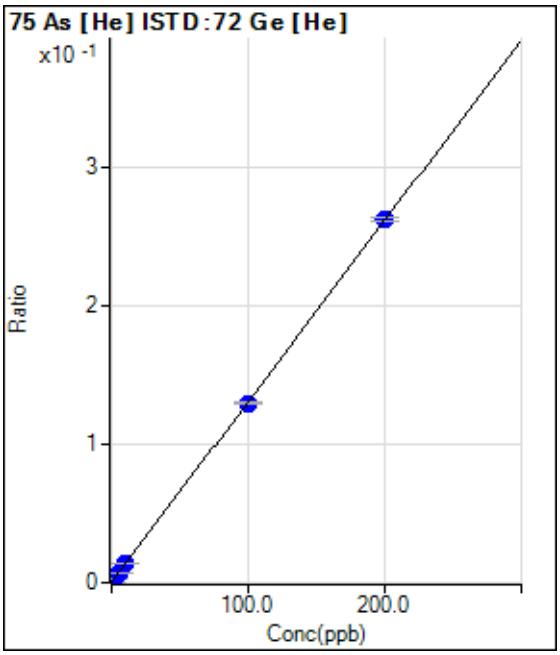
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	376.68	0.0004	P	41.7
2	☐	2.000	1.855	3583.88	0.0039	P	10.6
3	☐	5.000	5.147	9303.33	0.0100	P	1.2
4	☐	10.000	10.150	17665.11	0.0193	P	1.9
5	☐	100.000	99.161	165505.92	0.1851	P	1.4
6	☐	200.000	200.410	322793.87	0.3737	P	0.5

y = 0.0019 * x + 4.0479E-004
R = 1.0000
DL = 0.2721
BEC = 0.2173

Weight: <None>
Min Conc: <None>

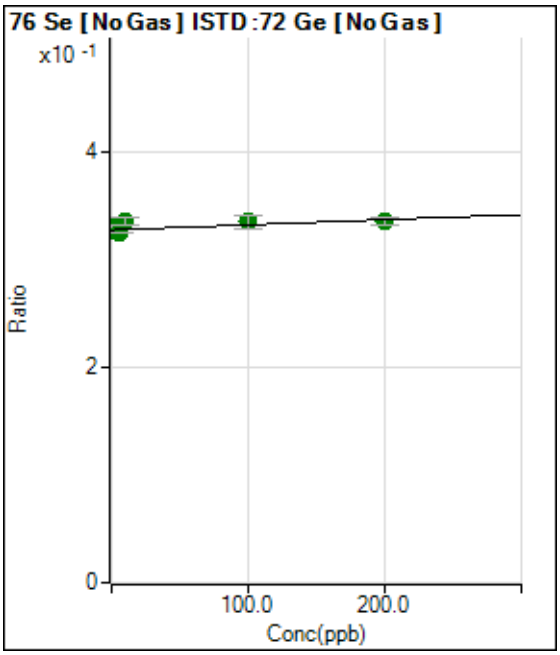


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	315.56	0.0003	P	10.1
2	☐	2.000	2.088	2844.76	0.0031	P	5.2
3	☐	5.000	4.949	6328.19	0.0068	P	3.9
4	☐	10.000	10.035	12287.85	0.0134	P	2.4
5	☐	100.000	98.951	115769.82	0.1295	P	1.3
6	☐	200.000	200.523	226347.37	0.2621	P	0.9

y = 0.0013 * x + 3.3879E-004
R = 1.0000
DL = 0.07839
BEC = 0.2595

Weight: <None>
Min Conc: <None>

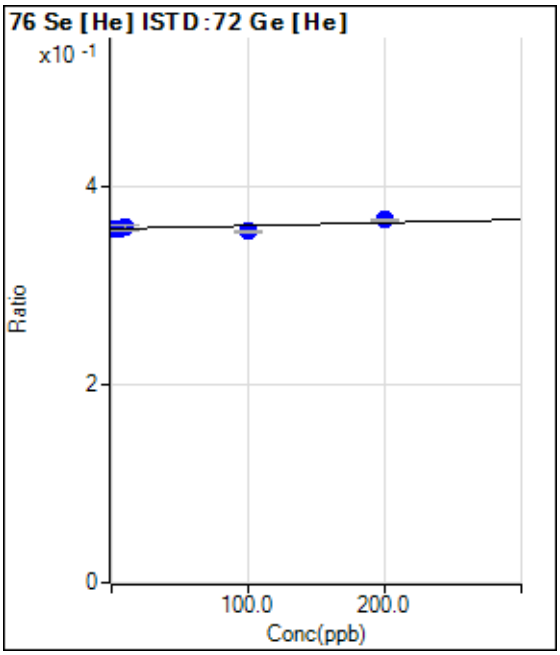
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1136351.86	0.3275	A	1.3
2	☐	2.000	52.797	1140634.28	0.3301	A	0.4
3	☐	5.000	-52.748	1128310.14	0.3250	A	0.5
4	☐	10.000	166.145	1142043.47	0.3355	A	1.8
5	☐	100.000	152.464	1109775.97	0.3349	A	3.6
6	☐	200.000	166.897	1085392.38	0.3356	A	1.8

y = 4.8108E-005 * x + 0.3275
R = 0.6316
DL = 267.5
BEC = 6808

Weight: <None>
Min Conc: <None>

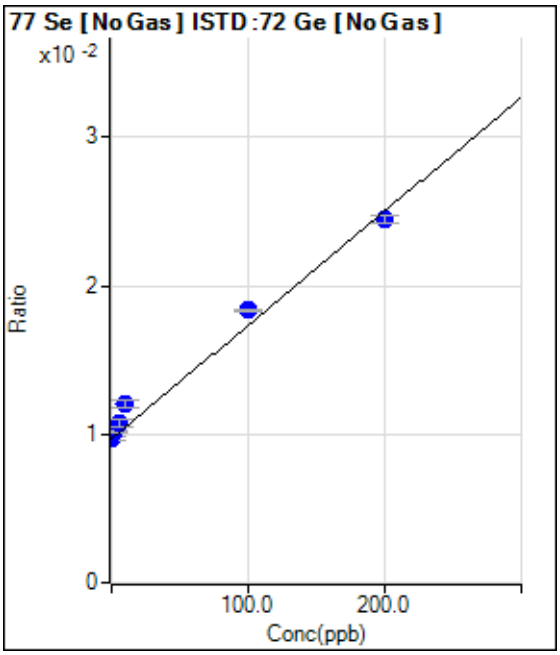


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	332926.30	0.3573	P	1.5
2	☐	2.000	20.461	332467.24	0.3579	P	0.7
3	☐	5.000	13.019	332986.95	0.3577	P	1.5
4	☐	10.000	39.627	327895.09	0.3585	P	1.3
5	☐	100.000	-80.773	317213.50	0.3548	P	0.5
6	☐	200.000	288.520	316284.77	0.3662	P	0.8

y = 3.0863E-005 * x + 0.3573
R = 0.6882
DL = 529.2
BEC = 1.158E+04

Weight: <None>
Min Conc: <None>

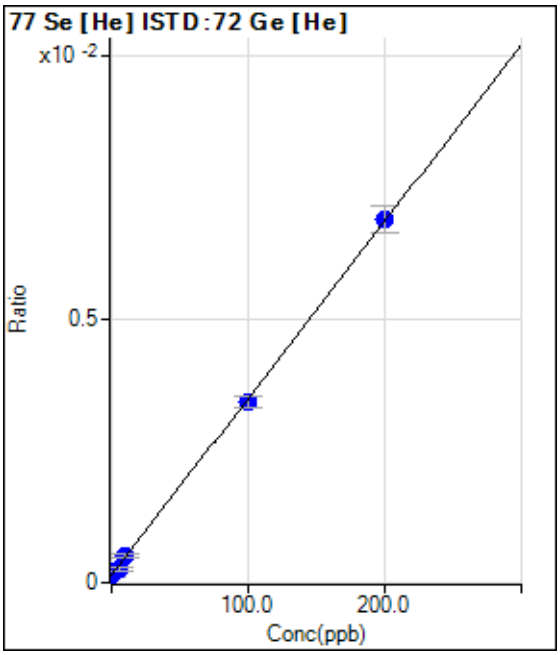
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33645.80	0.0097	P	2.8
2	☐	2.000	6.087	35116.32	0.0102	P	2.0
3	☐	5.000	14.238	37442.45	0.0108	P	5.3
4	☐	10.000	30.380	40919.02	0.0120	P	3.8
5	☐	100.000	112.810	60817.18	0.0183	P	0.4
6	☐	200.000	192.304	79027.40	0.0244	P	2.0

y = 7.6652E-005 * x + 0.0097
R = 0.9939
DL = 10.68
BEC = 126.5

Weight: <None>
Min Conc: <None>

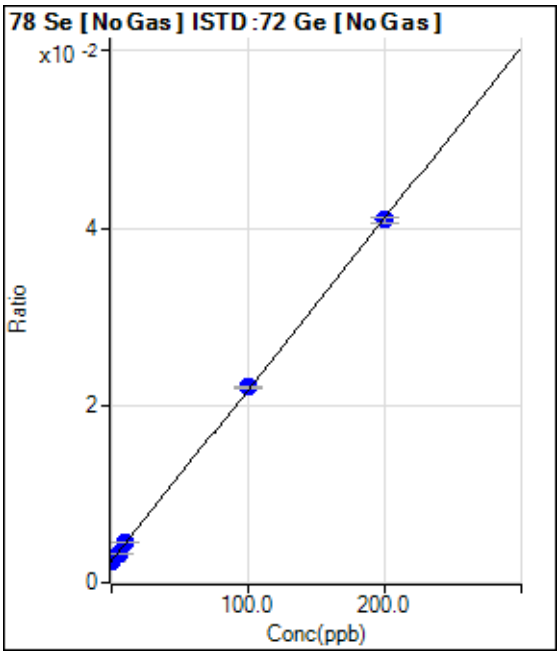


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0001	P	34.8
2	☐	2.000	2.470	210.01	0.0002	P	9.9
3	☐	5.000	3.635	246.67	0.0003	P	26.9
4	☐	10.000	11.132	473.35	0.0005	P	12.9
5	☐	100.000	98.025	3070.41	0.0034	P	5.4
6	☐	200.000	200.960	5954.75	0.0069	P	7.6

y = 3.3586E-005 * x + 1.4318E-004
R = 0.9999
DL = 4.451
BEC = 4.263

Weight: <None>
Min Conc: <None>

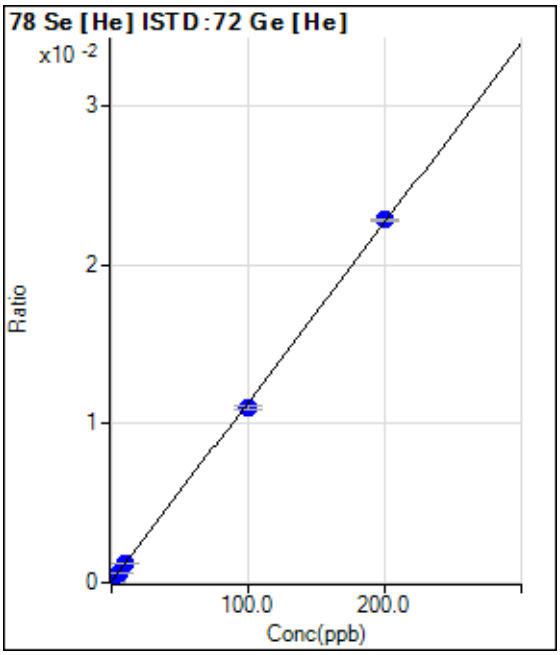
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8556.21	0.0025	P	2.3
2	☐	2.000	2.268	10030.59	0.0029	P	5.5
3	☐	5.000	4.234	11398.35	0.0033	P	4.3
4	☐	10.000	10.776	15475.82	0.0045	P	2.2
5	☐	100.000	101.661	73269.17	0.0221	P	1.0
6	☐	200.000	199.147	132386.90	0.0409	P	1.9

y = 1.9315E-004 * x + 0.0025
R = 0.9999
DL = 0.8792
BEC = 12.76

Weight: <None>
Min Conc: <None>

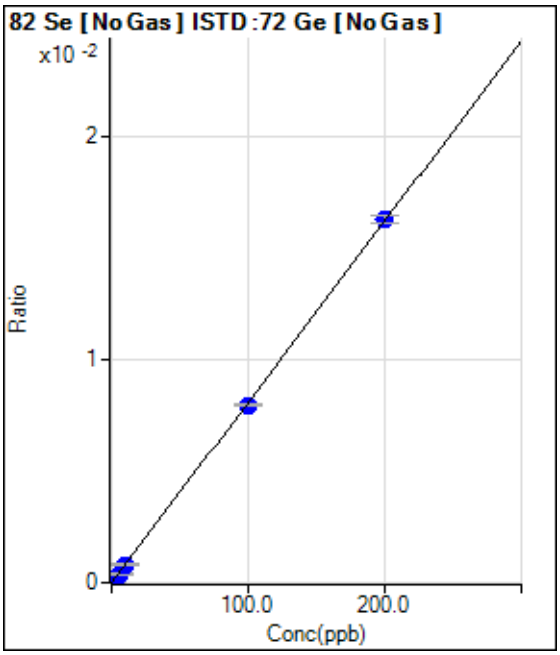


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	24.1
2	☐	2.000	2.229	296.67	0.0003	P	3.7
3	☐	5.000	5.002	588.68	0.0006	P	3.8
4	☐	10.000	10.164	1110.72	0.0012	P	2.6
5	☐	100.000	96.811	9826.94	0.0110	P	1.9
6	☐	200.000	201.584	19701.06	0.0228	P	0.3

y = 1.1282E-004 * x + 6.7996E-005
R = 0.9998
DL = 0.4348
BEC = 0.6027

Weight: <None>
Min Conc: <None>

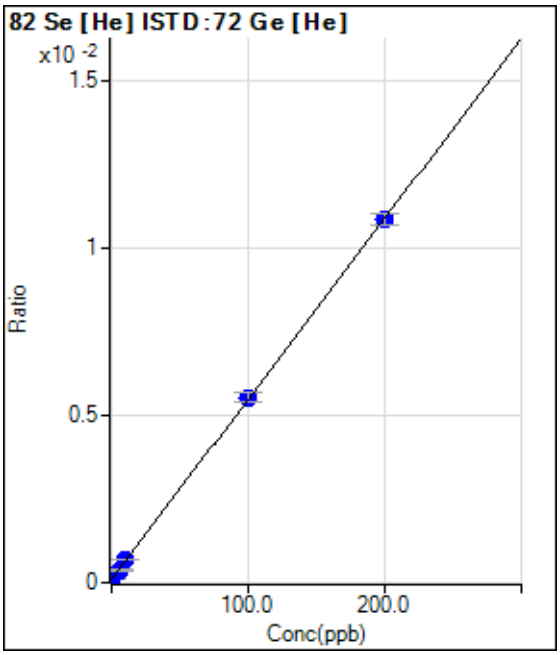
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-28.37	0.0000	P	-390.5
2	☐	2.000	2.005	532.09	0.0002	P	13.8
3	☐	5.000	4.697	1291.83	0.0004	P	6.6
4	☐	10.000	10.031	2738.85	0.0008	P	4.1
5	☐	100.000	98.143	26348.95	0.0079	P	1.3
6	☐	200.000	200.934	52657.57	0.0163	P	2.0

y = 8.1057E-005 * x - 8.6073E-006
R = 0.9999
DL = 1.244
BEC = -0.1062

Weight: <None>
Min Conc: <None>

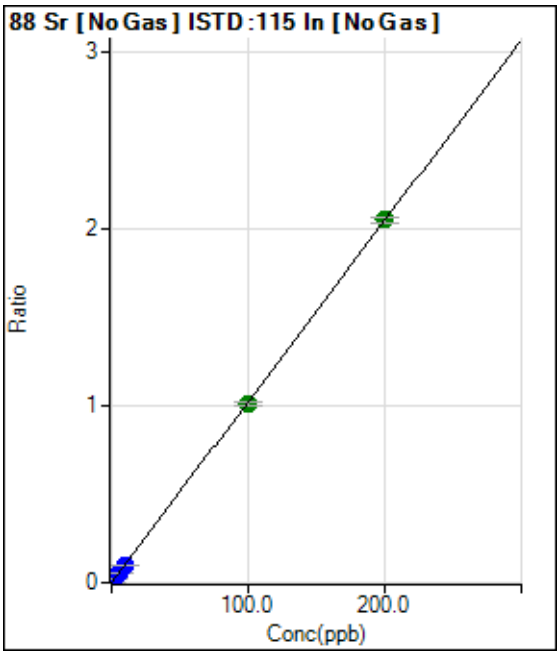


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0001	P	5.5
2	☐	2.000	2.475	220.01	0.0002	P	16.6
3	☐	5.000	4.989	346.68	0.0004	P	2.6
4	☐	10.000	10.730	623.36	0.0007	P	4.1
5	☐	100.000	101.043	4957.66	0.0055	P	4.2
6	☐	200.000	199.438	9366.72	0.0108	P	3.3

y = 5.3865E-005 * x + 1.0373E-004
R = 1.0000
DL = 0.3192
BEC = 1.926

Weight: <None>
Min Conc: <None>

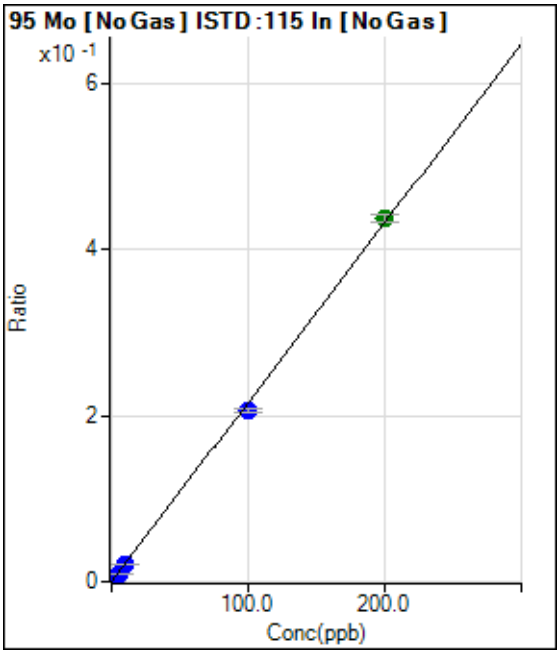
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1473.44	0.0003	P	11.8
2	☐	2.000	1.987	90918.37	0.0206	P	1.2
3	☐	5.000	4.904	223510.94	0.0504	P	1.4
4	☐	10.000	9.911	440836.05	0.1015	P	1.7
5	☐	100.000	98.879	4280397.33	1.0094	A	2.3
6	☐	200.000	200.568	8351307.17	2.0471	A	1.5

y = 0.0102 * x + 3.3300E-004
R = 1.0000
DL = 0.01157
BEC = 0.03263

Weight: <None>
Min Conc: <None>

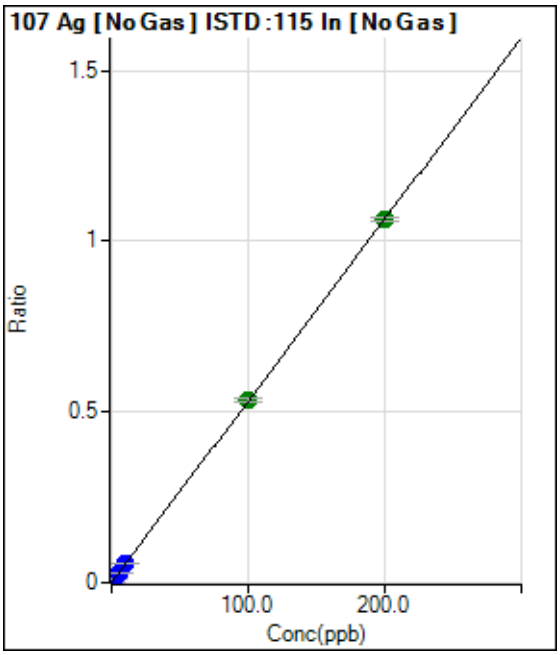


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0000	P	8.4
2	☐	2.000	1.897	18219.35	0.0041	P	1.3
3	☐	5.000	4.766	45835.86	0.0103	P	1.7
4	☐	10.000	9.529	89589.75	0.0206	P	3.0
5	☐	100.000	95.318	873593.16	0.2060	P	3.0
6	☐	200.000	202.371	1784268.41	0.4374	A	2.2

y = 0.0022 * x + 3.0869E-005
R = 0.9996
DL = 0.0036
BEC = 0.01428

Weight: <None>
Min Conc: <None>

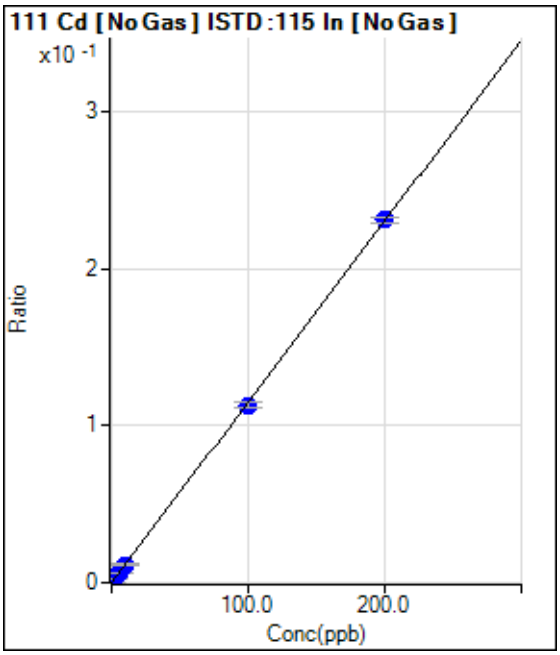
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.00	0.0000	P	1.8
2	☐	2.000	2.120	49927.80	0.0113	P	1.4
3	☐	5.000	5.305	125391.95	0.0283	P	1.4
4	☐	10.000	10.618	245458.41	0.0565	P	2.2
5	☐	100.000	100.306	2261986.48	0.5334	A	2.0
6	☐	200.000	199.807	4334290.15	1.0624	A	1.2

y = 0.0053 * x + 4.7440E-005
R = 1.0000
DL = 0.0004946
BEC = 0.008922

Weight: <None>
Min Conc: <None>

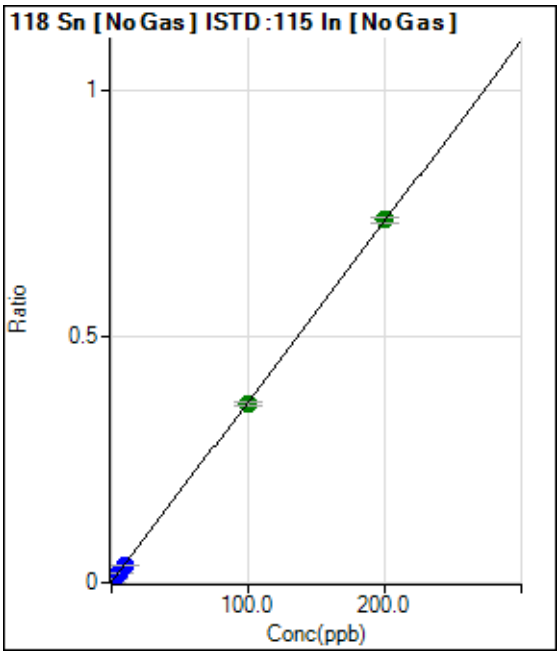


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	98.8
2	☐	2.000	2.007	10187.44	0.0023	P	1.7
3	☐	5.000	5.020	25621.90	0.0058	P	1.7
4	☐	10.000	10.089	50406.47	0.0116	P	1.2
5	☐	100.000	98.434	479884.24	0.1132	P	3.2
6	☐	200.000	200.778	941787.51	0.2308	P	1.4

y = 0.0011 * x + 2.2481E-006
R = 1.0000
DL = 0.005795
BEC = 0.001955

Weight: <None>
Min Conc: <None>

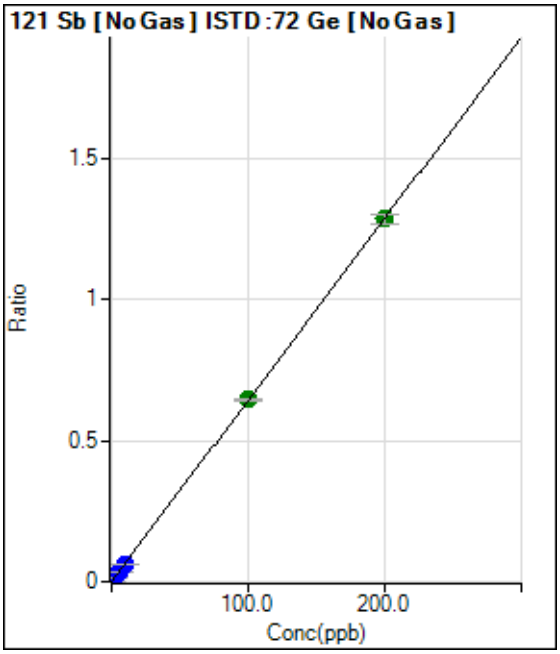
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3341.15	0.0008	P	10.8
2	☐	2.000	1.833	32934.98	0.0075	P	2.2
3	☐	5.000	4.643	78809.12	0.0178	P	0.2
4	☐	10.000	9.547	155193.13	0.0357	P	1.2
5	☐	100.000	98.563	1534173.15	0.3617	A	1.8
6	☐	200.000	200.752	3002914.54	0.7360	A	1.8

y = 0.0037 * x + 7.5398E-004
R = 1.0000
DL = 0.06649
BEC = 0.2059

Weight: <None>
Min Conc: <None>

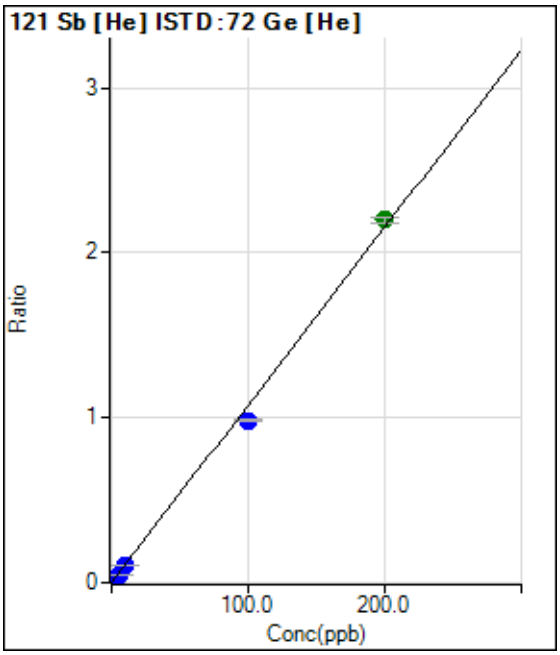


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1860.17	0.0005	P	8.4
2	☐	2.000	1.893	43923.89	0.0127	P	1.8
3	☐	5.000	4.753	107952.02	0.0311	P	0.6
4	☐	10.000	9.667	213359.08	0.0627	P	0.5
5	☐	100.000	100.126	2135447.42	0.6442	A	1.7
6	☐	200.000	199.961	4159594.84	1.2860	A	2.9

y = 0.0064 * x + 5.3656E-004
R = 1.0000
DL = 0.02094
BEC = 0.08347

Weight: <None>
Min Conc: <None>

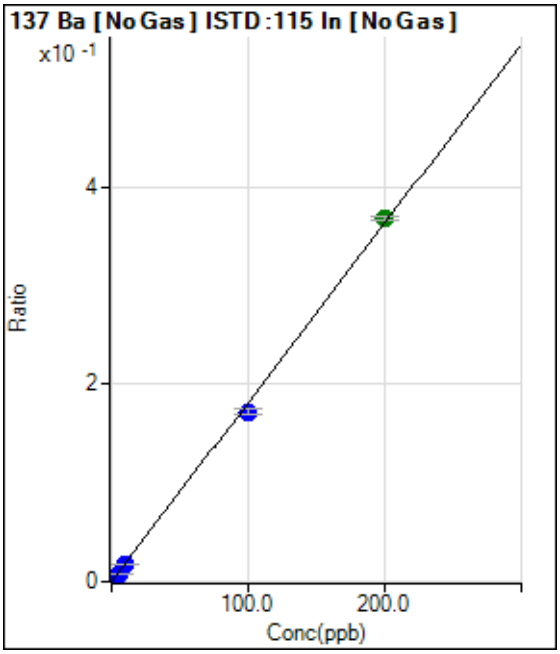
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	826.72	0.0009	P	11.8
2	☐	2.000	1.835	19167.68	0.0206	P	1.4
3	☐	5.000	4.586	46766.67	0.0502	P	2.7
4	☐	10.000	9.339	92719.43	0.1014	P	0.1
5	☐	100.000	91.425	880394.99	0.9848	P	0.5
6	☐	200.000	204.332	1899820.28	2.1998	A	1.8

y = 0.0108 * x + 8.8701E-004
R = 0.9987
DL = 0.02914
BEC = 0.08242

Weight: <None>
Min Conc: <None>

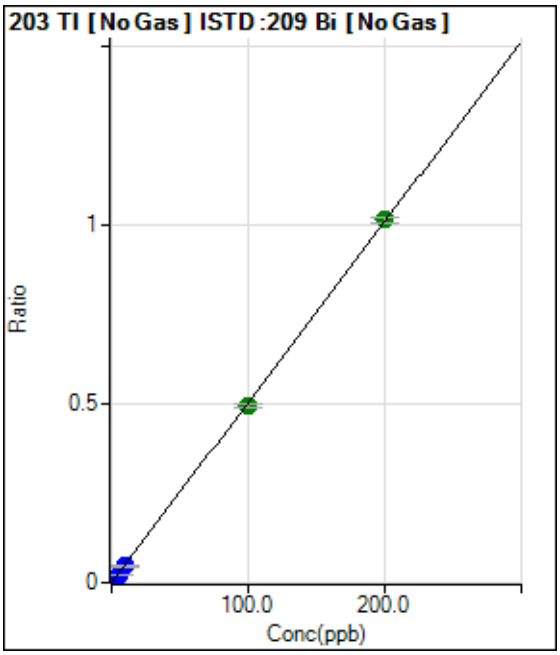


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	850.05	0.0002	P	6.8
2	☐	2.000	1.819	15402.77	0.0035	P	2.2
3	☐	5.000	4.667	38427.12	0.0087	P	1.2
4	☐	10.000	9.564	76223.54	0.0175	P	2.0
5	☐	100.000	94.950	731397.59	0.1725	P	2.7
6	☐	200.000	202.557	1500508.68	0.3678	A	0.9

y = 0.0018 * x + 1.9208E-004
R = 0.9996
DL = 0.02146
BEC = 0.1059

Weight: <None>
Min Conc: <None>

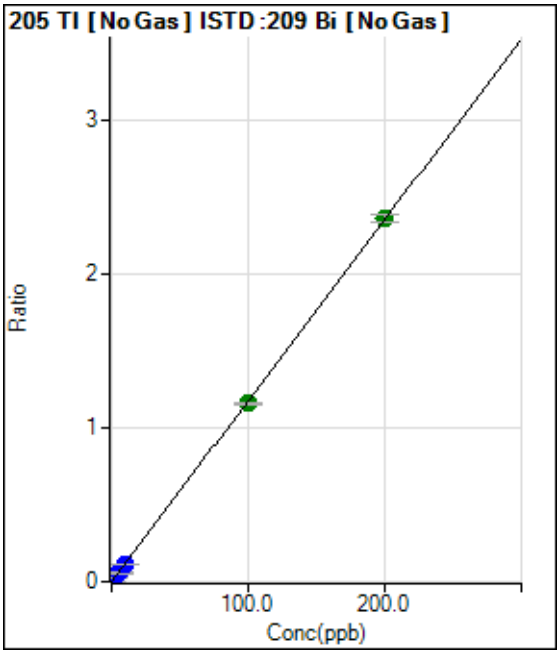
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0000	P	39.7
2	☐	2.000	1.801	43004.76	0.0091	P	1.9
3	☐	5.000	4.587	107476.99	0.0232	P	3.2
4	☐	10.000	9.082	217467.36	0.0459	P	1.9
5	☐	100.000	97.804	2244684.13	0.4937	A	1.7
6	☐	200.000	201.156	4475085.25	1.0154	A	1.3

y = 0.0050 * x + 1.3385E-005
R = 0.9999
DL = 0.003162
BEC = 0.002652

Weight: <None>
Min Conc: <None>

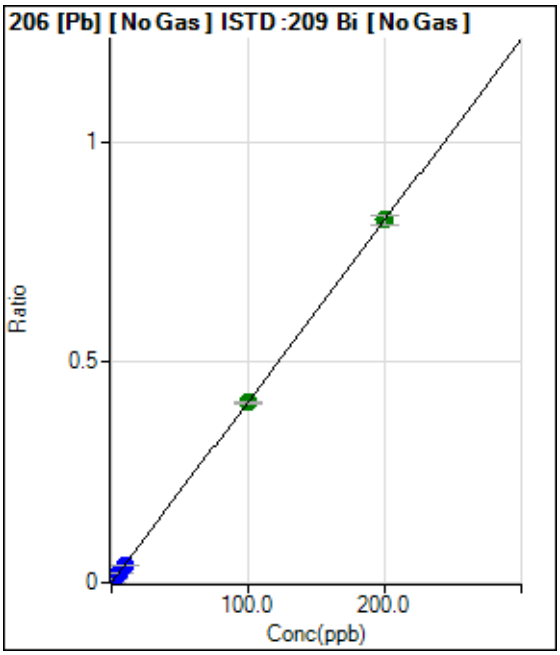


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123.34	0.0000	P	39.9
2	☐	2.000	1.831	101670.13	0.0215	P	3.0
3	☐	5.000	4.853	264361.61	0.0570	P	2.9
4	☐	10.000	9.436	525414.17	0.1108	P	1.6
5	☐	100.000	98.741	5269728.57	1.1591	A	1.3
6	☐	200.000	200.663	10380197.97	2.3555	A	2.3

y = 0.0117 * x + 2.6050E-005
R = 1.0000
DL = 0.002656
BEC = 0.002219

Weight: <None>
Min Conc: <None>

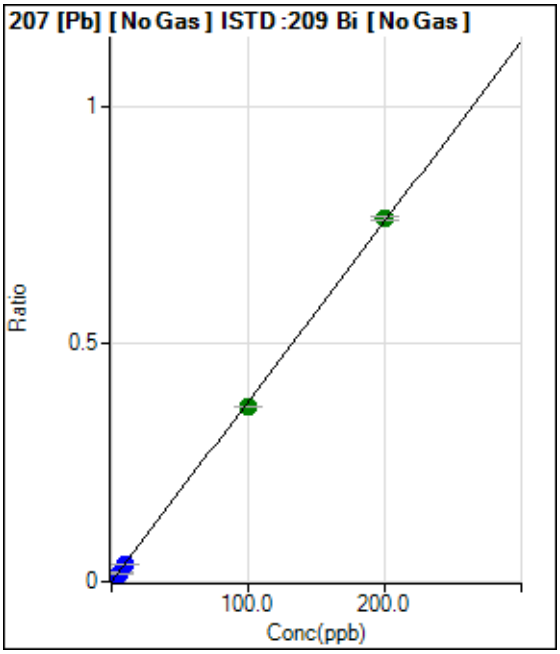
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	300.01	0.0001	P	23.6
2	☐	2.000	1.900	37205.89	0.0079	P	3.3
3	☐	5.000	4.902	93780.99	0.0202	P	2.7
4	☐	10.000	9.497	185441.95	0.0391	P	1.8
5	☐	100.000	99.501	1859950.29	0.4091	A	0.7
6	☐	200.000	200.278	3628423.59	0.8234	A	2.8

y = 0.0041 * x + 6.3431E-005
R = 1.0000
DL = 0.01091
BEC = 0.01543

Weight: <None>
Min Conc: <None>

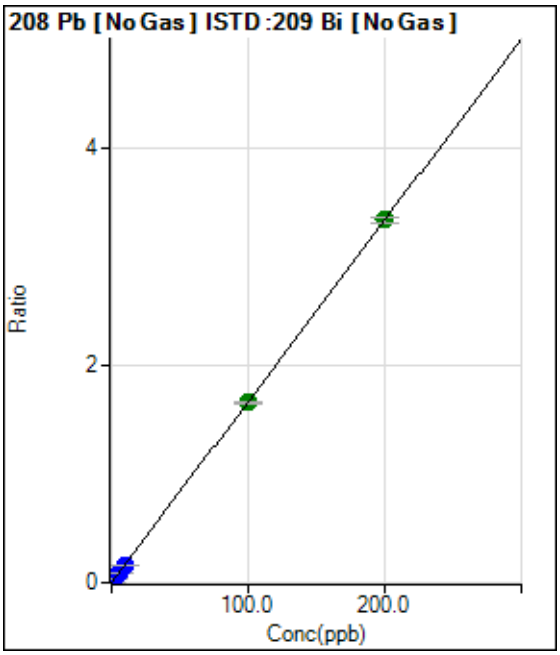


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0001	P	40.3
2	☐	2.000	1.856	33451.93	0.0071	P	2.6
3	☐	5.000	4.787	84311.19	0.0182	P	1.9
4	☐	10.000	9.392	168837.19	0.0356	P	1.5
5	☐	100.000	97.185	1672687.79	0.3679	A	0.6
6	☐	200.000	201.445	3360838.91	0.7626	A	1.1

y = 0.0038 * x + 5.5708E-005
R = 0.9999
DL = 0.01781
BEC = 0.01472

Weight: <None>
Min Conc: <None>

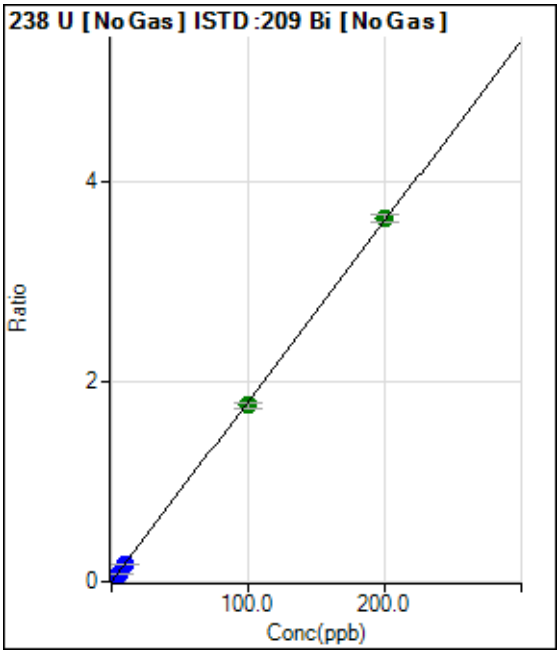
Calibration for 228_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1233.39	0.0003	P	8.1
2	☐	2.000	1.907	151197.53	0.0320	P	1.5
3	☐	5.000	4.898	379550.01	0.0818	P	2.3
4	☐	10.000	9.560	755993.35	0.1594	P	1.4
5	☐	100.000	99.425	7527290.83	1.6557	A	0.6
6	☐	200.000	200.313	14699160.93	3.3354	A	1.7

y = 0.0166 * x + 2.6066E-004
R = 1.0000
DL = 0.003823
BEC = 0.01566

Weight: <None>
Min Conc: <None>

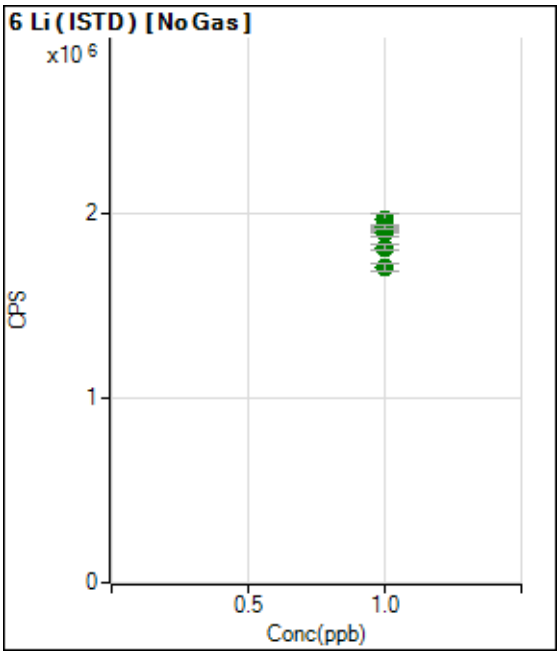


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	58.5
2	☐	2.000	1.803	153474.63	0.0325	P	2.1
3	☐	5.000	4.706	393349.59	0.0848	P	1.7
4	☐	10.000	9.250	790343.45	0.1667	P	1.1
5	☐	100.000	97.660	7999618.01	1.7595	A	2.4
6	☐	200.000	201.217	15975585.18	3.6252	A	2.2

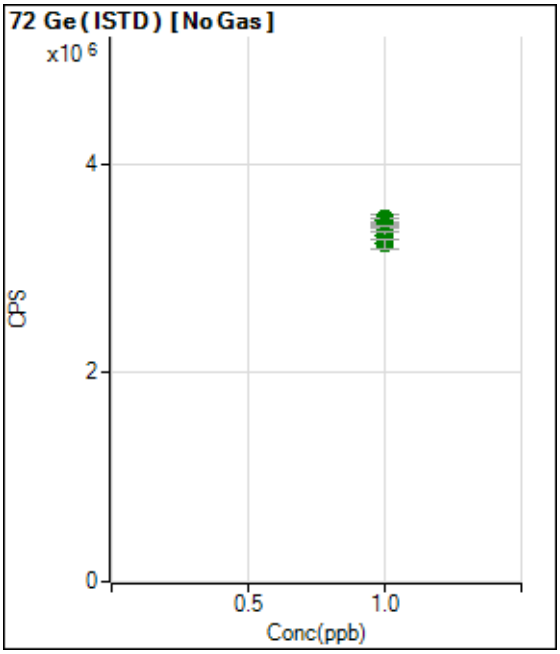
y = 0.0180 * x + 9.1721E-006
R = 0.9999
DL = 0.0008935
BEC = 0.0005091

Weight: <None>
Min Conc: <None>

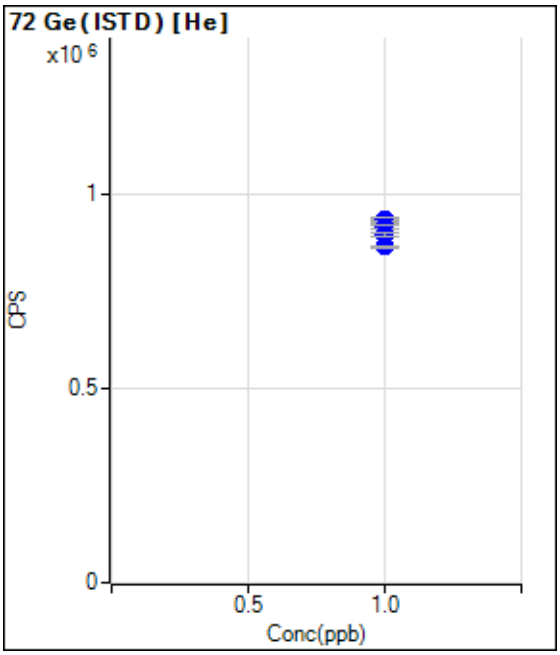
Calibration for 228_ICV.d



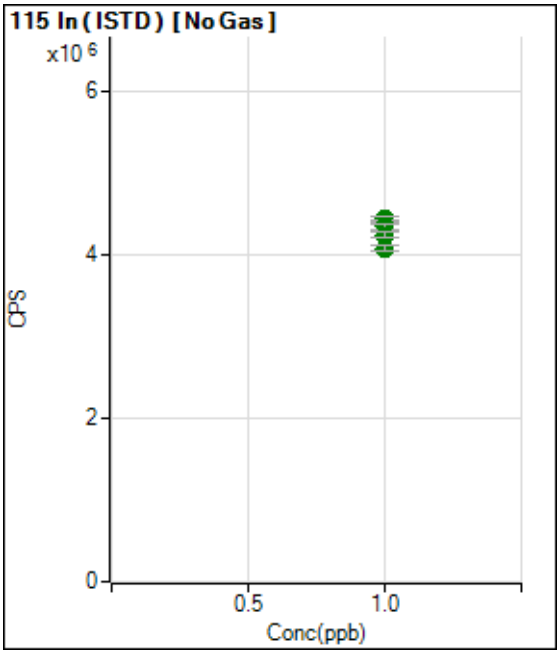
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1960253.00		A	3.1
2	☐	1.000		1909101.89		A	1.7
3	☐	1.000		1888503.77		A	1.5
4	☐	1.000		1921693.65		A	1.2
5	☐	1.000		1809207.96		A	1.7
6	☐	1.000		1700265.81		A	2.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3469971.41		A	2.2
2	☐	1.000		3455770.47		A	1.2
3	☐	1.000		3471747.76		A	0.1
4	☐	1.000		3403863.70		A	0.5
5	☐	1.000		3315787.66		A	2.5
6	☐	1.000		3235584.64		A	3.0

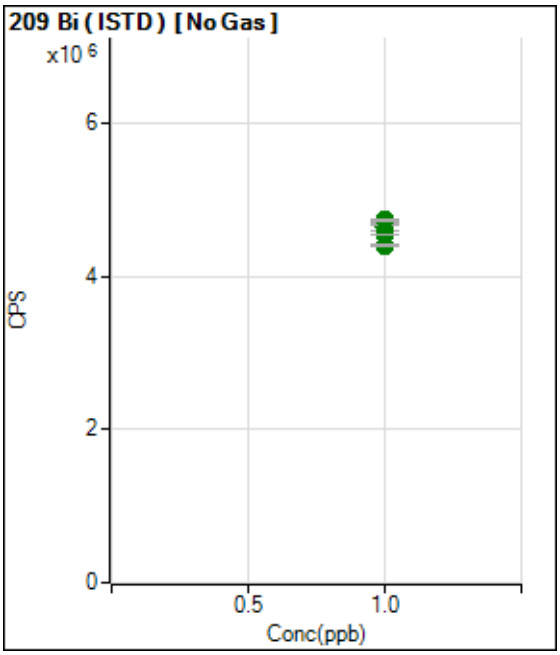


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		931721.55		P	0.5
2	☐	1.000		928888.81		P	1.2
3	☐	1.000		930987.31		P	1.1
4	☐	1.000		914535.14		P	1.3
5	☐	1.000		894042.98		P	0.9
6	☐	1.000		863672.54		P	0.6



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4427756.90		A	1.8
2	☐	1.000		4410597.90		A	0.8
3	☐	1.000		4437244.52		A	1.2
4	☐	1.000		4344992.13		A	1.6
5	☐	1.000		4241495.58		A	1.8
6	☐	1.000		4079931.63		A	1.3

Calibration for 228_ICV.d



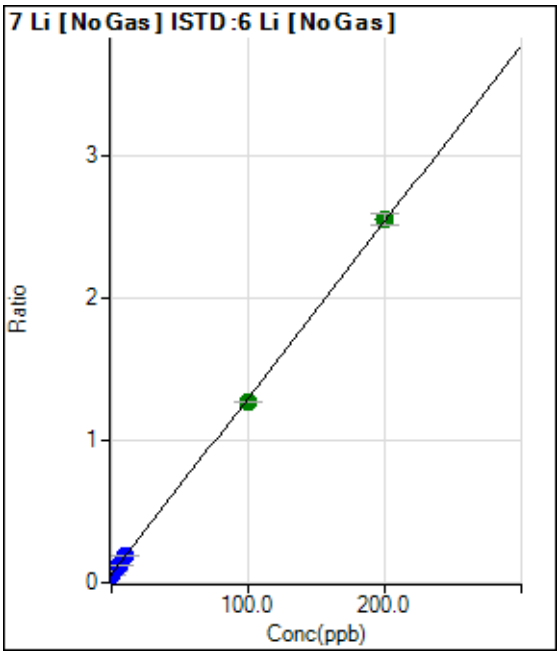
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4733063.57		A	0.5
2	☐	1.000		4724061.49		A	0.5
3	☐	1.000		4640198.58		A	1.6
4	☐	1.000		4742001.70		A	0.5
5	☐	1.000		4546367.64		A	0.3
6	☐	1.000		4407314.52		A	0.8

Calibration for 019_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\050521A.b\
Analysis File: 050521A.batch.bin
DA Date-Time: 5/5/2021 10:04:05 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	012CALB.d	CAL BLK	5/5/2021 11:05:01 AM
2	013CALS.d	2/10/200	5/5/2021 11:07:00 AM
3	014CALS.d	5/25/500	5/5/2021 11:08:59 AM
4	015CALS.d	10/50/100	5/5/2021 11:10:57 AM
5	016CALS.d	100/500/10K	5/5/2021 11:12:56 AM
6	017CALS.d	200/1000/20K	5/5/2021 11:14:49 AM

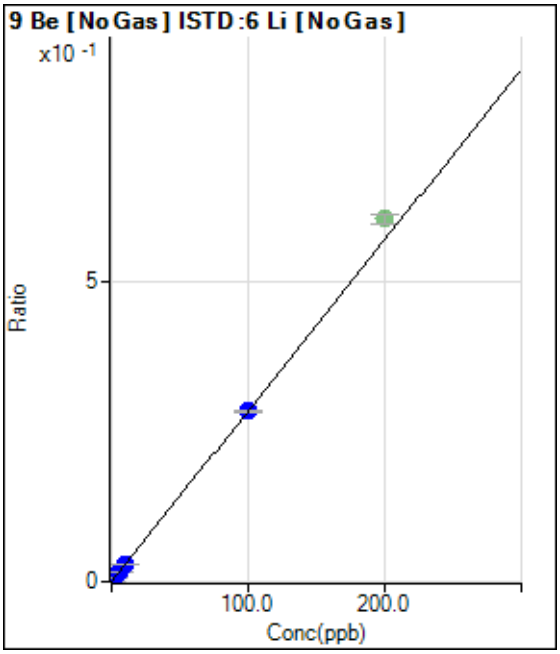
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	99020.44	0.0602	P	1.7
2	☐	2.000	2.051	139343.56	0.0856	P	4.1
3	☐	5.000	5.055	196967.57	0.1228	P	0.9
4	☐	10.000	10.096	295596.10	0.1851	P	2.1
5	☐	100.000	97.926	1996945.65	1.2717	A	0.6
6	☐	200.000	201.030	3719674.63	2.5472	A	3.1

y = 0.0124 * x + 0.0602
R = 0.9999
DL = 0.2485
BEC = 4.87

Weight: <None>
Min Conc: <None>

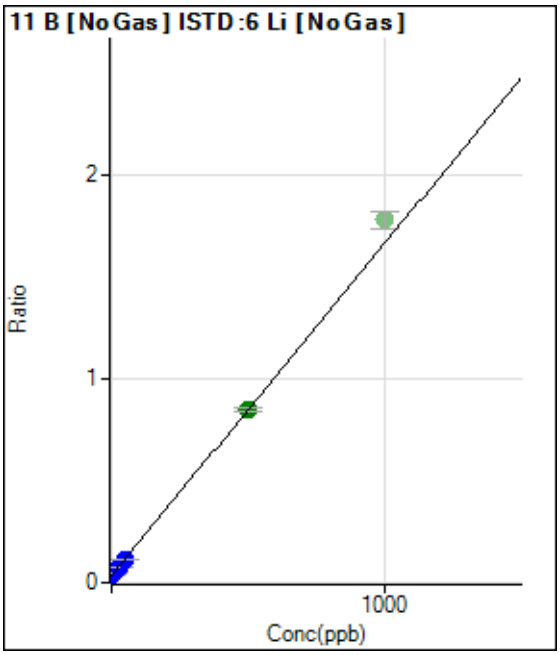


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	27.3
2	☐	2.000	2.003	9324.82	0.0057	P	9.0
3	☐	5.000	5.124	23459.61	0.0146	P	2.7
4	☐	10.000	10.138	46148.85	0.0289	P	2.5
5	☐	100.000	99.980	447108.53	0.2847	P	0.7
6	☑	200.000		883368.03	0.6049	A	2.7

y = 0.0028 * x + 3.4612E-005
R = 1.0000
DL = 0.009964
BEC = 0.01216

Weight: <None>
Min Conc: <None>

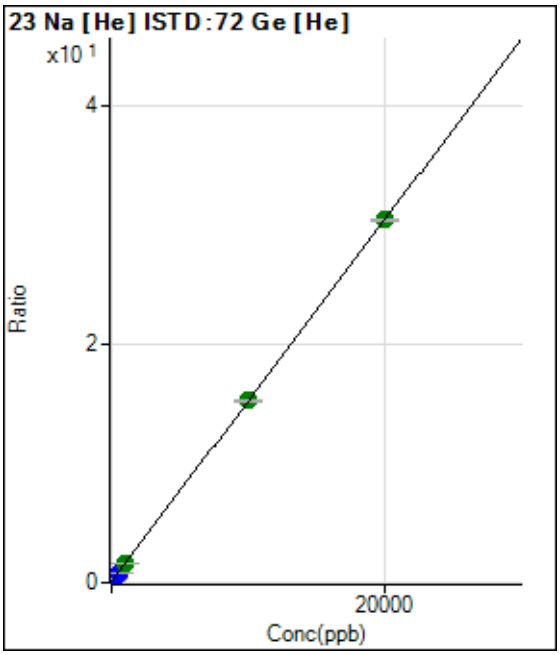
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	58870.97	0.0358	P	1.9
2	☐	10.000	9.195	82641.10	0.0508	P	4.5
3	☐	25.000	24.333	120971.37	0.0754	P	0.9
4	☐	50.000	49.449	185635.02	0.1163	P	2.0
5	☐	500.000	500.105	1333879.67	0.8494	A	2.1
6	☑	1000.000		2597310.12	1.7791	A	4.4

y = 0.0016 * x + 0.0358
R = 1.0000
DL = 1.273
BEC = 22.02

Weight: <None>
Min Conc: <None>

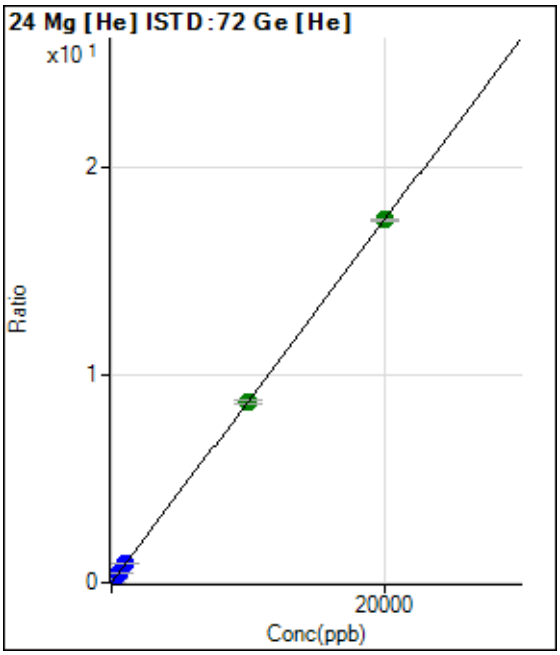


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	69686.91	0.0901	P	0.3
2	☐	200.000	203.546	306016.90	0.3983	P	0.4
3	☐	500.000	516.015	667981.24	0.8714	P	1.2
4	☐	1000.000	1032.395	1260977.40	1.6532	A	0.9
5	☐	10000.00	9991.503	11150518.58	15.2179	A	1.5
6	☐	20000.00	20002.19	21911381.34	30.3746	A	0.8

y = 0.0015 * x + 0.0901
R = 1.0000
DL = 0.4778
BEC = 59.53

Weight: <None>
Min Conc: <None>

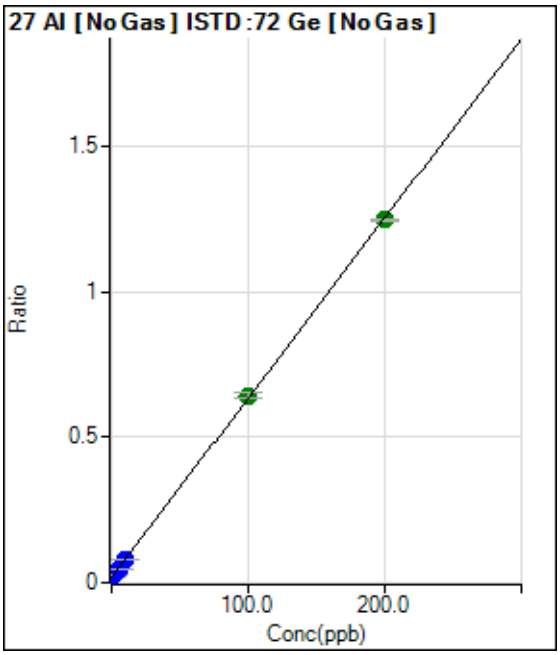
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	503.35	0.0007	P	6.9
2	☐	200.000	207.930	140001.20	0.1822	P	0.9
3	☐	500.000	523.039	350605.01	0.4574	P	1.4
4	☐	1000.000	1024.973	683110.40	0.8957	P	0.3
5	☐	10000.00	9992.644	6394125.53	8.7265	A	1.7
6	☐	20000.00	20001.77	12599958.98	17.4667	A	0.4

y = 8.7323E-004 * x + 6.5127E-004
R = 1.0000
DL = 0.1535
BEC = 0.7458

Weight: <None>
Min Conc: <None>

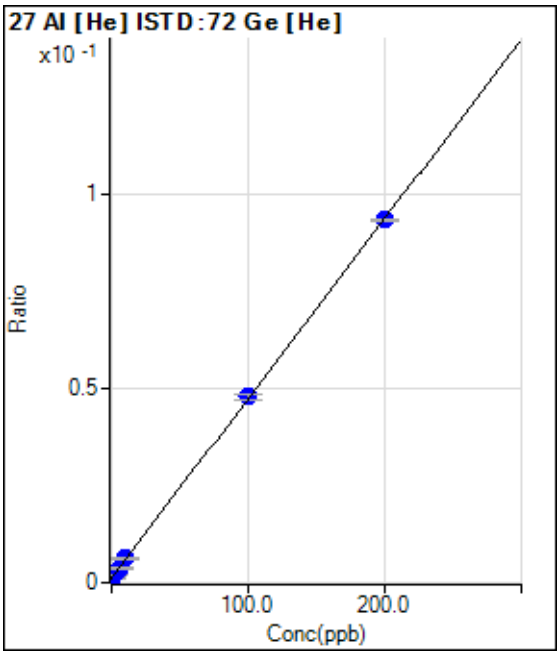


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48595.26	0.0173	P	1.4
2	☐	2.000	1.475	74518.85	0.0264	P	1.8
3	☐	5.000	4.842	134996.60	0.0472	P	2.2
4	☐	10.000	10.064	223280.27	0.0794	P	1.7
5	☐	100.000	101.552	1746600.34	0.6444	A	2.3
6	☐	200.000	199.230	3319155.57	1.2476	A	0.5

y = 0.0062 * x + 0.0173
R = 1.0000
DL = 0.1164
BEC = 2.8

Weight: <None>
Min Conc: <None>

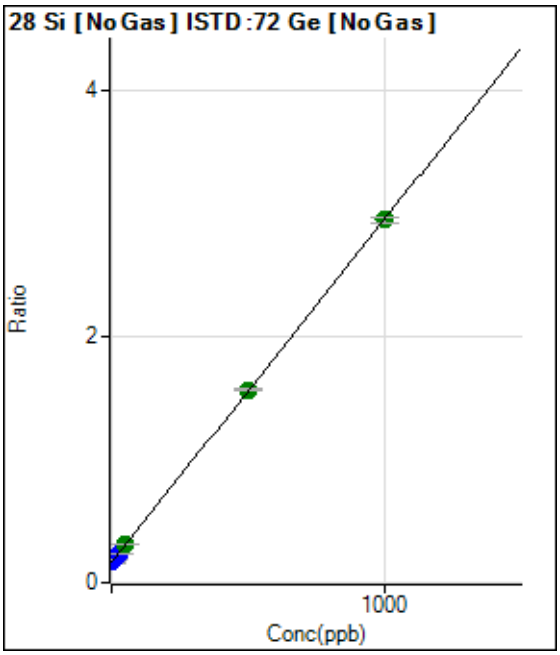
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	936.72	0.0012	P	12.4
2	☐	2.000	1.363	1413.43	0.0018	P	1.0
3	☐	5.000	5.330	2810.34	0.0037	P	13.1
4	☐	10.000	10.852	4737.54	0.0062	P	7.4
5	☐	100.000	100.895	34980.92	0.0477	P	2.8
6	☐	200.000	199.508	67235.50	0.0932	P	0.9

y = 4.6110E-004 * x + 0.0012
R = 1.0000
DL = 0.9795
BEC = 2.627

Weight: <None>
Min Conc: <None>

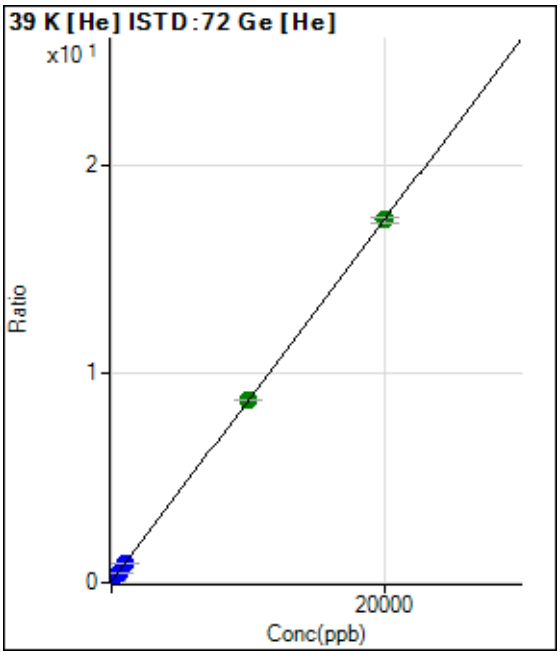


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	462563.41	0.1646	P	1.6
2	☐	10.000	10.200	544880.49	0.1930	P	1.6
3	☐	25.000	25.004	670209.91	0.2343	P	0.7
4	☐	50.000	52.118	870956.42	0.3099	A	2.4
5	☐	500.000	503.012	4247909.31	1.5671	A	0.7
6	☐	1000.000	998.386	7843289.47	2.9483	A	1.5

y = 0.0028 * x + 0.1646
R = 1.0000
DL = 2.894
BEC = 59.02

Weight: <None>
Min Conc: <None>

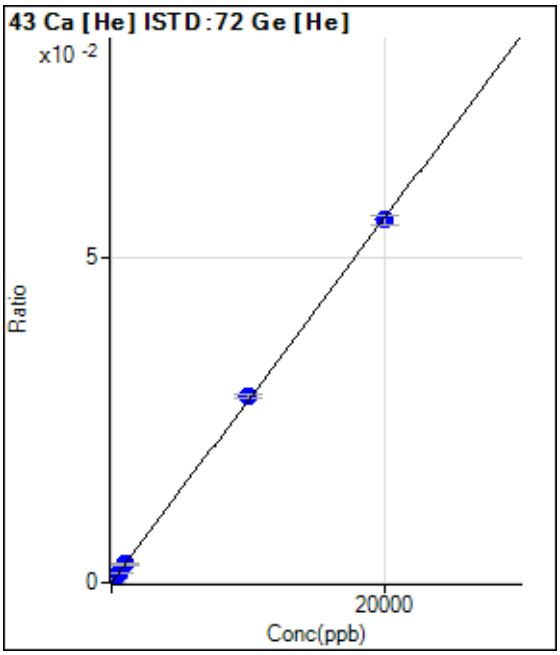
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47030.33	0.0608	P	3.5
2	☐	200.000	202.085	180996.85	0.2356	P	1.9
3	☐	500.000	510.585	385134.04	0.5024	P	0.3
4	☐	1000.000	1012.055	713938.24	0.9361	P	0.3
5	☐	10000.00	10008.84	6387273.66	8.7167	A	0.1
6	☐	20000.00	19994.68	12517880.65	17.3527	A	1.8

y = 8.6483E-004 * x + 0.0608
R = 1.0000
DL = 7.336
BEC = 70.34

Weight: <None>
Min Conc: <None>

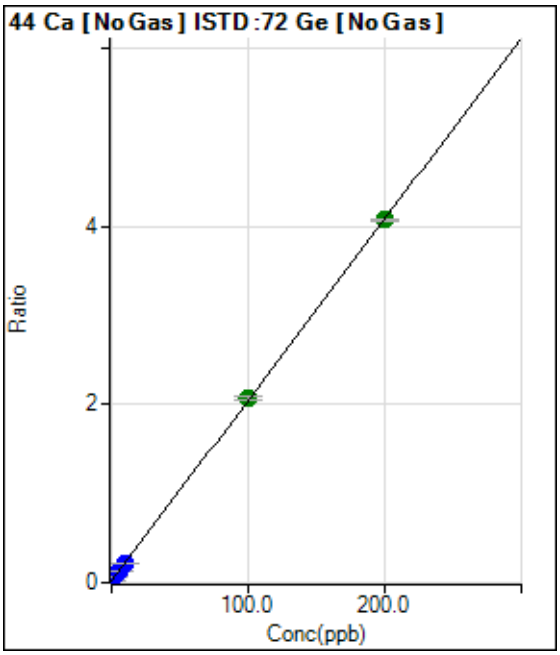


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	200.000	208.401	453.35	0.0006	P	23.5
3	☐	500.000	505.964	1093.40	0.0014	P	5.3
4	☐	1000.000	1033.886	2220.22	0.0029	P	10.7
5	☐	10000.00	10196.15	20999.51	0.0287	P	2.0
6	☐	20000.00	19899.99	40349.50	0.0559	P	2.9

y = 2.8104E-006 * x + 4.3231E-006
R = 0.9999
DL = 7.993
BEC = 1.538

Weight: <None>
Min Conc: <None>

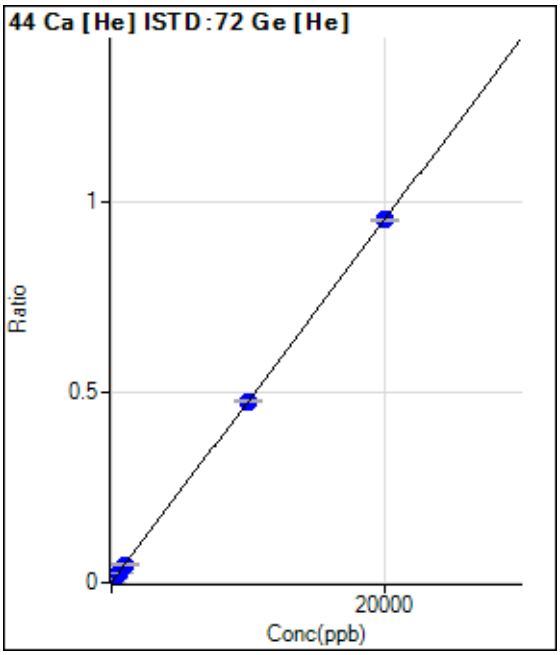
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50355.75	0.0179	P	1.3
2	☐	2.000	2.049	168146.54	0.0596	P	0.6
3	☐	5.000	5.037	344047.49	0.1203	P	0.9
4	☐	10.000	10.130	628994.59	0.2238	P	0.1
5	☐	100.000	100.692	5594484.71	2.0640	A	2.1
6	☐	200.000	199.646	10840212.76	4.0747	A	0.8

y = 0.0203 * x + 0.0179
R = 1.0000
DL = 0.0339
BEC = 0.8817

Weight: <None>
Min Conc: <None>

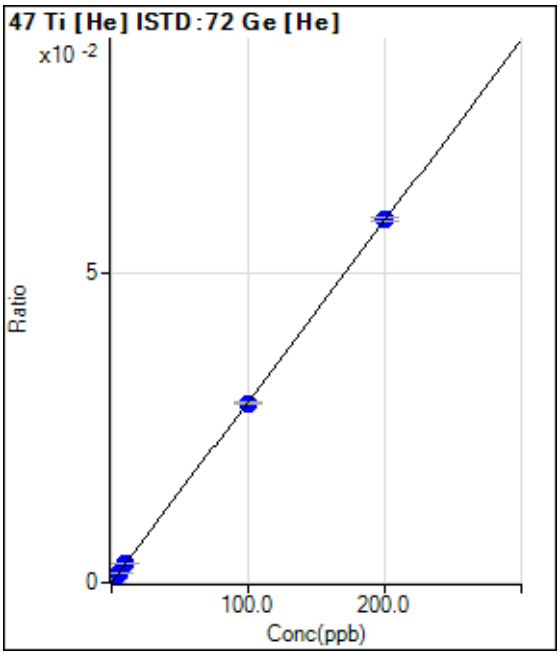


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	526.69	0.0007	P	17.5
2	☐	200.000	192.093	7552.19	0.0098	P	1.7
3	☐	500.000	500.435	18793.18	0.0245	P	1.5
4	☐	1000.000	989.800	36471.88	0.0478	P	0.9
5	☐	10000.00	9997.971	349408.65	0.4769	P	1.2
6	☐	20000.00	20001.59	687688.27	0.9533	P	0.5

y = 4.7627E-005 * x + 6.8079E-004
R = 1.0000
DL = 7.515
BEC = 14.29

Weight: <None>
Min Conc: <None>

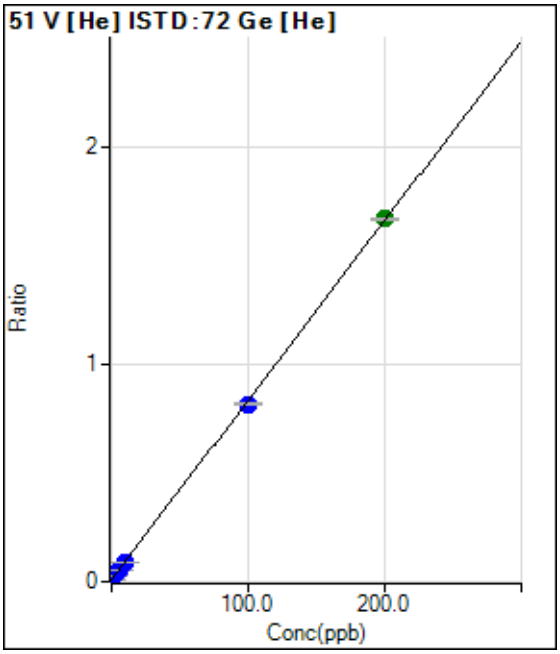
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	35.3
2	☐	2.000	1.892	440.01	0.0006	P	8.7
3	☐	5.000	5.121	1160.07	0.0015	P	6.5
4	☐	10.000	10.564	2363.58	0.0031	P	5.1
5	☐	100.000	98.949	21143.14	0.0289	P	1.1
6	☐	200.000	200.495	42158.19	0.0584	P	1.1

y = 2.9138E-004 * x + 2.1604E-005
R = 1.0000
DL = 0.07857
BEC = 0.07415

Weight: <None>
Min Conc: <None>

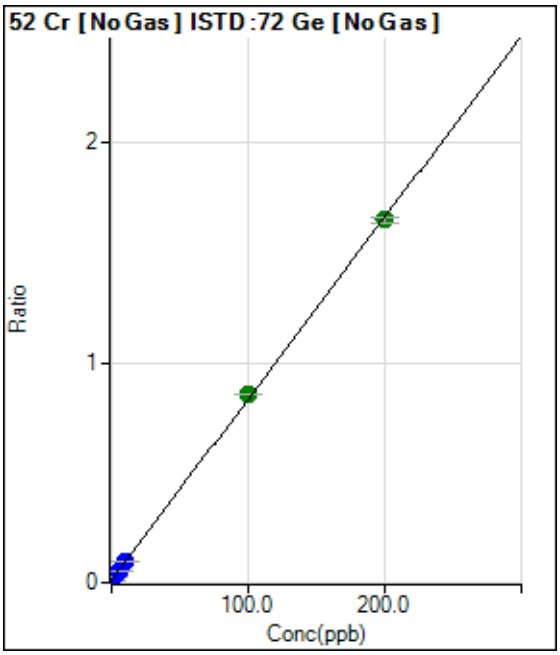


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7313.10	0.0095	P	2.0
2	☐	2.000	1.929	19515.05	0.0254	P	0.2
3	☐	5.000	4.839	37916.70	0.0495	P	0.5
4	☐	10.000	9.628	67904.90	0.0890	P	1.5
5	☐	100.000	97.930	600096.28	0.8190	P	0.5
6	☐	200.000	201.059	1205731.24	1.6715	A	0.5

y = 0.0083 * x + 0.0095
R = 0.9999
DL = 0.06805
BEC = 1.144

Weight: <None>
Min Conc: <None>

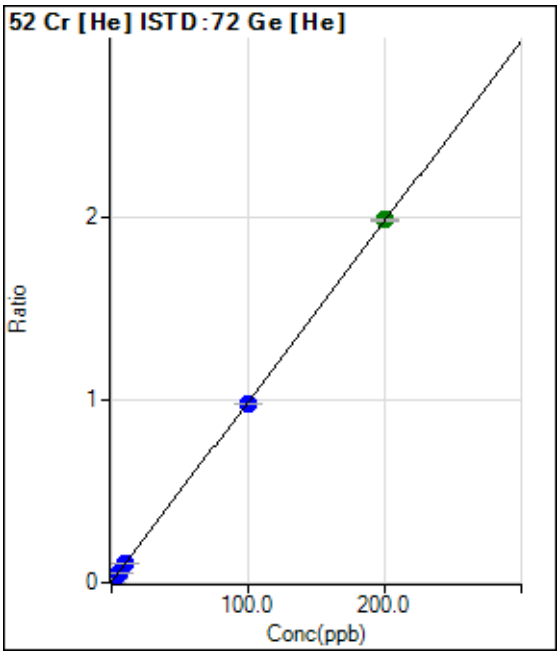
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29802.71	0.0106	P	2.4
2	☐	2.000	2.024	77062.73	0.0273	P	0.8
3	☐	5.000	5.097	150570.66	0.0526	P	0.3
4	☐	10.000	10.084	263537.70	0.0938	P	0.7
5	☐	100.000	102.516	2320355.96	0.8560	A	0.6
6	☐	200.000	198.735	4387922.64	1.6495	A	1.5

y = 0.0082 * x + 0.0106
R = 0.9999
DL = 0.09289
BEC = 1.286

Weight: <None>
Min Conc: <None>

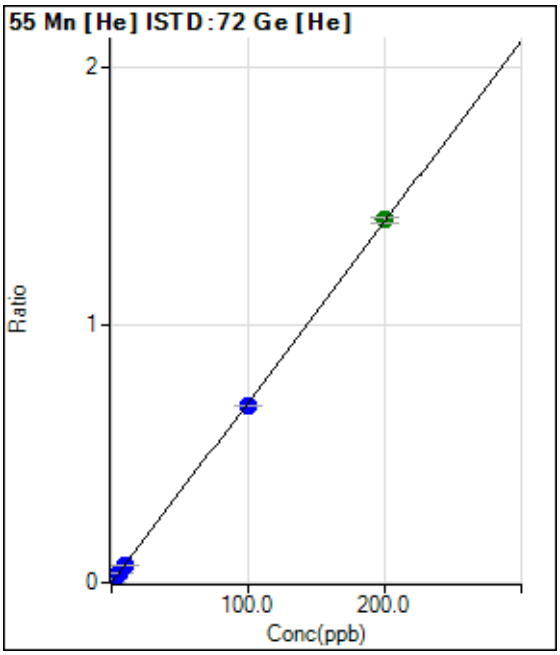


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1970.18	0.0025	P	9.0
2	☐	2.000	1.929	16603.63	0.0216	P	1.4
3	☐	5.000	5.000	39831.45	0.0520	P	1.0
4	☐	10.000	9.903	76583.79	0.1004	P	0.3
5	☐	100.000	98.480	714953.35	0.9757	P	0.1
6	☐	200.000	200.766	1432996.64	1.9865	A	0.6

y = 0.0099 * x + 0.0025
R = 1.0000
DL = 0.06994
BEC = 0.2578

Weight: <None>
Min Conc: <None>

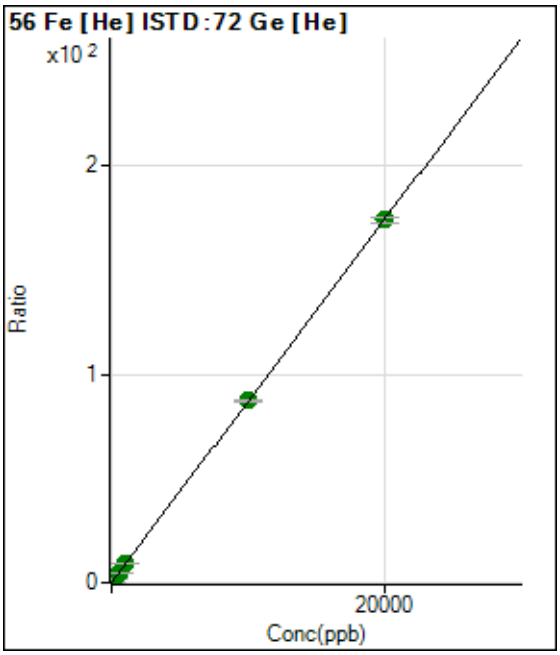
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	423.35	0.0005	P	14.5
2	☐	2.000	1.934	10834.49	0.0141	P	4.8
3	☐	5.000	4.981	27174.03	0.0355	P	3.0
4	☐	10.000	9.895	53297.17	0.0699	P	0.8
5	☐	100.000	97.985	503512.67	0.6872	P	0.6
6	☐	200.000	201.014	1016521.23	1.4091	A	1.5

y = 0.0070 * x + 5.4767E-004
R = 0.9999
DL = 0.03406
BEC = 0.07816

Weight: <None>
Min Conc: <None>

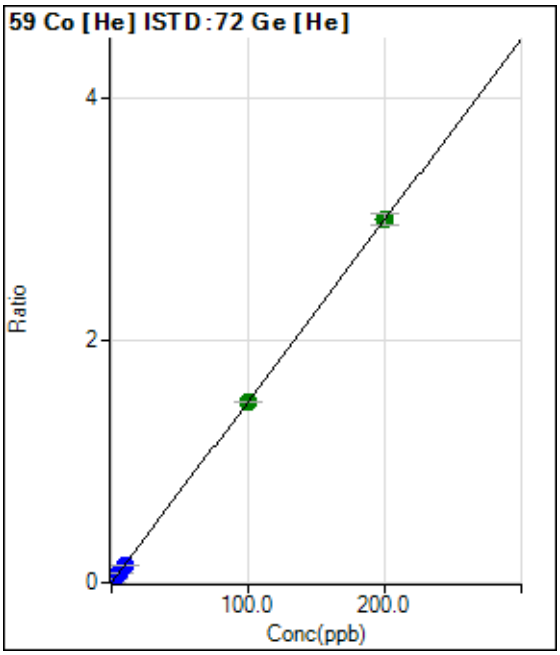


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18439.39	0.0239	P	3.2
2	☐	200.000	206.394	1398491.44	1.8203	A	0.8
3	☐	500.000	520.265	3489950.26	4.5522	A	0.8
4	☐	1000.000	1019.264	6783511.98	8.8955	A	2.0
5	☐	10000.00	10015.42	63894342.38	87.1980	A	0.3
6	☐	20000.00	19990.75	125537714.8	174.023	A	1.5

y = 0.0087 * x + 0.0239
R = 1.0000
DL = 0.2653
BEC = 2.74

Weight: <None>
Min Conc: <None>

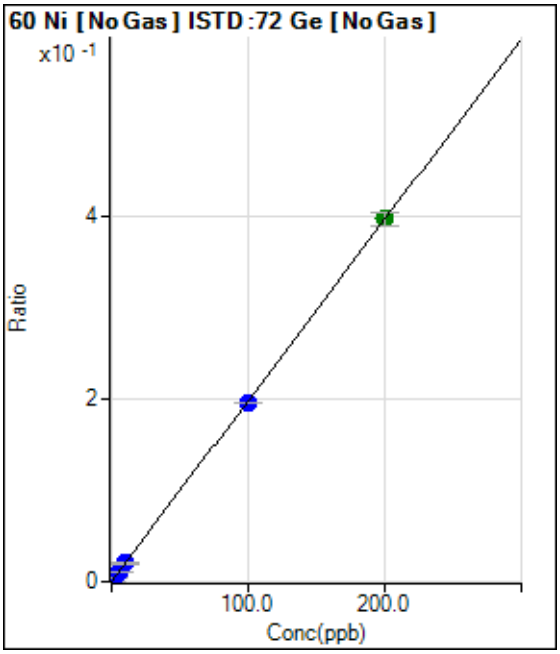
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0001	P	37.1
2	☐	2.000	1.922	22138.24	0.0288	P	0.7
3	☐	5.000	4.987	57227.01	0.0746	P	1.2
4	☐	10.000	9.894	112868.04	0.1480	P	1.3
5	☐	100.000	99.784	1093085.32	1.4918	A	0.3
6	☐	200.000	200.114	2158154.13	2.9916	A	3.0

y = 0.0149 * x + 9.0352E-005
R = 1.0000
DL = 0.006735
BEC = 0.006044

Weight: <None>
Min Conc: <None>

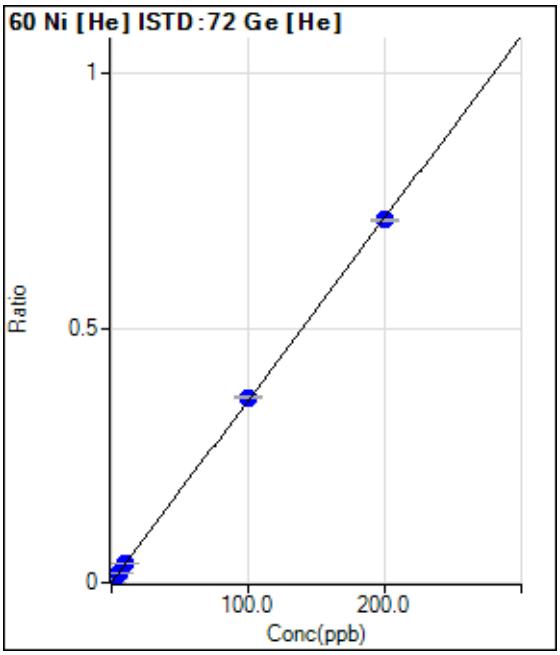


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	583.35	0.0002	P	2.2
2	☐	2.000	2.057	12088.87	0.0043	P	0.8
3	☐	5.000	5.069	29311.80	0.0102	P	1.5
4	☐	10.000	10.044	56500.78	0.0201	P	2.8
5	☐	100.000	98.841	531164.03	0.1960	P	0.3
6	☐	200.000	200.575	1057028.92	0.3974	A	4.0

y = 0.0020 * x + 2.0753E-004
R = 1.0000
DL = 0.006912
BEC = 0.1048

Weight: <None>
Min Conc: <None>

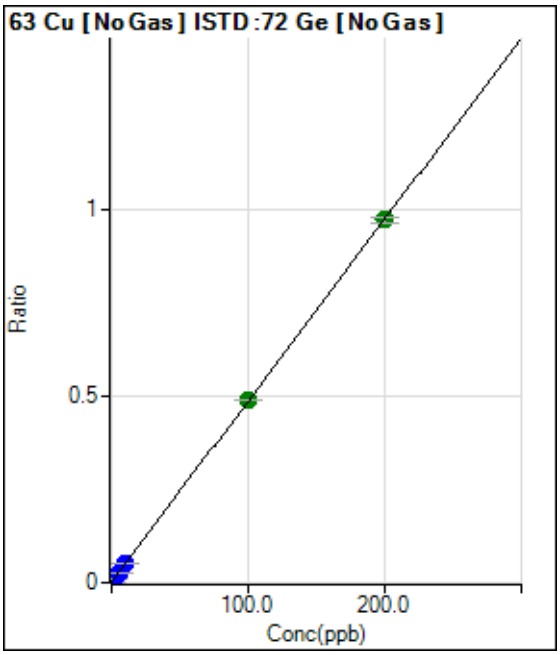
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143.33	0.0002	P	27.1
2	☐	2.000	2.008	5664.60	0.0074	P	1.6
3	☐	5.000	5.115	14174.23	0.0185	P	2.6
4	☐	10.000	10.375	28460.18	0.0373	P	1.1
5	☐	100.000	101.768	267029.96	0.3644	P	0.4
6	☐	200.000	199.094	514172.26	0.7128	P	0.7

y = 0.0036 * x + 1.8506E-004
R = 0.9999
DL = 0.04211
BEC = 0.05171

Weight: <None>
Min Conc: <None>

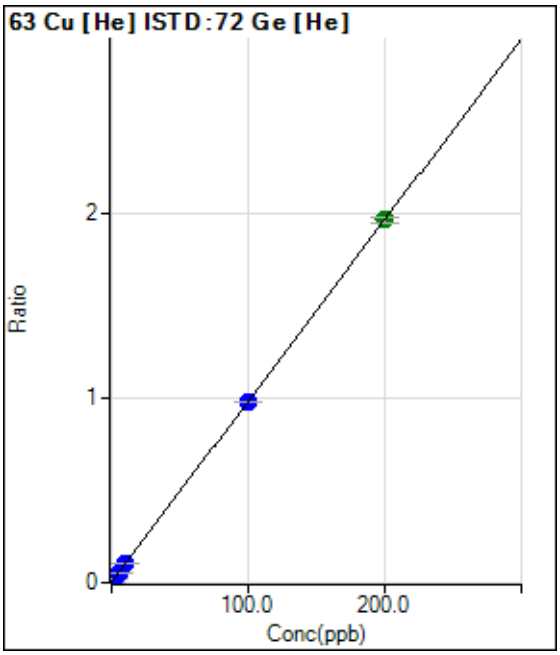


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3600.54	0.0013	P	5.6
2	☐	2.000	1.942	30213.86	0.0107	P	2.1
3	☐	5.000	5.046	73692.63	0.0258	P	1.3
4	☐	10.000	10.015	140179.69	0.0499	P	0.9
5	☐	100.000	100.393	1323723.68	0.4884	A	0.6
6	☐	200.000	199.802	2582068.97	0.9706	A	1.6

y = 0.0049 * x + 0.0013
R = 1.0000
DL = 0.04446
BEC = 0.2641

Weight: <None>
Min Conc: <None>

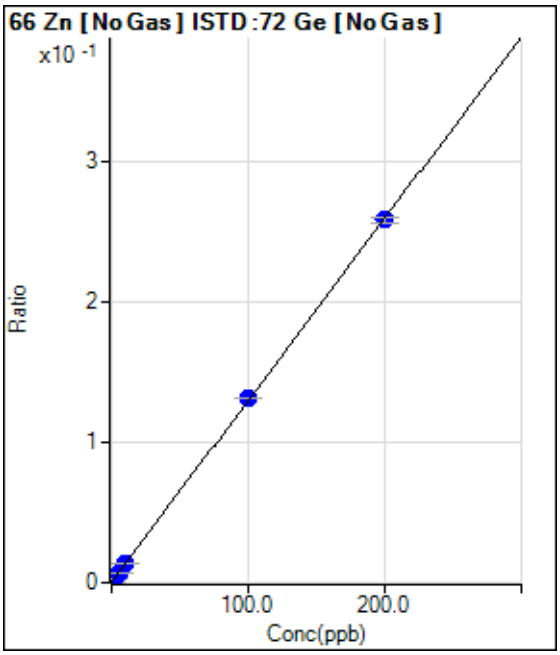
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1920.17	0.0025	P	15.1
2	☐	2.000	1.834	15746.02	0.0205	P	2.8
3	☐	5.000	4.933	39039.77	0.0509	P	2.0
4	☐	10.000	9.996	76765.88	0.1007	P	0.7
5	☐	100.000	99.607	718605.82	0.9807	P	0.7
6	☐	200.000	200.200	1420099.30	1.9686	A	1.3

y = 0.0098 * x + 0.0025
R = 1.0000
DL = 0.1146
BEC = 0.2531

Weight: <None>
Min Conc: <None>

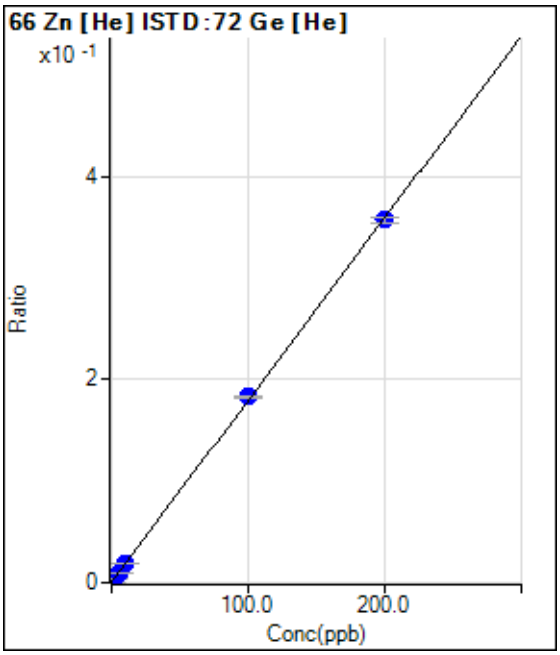


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	810.04	0.0003	P	18.4
2	☐	2.000	1.944	7922.47	0.0028	P	7.7
3	☐	5.000	4.960	19213.87	0.0067	P	1.3
4	☐	10.000	10.024	37328.54	0.0133	P	1.1
5	☐	100.000	101.281	356590.48	0.1316	P	0.6
6	☐	200.000	199.360	688093.82	0.2587	P	1.6

y = 0.0013 * x + 2.8832E-004
R = 1.0000
DL = 0.1225
BEC = 0.2225

Weight: <None>
Min Conc: <None>

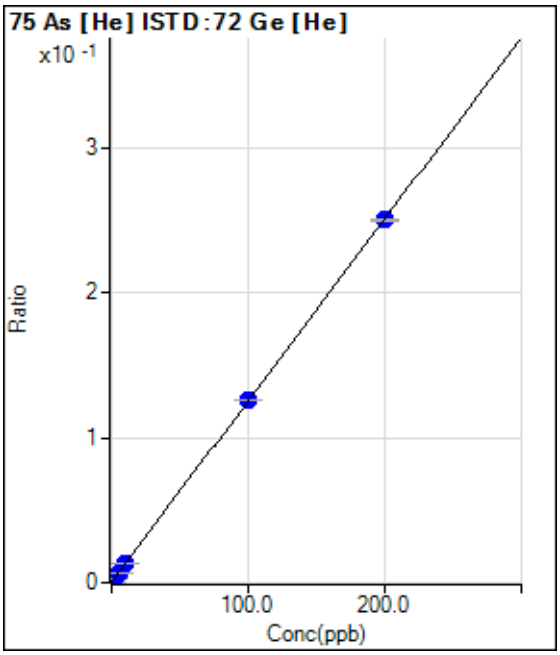
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0003	P	15.3
2	☐	2.000	2.040	3060.39	0.0040	P	6.0
3	☐	5.000	4.963	7075.28	0.0092	P	4.5
4	☐	10.000	10.131	14104.15	0.0185	P	4.1
5	☐	100.000	101.806	134057.27	0.1830	P	1.0
6	☐	200.000	199.091	257877.22	0.3575	P	1.4

y = 0.0018 * x + 3.2314E-004
R = 0.9999
DL = 0.08259
BEC = 0.1801

Weight: <None>
Min Conc: <None>

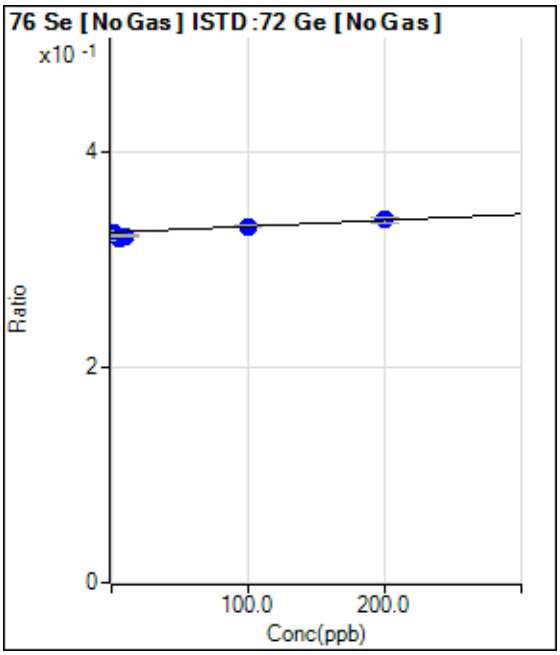


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	253.34	0.0003	P	5.1
2	☐	2.000	1.919	2095.73	0.0027	P	4.0
3	☐	5.000	4.924	4969.83	0.0065	P	3.1
4	☐	10.000	10.066	9849.20	0.0129	P	1.9
5	☐	100.000	100.690	92494.39	0.1262	P	0.2
6	☐	200.000	199.655	180322.95	0.2500	P	0.5

y = 0.0013 * x + 3.2764E-004
R = 1.0000
DL = 0.04013
BEC = 0.262

Weight: <None>
Min Conc: <None>

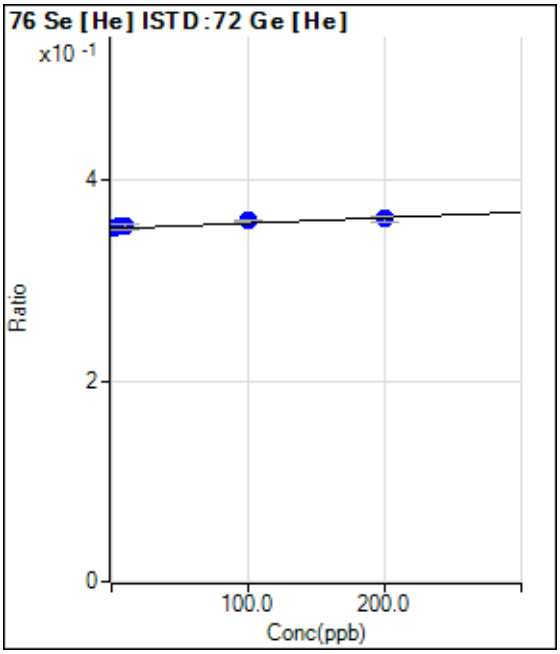
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	915883.87	0.3258	P	0.4
2	☐	2.000	-11.664	918012.30	0.3252	P	1.3
3	☐	5.000	-88.474	917748.32	0.3208	P	1.2
4	☐	10.000	-56.764	906843.53	0.3226	P	0.9
5	☐	100.000	100.916	898747.95	0.3316	P	0.7
6	☐	200.000	205.354	897756.96	0.3375	P	1.8

y = 5.6719E-005 * x + 0.3258
R = 0.9452
DL = 74.22
BEC = 5745

Weight: <None>
Min Conc: <None>

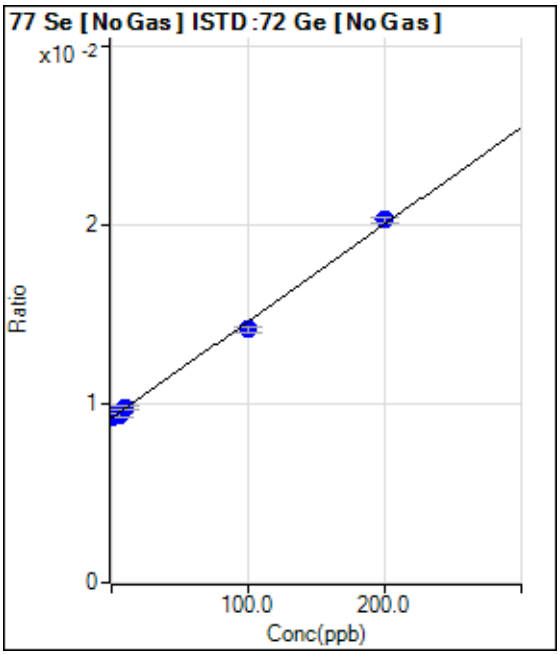


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	271738.04	0.3515	P	1.5
2	☐	2.000	29.606	271288.90	0.3531	P	0.5
3	☐	5.000	45.111	271326.23	0.3540	P	1.6
4	☐	10.000	43.566	269859.57	0.3539	P	1.8
5	☐	100.000	138.903	263140.38	0.3591	P	0.7
6	☐	200.000	177.592	260581.82	0.3612	P	1.6

y = 5.4827E-005 * x + 0.3515
R = 0.9568
DL = 288.7
BEC = 6411

Weight: <None>
Min Conc: <None>

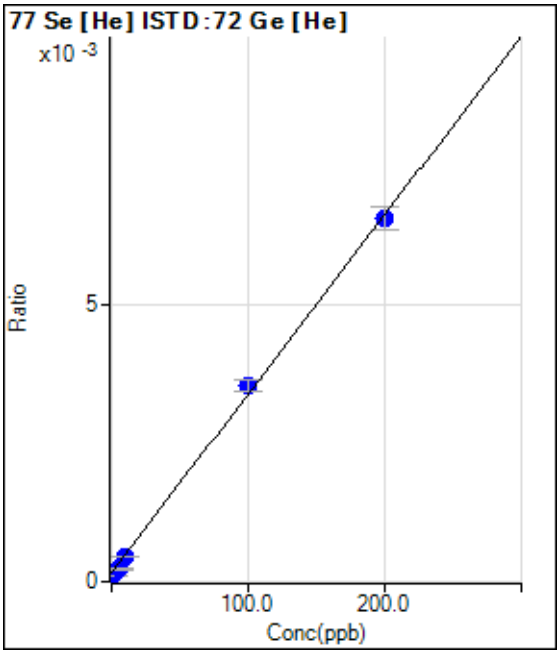
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25838.42	0.0092	P	0.0
2	☐	2.000	4.421	26626.60	0.0094	P	3.5
3	☐	5.000	2.207	26636.63	0.0093	P	2.1
4	☐	10.000	10.662	27465.00	0.0098	P	1.9
5	☐	100.000	91.128	38278.07	0.0141	P	1.7
6	☐	200.000	204.448	53871.01	0.0203	P	1.5

y = 5.4089E-005 * x + 0.0092
R = 0.9984
DL = 0.0258
BEC = 170

Weight: <None>
Min Conc: <None>

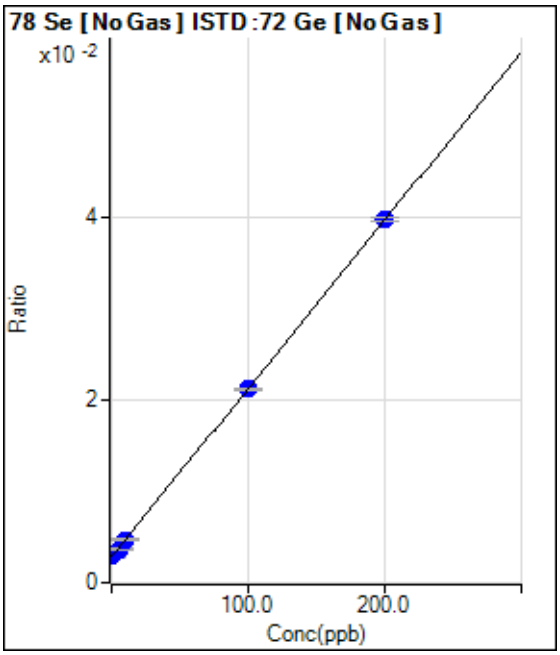


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123.33	0.0002	P	48.3
2	☐	2.000	-0.250	116.67	0.0002	P	44.0
3	☐	5.000	2.332	180.00	0.0002	P	15.6
4	☐	10.000	9.150	346.68	0.0005	P	0.3
5	☐	100.000	104.563	2583.62	0.0035	P	5.6
6	☐	200.000	197.850	4710.93	0.0065	P	6.4

y = 3.2197E-005 * x + 1.5994E-004
R = 0.9995
DL = 7.201
BEC = 4.967

Weight: <None>
Min Conc: <None>

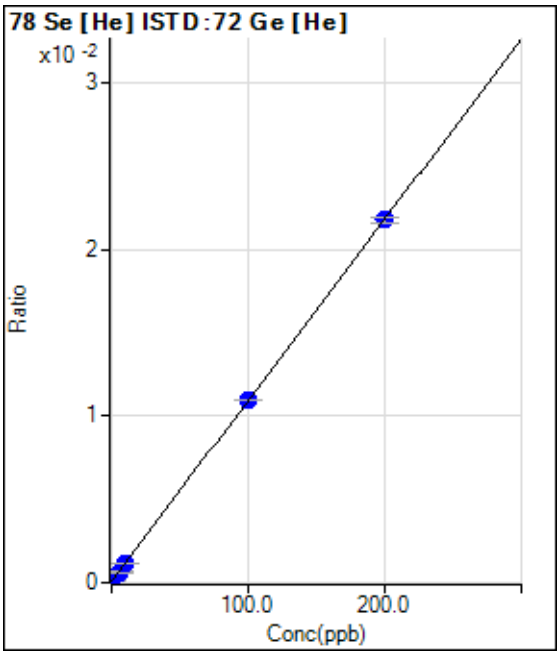
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7972.49	0.0028	P	4.9
2	☐	2.000	1.565	8823.05	0.0031	P	3.9
3	☐	5.000	4.535	10497.59	0.0037	P	2.7
4	☐	10.000	10.266	13276.72	0.0047	P	3.7
5	☐	100.000	99.521	57258.50	0.0211	P	0.2
6	☐	200.000	200.242	105434.13	0.0396	P	1.0

y = 1.8375E-004 * x + 0.0028
R = 1.0000
DL = 2.284
BEC = 15.44

Weight: <None>
Min Conc: <None>

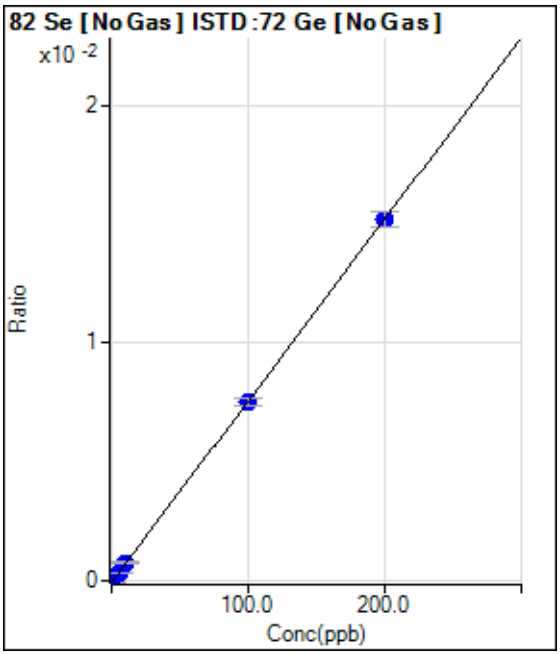


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	61.33	0.0001	P	21.3
2	☐	2.000	2.492	268.67	0.0003	P	5.7
3	☐	5.000	5.072	482.68	0.0006	P	2.6
4	☐	10.000	9.788	870.70	0.0011	P	1.9
5	☐	100.000	100.174	8023.07	0.0109	P	0.1
6	☐	200.000	199.917	15705.82	0.0218	P	1.5

y = 1.0851E-004 * x + 7.9373E-005
R = 1.0000
DL = 0.4683
BEC = 0.7315

Weight: <None>
Min Conc: <None>

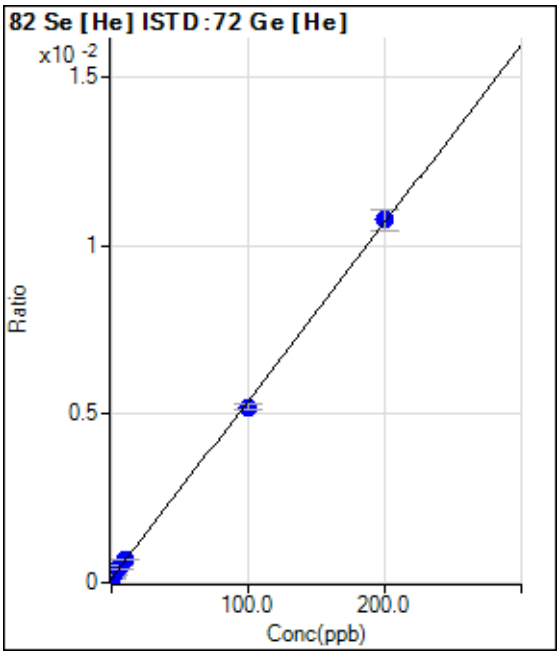
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-178.60	-0.0001	P	-19.0
2	☐	2.000	2.950	455.72	0.0002	P	9.0
3	☐	5.000	5.504	1019.38	0.0004	P	3.4
4	☐	10.000	11.087	2198.91	0.0008	P	6.8
5	☐	100.000	99.786	20458.88	0.0075	P	4.2
6	☐	200.000	200.030	40415.04	0.0152	P	3.9

y = 7.6284E-005 * x - 6.3503E-005
R = 1.0000
DL = 0.4753
BEC = -0.8325

Weight: <None>
Min Conc: <None>

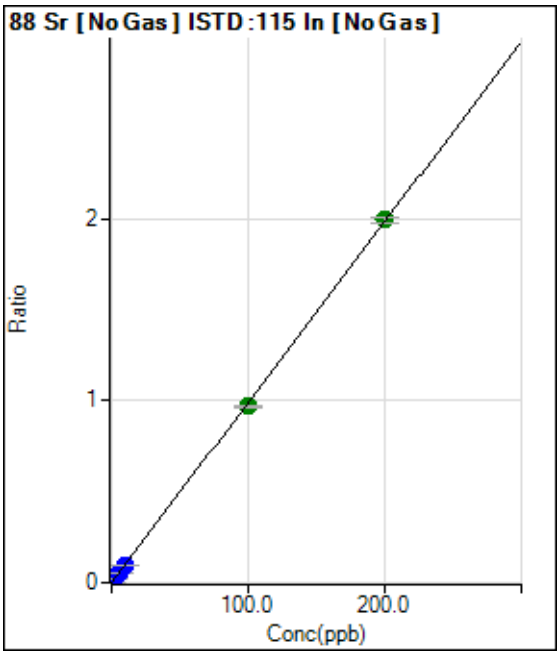


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0001	P	48.7
2	☐	2.000	1.904	166.67	0.0002	P	14.1
3	☐	5.000	6.368	346.68	0.0005	P	14.6
4	☐	10.000	10.557	513.35	0.0007	P	4.3
5	☐	100.000	96.567	3817.26	0.0052	P	3.5
6	☐	200.000	201.655	7755.71	0.0108	P	5.8

y = 5.2742E-005 * x + 1.1654E-004
R = 0.9997
DL = 3.23
BEC = 2.21

Weight: <None>
Min Conc: <None>

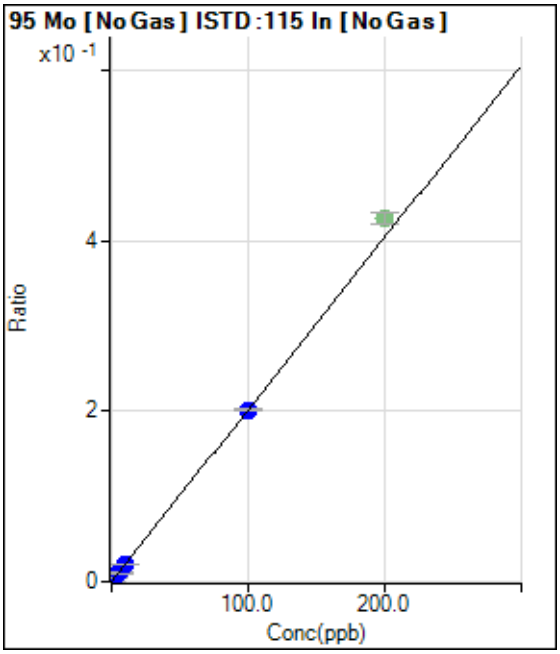
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	970.06	0.0003	P	3.3
2	☐	2.000	1.998	70585.70	0.0201	P	1.7
3	☐	5.000	4.908	174232.91	0.0489	P	1.6
4	☐	10.000	9.880	351531.09	0.0981	P	2.1
5	☐	100.000	97.871	3336558.70	0.9696	A	1.2
6	☐	200.000	201.073	6605257.40	1.9917	A	1.6

y = 0.0099 * x + 2.6801E-004
R = 0.9999
DL = 0.002674
BEC = 0.02706

Weight: <None>
Min Conc: <None>

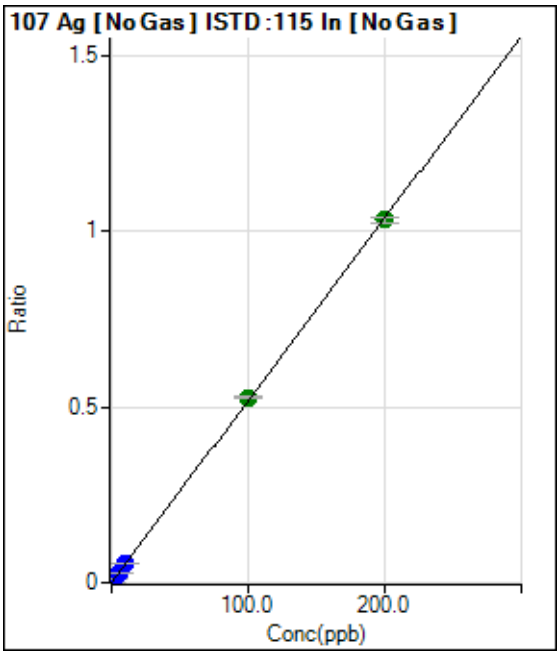


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0000	P	29.9
2	☐	2.000	2.012	14398.02	0.0041	P	2.5
3	☐	5.000	5.083	36694.12	0.0103	P	3.7
4	☐	10.000	10.088	73117.02	0.0204	P	1.8
5	☐	100.000	99.987	695270.64	0.2020	P	1.2
6	☑	200.000		1413142.74	0.4261	A	3.2

y = 0.0020 * x + 2.4896E-005
R = 1.0000
DL = 0.01104
BEC = 0.01232

Weight: <None>
Min Conc: <None>

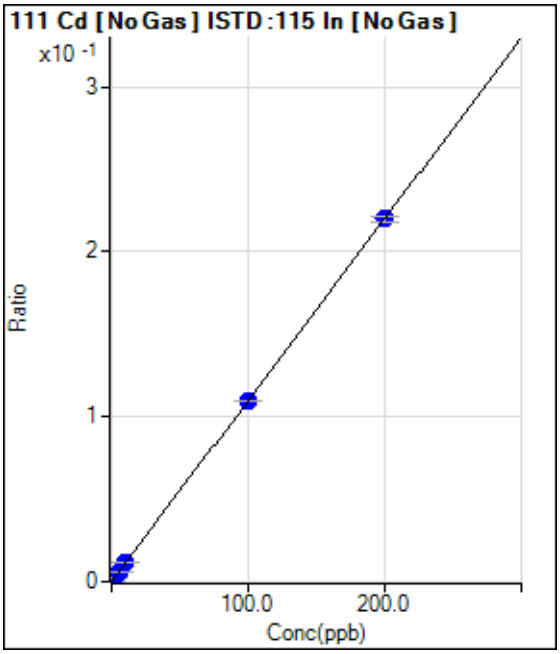
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	626.69	0.0002	P	16.2
2	☐	2.000	2.162	40054.17	0.0114	P	1.3
3	☐	5.000	5.341	99287.25	0.0279	P	2.1
4	☐	10.000	10.555	196635.35	0.0549	P	0.6
5	☐	100.000	101.489	1810839.71	0.5262	A	1.2
6	☐	200.000	199.218	3424998.18	1.0328	A	1.6

y = 0.0052 * x + 1.7298E-004
R = 1.0000
DL = 0.01623
BEC = 0.03337

Weight: <None>
Min Conc: <None>

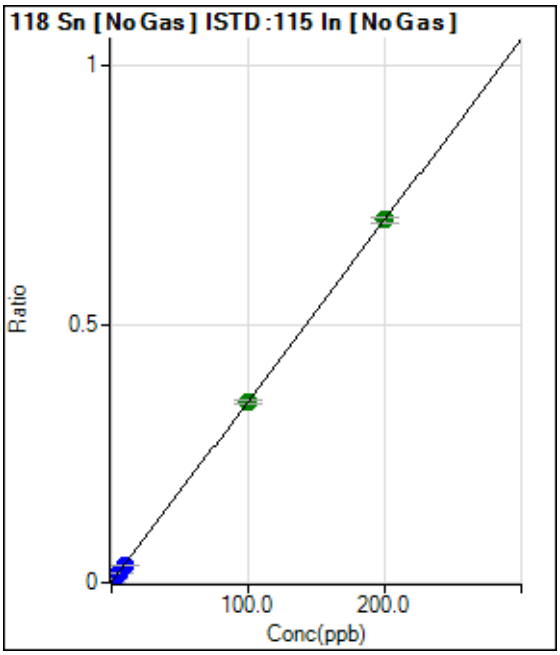


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	49.7
2	☐	2.000	2.026	7855.80	0.0022	P	2.7
3	☐	5.000	5.150	20192.39	0.0057	P	2.0
4	☐	10.000	10.205	40188.19	0.0112	P	1.4
5	☐	100.000	99.764	377167.26	0.1096	P	0.8
6	☐	200.000	200.104	729043.01	0.2198	P	1.5

y = 0.0011 * x + 5.5122E-006
R = 1.0000
DL = 0.007474
BEC = 0.005018

Weight: <None>
Min Conc: <None>

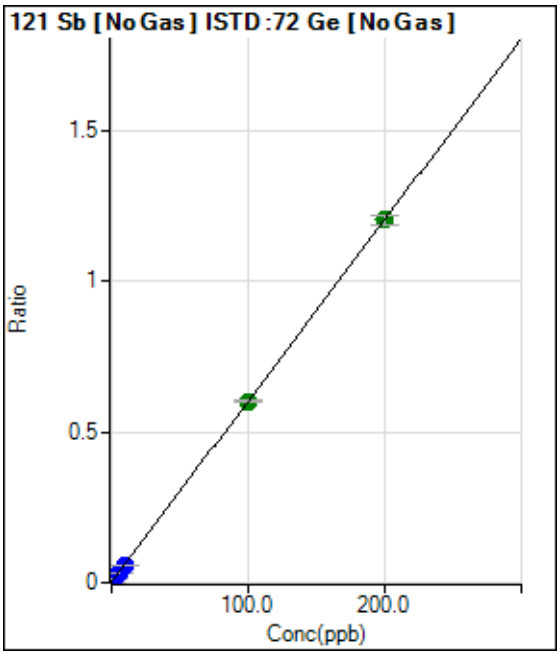
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2256.93	0.0006	P	3.3
2	☐	2.000	1.847	24984.24	0.0071	P	1.6
3	☐	5.000	4.944	64054.48	0.0180	P	4.9
4	☐	10.000	9.531	121949.39	0.0340	P	2.6
5	☐	100.000	99.671	1204642.95	0.3501	A	1.6
6	☐	200.000	200.191	2329651.37	0.7025	A	1.9

y = 0.0035 * x + 6.2334E-004
R = 1.0000
DL = 0.0178
BEC = 0.1778

Weight: <None>
Min Conc: <None>

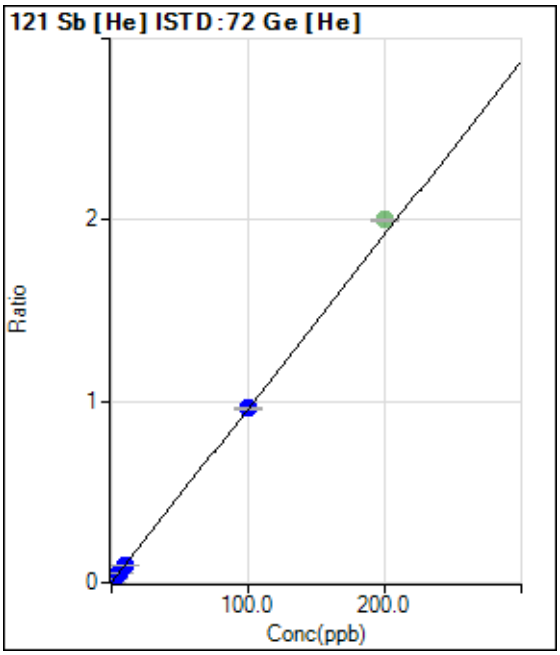


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4224.08	0.0015	P	3.5
2	☐	2.000	1.944	37240.00	0.0132	P	1.6
3	☐	5.000	4.855	87822.61	0.0307	P	0.8
4	☐	10.000	9.731	168732.25	0.0600	P	0.3
5	☐	100.000	99.988	1634013.47	0.6028	A	0.8
6	☐	200.000	200.024	3203705.99	1.2044	A	3.0

y = 0.0060 * x + 0.0015
R = 1.0000
DL = 0.02592
BEC = 0.2499

Weight: <None>
Min Conc: <None>

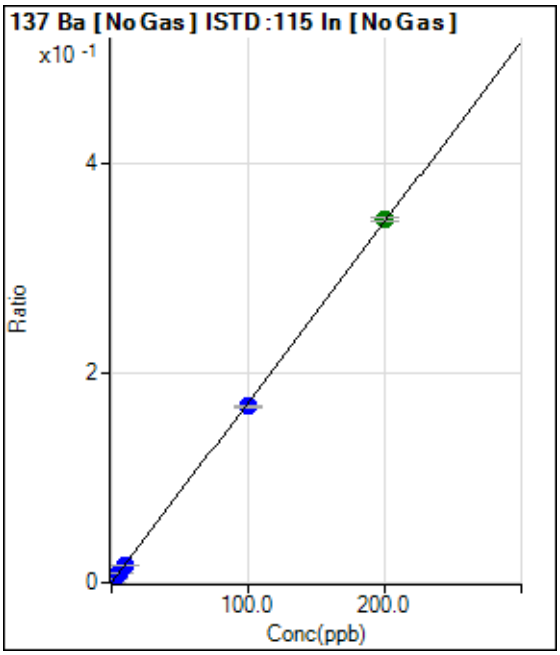
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1693.48	0.0022	P	10.3
2	☐	2.000	1.999	16390.48	0.0213	P	2.4
3	☐	5.000	5.043	38697.27	0.0505	P	1.7
4	☐	10.000	10.019	74825.94	0.0981	P	1.2
5	☐	100.000	99.996	703144.18	0.9596	P	0.7
6	☑	200.000		1442994.61	2.0003	A	0.4

y = 0.0096 * x + 0.0022
R = 1.0000
DL = 0.0708
BEC = 0.2289

Weight: <None>
Min Conc: <None>

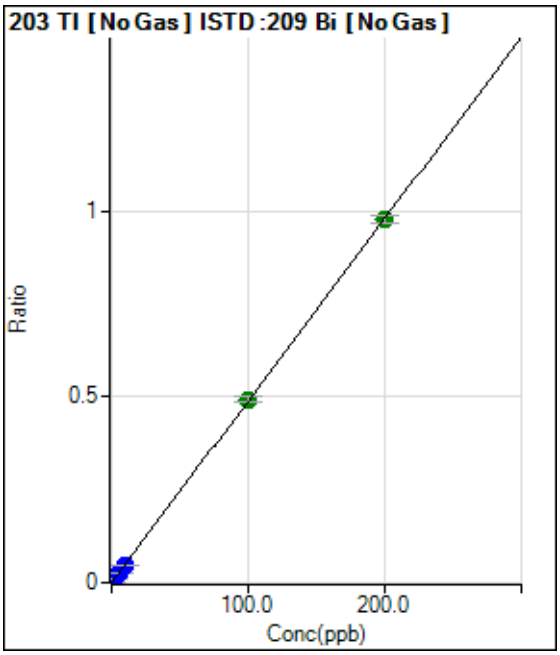


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	690.03	0.0002	P	8.3
2	☐	2.000	1.882	12072.50	0.0034	P	3.0
3	☐	5.000	4.862	30492.85	0.0086	P	2.2
4	☐	10.000	9.620	59978.36	0.0167	P	1.4
5	☐	100.000	97.553	578176.50	0.1680	P	0.9
6	☐	200.000	201.247	1148866.21	0.3464	A	1.0

y = 0.0017 * x + 1.9070E-004
R = 0.9999
DL = 0.02773
BEC = 0.1108

Weight: <None>
Min Conc: <None>

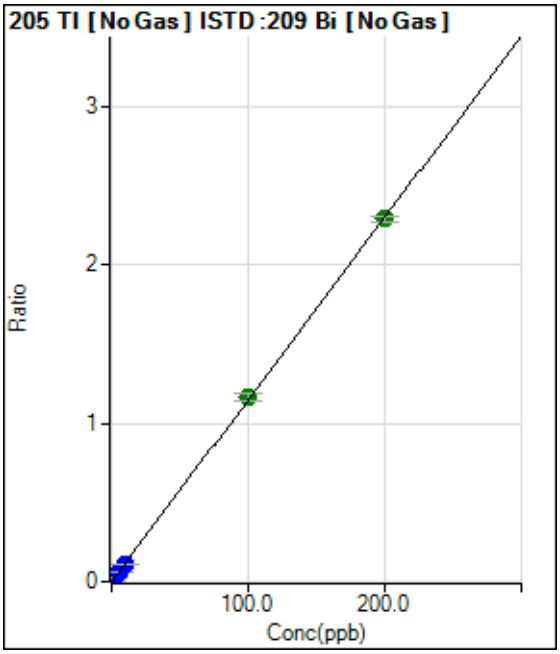
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	323.35	0.0001	P	16.5
2	☐	2.000	1.880	35226.56	0.0093	P	1.6
3	☐	5.000	4.810	90077.21	0.0236	P	1.3
4	☐	10.000	9.513	177968.13	0.0466	P	0.7
5	☐	100.000	100.951	1820359.87	0.4942	A	2.5
6	☐	200.000	199.555	3549270.26	0.9768	A	2.2

y = 0.0049 * x + 8.5330E-005
R = 1.0000
DL = 0.00865
BEC = 0.01743

Weight: <None>
Min Conc: <None>

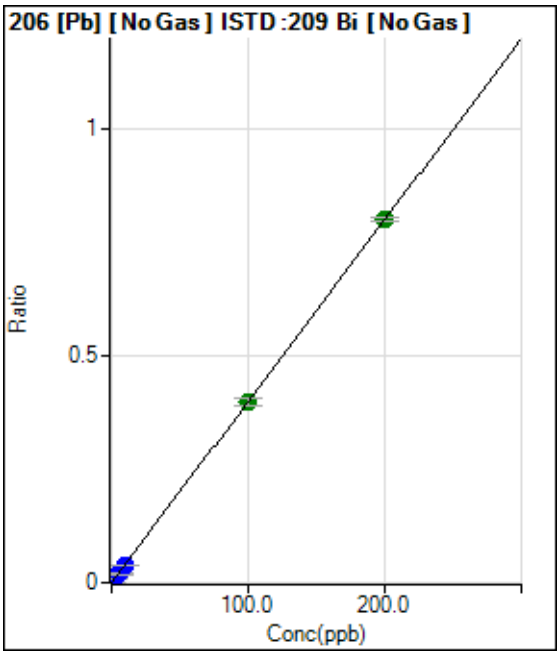


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	740.04	0.0002	P	10.8
2	☐	2.000	1.931	84723.41	0.0223	P	3.8
3	☐	5.000	4.882	214200.24	0.0562	P	1.0
4	☐	10.000	9.729	426399.25	0.1118	P	1.3
5	☐	100.000	101.218	4274335.98	1.1609	A	4.6
6	☐	200.000	199.408	8308874.04	2.2869	A	1.4

y = 0.0115 * x + 1.9569E-004
R = 1.0000
DL = 0.005504
BEC = 0.01706

Weight: <None>
Min Conc: <None>

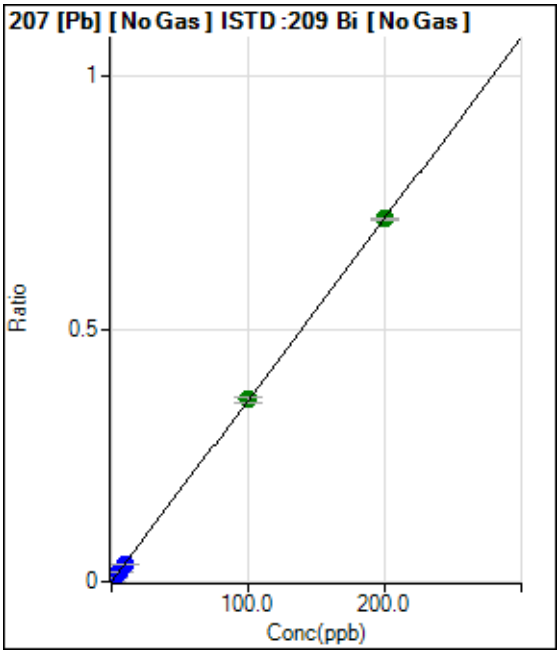
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	470.02	0.0001	P	6.1
2	☐	2.000	1.910	29401.67	0.0077	P	1.4
3	☐	5.000	4.744	72671.20	0.0191	P	1.6
4	☐	10.000	9.486	144939.25	0.0380	P	1.2
5	☐	100.000	99.887	1468710.60	0.3989	A	4.3
6	☐	200.000	200.090	2902719.64	0.7989	A	1.1

y = 0.0040 * x + 1.2427E-004
R = 1.0000
DL = 0.005711
BEC = 0.03113

Weight: <None>
Min Conc: <None>

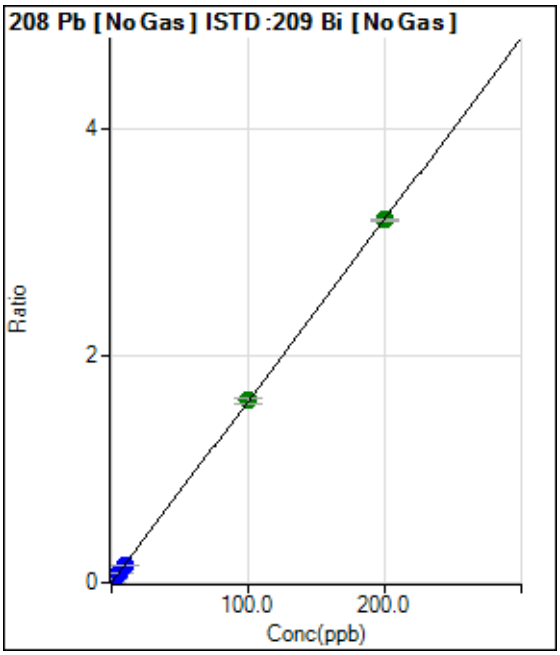


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	410.01	0.0001	P	8.6
2	☐	2.000	1.904	26358.17	0.0069	P	1.9
3	☐	5.000	4.851	66822.06	0.0175	P	2.9
4	☐	10.000	9.572	131585.74	0.0345	P	1.3
5	☐	100.000	100.176	1325682.95	0.3599	A	2.8
6	☐	200.000	199.938	2609837.51	0.7183	A	0.5

y = 0.0036 * x + 1.0831E-004
R = 1.0000
DL = 0.007781
BEC = 0.03015

Weight: <None>
Min Conc: <None>

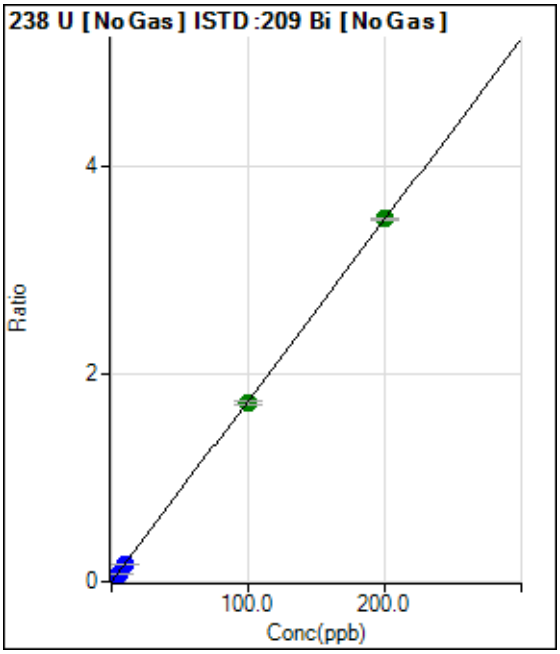
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1756.75	0.0005	P	1.9
2	☐	2.000	1.926	118866.36	0.0313	P	1.3
3	☐	5.000	4.849	298025.87	0.0782	P	2.2
4	☐	10.000	9.643	591441.31	0.1550	P	0.3
5	☐	100.000	100.387	5927976.63	1.6095	A	3.0
6	☐	200.000	199.829	11639364.98	3.2034	A	0.8

y = 0.0160 * x + 4.6436E-004
R = 1.0000
DL = 0.001677
BEC = 0.02897

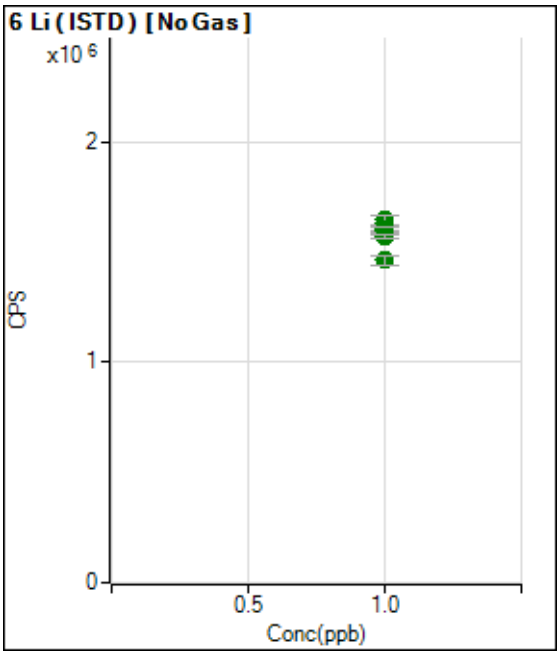
Weight: <None>
Min Conc: <None>



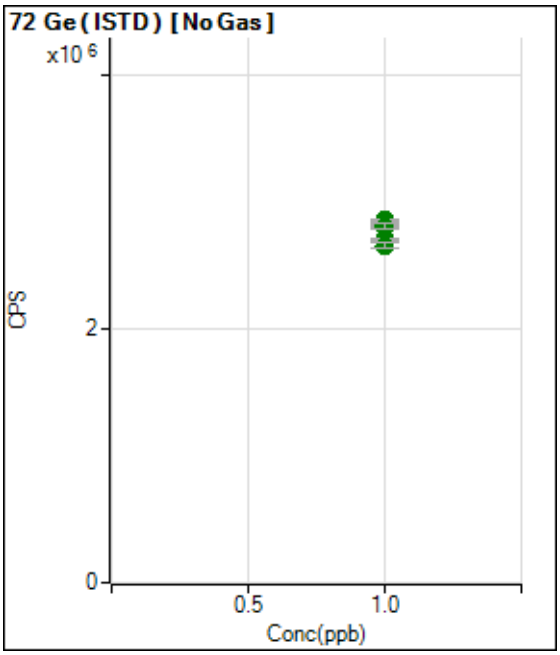
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	280.01	0.0001	P	14.3
2	☐	2.000	1.850	122502.49	0.0323	P	1.6
3	☐	5.000	4.691	311753.59	0.0818	P	0.9
4	☐	10.000	9.402	625036.15	0.1638	P	1.1
5	☐	100.000	99.023	6352774.90	1.7246	A	2.2
6	☐	200.000	200.528	12690766.48	3.4924	A	0.9

y = 0.0174 * x + 7.4011E-005
R = 1.0000
DL = 0.001821
BEC = 0.00425

Weight: <None>
Min Conc: <None>

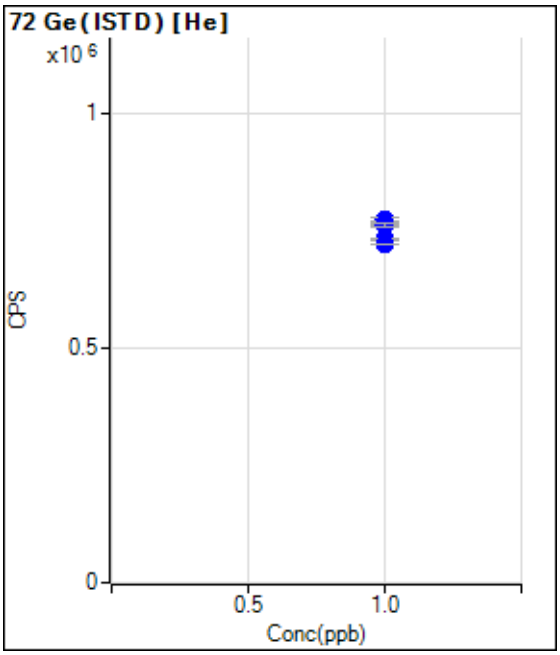


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1644166.44		A	2.7
2	☐	1.000		1629759.99		A	4.8
3	☐	1.000		1604352.29		A	1.1
4	☐	1.000		1597049.05		A	1.8
5	☐	1.000		1570327.36		A	1.0
6	☐	1.000		1461108.97		A	2.8

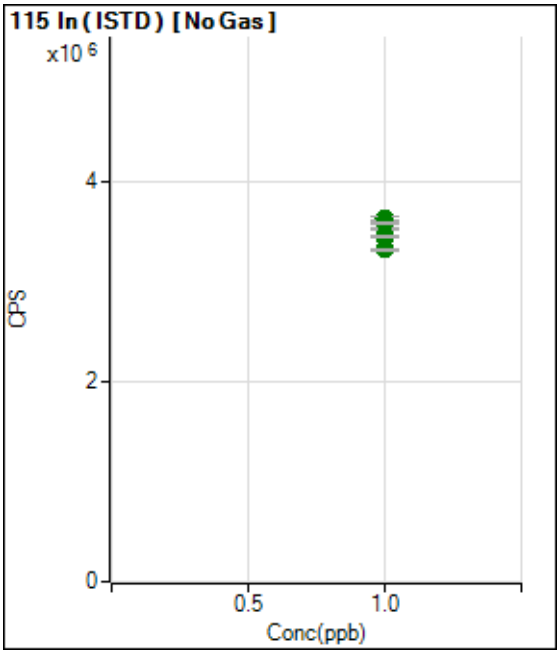


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2810825.48		A	0.5
2	☐	1.000		2823394.02		A	1.4
3	☐	1.000		2860658.29		A	0.4
4	☐	1.000		2811027.15		A	1.2
5	☐	1.000		2710641.52		A	0.5
6	☐	1.000		2660578.29		A	1.5

Calibration for 019_ICV.d

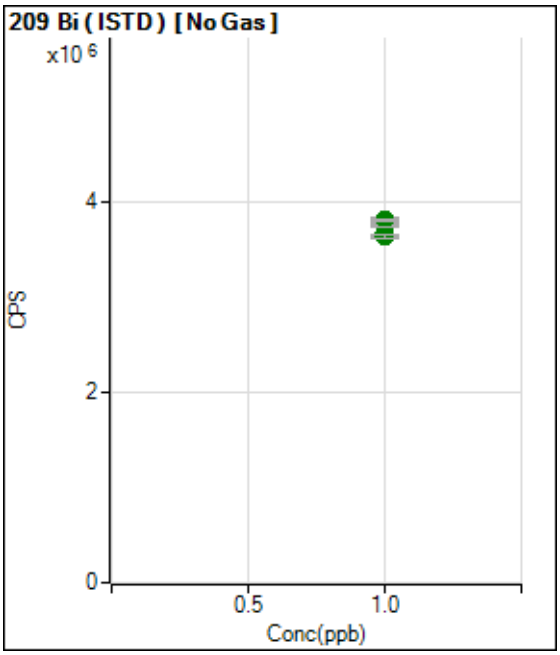


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		773184.55		P	1.0
2	☐	1.000		768294.55		P	0.5
3	☐	1.000		766607.93		P	0.9
4	☐	1.000		762688.40		P	1.3
5	☐	1.000		732756.73		P	0.5
6	☐	1.000		721370.51		P	0.2



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3620043.35		A	1.1
2	☐	1.000		3520017.35		A	0.8
3	☐	1.000		3565026.41		A	1.5
4	☐	1.000		3582858.38		A	0.4
5	☐	1.000		3441211.40		A	0.4
6	☐	1.000		3316488.16		A	0.6

Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3783162.03		A	1.5
2	☐	1.000		3794658.69		A	2.0
3	☐	1.000		3812800.67		A	1.6
4	☐	1.000		3815178.59		A	0.7
5	☐	1.000		3685095.47		A	2.9
6	☐	1.000		3633652.55		A	1.2

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	012CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:05:01-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	99020	0.00
Be	9	1	No Gas	57	44.95
V	51	2	He	7313	0.03
Cr	52	2	He	1970	0.47
Fe	56	2	He	18439	0.01
Se	78	2	He	61	34.18
As	75	2	He	253	2.08
Ca	44	2	He	527	3.41
Na	23	2	He	69687	0.00
Mg	24	2	He	503	1.21
K	39	2	He	47030	0.01
Mn	55	2	He	423	3.36
Co	59	2	He	70	53.99
Ni	60	2	He	143	19.67
Cu	63	2	He	1920	0.74
Zn	66	2	He	250	6.40
Al	27	2	He	937	1.35
B	11	1	No Gas	58871	0.00
Al	27	1	No Gas	48595	0.00
Si	28	1	No Gas	462563	0.00
Ag	107	1	No Gas	627	2.72
Cd	111	1	No Gas	20	250.00
Sr	88	1	No Gas	970	0.28
Mo	95	1	No Gas	90	32.66
Sn	118	1	No Gas	2257	0.19
Sb	121	1	No Gas	4224	0.07
Ba	137	1	No Gas	690	1.11
Tl	205	1	No Gas	740	1.38
Tl	203	1	No Gas	323	5.60
Pb	208	1	No Gas	1757	0.13
U	238	1	No Gas	280	5.10
Ca	43	2	He	3	5196.15
Sb	121	2	He	1693	0.57
Ti	47	2	He	17	207.85
Cu	63	1	No Gas	3601	0.14

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD

Calibration Blank Report

Li	6	1	No Gas	1644166	2.71
Ge	72	2	He	773185	0.99
Ge	72	1	No Gas	2810825	0.49
In	115	1	No Gas	3620043	1.08

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Bi	209	1	No Gas	3783162	1.49

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:07:00-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	9325	0.05
V	51	2	He	19515	0.00
Cr	52	2	He	16604	0.01
Fe	56	2	He	1398491	0.00
Se	78	2	He	269	1.95
As	75	2	He	2096	0.21
Ca	44	2	He	7552	0.03
Na	23	2	He	306017	0.00
Mg	24	2	He	140001	0.00
K	39	2	He	180997	0.00
Mn	55	2	He	10834	0.05
Co	59	2	He	22138	0.00
Ni	60	2	He	5665	0.04
Cu	63	2	He	15746	0.02
Zn	66	2	He	3060	0.20
Al	27	2	He	1413	0.10
B	11	1	No Gas	82641	0.00
Al	27	1	No Gas	74519	0.00
Si	28	1	No Gas	544880	0.00
Ag	107	1	No Gas	40054	0.00
Cd	111	1	No Gas	7856	0.04
Sr	88	1	No Gas	70586	0.00
Mo	95	1	No Gas	14398	0.02
Sn	118	1	No Gas	24984	0.00
Sb	121	1	No Gas	37240	0.00
Ba	137	1	No Gas	12073	0.03
Tl	205	1	No Gas	84723	0.00
Tl	203	1	No Gas	35227	0.00
Pb	208	1	No Gas	118866	0.00
U	238	1	No Gas	122502	0.00
Ca	43	2	He	453	5.20
Sb	121	2	He	16390	0.02
Cu	63	1	No Gas	30214	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1629760	4.80	1644166	99.12	70	120	
Ge	72	2	He	768295	0.51	773185	99.37	70	120	
Ge	72	1	No Gas	2823394	1.37	2810825	100.45	70	120	

Calibration Standard Report

In	115	1	No Gas	3520017	0.80	3620043	97.24	70	120	
Bi	209	1	No Gas	3794659	2.00	3783162	100.30	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:08:59-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	23460	0.01
V	51	2	He	37917	0.00
Cr	52	2	He	39831	0.00
Fe	56	2	He	3489950	0.00
Se	78	2	He	483	0.39
As	75	2	He	4970	0.04
Ca	44	2	He	18793	0.01
Na	23	2	He	667981	0.00
Mg	24	2	He	350605	0.00
K	39	2	He	385134	0.00
Mn	55	2	He	27174	0.01
Co	59	2	He	57227	0.00
Ni	60	2	He	14174	0.02
Cu	63	2	He	39040	0.00
Zn	66	2	He	7075	0.07
Al	27	2	He	2810	0.44
B	11	1	No Gas	120971	0.00
Al	27	1	No Gas	134997	0.00
Si	28	1	No Gas	670210	0.00
Ag	107	1	No Gas	99287	0.00
Cd	111	1	No Gas	20192	0.02
Sr	88	1	No Gas	174233	0.00
Mo	95	1	No Gas	36694	0.01
Sn	118	1	No Gas	64054	0.01
Sb	121	1	No Gas	87823	0.00
Ba	137	1	No Gas	30493	0.00
Tl	205	1	No Gas	214200	0.00
Tl	203	1	No Gas	90077	0.00
Pb	208	1	No Gas	298026	0.00
U	238	1	No Gas	311754	0.00
Ca	43	2	He	1093	0.49
Sb	121	2	He	38697	0.01
Cu	63	1	No Gas	73693	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1604352	1.08	1644166	97.58	70	120	
Ge	72	2	He	766608	0.89	773185	99.15	70	120	
Ge	72	1	No Gas	2860658	0.41	2810825	101.77	70	120	

Calibration Standard Report

In	115	1	No Gas	3565026	1.51	3620043	98.48	70	120	
Bi	209	1	No Gas	3812801	1.55	3783162	100.78	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:10:57-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	46149	0.00
V	51	2	He	67905	0.00
Cr	52	2	He	76584	0.00
Fe	56	2	He	6783512	0.00
Se	78	2	He	871	0.33
As	75	2	He	9849	0.02
Ca	44	2	He	36472	0.00
Na	23	2	He	1260977	0.00
Mg	24	2	He	683110	0.00
K	39	2	He	713938	0.00
Mn	55	2	He	53297	0.00
Co	59	2	He	112868	0.00
Ni	60	2	He	28460	0.00
Cu	63	2	He	76766	0.00
Zn	66	2	He	14104	0.02
Al	27	2	He	4738	0.13
B	11	1	No Gas	185635	0.00
Al	27	1	No Gas	223280	0.00
Si	28	1	No Gas	870956	0.00
Ag	107	1	No Gas	196635	0.00
Cd	111	1	No Gas	40188	0.00
Sr	88	1	No Gas	351531	0.00
Mo	95	1	No Gas	73117	0.00
Sn	118	1	No Gas	121949	0.00
Sb	121	1	No Gas	168732	0.00
Ba	137	1	No Gas	59978	0.00
Tl	205	1	No Gas	426399	0.00
Tl	203	1	No Gas	177968	0.00
Pb	208	1	No Gas	591441	0.00
U	238	1	No Gas	625036	0.00
Ca	43	2	He	2220	0.51
Sb	121	2	He	74826	0.00
Cu	63	1	No Gas	140180	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1597049	1.84	1644166	97.13	70	120	
Ge	72	2	He	762688	1.34	773185	98.64	70	120	
Ge	72	1	No Gas	2811027	1.20	2810825	100.01	70	120	

Calibration Standard Report

In	115	1	No Gas	3582858	0.40	3620043	98.97	70	120	
Bi	209	1	No Gas	3815179	0.74	3783162	100.85	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:12:56-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	447109	0.00
V	51	2	He	600096	0.00
Cr	52	2	He	714953	0.00
Fe	56	2	He	63894342	0.00
Se	78	2	He	8023	0.01
As	75	2	He	92494	0.00
Ca	44	2	He	349409	0.00
Na	23	2	He	11150519	0.00
Mg	24	2	He	6394126	0.00
K	39	2	He	6387274	0.00
Mn	55	2	He	503513	0.00
Co	59	2	He	1093085	0.00
Ni	60	2	He	267030	0.00
Cu	63	2	He	718606	0.00
Zn	66	2	He	134057	0.00
Al	27	2	He	34981	0.01
B	11	1	No Gas	1333880	0.00
Al	27	1	No Gas	1746600	0.00
Si	28	1	No Gas	4247909	0.00
Ag	107	1	No Gas	1810840	0.00
Cd	111	1	No Gas	377167	0.00
Sr	88	1	No Gas	3336559	0.00
Mo	95	1	No Gas	695271	0.00
Sn	118	1	No Gas	1204643	0.00
Sb	121	1	No Gas	1634013	0.00
Ba	137	1	No Gas	578177	0.00
Tl	205	1	No Gas	4274336	0.00
Tl	203	1	No Gas	1820360	0.00
Pb	208	1	No Gas	5927977	0.00
U	238	1	No Gas	6352775	0.00
Ca	43	2	He	21000	0.01
Sb	121	2	He	703144	0.00
Cu	63	1	No Gas	1323724	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1570327	1.03	1644166	95.51	70	120	
Ge	72	2	He	732757	0.51	773185	94.77	70	120	
Ge	72	1	No Gas	2710642	0.47	2810825	96.44	70	120	

Calibration Standard Report

In	115	1	No Gas	3441211	0.36	3620043	95.06	70	120	
Bi	209	1	No Gas	3685095	2.87	3783162	97.41	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:14:49-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	883368	0.00
V	51	2	He	1205731	0.00
Cr	52	2	He	1432997	0.00
Fe	56	2	He	125537715	0.00
Se	78	2	He	15706	0.01
As	75	2	He	180323	0.00
Ca	44	2	He	687688	0.00
Na	23	2	He	21911381	0.00
Mg	24	2	He	12599959	0.00
K	39	2	He	12517881	0.00
Mn	55	2	He	1016521	0.00
Co	59	2	He	2158154	0.00
Ni	60	2	He	514172	0.00
Cu	63	2	He	1420099	0.00
Zn	66	2	He	257877	0.00
Al	27	2	He	67235	0.00
B	11	1	No Gas	2597310	0.00
Al	27	1	No Gas	3319156	0.00
Si	28	1	No Gas	7843289	0.00
Ag	107	1	No Gas	3424998	0.00
Cd	111	1	No Gas	729043	0.00
Sr	88	1	No Gas	6605257	0.00
Mo	95	1	No Gas	1413143	0.00
Sn	118	1	No Gas	2329651	0.00
Sb	121	1	No Gas	3203706	0.00
Ba	137	1	No Gas	1148866	0.00
Tl	205	1	No Gas	8308874	0.00
Tl	203	1	No Gas	3549270	0.00
Pb	208	1	No Gas	11639365	0.00
U	238	1	No Gas	12690766	0.00
Ca	43	2	He	40349	0.01
Sb	121	2	He	1442995	0.00
Cu	63	1	No Gas	2582069	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1461109	2.78	1644166	88.87	70	120	
Ge	72	2	He	721371	0.24	773185	93.30	70	120	
Ge	72	1	No Gas	2660578	1.54	2810825	94.65	70	120	

Calibration Standard Report

In	115	1	No Gas	3316488	0.63	3620043	91.61	70	120	
Bi	209	1	No Gas	3633653	1.21	3783162	96.05	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	019_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:18:36-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	104.190	1.015	2002197	0.37	100	104.2	90	110	
Be	9	1	No Gas	96.901	1.123	429801	0.32	100	96.9	90	110	
V	51	2	He	96.237	1.045	595688	1.14	100	96.2	90	110	
Cr	52	2	He	94.834	0.661	695358	0.53	100	94.8	90	110	
Fe	56	2	He	10053.336	0.860	64770444	0.69	10000	100.5	90	110	
Se	78	2	He	97.363	1.659	7876	1.13	100	97.4	90	110	
As	75	2	He	96.478	1.537	89510	1.35	100	96.5	90	110	
Ca	44	2	He	9967.942	0.859	351814	0.72	10000	99.7	90	110	
Na	23	2	He	9963.845	0.542	11230255	0.49	10000	99.6	90	110	
Mg	24	2	He	10133.335	0.345	6548565	0.44	10000	101.3	90	110	
K	39	2	He	9966.469	2.054	6423436	2.20	10000	99.7	90	110	
Mn	55	2	He	94.482	0.960	490326	0.44	100	94.5	90	110	
Co	59	2	He	99.382	1.083	1099508	1.52	100	99.4	90	110	
Ni	60	2	He	99.907	1.463	264734	0.95	100	99.9	90	110	
Cu	63	2	He	96.474	0.702	702938	0.24	100	96.5	90	110	
Zn	66	2	He	98.235	1.894	130641	1.42	100	98.2	90	110	
Al	27	2	He	97.850	2.042	34283	1.54	100	97.8	90	110	
B	11	1	No Gas	488.372	1.603	1299461	0.53	500	97.7	90	110	
Al	27	1	No Gas	100.971	0.991	1723280	0.88	100	101.0	90	110	
Si	28	1	No Gas	562.656	1.546	4661349	0.82	500	112.5	90	110	ICV Main CR1 Failed
Ag	107	1	No Gas	98.762	1.875	1765647	2.31	100	98.8	90	110	
Cd	111	1	No Gas	97.546	0.529	369488	0.83	100	97.5	90	110	
Sr	88	1	No Gas	98.960	0.490	3380084	0.52	100	99.0	90	110	
Mo	95	1	No Gas	91.649	0.330	666268	0.79	100	91.6	90	110	
Sn	118	1	No Gas	97.750	1.775	1183675	1.21	100	97.8	90	110	
Sb	121	1	No Gas	102.552	2.094	1662419	1.06	100	102.6	90	110	
Ba	137	1	No Gas	95.930	1.308	569625	0.75	100	95.9	90	110	
Tl	205	1	No Gas	102.379	1.914	4294137	1.22	100	102.4	90	110	
Tl	203	1	No Gas	101.062	1.437	1809388	1.04	100	101.1	90	110	
Pb	208	1	No Gas	97.895	0.884	5740219	0.21	100	97.9	90	110	
U	238	1	No Gas	95.125	1.540	6058884	0.94	100	95.1	90	110	
Ca	43	2	He	9982.375	2.225	20763	1.79	10000	99.8	90	110	
Sb	121	2	He	95.286	0.666	700153	0.24	100	95.3	90	110	
Ti	47	2	He	97.420	1.598	21023	2.10	100	97.4	90	110	
Cu	63	1	No Gas	100.187	1.432	1310553	0.82	100	100.2	90	110	
Se	82	1	No Gas	98.055	2.851	19944	2.66	100	98.1	90	110	

QC ISTD Table

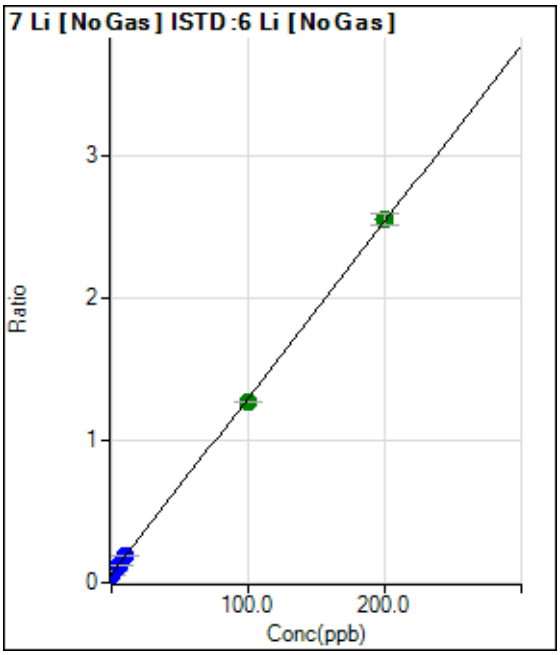
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1484103	1.21	1644166	90.26	70	120	
Ge	72	2	He	740010	0.52	773185	95.71	70	120	
Ge	72	1	No Gas	2689364	1.06	2810825	95.68	70	120	
In	115	1	No Gas	3447746	0.57	3620043	95.24	70	120	
Bi	209	1	No Gas	3657336	0.76	3783162	96.67	70	120	

Calibration for 019_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\050521A.b\
Analysis File: 050521A.batch.bin
DA Date-Time: 5/5/2021 10:04:05 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	012CALB.d	CAL BLK	5/5/2021 11:05:01 AM
2	013CALS.d	2/10/200	5/5/2021 11:07:00 AM
3	014CALS.d	5/25/500	5/5/2021 11:08:59 AM
4	015CALS.d	10/50/100	5/5/2021 11:10:57 AM
5	016CALS.d	100/500/10K	5/5/2021 11:12:56 AM
6	017CALS.d	200/1000/20K	5/5/2021 11:14:49 AM

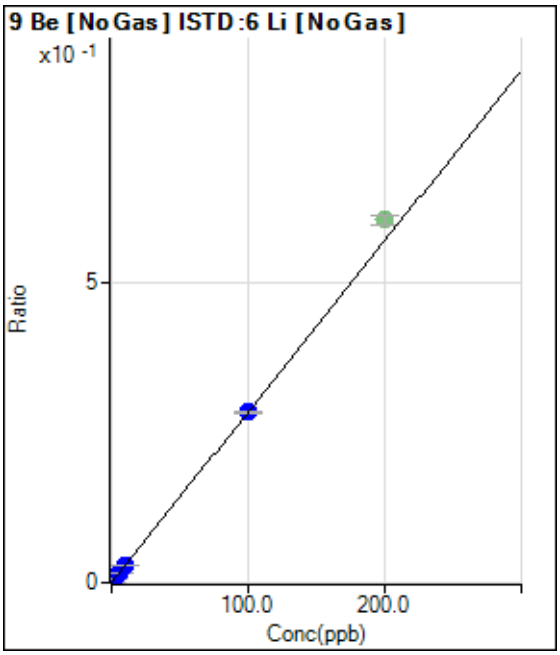
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	99020.44	0.0602	P	1.7
2	☐	2.000	2.051	139343.56	0.0856	P	4.1
3	☐	5.000	5.055	196967.57	0.1228	P	0.9
4	☐	10.000	10.096	295596.10	0.1851	P	2.1
5	☐	100.000	97.926	1996945.65	1.2717	A	0.6
6	☐	200.000	201.030	3719674.63	2.5472	A	3.1

y = 0.0124 * x + 0.0602
R = 0.9999
DL = 0.2485
BEC = 4.87

Weight: <None>
Min Conc: <None>

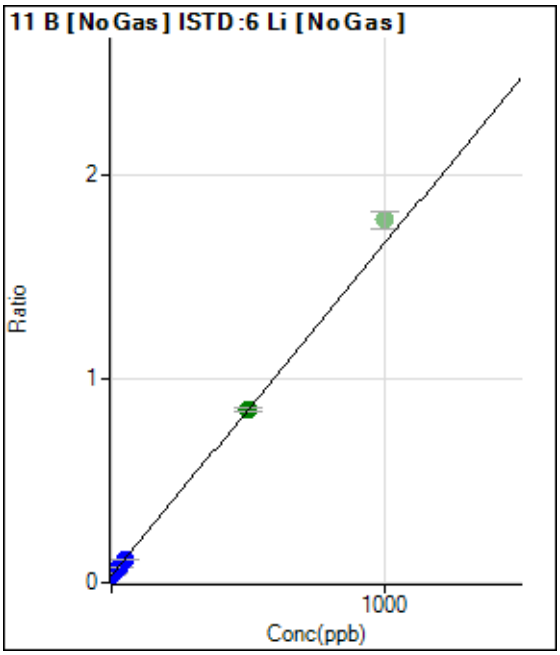


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	27.3
2	☐	2.000	2.003	9324.82	0.0057	P	9.0
3	☐	5.000	5.124	23459.61	0.0146	P	2.7
4	☐	10.000	10.138	46148.85	0.0289	P	2.5
5	☐	100.000	99.980	447108.53	0.2847	P	0.7
6	☑	200.000		883368.03	0.6049	A	2.7

y = 0.0028 * x + 3.4612E-005
R = 1.0000
DL = 0.009964
BEC = 0.01216

Weight: <None>
Min Conc: <None>

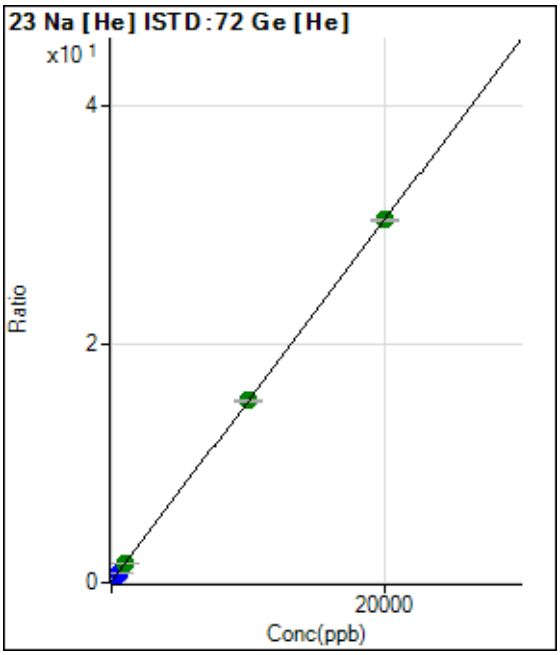
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	58870.97	0.0358	P	1.9
2	☐	10.000	9.195	82641.10	0.0508	P	4.5
3	☐	25.000	24.333	120971.37	0.0754	P	0.9
4	☐	50.000	49.449	185635.02	0.1163	P	2.0
5	☐	500.000	500.105	1333879.67	0.8494	A	2.1
6	☑	1000.000		2597310.12	1.7791	A	4.4

y = 0.0016 * x + 0.0358
R = 1.0000
DL = 1.273
BEC = 22.02

Weight: <None>
Min Conc: <None>

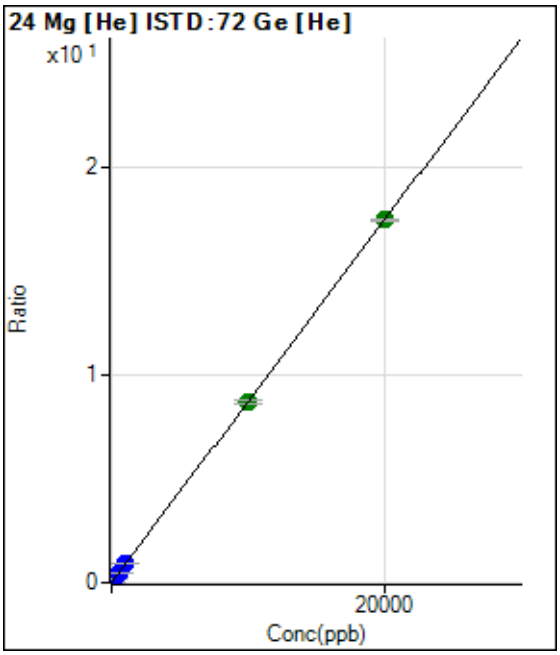


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	69686.91	0.0901	P	0.3
2	☐	200.000	203.546	306016.90	0.3983	P	0.4
3	☐	500.000	516.015	667981.24	0.8714	P	1.2
4	☐	1000.000	1032.395	1260977.40	1.6532	A	0.9
5	☐	10000.00	9991.503	11150518.58	15.2179	A	1.5
6	☐	20000.00	20002.19	21911381.34	30.3746	A	0.8

y = 0.0015 * x + 0.0901
R = 1.0000
DL = 0.4778
BEC = 59.53

Weight: <None>
Min Conc: <None>

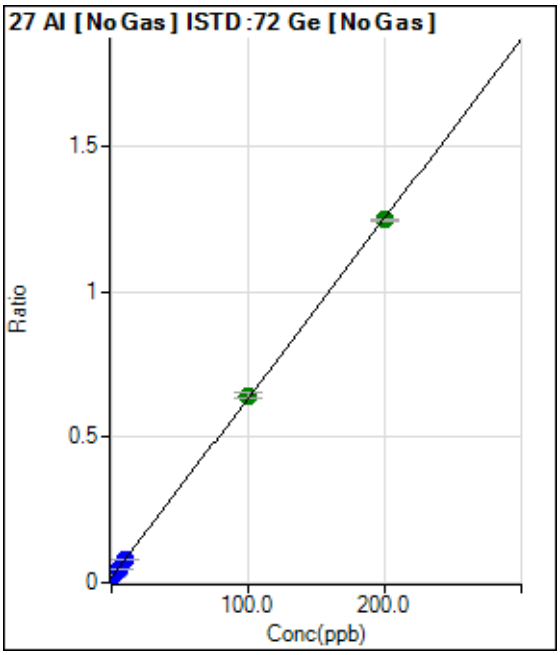
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	503.35	0.0007	P	6.9
2	☐	200.000	207.930	140001.20	0.1822	P	0.9
3	☐	500.000	523.039	350605.01	0.4574	P	1.4
4	☐	1000.000	1024.973	683110.40	0.8957	P	0.3
5	☐	10000.00	9992.644	6394125.53	8.7265	A	1.7
6	☐	20000.00	20001.77	12599958.98	17.4667	A	0.4

y = 8.7323E-004 * x + 6.5127E-004
R = 1.0000
DL = 0.1535
BEC = 0.7458

Weight: <None>
Min Conc: <None>

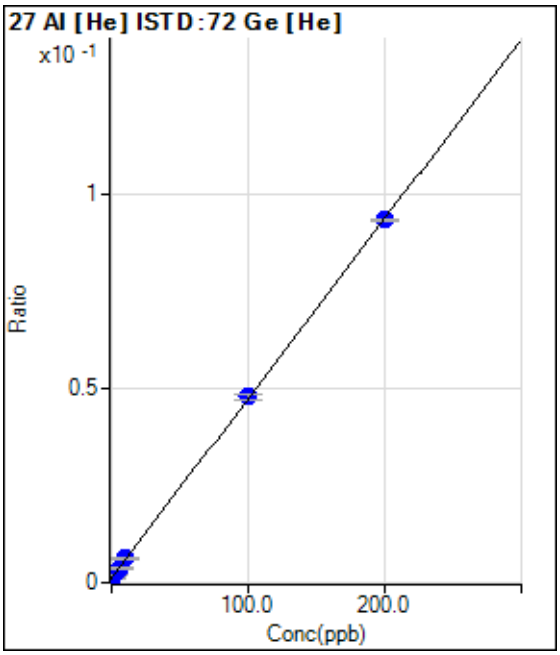


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48595.26	0.0173	P	1.4
2	☐	2.000	1.475	74518.85	0.0264	P	1.8
3	☐	5.000	4.842	134996.60	0.0472	P	2.2
4	☐	10.000	10.064	223280.27	0.0794	P	1.7
5	☐	100.000	101.552	1746600.34	0.6444	A	2.3
6	☐	200.000	199.230	3319155.57	1.2476	A	0.5

y = 0.0062 * x + 0.0173
R = 1.0000
DL = 0.1164
BEC = 2.8

Weight: <None>
Min Conc: <None>

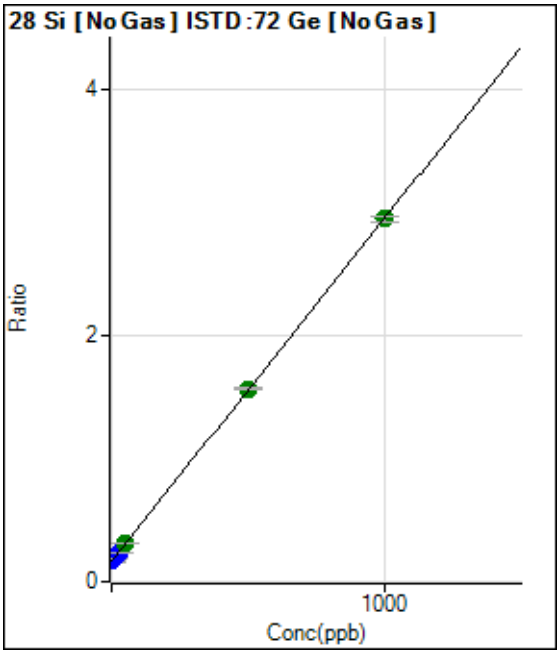
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	936.72	0.0012	P	12.4
2	☐	2.000	1.363	1413.43	0.0018	P	1.0
3	☐	5.000	5.330	2810.34	0.0037	P	13.1
4	☐	10.000	10.852	4737.54	0.0062	P	7.4
5	☐	100.000	100.895	34980.92	0.0477	P	2.8
6	☐	200.000	199.508	67235.50	0.0932	P	0.9

y = 4.6110E-004 * x + 0.0012
R = 1.0000
DL = 0.9795
BEC = 2.627

Weight: <None>
Min Conc: <None>

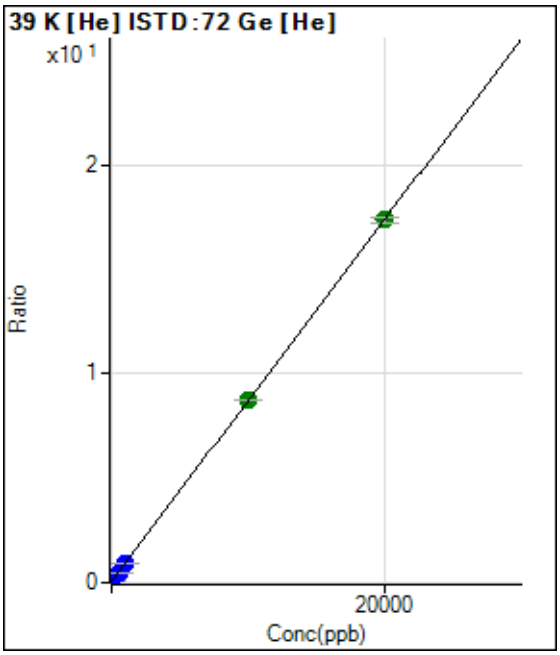


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	462563.41	0.1646	P	1.6
2	☐	10.000	10.200	544880.49	0.1930	P	1.6
3	☐	25.000	25.004	670209.91	0.2343	P	0.7
4	☐	50.000	52.118	870956.42	0.3099	A	2.4
5	☐	500.000	503.012	4247909.31	1.5671	A	0.7
6	☐	1000.000	998.386	7843289.47	2.9483	A	1.5

y = 0.0028 * x + 0.1646
R = 1.0000
DL = 2.894
BEC = 59.02

Weight: <None>
Min Conc: <None>

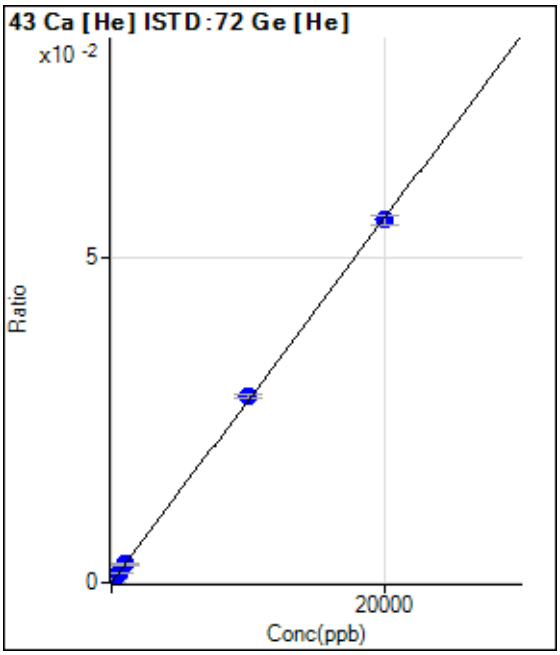
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47030.33	0.0608	P	3.5
2	☐	200.000	202.085	180996.85	0.2356	P	1.9
3	☐	500.000	510.585	385134.04	0.5024	P	0.3
4	☐	1000.000	1012.055	713938.24	0.9361	P	0.3
5	☐	10000.00	10008.84	6387273.66	8.7167	A	0.1
6	☐	20000.00	19994.68	12517880.65	17.3527	A	1.8

y = 8.6483E-004 * x + 0.0608
R = 1.0000
DL = 7.336
BEC = 70.34

Weight: <None>
Min Conc: <None>

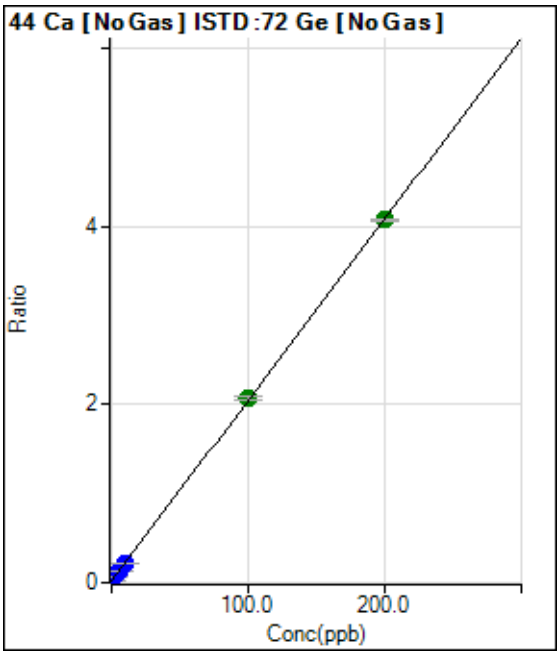


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	200.000	208.401	453.35	0.0006	P	23.5
3	☐	500.000	505.964	1093.40	0.0014	P	5.3
4	☐	1000.000	1033.886	2220.22	0.0029	P	10.7
5	☐	10000.00	10196.15	20999.51	0.0287	P	2.0
6	☐	20000.00	19899.99	40349.50	0.0559	P	2.9

y = 2.8104E-006 * x + 4.3231E-006
R = 0.9999
DL = 7.993
BEC = 1.538

Weight: <None>
Min Conc: <None>

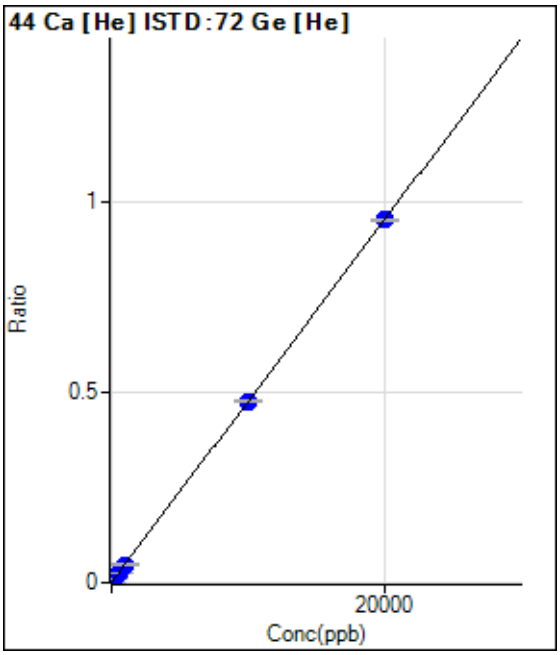
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50355.75	0.0179	P	1.3
2	☐	2.000	2.049	168146.54	0.0596	P	0.6
3	☐	5.000	5.037	344047.49	0.1203	P	0.9
4	☐	10.000	10.130	628994.59	0.2238	P	0.1
5	☐	100.000	100.692	5594484.71	2.0640	A	2.1
6	☐	200.000	199.646	10840212.76	4.0747	A	0.8

y = 0.0203 * x + 0.0179
R = 1.0000
DL = 0.0339
BEC = 0.8817

Weight: <None>
Min Conc: <None>

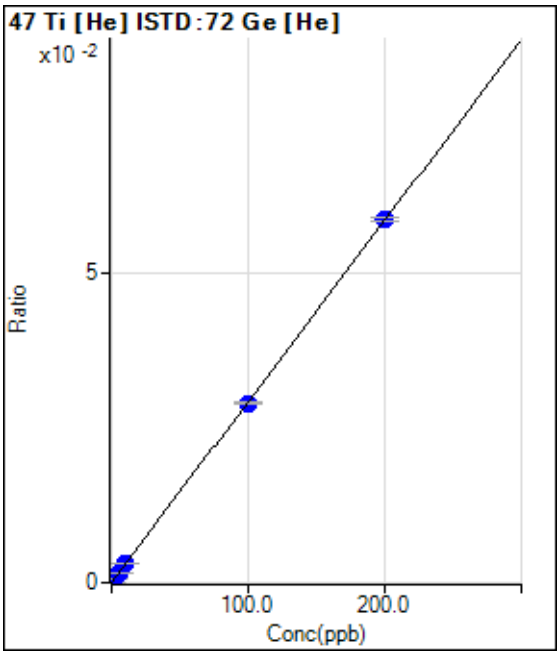


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	526.69	0.0007	P	17.5
2	☐	200.000	192.093	7552.19	0.0098	P	1.7
3	☐	500.000	500.435	18793.18	0.0245	P	1.5
4	☐	1000.000	989.800	36471.88	0.0478	P	0.9
5	☐	10000.00	9997.971	349408.65	0.4769	P	1.2
6	☐	20000.00	20001.59	687688.27	0.9533	P	0.5

y = 4.7627E-005 * x + 6.8079E-004
R = 1.0000
DL = 7.515
BEC = 14.29

Weight: <None>
Min Conc: <None>

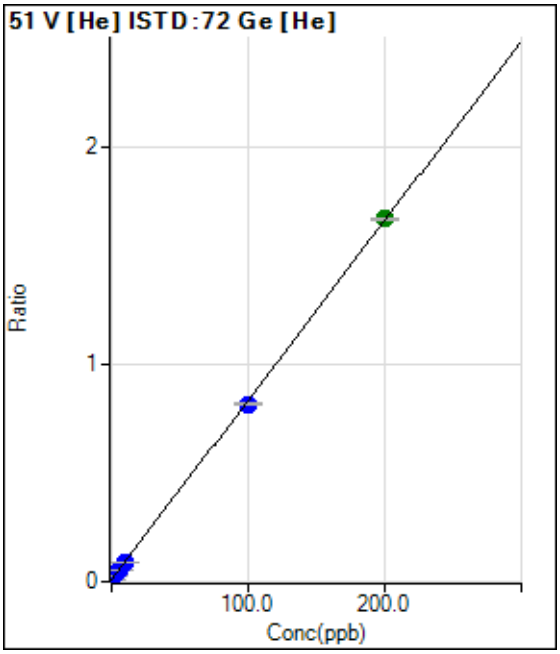
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	35.3
2	☐	2.000	1.892	440.01	0.0006	P	8.7
3	☐	5.000	5.121	1160.07	0.0015	P	6.5
4	☐	10.000	10.564	2363.58	0.0031	P	5.1
5	☐	100.000	98.949	21143.14	0.0289	P	1.1
6	☐	200.000	200.495	42158.19	0.0584	P	1.1

y = 2.9138E-004 * x + 2.1604E-005
R = 1.0000
DL = 0.07857
BEC = 0.07415

Weight: <None>
Min Conc: <None>

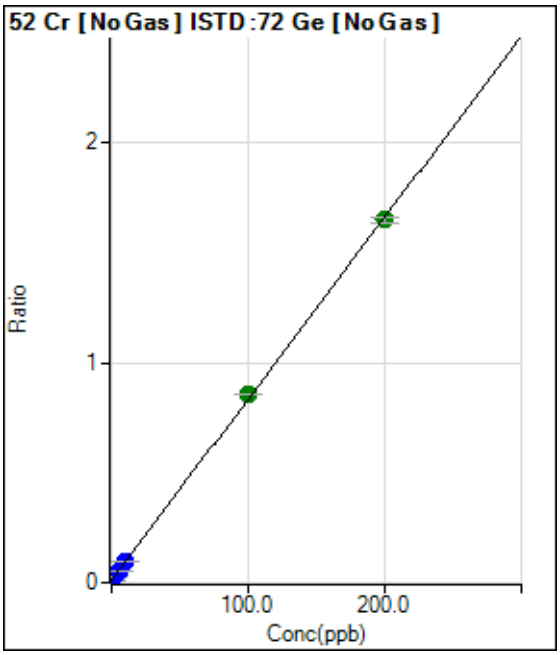


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7313.10	0.0095	P	2.0
2	☐	2.000	1.929	19515.05	0.0254	P	0.2
3	☐	5.000	4.839	37916.70	0.0495	P	0.5
4	☐	10.000	9.628	67904.90	0.0890	P	1.5
5	☐	100.000	97.930	600096.28	0.8190	P	0.5
6	☐	200.000	201.059	1205731.24	1.6715	A	0.5

y = 0.0083 * x + 0.0095
R = 0.9999
DL = 0.06805
BEC = 1.144

Weight: <None>
Min Conc: <None>

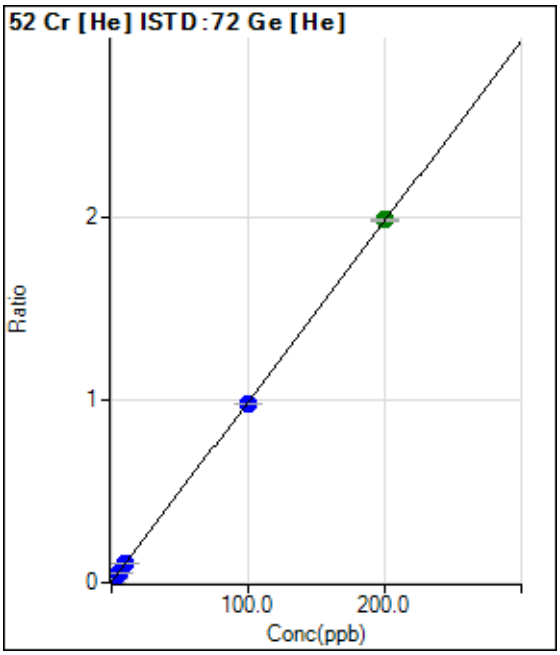
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29802.71	0.0106	P	2.4
2	☐	2.000	2.024	77062.73	0.0273	P	0.8
3	☐	5.000	5.097	150570.66	0.0526	P	0.3
4	☐	10.000	10.084	263537.70	0.0938	P	0.7
5	☐	100.000	102.516	2320355.96	0.8560	A	0.6
6	☐	200.000	198.735	4387922.64	1.6495	A	1.5

y = 0.0082 * x + 0.0106
R = 0.9999
DL = 0.09289
BEC = 1.286

Weight: <None>
Min Conc: <None>

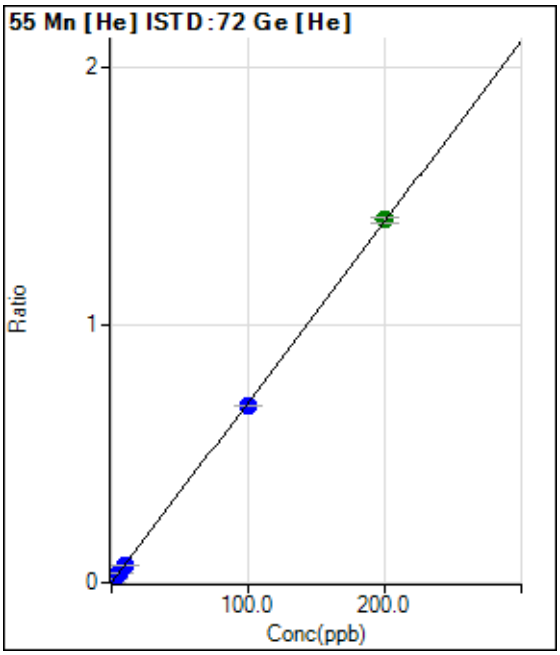


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1970.18	0.0025	P	9.0
2	☐	2.000	1.929	16603.63	0.0216	P	1.4
3	☐	5.000	5.000	39831.45	0.0520	P	1.0
4	☐	10.000	9.903	76583.79	0.1004	P	0.3
5	☐	100.000	98.480	714953.35	0.9757	P	0.1
6	☐	200.000	200.766	1432996.64	1.9865	A	0.6

y = 0.0099 * x + 0.0025
R = 1.0000
DL = 0.06994
BEC = 0.2578

Weight: <None>
Min Conc: <None>

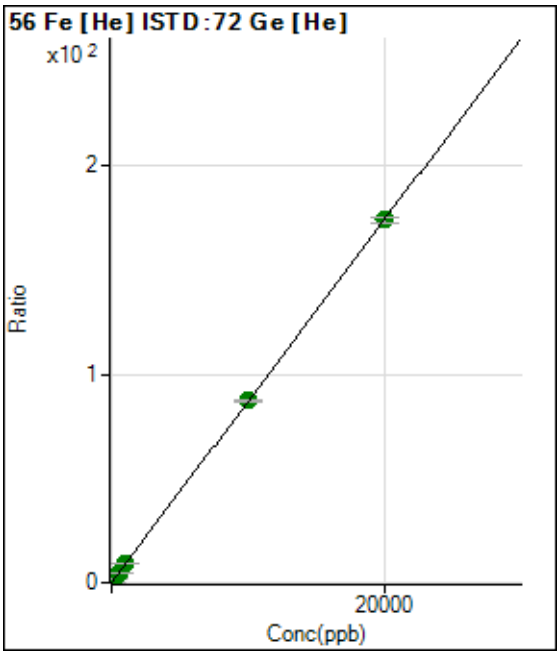
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	423.35	0.0005	P	14.5
2	☐	2.000	1.934	10834.49	0.0141	P	4.8
3	☐	5.000	4.981	27174.03	0.0355	P	3.0
4	☐	10.000	9.895	53297.17	0.0699	P	0.8
5	☐	100.000	97.985	503512.67	0.6872	P	0.6
6	☐	200.000	201.014	1016521.23	1.4091	A	1.5

y = 0.0070 * x + 5.4767E-004
R = 0.9999
DL = 0.03406
BEC = 0.07816

Weight: <None>
Min Conc: <None>

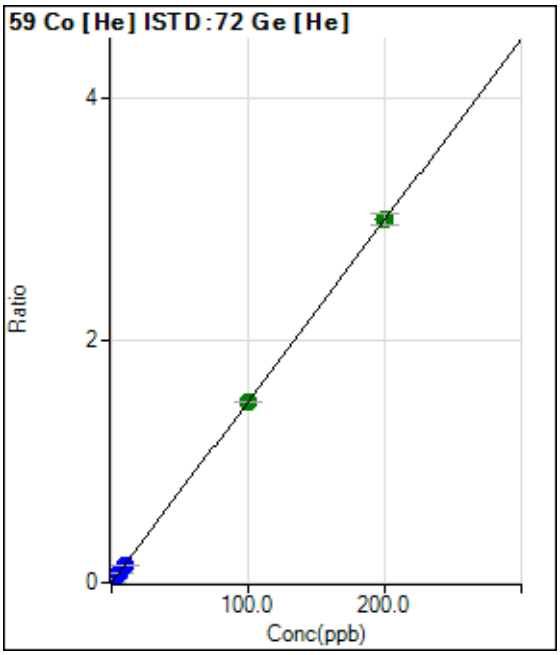


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18439.39	0.0239	P	3.2
2	☐	200.000	206.394	1398491.44	1.8203	A	0.8
3	☐	500.000	520.265	3489950.26	4.5522	A	0.8
4	☐	1000.000	1019.264	6783511.98	8.8955	A	2.0
5	☐	10000.00	10015.42	63894342.38	87.1980	A	0.3
6	☐	20000.00	19990.75	125537714.8	174.023	A	1.5

y = 0.0087 * x + 0.0239
R = 1.0000
DL = 0.2653
BEC = 2.74

Weight: <None>
Min Conc: <None>

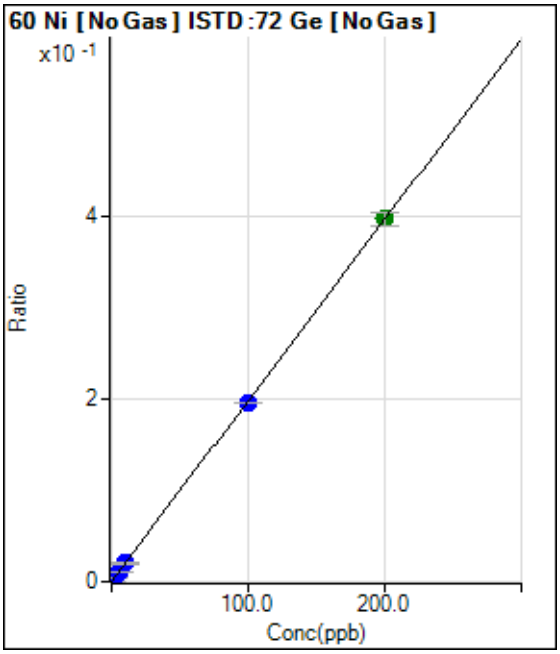
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0001	P	37.1
2	☐	2.000	1.922	22138.24	0.0288	P	0.7
3	☐	5.000	4.987	57227.01	0.0746	P	1.2
4	☐	10.000	9.894	112868.04	0.1480	P	1.3
5	☐	100.000	99.784	1093085.32	1.4918	A	0.3
6	☐	200.000	200.114	2158154.13	2.9916	A	3.0

y = 0.0149 * x + 9.0352E-005
R = 1.0000
DL = 0.006735
BEC = 0.006044

Weight: <None>
Min Conc: <None>

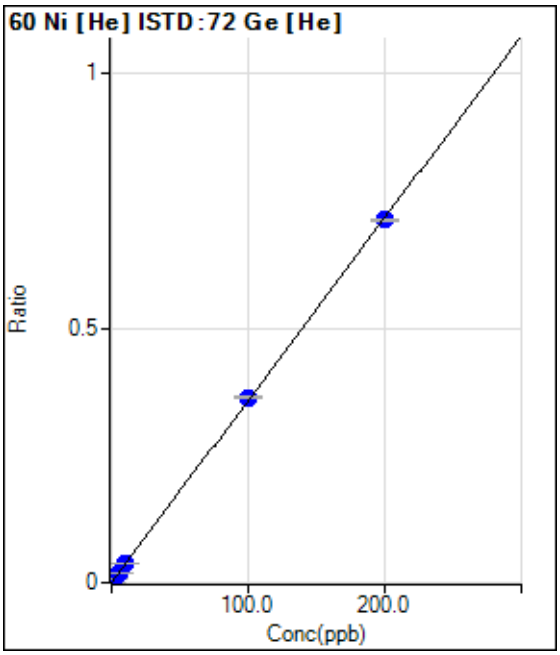


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	583.35	0.0002	P	2.2
2	☐	2.000	2.057	12088.87	0.0043	P	0.8
3	☐	5.000	5.069	29311.80	0.0102	P	1.5
4	☐	10.000	10.044	56500.78	0.0201	P	2.8
5	☐	100.000	98.841	531164.03	0.1960	P	0.3
6	☐	200.000	200.575	1057028.92	0.3974	A	4.0

y = 0.0020 * x + 2.0753E-004
R = 1.0000
DL = 0.006912
BEC = 0.1048

Weight: <None>
Min Conc: <None>

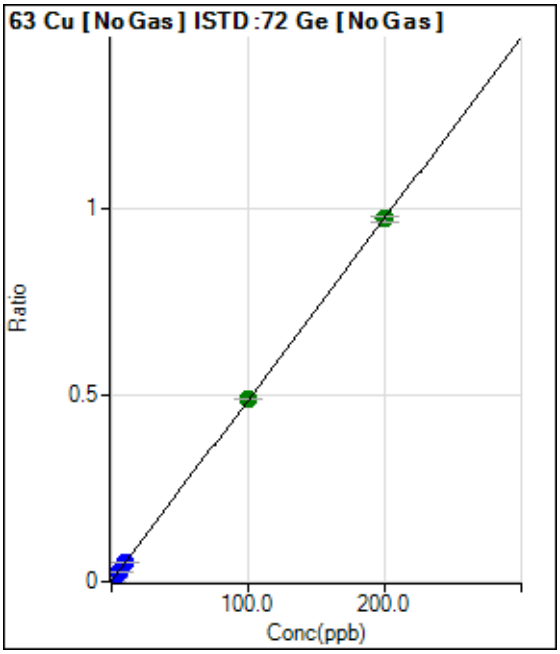
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143.33	0.0002	P	27.1
2	☐	2.000	2.008	5664.60	0.0074	P	1.6
3	☐	5.000	5.115	14174.23	0.0185	P	2.6
4	☐	10.000	10.375	28460.18	0.0373	P	1.1
5	☐	100.000	101.768	267029.96	0.3644	P	0.4
6	☐	200.000	199.094	514172.26	0.7128	P	0.7

y = 0.0036 * x + 1.8506E-004
R = 0.9999
DL = 0.04211
BEC = 0.05171

Weight: <None>
Min Conc: <None>

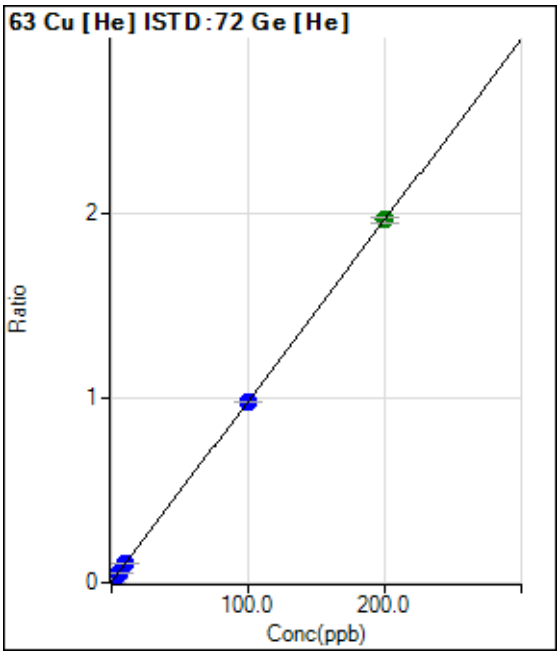


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3600.54	0.0013	P	5.6
2	☐	2.000	1.942	30213.86	0.0107	P	2.1
3	☐	5.000	5.046	73692.63	0.0258	P	1.3
4	☐	10.000	10.015	140179.69	0.0499	P	0.9
5	☐	100.000	100.393	1323723.68	0.4884	A	0.6
6	☐	200.000	199.802	2582068.97	0.9706	A	1.6

y = 0.0049 * x + 0.0013
R = 1.0000
DL = 0.04446
BEC = 0.2641

Weight: <None>
Min Conc: <None>

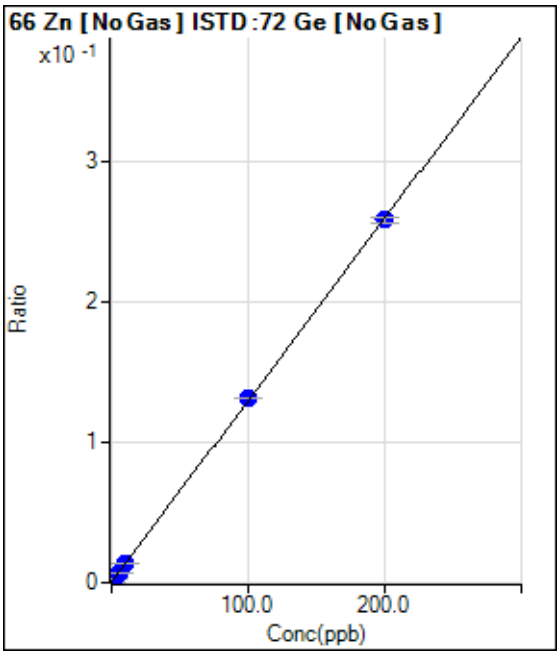
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1920.17	0.0025	P	15.1
2	☐	2.000	1.834	15746.02	0.0205	P	2.8
3	☐	5.000	4.933	39039.77	0.0509	P	2.0
4	☐	10.000	9.996	76765.88	0.1007	P	0.7
5	☐	100.000	99.607	718605.82	0.9807	P	0.7
6	☐	200.000	200.200	1420099.30	1.9686	A	1.3

y = 0.0098 * x + 0.0025
R = 1.0000
DL = 0.1146
BEC = 0.2531

Weight: <None>
Min Conc: <None>

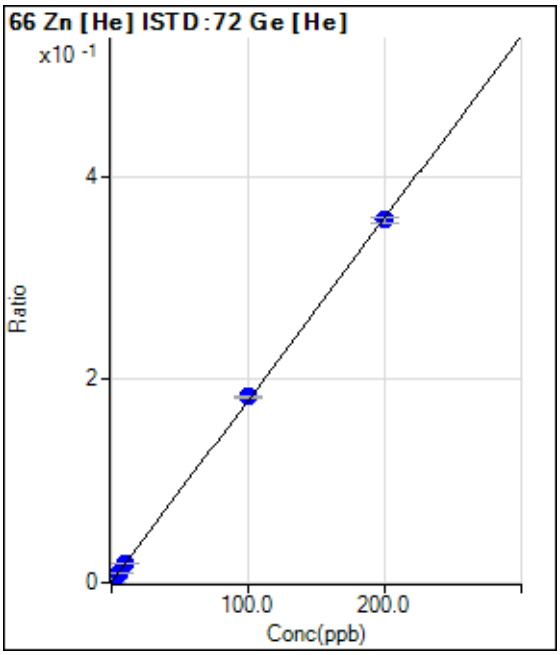


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	810.04	0.0003	P	18.4
2	☐	2.000	1.944	7922.47	0.0028	P	7.7
3	☐	5.000	4.960	19213.87	0.0067	P	1.3
4	☐	10.000	10.024	37328.54	0.0133	P	1.1
5	☐	100.000	101.281	356590.48	0.1316	P	0.6
6	☐	200.000	199.360	688093.82	0.2587	P	1.6

y = 0.0013 * x + 2.8832E-004
R = 1.0000
DL = 0.1225
BEC = 0.2225

Weight: <None>
Min Conc: <None>

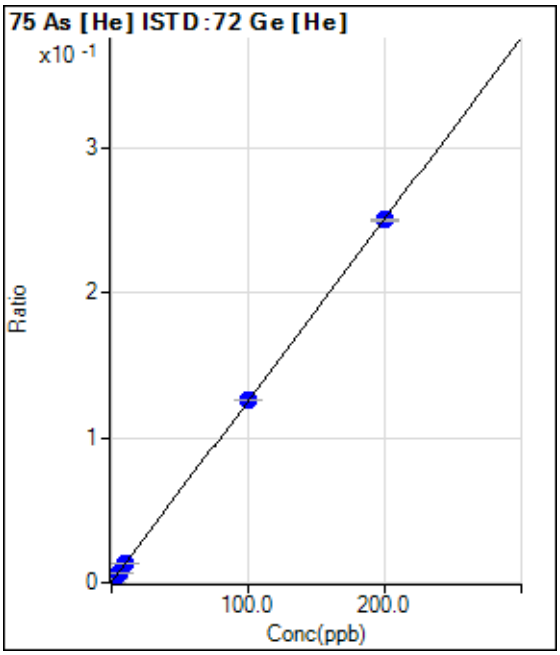
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0003	P	15.3
2	☐	2.000	2.040	3060.39	0.0040	P	6.0
3	☐	5.000	4.963	7075.28	0.0092	P	4.5
4	☐	10.000	10.131	14104.15	0.0185	P	4.1
5	☐	100.000	101.806	134057.27	0.1830	P	1.0
6	☐	200.000	199.091	257877.22	0.3575	P	1.4

y = 0.0018 * x + 3.2314E-004
R = 0.9999
DL = 0.08259
BEC = 0.1801

Weight: <None>
Min Conc: <None>

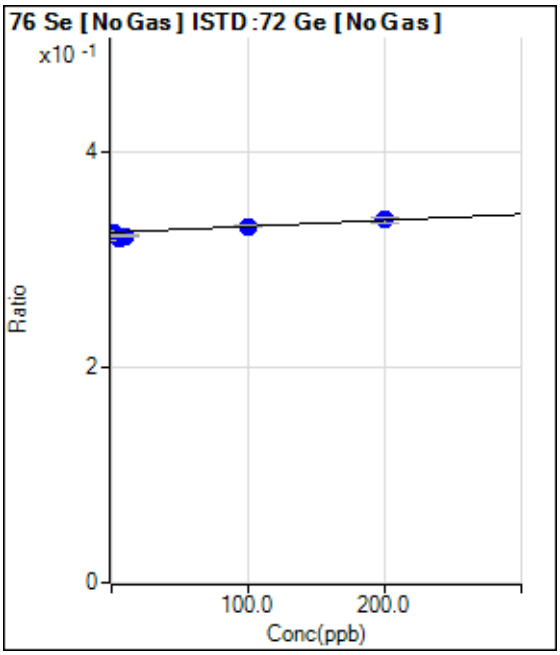


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	253.34	0.0003	P	5.1
2	☐	2.000	1.919	2095.73	0.0027	P	4.0
3	☐	5.000	4.924	4969.83	0.0065	P	3.1
4	☐	10.000	10.066	9849.20	0.0129	P	1.9
5	☐	100.000	100.690	92494.39	0.1262	P	0.2
6	☐	200.000	199.655	180322.95	0.2500	P	0.5

y = 0.0013 * x + 3.2764E-004
R = 1.0000
DL = 0.04013
BEC = 0.262

Weight: <None>
Min Conc: <None>

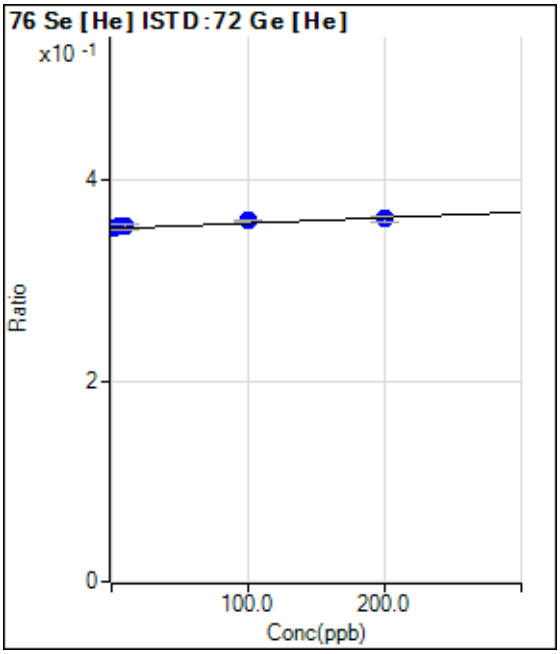
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	915883.87	0.3258	P	0.4
2	☐	2.000	-11.664	918012.30	0.3252	P	1.3
3	☐	5.000	-88.474	917748.32	0.3208	P	1.2
4	☐	10.000	-56.764	906843.53	0.3226	P	0.9
5	☐	100.000	100.916	898747.95	0.3316	P	0.7
6	☐	200.000	205.354	897756.96	0.3375	P	1.8

y = 5.6719E-005 * x + 0.3258
R = 0.9452
DL = 74.22
BEC = 5745

Weight: <None>
Min Conc: <None>

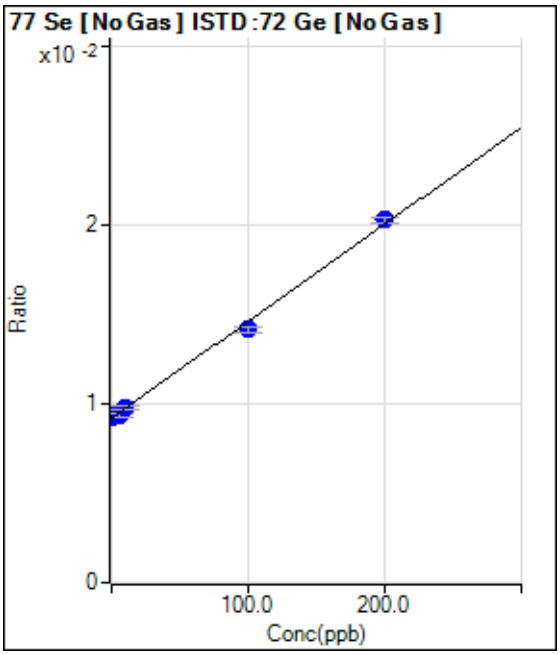


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	271738.04	0.3515	P	1.5
2	☐	2.000	29.606	271288.90	0.3531	P	0.5
3	☐	5.000	45.111	271326.23	0.3540	P	1.6
4	☐	10.000	43.566	269859.57	0.3539	P	1.8
5	☐	100.000	138.903	263140.38	0.3591	P	0.7
6	☐	200.000	177.592	260581.82	0.3612	P	1.6

y = 5.4827E-005 * x + 0.3515
R = 0.9568
DL = 288.7
BEC = 6411

Weight: <None>
Min Conc: <None>

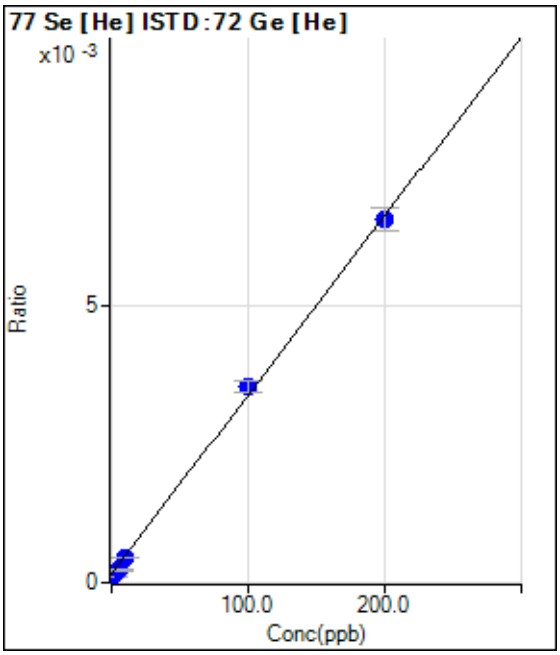
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25838.42	0.0092	P	0.0
2	☐	2.000	4.421	26626.60	0.0094	P	3.5
3	☐	5.000	2.207	26636.63	0.0093	P	2.1
4	☐	10.000	10.662	27465.00	0.0098	P	1.9
5	☐	100.000	91.128	38278.07	0.0141	P	1.7
6	☐	200.000	204.448	53871.01	0.0203	P	1.5

y = 5.4089E-005 * x + 0.0092
R = 0.9984
DL = 0.0258
BEC = 170

Weight: <None>
Min Conc: <None>

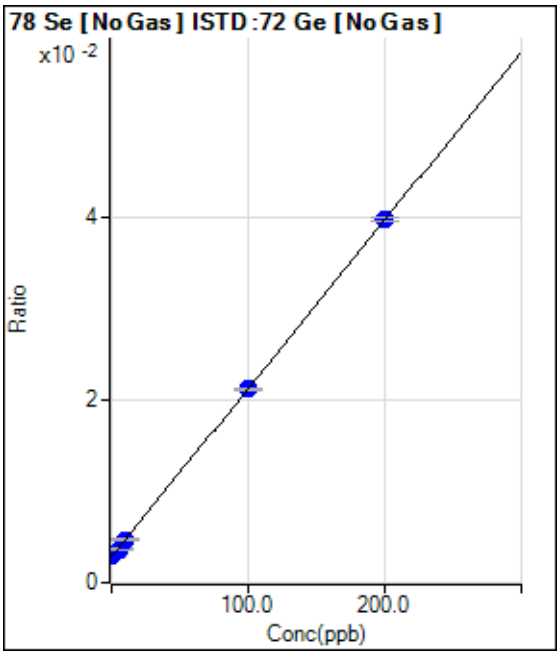


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123.33	0.0002	P	48.3
2	☐	2.000	-0.250	116.67	0.0002	P	44.0
3	☐	5.000	2.332	180.00	0.0002	P	15.6
4	☐	10.000	9.150	346.68	0.0005	P	0.3
5	☐	100.000	104.563	2583.62	0.0035	P	5.6
6	☐	200.000	197.850	4710.93	0.0065	P	6.4

y = 3.2197E-005 * x + 1.5994E-004
R = 0.9995
DL = 7.201
BEC = 4.967

Weight: <None>
Min Conc: <None>

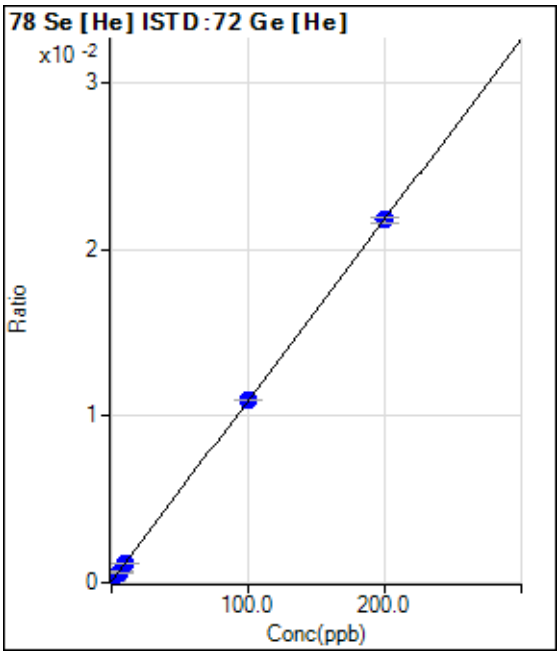
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7972.49	0.0028	P	4.9
2	☐	2.000	1.565	8823.05	0.0031	P	3.9
3	☐	5.000	4.535	10497.59	0.0037	P	2.7
4	☐	10.000	10.266	13276.72	0.0047	P	3.7
5	☐	100.000	99.521	57258.50	0.0211	P	0.2
6	☐	200.000	200.242	105434.13	0.0396	P	1.0

y = 1.8375E-004 * x + 0.0028
R = 1.0000
DL = 2.284
BEC = 15.44

Weight: <None>
Min Conc: <None>

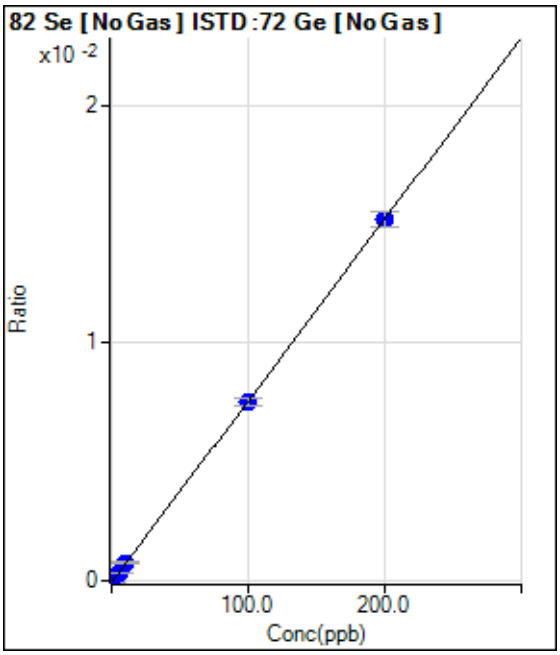


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	61.33	0.0001	P	21.3
2	☐	2.000	2.492	268.67	0.0003	P	5.7
3	☐	5.000	5.072	482.68	0.0006	P	2.6
4	☐	10.000	9.788	870.70	0.0011	P	1.9
5	☐	100.000	100.174	8023.07	0.0109	P	0.1
6	☐	200.000	199.917	15705.82	0.0218	P	1.5

y = 1.0851E-004 * x + 7.9373E-005
R = 1.0000
DL = 0.4683
BEC = 0.7315

Weight: <None>
Min Conc: <None>

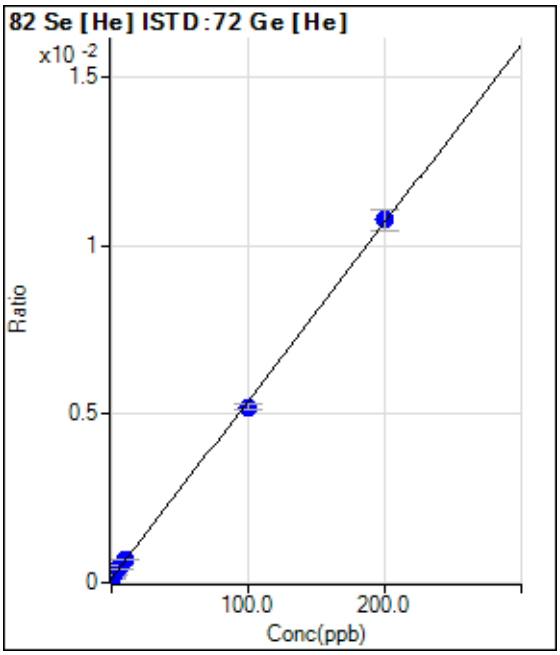
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-178.60	-0.0001	P	-19.0
2	☐	2.000	2.950	455.72	0.0002	P	9.0
3	☐	5.000	5.504	1019.38	0.0004	P	3.4
4	☐	10.000	11.087	2198.91	0.0008	P	6.8
5	☐	100.000	99.786	20458.88	0.0075	P	4.2
6	☐	200.000	200.030	40415.04	0.0152	P	3.9

y = 7.6284E-005 * x - 6.3503E-005
R = 1.0000
DL = 0.4753
BEC = -0.8325

Weight: <None>
Min Conc: <None>

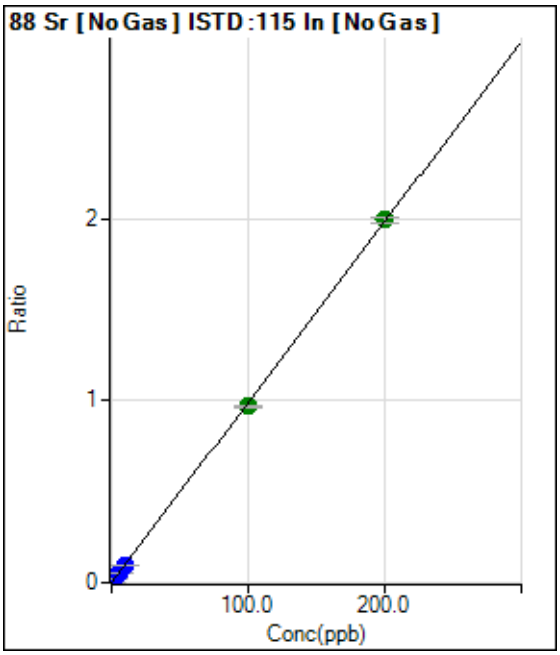


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0001	P	48.7
2	☐	2.000	1.904	166.67	0.0002	P	14.1
3	☐	5.000	6.368	346.68	0.0005	P	14.6
4	☐	10.000	10.557	513.35	0.0007	P	4.3
5	☐	100.000	96.567	3817.26	0.0052	P	3.5
6	☐	200.000	201.655	7755.71	0.0108	P	5.8

y = 5.2742E-005 * x + 1.1654E-004
R = 0.9997
DL = 3.23
BEC = 2.21

Weight: <None>
Min Conc: <None>

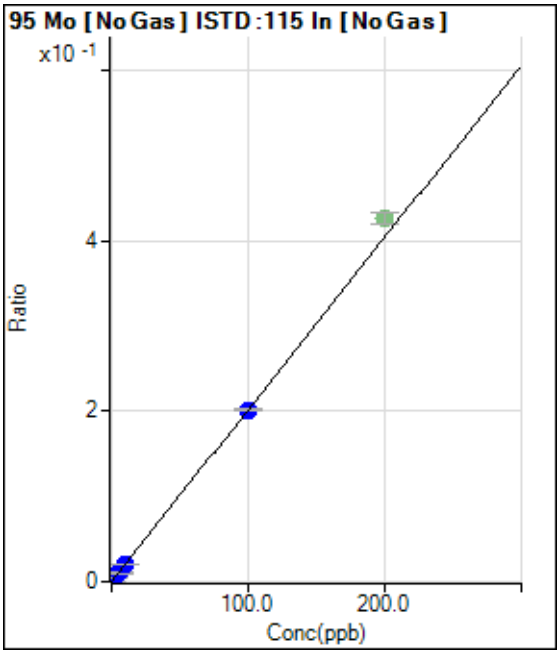
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	970.06	0.0003	P	3.3
2	☐	2.000	1.998	70585.70	0.0201	P	1.7
3	☐	5.000	4.908	174232.91	0.0489	P	1.6
4	☐	10.000	9.880	351531.09	0.0981	P	2.1
5	☐	100.000	97.871	3336558.70	0.9696	A	1.2
6	☐	200.000	201.073	6605257.40	1.9917	A	1.6

y = 0.0099 * x + 2.6801E-004
R = 0.9999
DL = 0.002674
BEC = 0.02706

Weight: <None>
Min Conc: <None>

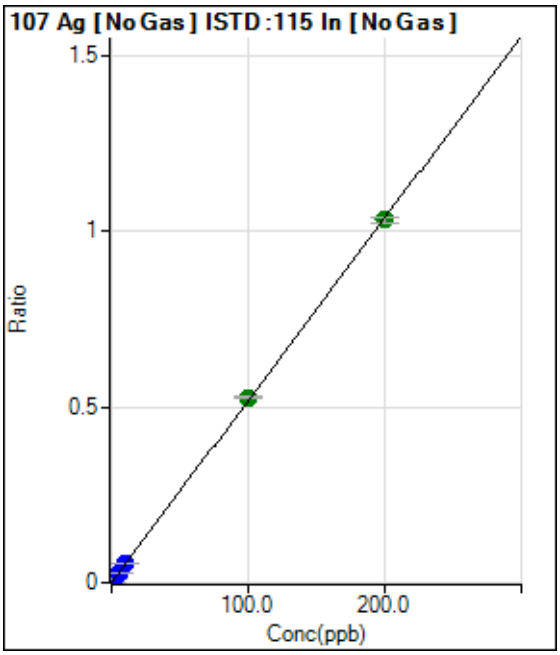


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0000	P	29.9
2	☐	2.000	2.012	14398.02	0.0041	P	2.5
3	☐	5.000	5.083	36694.12	0.0103	P	3.7
4	☐	10.000	10.088	73117.02	0.0204	P	1.8
5	☐	100.000	99.987	695270.64	0.2020	P	1.2
6	☑	200.000		1413142.74	0.4261	A	3.2

y = 0.0020 * x + 2.4896E-005
R = 1.0000
DL = 0.01104
BEC = 0.01232

Weight: <None>
Min Conc: <None>

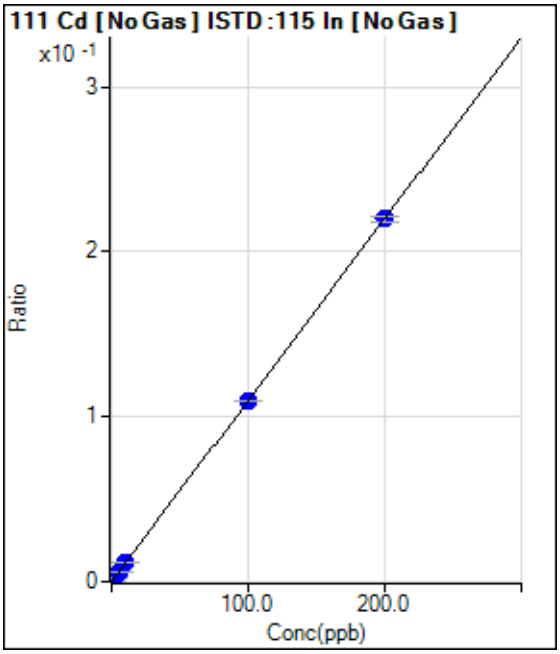
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	626.69	0.0002	P	16.2
2	☐	2.000	2.162	40054.17	0.0114	P	1.3
3	☐	5.000	5.341	99287.25	0.0279	P	2.1
4	☐	10.000	10.555	196635.35	0.0549	P	0.6
5	☐	100.000	101.489	1810839.71	0.5262	A	1.2
6	☐	200.000	199.218	3424998.18	1.0328	A	1.6

y = 0.0052 * x + 1.7298E-004
R = 1.0000
DL = 0.01623
BEC = 0.03337

Weight: <None>
Min Conc: <None>

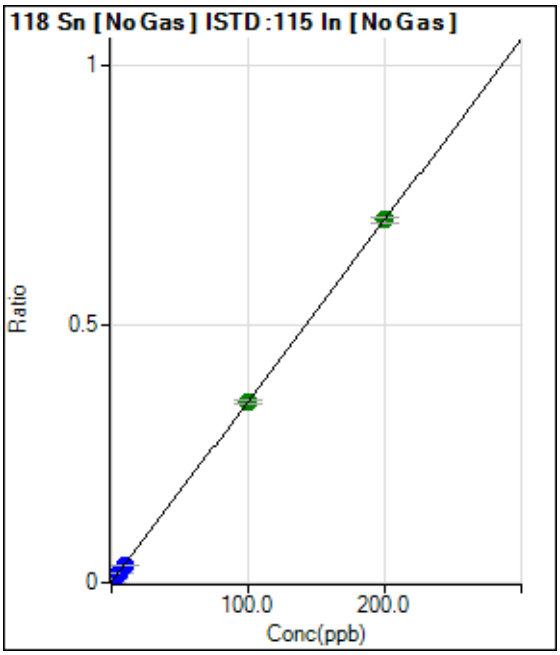


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	49.7
2	☐	2.000	2.026	7855.80	0.0022	P	2.7
3	☐	5.000	5.150	20192.39	0.0057	P	2.0
4	☐	10.000	10.205	40188.19	0.0112	P	1.4
5	☐	100.000	99.764	377167.26	0.1096	P	0.8
6	☐	200.000	200.104	729043.01	0.2198	P	1.5

y = 0.0011 * x + 5.5122E-006
R = 1.0000
DL = 0.007474
BEC = 0.005018

Weight: <None>
Min Conc: <None>

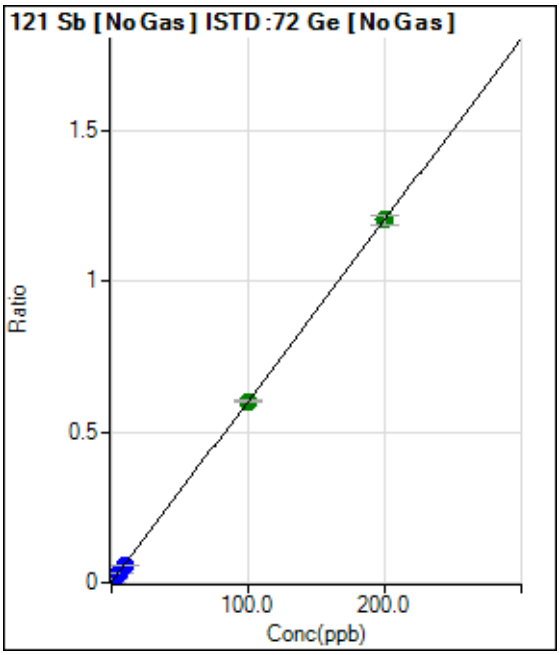
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2256.93	0.0006	P	3.3
2	☐	2.000	1.847	24984.24	0.0071	P	1.6
3	☐	5.000	4.944	64054.48	0.0180	P	4.9
4	☐	10.000	9.531	121949.39	0.0340	P	2.6
5	☐	100.000	99.671	1204642.95	0.3501	A	1.6
6	☐	200.000	200.191	2329651.37	0.7025	A	1.9

y = 0.0035 * x + 6.2334E-004
R = 1.0000
DL = 0.0178
BEC = 0.1778

Weight: <None>
Min Conc: <None>

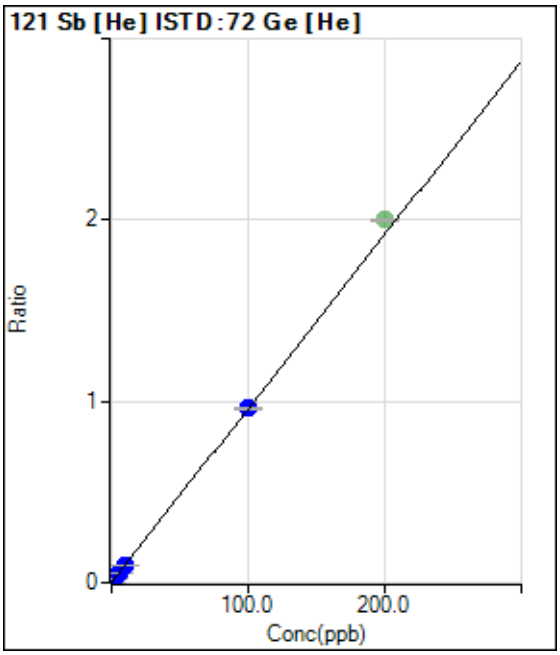


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4224.08	0.0015	P	3.5
2	☐	2.000	1.944	37240.00	0.0132	P	1.6
3	☐	5.000	4.855	87822.61	0.0307	P	0.8
4	☐	10.000	9.731	168732.25	0.0600	P	0.3
5	☐	100.000	99.988	1634013.47	0.6028	A	0.8
6	☐	200.000	200.024	3203705.99	1.2044	A	3.0

y = 0.0060 * x + 0.0015
R = 1.0000
DL = 0.02592
BEC = 0.2499

Weight: <None>
Min Conc: <None>

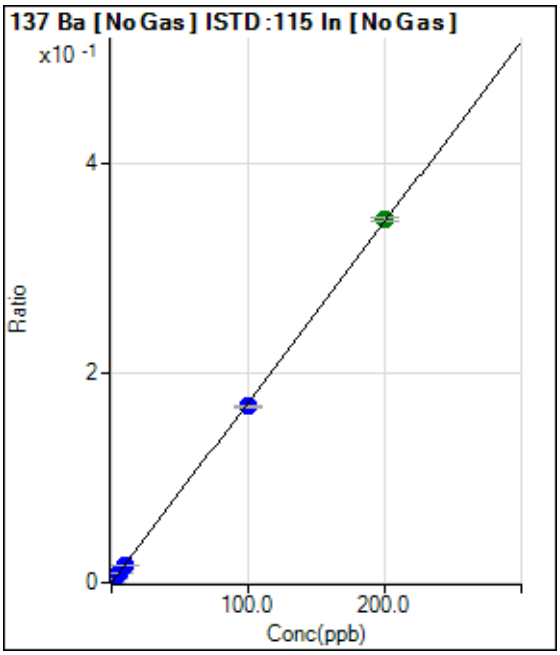
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1693.48	0.0022	P	10.3
2	☐	2.000	1.999	16390.48	0.0213	P	2.4
3	☐	5.000	5.043	38697.27	0.0505	P	1.7
4	☐	10.000	10.019	74825.94	0.0981	P	1.2
5	☐	100.000	99.996	703144.18	0.9596	P	0.7
6	☑	200.000		1442994.61	2.0003	A	0.4

y = 0.0096 * x + 0.0022
R = 1.0000
DL = 0.0708
BEC = 0.2289

Weight: <None>
Min Conc: <None>

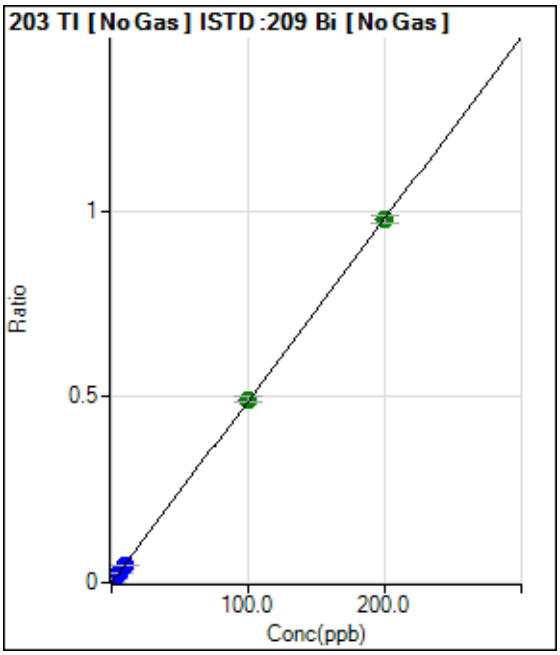


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	690.03	0.0002	P	8.3
2	☐	2.000	1.882	12072.50	0.0034	P	3.0
3	☐	5.000	4.862	30492.85	0.0086	P	2.2
4	☐	10.000	9.620	59978.36	0.0167	P	1.4
5	☐	100.000	97.553	578176.50	0.1680	P	0.9
6	☐	200.000	201.247	1148866.21	0.3464	A	1.0

y = 0.0017 * x + 1.9070E-004
R = 0.9999
DL = 0.02773
BEC = 0.1108

Weight: <None>
Min Conc: <None>

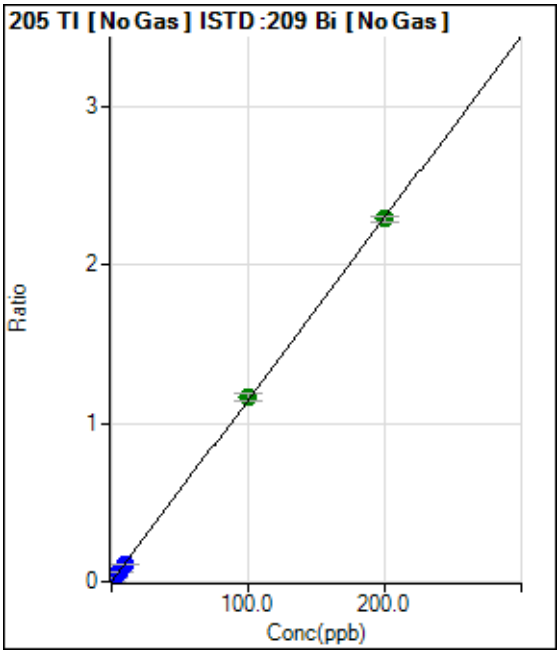
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	323.35	0.0001	P	16.5
2	☐	2.000	1.880	35226.56	0.0093	P	1.6
3	☐	5.000	4.810	90077.21	0.0236	P	1.3
4	☐	10.000	9.513	177968.13	0.0466	P	0.7
5	☐	100.000	100.951	1820359.87	0.4942	A	2.5
6	☐	200.000	199.555	3549270.26	0.9768	A	2.2

y = 0.0049 * x + 8.5330E-005
R = 1.0000
DL = 0.00865
BEC = 0.01743

Weight: <None>
Min Conc: <None>

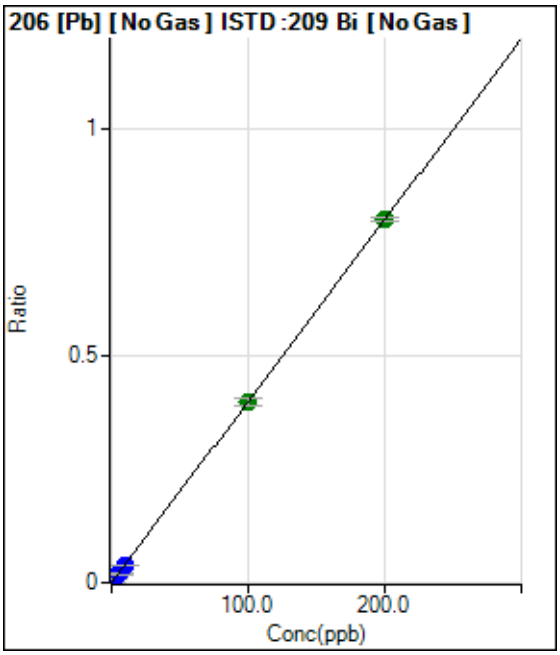


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	740.04	0.0002	P	10.8
2	☐	2.000	1.931	84723.41	0.0223	P	3.8
3	☐	5.000	4.882	214200.24	0.0562	P	1.0
4	☐	10.000	9.729	426399.25	0.1118	P	1.3
5	☐	100.000	101.218	4274335.98	1.1609	A	4.6
6	☐	200.000	199.408	8308874.04	2.2869	A	1.4

y = 0.0115 * x + 1.9569E-004
R = 1.0000
DL = 0.005504
BEC = 0.01706

Weight: <None>
Min Conc: <None>

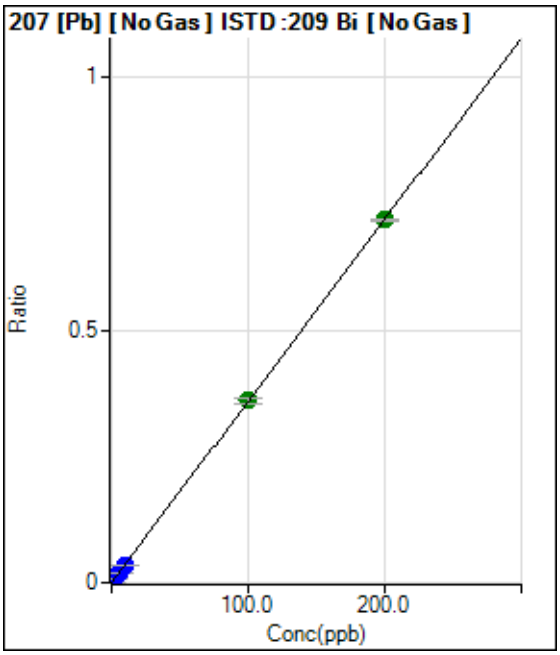
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	470.02	0.0001	P	6.1
2	☐	2.000	1.910	29401.67	0.0077	P	1.4
3	☐	5.000	4.744	72671.20	0.0191	P	1.6
4	☐	10.000	9.486	144939.25	0.0380	P	1.2
5	☐	100.000	99.887	1468710.60	0.3989	A	4.3
6	☐	200.000	200.090	2902719.64	0.7989	A	1.1

y = 0.0040 * x + 1.2427E-004
R = 1.0000
DL = 0.005711
BEC = 0.03113

Weight: <None>
Min Conc: <None>

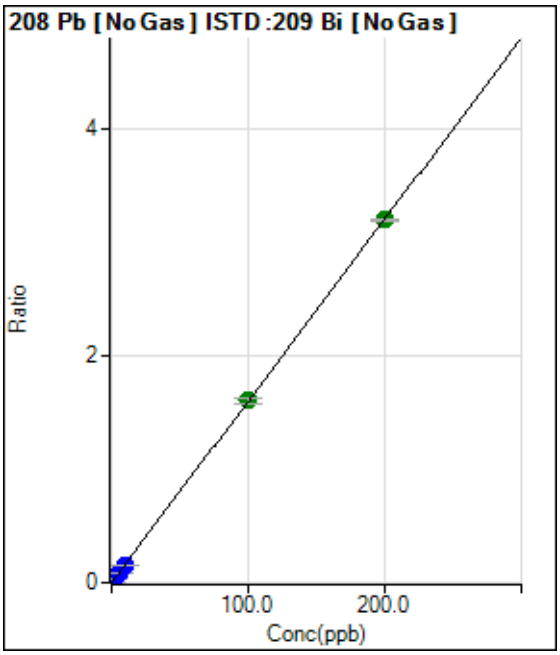


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	410.01	0.0001	P	8.6
2	☐	2.000	1.904	26358.17	0.0069	P	1.9
3	☐	5.000	4.851	66822.06	0.0175	P	2.9
4	☐	10.000	9.572	131585.74	0.0345	P	1.3
5	☐	100.000	100.176	1325682.95	0.3599	A	2.8
6	☐	200.000	199.938	2609837.51	0.7183	A	0.5

y = 0.0036 * x + 1.0831E-004
R = 1.0000
DL = 0.007781
BEC = 0.03015

Weight: <None>
Min Conc: <None>

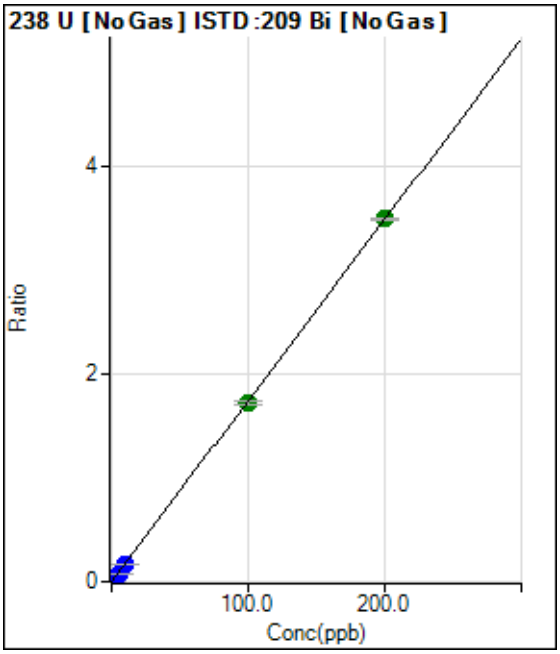
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1756.75	0.0005	P	1.9
2	☐	2.000	1.926	118866.36	0.0313	P	1.3
3	☐	5.000	4.849	298025.87	0.0782	P	2.2
4	☐	10.000	9.643	591441.31	0.1550	P	0.3
5	☐	100.000	100.387	5927976.63	1.6095	A	3.0
6	☐	200.000	199.829	11639364.98	3.2034	A	0.8

y = 0.0160 * x + 4.6436E-004
R = 1.0000
DL = 0.001677
BEC = 0.02897

Weight: <None>
Min Conc: <None>

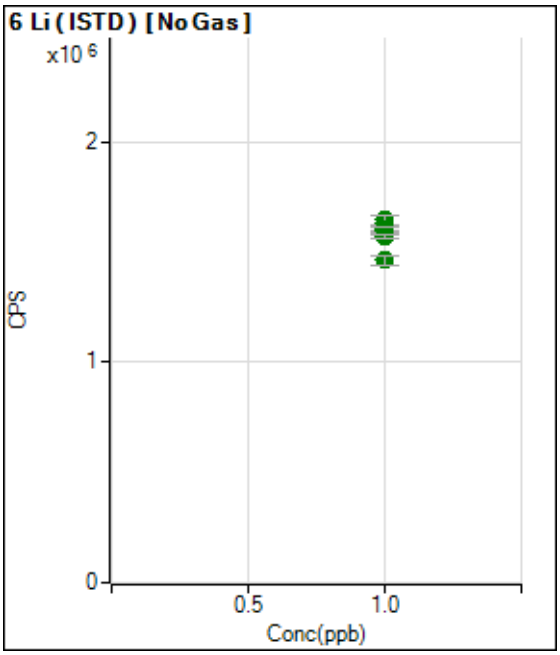


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	280.01	0.0001	P	14.3
2	☐	2.000	1.850	122502.49	0.0323	P	1.6
3	☐	5.000	4.691	311753.59	0.0818	P	0.9
4	☐	10.000	9.402	625036.15	0.1638	P	1.1
5	☐	100.000	99.023	6352774.90	1.7246	A	2.2
6	☐	200.000	200.528	12690766.48	3.4924	A	0.9

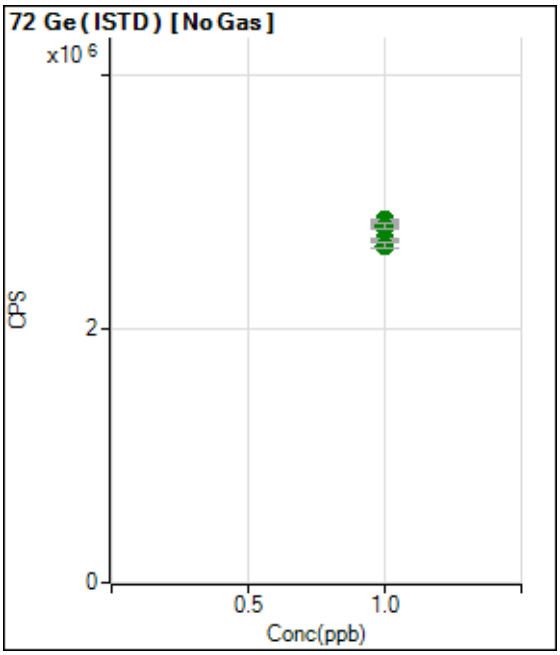
y = 0.0174 * x + 7.4011E-005
R = 1.0000
DL = 0.001821
BEC = 0.00425

Weight: <None>
Min Conc: <None>

Calibration for 019_ICV.d

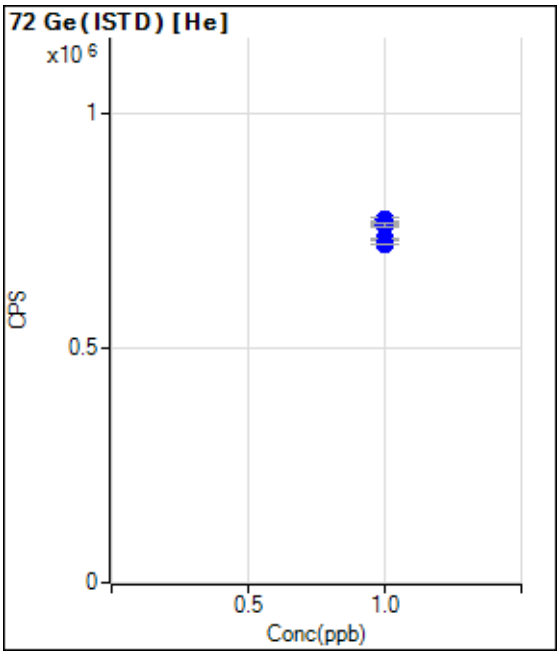


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1644166.44		A	2.7
2	☐	1.000		1629759.99		A	4.8
3	☐	1.000		1604352.29		A	1.1
4	☐	1.000		1597049.05		A	1.8
5	☐	1.000		1570327.36		A	1.0
6	☐	1.000		1461108.97		A	2.8

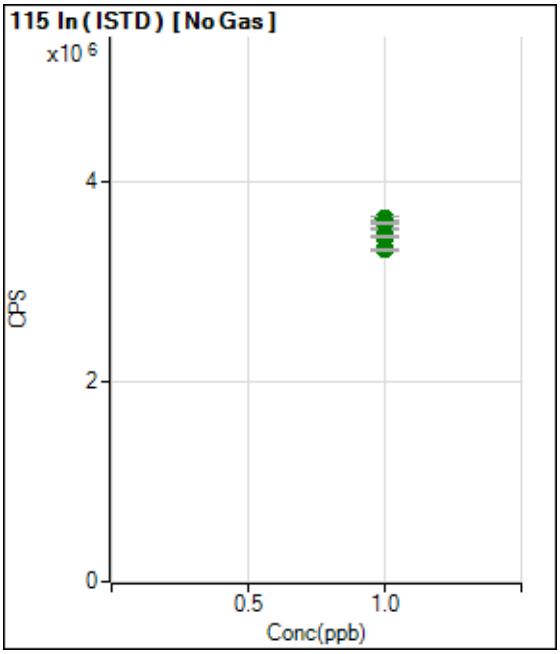


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2810825.48		A	0.5
2	☐	1.000		2823394.02		A	1.4
3	☐	1.000		2860658.29		A	0.4
4	☐	1.000		2811027.15		A	1.2
5	☐	1.000		2710641.52		A	0.5
6	☐	1.000		2660578.29		A	1.5

Calibration for 019_ICV.d

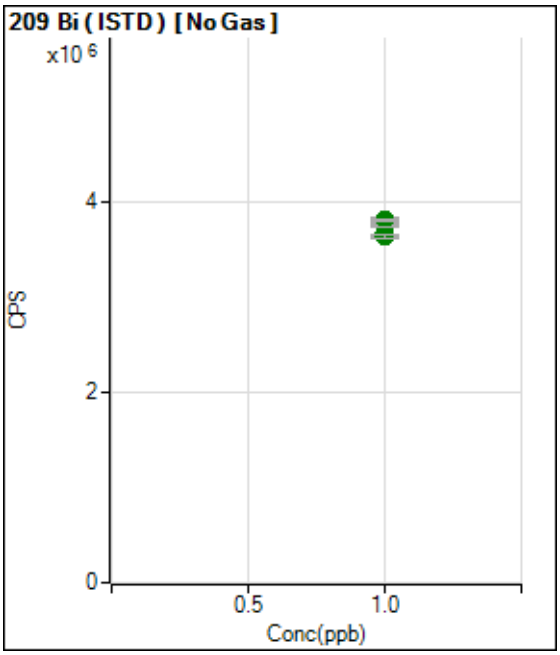


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		773184.55		P	1.0
2	☐	1.000		768294.55		P	0.5
3	☐	1.000		766607.93		P	0.9
4	☐	1.000		762688.40		P	1.3
5	☐	1.000		732756.73		P	0.5
6	☐	1.000		721370.51		P	0.2



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3620043.35		A	1.1
2	☐	1.000		3520017.35		A	0.8
3	☐	1.000		3565026.41		A	1.5
4	☐	1.000		3582858.38		A	0.4
5	☐	1.000		3441211.40		A	0.4
6	☐	1.000		3316488.16		A	0.6

Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3783162.03		A	1.5
2	☐	1.000		3794658.69		A	2.0
3	☐	1.000		3812800.67		A	1.6
4	☐	1.000		3815178.59		A	0.7
5	☐	1.000		3685095.47		A	2.9
6	☐	1.000		3633652.55		A	1.2

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	020_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:20:29-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.120	123.6	94338	0.6	0.5	
Be	9	1	No Gas	0.003	52.9	68	15.2	0.5	
V	51	2	He	-0.280	-10.0	5197	3.0	2.5	
Cr	52	2	He	0.060	17.9	2284	2.9	2.5	
Fe	56	2	He	-0.236	-78.6	15856	7.8	100	
Se	78	2	He	0.409	36.6	90	13.5	1	
As	75	2	He	0.023	222.0	259	17.3	2.5	
Ca	44	2	He	0.437	532.3	510	15.3	100	
Na	23	2	He	2.944	31.5	68789	1.1	100	
Mg	24	2	He	0.467	14.7	770	5.2	100	
K	39	2	He	3.206	69.6	46254	2.9	100	
Mn	55	2	He	0.003	261.2	413	9.8	2.5	
Co	59	2	He	0.003	120.8	103	43.6	2.5	
Ni	60	2	He	0.017	110.3	180	27.8	2.5	
Cu	63	2	He	-0.076	-16.7	1263	6.7	1	
Zn	66	2	He	-0.070	-85.8	143	54.2	2.5	
Al	27	2	He	-0.014	-2932.4	877	15.6	5	
B	11	1	No Gas	19.667	8.1	106462	3.7	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	-0.153	-25.9	43314	1.7	5	
Si	28	1	No Gas	4.397	21.5	468591	1.1	10	
Ag	107	1	No Gas	0.013	47.0	830	13.0	2.5	
Cd	111	1	No Gas	0.013	13.7	67	8.7	1	
Sr	88	1	No Gas	0.012	13.4	1320	3.0	2.5	
Mo	95	1	No Gas	0.186	43.3	1433	40.1	2.5	
Sn	118	1	No Gas	0.291	22.2	5658	13.0	5	
Sb	121	1	No Gas	0.265	11.5	8206	5.6	2.5	
Ba	137	1	No Gas	-0.082	-10.6	173	28.5	2.5	
Tl	205	1	No Gas	0.065	46.9	3524	40.2	1	
Tl	203	1	No Gas	0.065	16.5	1493	16.4	1	
Pb	208	1	No Gas	0.031	18.8	3557	12.7	2.5	
U	238	1	No Gas	0.026	45.2	1994	42.6	2.5	
Ca	43	2	He	9.876	28.5	23	24.7	100	
Sb	121	2	He	0.256	16.5	3441	8.5	2.5	
Ti	47	2	He	0.005	601.3	17	34.6	2.5	
Se	82	1	No Gas	0.610	114.5	-45	-316.3	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1529476	3.45	1644166	93.02	70	120	
Ge	72	2	He	727279	0.47	773185	94.06	70	120	
Ge	72	1	No Gas	2650016	0.43	2810825	94.28	70	120	
In	115	1	No Gas	3445383	1.22	3620043	95.18	70	120	
Bi	209	1	No Gas	3709607	3.33	3783162	98.06	70	120	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	021LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:22:28-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	2.077	2.077	3.72	131597	0.00	2	
Be	9	1	No Gas	1.952	1.952	4.17	8986	0.02	2	
V	51	2	He	1.461	1.461	2.20	15924	0.01	2	
Cr	52	2	He	1.964	1.964	0.77	16233	0.01	2	
Fe	56	2	He	205.835	205.835	0.69	1342445	0.02	200	
Se	78	2	He	2.302	2.302	9.14	243	0.95	2	
As	75	2	He	1.935	1.935	4.30	2031	0.10	2	
Ca	44	2	He	204.778	204.778	1.55	7716	2.65	200	
Na	23	2	He	202.946	202.946	1.66	293839	0.07	200	
Mg	24	2	He	204.304	204.304	0.44	132398	0.15	200	
K	39	2	He	200.704	200.704	1.00	173324	0.12	200	
Mn	55	2	He	1.976	1.976	5.57	10641	0.02	2	
Co	59	2	He	1.945	1.945	2.55	21564	0.01	2	
Ni	60	2	He	2.165	2.165	1.12	5868	0.04	2	
Cu	63	2	He	1.937	1.937	4.22	15900	0.01	2	
Zn	66	2	He	2.155	2.155	9.55	3097	0.07	2	
Al	27	2	He	1.226	1.226	48.47	1313	0.09	2	NewName Main CR1 Failed
B	11	1	No Gas	16.568	16.568	3.28	98484	0.02	10	NewName Main CR1 Failed
Al	27	1	No Gas	1.438	1.438	11.27	71547	0.00	2	
Si	28	1	No Gas	9.407	9.407	2.38	521694	0.00	10	
Ag	107	1	No Gas	2.101	2.101	2.26	38791	0.01	2	
Cd	111	1	No Gas	1.961	1.961	6.37	7572	0.03	2	
Sr	88	1	No Gas	1.980	1.980	0.77	69711	0.00	2	
Mo	95	1	No Gas	1.865	1.865	0.10	13878	0.01	2	
Sn	118	1	No Gas	1.934	1.934	2.70	25956	0.01	2	
Sb	121	1	No Gas	2.002	2.002	2.41	37029	0.01	2	
Ba	137	1	No Gas	1.822	1.822	1.52	11662	0.02	2	
Tl	205	1	No Gas	1.949	1.949	2.79	84056	0.00	2	
Tl	203	1	No Gas	1.888	1.888	3.47	34765	0.01	2	
Pb	208	1	No Gas	1.947	1.947	2.51	118105	0.00	2	
U	238	1	No Gas	1.883	1.883	3.18	122536	0.00	2	
Ca	43	2	He	198.711	198.711	28.35	417	47.69	200	
Sb	121	2	He	1.998	1.998	3.50	16254	0.01	2	
Ti	47	2	He	2.075	2.075	17.31	463	0.45	200	
Cu	63	1	No Gas	1.947	1.947	2.13	29332	0.01	2	
Se	82	1	No Gas	2.820	2.820	29.95	415	0.68	2	NewName Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1531396	0.66	1644166	93.14	70	120	
Ge	72	2	He	739443	0.73	773185	95.64	70	120	
Ge	72	1	No Gas	2734252	0.62	2810825	97.28	70	120	
In	115	1	No Gas	3507014	1.11	3620043	96.88	70	120	
Bi	209	1	No Gas	3730700	3.05	3783162	98.61	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	022LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:24:27-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.963	4.963	2.11	189113	0.00	5	
Be	9	1	No Gas	4.803	4.803	3.65	22361	0.02	5	
V	51	2	He	4.496	4.496	1.57	34526	0.01	5	
Cr	52	2	He	4.969	4.969	2.92	38237	0.01	5	
Fe	56	2	He	517.389	517.389	2.24	3352008	0.02	500	
Se	78	2	He	5.393	5.393	3.70	492	1.10	5	
As	75	2	He	5.121	5.121	2.16	4983	0.10	5	
Ca	44	2	He	503.838	503.838	3.34	18272	2.76	500	
Na	23	2	He	512.871	512.871	0.19	641747	0.08	500	
Mg	24	2	He	514.230	514.230	0.79	332993	0.15	500	
K	39	2	He	508.209	508.209	1.15	370482	0.14	500	
Mn	55	2	He	5.018	5.018	1.54	26443	0.02	5	
Co	59	2	He	4.954	4.954	1.37	54904	0.01	5	
Ni	60	2	He	5.305	5.305	1.27	14198	0.04	5	
Cu	63	2	He	4.875	4.875	1.50	37288	0.01	5	
Zn	66	2	He	5.093	5.093	5.19	7002	0.07	5	
Al	27	2	He	4.854	4.854	7.68	2554	0.19	5	
B	11	1	No Gas	27.416	27.416	3.95	128970	0.02	25	
Al	27	1	No Gas	4.942	4.942	3.62	128328	0.00	5	
Si	28	1	No Gas	26.564	26.564	3.88	640633	0.00	25	
Ag	107	1	No Gas	5.332	5.332	2.35	97384	0.01	5	
Cd	111	1	No Gas	5.095	5.095	3.31	19622	0.03	5	
Sr	88	1	No Gas	5.002	5.002	2.23	174422	0.00	5	
Mo	95	1	No Gas	4.731	4.731	2.06	35016	0.01	5	
Sn	118	1	No Gas	4.866	4.866	1.38	61923	0.01	5	
Sb	121	1	No Gas	5.114	5.114	1.91	86588	0.01	5	
Ba	137	1	No Gas	4.835	4.835	3.58	29791	0.02	5	
Tl	205	1	No Gas	4.875	4.875	0.89	209971	0.00	5	
Tl	203	1	No Gas	4.820	4.820	2.51	88617	0.01	5	
Pb	208	1	No Gas	4.897	4.897	0.88	295484	0.00	5	
U	238	1	No Gas	4.719	4.719	1.15	307879	0.00	5	
Ca	43	2	He	485.436	485.436	0.84	1013	47.90	500	
Sb	121	2	He	4.808	4.808	2.60	36889	0.01	5	
Ti	47	2	He	5.146	5.146	6.46	1127	0.46	5	
Cu	63	1	No Gas	5.120	5.120	3.79	70117	0.01	5	
Se	82	1	No Gas	5.683	5.683	26.94	992	0.57	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1554788	1.47	1644166	94.56	70	120	
Ge	72	2	He	740493	1.12	773185	95.77	70	120	
Ge	72	1	No Gas	2684794	1.41	2810825	95.52	70	120	

Sample Report

In	115	1	No Gas	3501873	0.72	3620043	96.74	70	120	
Bi	209	1	No Gas	3742526	0.18	3783162	98.93	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	023ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:39:05-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.768	8.1	106076	1.1	0	ICSA Main CR1 Failed
Be	9	1	No Gas	-0.008	-15.9	18	31.5	0	ICSA Main CR1 Failed
V	51	2	He	-0.330	-3.8	4640	1.8	0	ICSA Main CR1 Failed
Cr	52	2	He	2.111	5.1	16133	4.9	0	ICSA Main CR1 Failed
Fe	56	2	He	99144.661	1.7	594713751	0.8	0	
Se	78	2	He	0.418	8.7	86	4.0	0	ICSA Main CR1 Failed
As	75	2	He	0.020	156.6	243	10.7	0	ICSA Main CR1 Failed
Ca	44	2	He	100629.892	0.8	3303543	0.4	0	
Na	23	2	He	99739.458	0.8	104137035	0.4	0	
Mg	24	2	He	102042.068	0.5	61412146	0.6	0	
K	39	2	He	101798.522	0.6	60717097	0.6	0	
Mn	55	2	He	0.383	1.6	2227	1.4	0	ICSA Main CR1 Failed
Co	59	2	He	0.084	13.7	927	11.8	0	ICSA Main CR1 Failed
Ni	60	2	He	0.140	11.2	473	7.4	0	ICSA Main CR1 Failed
Cu	63	2	He	0.046	41.9	2024	5.7	0	ICSA Main CR1 Failed
Zn	66	2	He	0.893	9.5	1327	7.6	0	ICSA Main CR1 Failed
Al	27	2	He	99472.906	0.7	31611812	0.4	0	
B	11	1	No Gas	0.822	99.9	56627	4.0	0	ICSA Main CR1 Failed
Al	27	1	No Gas	96344.016	1.1	1490992031	1.1	0	
Si	28	1	No Gas	23.608	6.5	577332	0.8	0	
Ag	107	1	No Gas	0.390	5.0	6792	5.3	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	1.589	3.1	5421	2.6	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	1.057	0.4	33245	0.4	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	1975.179	1.9	12353911	1.1	0	
Sn	118	1	No Gas	0.123	11.7	3260	4.0	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.286	7.2	8083	3.8	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.246	6.5	1904	5.3	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.053	6.4	2890	17.7	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.052	12.4	1207	3.5	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.076	17.1	5977	3.5	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.008	13.2	770	10.1	0	ICSA Main CR1 Failed
Ca	43	2	He	97173.884	0.6	188223	0.6	0	
Sb	121	2	He	0.268	4.9	3344	3.5	0	ICSA Main CR1 Failed
Ti	47	2	He	1995.214	0.8	400683	0.6	0	
Se	82	1	No Gas	-0.508	-57.5	-256	-20.8	0	ICSA Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1521157	2.19	1644166	92.52	70	120	
Ge	72	2	He	689215	0.92	773185	89.14	70	120	
Ge	72	1	No Gas	2506126	1.01	2810825	89.16	70	120	
In	115	1	No Gas	3095846	0.79	3620043	85.52	70	120	
Bi	209	1	No Gas	3599120	12.58	3783162	95.14	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	024ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T11:41:07-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	95.973	2.834	1893559	1.47	100	96.0	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	96.344	1.764	416489	0.23	100	96.3	80	120	
V	51	2	He	96.088	1.488	565806	1.06	100	96.1	80	120	
Cr	52	2	He	95.933	0.815	669160	0.39	100	95.9	80	120	
Fe	56	2	He	109426.879	1.127	670517550	0.81	100	109426.9	80	120	
Se	78	2	He	100.459	1.285	7730	1.75	100	100.5	80	120	
As	75	2	He	98.155	0.707	86634	1.17	100	98.2	80	120	
Ca	44	2	He	111246.673	0.410	3730536	0.85	100	111246.7	80	120	
Na	23	2	He	110377.643	0.925	117716318	1.33	100	110377.6	80	120	
Mg	24	2	He	111249.710	0.509	68391116	0.79	100	111249.7	80	120	
K	39	2	He	111956.860	0.388	68204944	0.16	100	111956.9	80	120	
Mn	55	2	He	94.441	0.788	466268	0.59	100	94.4	80	120	
Co	59	2	He	92.855	1.344	977230	0.96	100	92.9	80	120	
Ni	60	2	He	94.609	1.265	238505	0.78	100	94.6	80	120	
Cu	63	2	He	91.859	0.533	636843	0.84	100	91.9	80	120	
Zn	66	2	He	96.279	1.033	121820	1.23	100	96.3	80	120	
Al	27	2	He	99848.277	0.288	32412635	0.32	100	99848.3	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	463.725	2.586	1264823	1.09	100	463.7	80	120	
Al	27	1	No Gas	96059.739	2.301	1512974751	1.07	100	96059.7	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	523.597	0.576	4144070	1.40	100	523.6	80	120	
Ag	107	1	No Gas	92.865	1.801	1525571	1.26	100	92.9	80	120	
Cd	111	1	No Gas	95.955	2.429	333995	2.05	100	96.0	80	120	
Sr	88	1	No Gas	101.545	3.962	3186734	3.14	100	101.5	80	120	
Mo	95	1	No Gas	2144.109	1.747	13725413	1.25	100	2144.1	80	120	ICSB Main CR1 Failed
Sn	118	1	No Gas	96.712	3.480	1076166	2.85	100	96.7	80	120	
Sb	121	1	No Gas	97.567	3.677	1500112	2.16	100	97.6	80	120	
Ba	137	1	No Gas	95.913	2.118	523361	1.46	100	95.9	80	120	
Tl	205	1	No Gas	99.608	0.403	3711371	0.61	100	99.6	80	120	
Tl	203	1	No Gas	98.330	2.269	1563733	1.86	100	98.3	80	120	
Pb	208	1	No Gas	98.556	0.857	5133223	0.30	100	98.6	80	120	
U	238	1	No Gas	98.979	0.597	5600165	0.17	100	99.0	80	120	
Ca	43	2	He	108333.052	0.084	214343	0.41	100	108333.1	80	120	
Sb	121	2	He	92.146	0.552	644206	1.02	100	92.1	80	120	
Ti	47	2	He	2125.924	0.626	436094	0.17	100	2125.9	80	120	ICSB Main CR1 Failed
Cu	63	1	No Gas	94.024	2.077	1166745	0.69	100	94.0	80	120	
Se	82	1	No Gas	101.944	4.667	19667	3.18	100	101.9	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1518207	1.53	1644166	92.34	70	120	
Ge	72	2	He	703994	0.49	773185	91.05	70	120	
Ge	72	1	No Gas	2551148	1.84	2810825	90.76	70	120	
In	115	1	No Gas	3168477	0.90	3620043	87.53	70	120	
Bi	209	1	No Gas	3248669	0.77	3783162	85.87	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	086_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:09:00-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.028	-272.6	99569	0.8	0.5	
Be	9	1	No Gas	0.001	886.1	62	58.7	0.5	
V	51	2	He	-0.129	-16.0	6490	2.6	2.5	
Cr	52	2	He	-0.040	-53.8	1667	10.5	2.5	
Fe	56	2	He	-0.137	-168.9	17525	8.3	100	
Se	78	2	He	-0.001	-18291.1	61	21.2	2	
As	75	2	He	0.027	71.8	280	7.4	2.5	
Ca	44	2	He	-3.250	-56.2	407	16.0	100	
Na	23	2	He	31.553	0.7	106685	0.8	100	
Mg	24	2	He	0.138	73.4	597	10.9	100	
K	39	2	He	2.516	24.6	48740	0.2	100	
Mn	55	2	He	-0.009	-105.1	377	13.6	2.5	
Co	59	2	He	0.002	204.5	97	57.0	2.5	
Ni	60	2	He	0.016	93.6	187	21.7	2.5	
Cu	63	2	He	-0.097	-10.8	1190	7.3	2	
Zn	66	2	He	0.000	19760.2	250	8.0	2.5	
Al	27	2	He	0.017	1142.7	943	7.8	5	
B	11	1	No Gas	4.664	30.4	72190	6.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.276	-13.0	45107	0.8	5	
Si	28	1	No Gas	-2.884	-15.3	453054	0.5	10	
Ag	107	1	No Gas	0.004	114.1	733	14.2	2.5	
Cd	111	1	No Gas	0.001	561.8	23	65.5	1	
Sr	88	1	No Gas	0.007	50.3	1253	9.5	2.5	
Mo	95	1	No Gas	0.171	35.0	1383	32.2	2.5	
Sn	118	1	No Gas	0.261	21.7	5738	12.4	5	
Sb	121	1	No Gas	0.396	11.9	11245	7.8	2.5	
Ba	137	1	No Gas	-0.057	-16.8	347	18.5	2.5	
Tl	205	1	No Gas	0.870	45.0	41062	46.1	1	
Tl	203	1	No Gas	0.848	44.9	17111	46.0	1	
Pb	208	1	No Gas	0.005	58.0	2220	11.3	2.5	
U	238	1	No Gas	0.021	57.7	1804	50.1	2.5	
Ca	43	2	He	3.061	1.0	10	0.0	100	
Sb	121	2	He	0.302	6.7	3934	3.6	2.5	
Ti	47	2	He	0.044	59.4	27	21.7	2.5	
Cu	63	1	No Gas	0.027	76.0	4094	8.4	2.5	
Se	82	1	No Gas	0.336	308.3	-108	-208.9	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1662860	2.36	1644166	101.14	70	120	
Ge	72	2	He	773614	0.65	773185	100.06	70	120	
Ge	72	1	No Gas	2894495	1.26	2810825	102.98	70	120	
In	115	1	No Gas	3735625	0.79	3620043	103.19	70	120	
Bi	209	1	No Gas	4015165	1.99	3783162	106.13	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	087_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:13:32-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	96.402	2.301	2027991	0.57	100	96.4	90	110	
Be	9	1	No Gas	96.534	1.902	445029	0.38	100	96.5	90	110	
V	51	2	He	94.063	0.703	591814	0.15	100	94.1	90	110	
Cr	52	2	He	95.098	0.785	708581	0.43	100	95.1	90	110	
Fe	56	2	He	9675.387	1.443	63343601	0.79	10000	96.8	90	110	
Se	78	2	He	93.318	0.653	7674	0.65	100	93.3	90	110	
As	75	2	He	96.558	1.015	91035	0.33	100	96.6	90	110	
Ca	44	2	He	9470.353	1.193	339681	0.41	10000	94.7	90	110	
Na	23	2	He	9731.471	1.105	11147421	0.76	10000	97.3	90	110	
Mg	24	2	He	9593.402	1.981	6299611	1.26	10000	95.9	90	110	
K	39	2	He	9548.310	1.475	6255152	0.94	10000	95.5	90	110	
Mn	55	2	He	93.868	0.692	495045	0.38	100	93.9	90	110	
Co	59	2	He	96.954	0.466	1089982	0.33	100	97.0	90	110	
Ni	60	2	He	96.670	1.285	260310	0.49	100	96.7	90	110	
Cu	63	2	He	94.810	0.224	702056	0.71	100	94.8	90	110	
Zn	66	2	He	96.711	0.807	130705	0.09	100	96.7	90	110	
Al	27	2	He	97.562	1.367	34740	1.43	100	97.6	90	110	
B	11	1	No Gas	479.167	0.750	1320044	1.12	500	95.8	90	110	
Al	27	1	No Gas	101.888	2.241	1773692	1.74	100	101.9	90	110	
Si	28	1	No Gas	501.316	1.297	4286971	1.54	5000	10.0	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	97.879	0.886	1800430	0.58	100	97.9	90	110	
Cd	111	1	No Gas	94.842	1.335	369643	0.93	100	94.8	90	110	
Sr	88	1	No Gas	96.437	0.412	3389532	1.29	100	96.4	90	110	
Mo	95	1	No Gas	95.705	0.800	686121	1.30	100	95.7	90	110	
Sn	118	1	No Gas	97.049	0.515	1209340	0.89	100	97.0	90	110	
Sb	121	1	No Gas	99.653	1.730	1648442	1.40	100	99.7	90	110	
Ba	137	1	No Gas	93.032	0.750	568455	0.47	100	93.0	90	110	
Tl	205	1	No Gas	90.830	6.223	4250338	1.00	100	90.8	90	110	
Tl	203	1	No Gas	90.200	4.252	1803180	2.34	100	90.2	90	110	
Pb	208	1	No Gas	90.477	7.082	5916599	1.69	100	90.5	90	110	
U	238	1	No Gas	89.071	7.644	6325494	1.89	100	89.1	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9505.894	5.232	20088	4.45	10000	95.1	90	110	
Sb	121	2	He	95.340	0.772	688098	0.82	100	95.3	90	110	
Ti	47	2	He	95.966	4.050	21040	3.28	100	96.0	90	110	
Cu	63	1	No Gas	98.802	1.930	1318715	1.55	100	98.8	90	110	
Se	82	1	No Gas	99.976	2.028	20752	2.29	100	100.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1619095	1.68	1644166	98.48	70	120	
Ge	72	2	He	752009	0.79	773185	97.26	70	120	
Ge	72	1	No Gas	2743835	0.46	2810825	97.62	70	120	
In	115	1	No Gas	3547724	0.97	3620043	98.00	70	120	
Bi	209	1	No Gas	4089952	5.99	3783162	108.11	70	120	

Sample Report

Sample Table

Sample Name	MBLK-165436
Data File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:19:00-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	-0.125	-0.125	-82.94	101017	0.00	2000	
Be	9	1	No Gas	-0.003	-0.003	-174.39	45	-0.01	2000	
V	51	2	He	0.192	0.192	11.95	8487	0.00	2000	
Cr	52	2	He	0.084	0.084	11.17	2597	0.00	2000	
Fe	56	2	He	1.732	1.732	7.74	29897	0.01	200000	
Se	78	2	He	0.180	0.180	93.22	76	0.24	2000	
As	75	2	He	0.017	0.017	240.01	268	0.01	2000	
Ca	44	2	He	10.584	10.584	12.36	910	1.16	200000	
Na	23	2	He	32.237	32.237	5.75	106719	0.03	200000	
Mg	24	2	He	7.073	7.073	4.20	5244	0.13	200000	
K	39	2	He	4.969	4.969	11.24	50024	0.01	200000	
Mn	55	2	He	0.266	0.266	2.83	1853	0.01	2000	
Co	59	2	He	0.003	0.003	64.75	100	0.00	2000	
Ni	60	2	He	0.061	0.061	36.16	310	0.02	2000	
Cu	63	2	He	-0.065	-0.065	-16.02	1420	0.00	2000	
Zn	66	2	He	0.642	0.642	9.18	1133	0.06	2000	
Al	27	2	He	4.912	4.912	5.86	2670	0.18	2000	
B	11	1	No Gas	-1.744	-1.744	-11.32	56764	0.00	2000	
Al	27	1	No Gas	4.867	4.867	2.28	135404	0.00	2000	
Si	28	1	No Gas	15.981	15.981	11.93	598155	0.00	2000	
Ag	107	1	No Gas	-0.005	-0.005	-85.22	543	0.00	2000	
Cd	111	1	No Gas	0.003	0.003	92.66	33	0.01	2000	
Sr	88	1	No Gas	0.122	0.122	2.50	5511	0.00	2000	
Mo	95	1	No Gas	0.161	0.161	54.96	1310	0.01	2000	
Sn	118	1	No Gas	0.668	0.668	9.93	11095	0.01	2000	
Sb	121	1	No Gas	0.428	0.428	22.54	11655	0.00	2000	
Ba	137	1	No Gas	1.998	1.998	2.55	13587	0.01	2000	
Tl	205	1	No Gas	0.243	0.243	37.69	12888	0.00	2000	
Tl	203	1	No Gas	0.238	0.238	32.14	5401	0.00	2000	
Pb	208	1	No Gas	0.008	0.008	16.95	2520	0.00	2000	
U	238	1	No Gas	0.013	0.013	52.11	1313	0.00	2000	
Ca	43	2	He	30.902	30.902	54.24	70	44.15	200000	
Sb	121	2	He	0.370	0.370	10.55	4404	0.01	2000	
Ti	47	2	He	0.045	0.045	115.45	27	0.17	2000	
Cu	63	1	No Gas	0.031	0.031	49.79	4087	0.00	2000	
Zn	66	1	No Gas	0.636	0.636	4.06	3184	0.02	2000	
Se	82	1	No Gas	0.369	0.369	161.02	-101	-0.36	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1721193	1.47	1644166	104.68	70	120	
Ge	72	2	He	768125	0.37	773185	99.35	70	120	

Sample Report

Ge	72	1	No Gas	2860082	0.57	2810825	101.75	70	120	
In	115	1	No Gas	3745343	1.09	3620043	103.46	70	120	
Bi	209	1	No Gas	4248495	8.37	3783162	112.30	70	120	

Sample Report

Sample Table

Sample Name	MBLKF1-165436
Data File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:21:01-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	-0.058	-0.058	-111.73	102290	0.00	2000	
Be	9	1	No Gas	-0.006	-0.006	-19.69	28	-0.02	2000	
V	51	2	He	0.279	0.279	9.98	9114	0.00	2000	
Cr	52	2	He	0.295	0.295	4.32	4234	0.01	2000	
Fe	56	2	He	3.944	3.944	16.27	45057	0.01	200000	
Se	78	2	He	0.062	0.062	48.88	67	0.09	2000	
As	75	2	He	0.049	0.049	69.08	301	0.02	2000	
Ca	44	2	He	79.171	79.171	8.17	3447	2.30	200000	
Na	23	2	He	190.606	190.606	0.89	293297	0.06	200000	
Mg	24	2	He	41.890	41.890	0.57	28834	0.15	200000	
K	39	2	He	45.332	45.332	4.32	77467	0.06	200000	
Mn	55	2	He	0.216	0.216	9.16	1597	0.01	2000	
Co	59	2	He	0.013	0.013	9.81	223	0.01	2000	
Ni	60	2	He	0.133	0.133	13.06	513	0.03	2000	
Cu	63	2	He	0.565	0.565	3.90	6218	0.01	2000	
Zn	66	2	He	47.373	47.373	0.78	66064	0.07	2000	
Al	27	2	He	7.595	7.595	9.29	3651	0.21	2000	
B	11	1	No Gas	-3.960	-3.960	-10.95	50470	-0.01	2000	
Al	27	1	No Gas	7.730	7.730	6.99	187987	0.00	2000	
Si	28	1	No Gas	50.750	50.750	3.58	884727	0.01	2000	
Ag	107	1	No Gas	-0.013	-0.013	-28.26	407	0.00	2000	
Cd	111	1	No Gas	0.005	0.005	95.97	43	0.01	2000	
Sr	88	1	No Gas	0.527	0.527	4.25	20847	0.00	2000	
Mo	95	1	No Gas	0.042	0.042	3.62	413	0.01	2000	
Sn	118	1	No Gas	0.067	0.067	23.74	3250	0.00	2000	
Sb	121	1	No Gas	0.136	0.136	3.82	6715	0.00	2000	
Ba	137	1	No Gas	1.061	1.061	6.16	7649	0.01	2000	
Tl	205	1	No Gas	-0.004	-0.004	-98.85	617	0.00	2000	
Tl	203	1	No Gas	-0.002	-0.002	-80.24	303	0.00	2000	
Pb	208	1	No Gas	0.023	0.023	16.35	3444	0.00	2000	
U	238	1	No Gas	-0.001	-0.001	-90.19	247	0.00	2000	
Ca	43	2	He	99.549	99.549	4.83	220	45.25	200000	
Sb	121	2	He	0.153	0.153	21.23	2834	0.01	2000	
Ti	47	2	He	0.029	0.029	231.89	23	0.13	2000	
Cu	63	1	No Gas	0.643	0.643	2.36	12723	0.01	2000	
Zn	66	1	No Gas	47.858	47.858	0.89	180130	0.03	2000	
Se	82	1	No Gas	1.011	1.011	39.76	39	2.60	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1718435	1.10	1644166	104.52	70	120	
Ge	72	2	He	774445	0.40	773185	100.16	70	120	
Ge	72	1	No Gas	2890711	0.87	2810825	102.84	70	120	
In	115	1	No Gas	3799239	3.00	3620043	104.95	70	120	

Sample Report

Bi	209	1	No Gas	4135768	1.86	3783162	109.32	70	120	

Sample Report

Sample Table

Sample Name	LCS-165436
Data File Name	090SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:23:01-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	-0.182	-0.182	-35.31	99433	0.00	2000	
Be	9	1	No Gas	46.411	46.411	1.58	226653	0.02	2000	
V	51	2	He	46.214	46.214	0.89	305294	0.02	2000	
Cr	52	2	He	47.493	47.493	0.78	368000	0.01	2000	
Fe	56	2	He	4748.354	4748.354	1.94	32248319	0.01	200000	
Se	78	2	He	47.150	47.150	0.37	4052	1.16	2000	
As	75	2	He	45.543	45.543	0.82	44666	0.10	2000	
Ca	44	2	He	4701.989	4701.989	1.96	175164	2.68	200000	
Na	23	2	He	4953.678	4953.678	0.99	5919450	0.08	200000	
Mg	24	2	He	4900.984	4900.984	2.07	3337824	0.15	200000	
K	39	2	He	4906.436	4906.436	1.41	3356544	0.15	200000	
Mn	55	2	He	46.019	46.019	2.20	251894	0.02	2000	
Co	59	2	He	46.181	46.181	1.41	538445	0.01	2000	
Ni	60	2	He	48.773	48.773	1.37	136277	0.04	2000	
Cu	63	2	He	47.947	47.947	1.11	369148	0.01	2000	
Zn	66	2	He	72.191	72.191	1.39	101256	0.07	2000	
Al	27	2	He	58.915	58.915	0.42	22131	0.27	2000	
B	11	1	No Gas	-9.377	-9.377	-1.16	35256	-0.03	2000	
Al	27	1	No Gas	61.238	61.238	1.17	1146066	0.01	2000	
Si	28	1	No Gas	56.615	56.615	1.34	934444	0.01	2000	
Ag	107	1	No Gas	48.627	48.627	2.00	948901	0.01	2000	
Cd	111	1	No Gas	47.160	47.160	2.35	194923	0.02	2000	
Sr	88	1	No Gas	0.497	0.497	3.32	19534	0.00	2000	
Mo	95	1	No Gas	45.513	45.513	1.00	346103	0.01	2000	
Sn	118	1	No Gas	0.051	0.051	42.56	3024	0.00	2000	
Sb	121	1	No Gas	46.563	46.563	1.77	815815	0.01	2000	
Ba	137	1	No Gas	49.145	49.145	3.11	318748	0.02	2000	
Tl	205	1	No Gas	43.678	43.678	2.67	2052502	0.00	2000	
Tl	203	1	No Gas	39.986	39.986	2.25	802118	0.00	2000	
Pb	208	1	No Gas	45.536	45.536	2.48	2991712	0.00	2000	
U	238	1	No Gas	-0.003	-0.003	-11.28	107	0.00	2000	
Ca	43	2	He	4625.999	4625.999	4.00	10141	45.62	200000	
Sb	121	2	He	47.632	47.632	1.41	357357	0.01	2000	
Ti	47	2	He	47.391	47.391	2.94	10784	0.44	2000	
Cu	63	1	No Gas	47.251	47.251	0.85	668077	0.01	2000	
Zn	66	1	No Gas	72.357	72.357	1.44	272606	0.03	2000	
Se	82	1	No Gas	49.630	49.630	3.08	10790	0.46	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1714736	0.96	1644166	104.29	70	120	
Ge	72	2	He	779900	0.88	773185	100.87	70	120	
Ge	72	1	No Gas	2898278	1.36	2810825	103.11	70	120	
In	115	1	No Gas	3763064	1.94	3620043	103.95	70	120	

Sample Report

Bi	209	1	No Gas	4097478	1.73	3783162	108.31	70	120	

Sample Report

Sample Table

Sample Name	HS21041135-01
Data File Name	091SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:24:59-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.975	4.975	6.17	208425	0.00	2000	
Be	9	1	No Gas	0.120	0.120	12.11	643	0.02	2000	
V	51	2	He	5.651	5.651	5.40	44146	0.01	2000	
Cr	52	2	He	2.351	2.351	2.24	20265	0.01	2000	
Fe	56	2	He	2527.603	2527.603	1.46	17313297	0.01	200000	
Se	78	2	He	0.473	0.473	36.85	103	0.46	2000	
As	75	2	He	0.933	0.933	10.04	1175	0.08	2000	
Ca	44	2	He	7979.345	7979.345	2.18	299234	2.67	200000	
Na	23	2	He	13885.343	13885.343	1.90	16594733	0.08	200000	
Mg	24	2	He	4814.458	4814.458	2.06	3304828	0.15	200000	
K	39	2	He	2161.410	2161.410	1.37	1517054	0.14	200000	
Mn	55	2	He	106.946	106.946	0.73	589511	0.02	2000	
Co	59	2	He	0.780	0.780	3.53	9233	0.01	2000	
Ni	60	2	He	4.123	4.123	1.96	11745	0.04	2000	
Cu	63	2	He	1.735	1.735	2.31	15346	0.01	2000	
Zn	66	2	He	9.694	9.694	4.62	13921	0.07	2000	
Al	27	2	He	3157.606	3157.606	8.19	1145039	0.28	2000	>LDR
B	11	1	No Gas	5.401	5.401	9.98	76332	0.01	2000	
Al	27	1	No Gas	2940.301	2940.301	2.00	52648661	0.01	2000	>LDR
Si	28	1	No Gas	9459.202	9459.202	1.22	76909574	0.01	2000	>LDR
Ag	107	1	No Gas	0.007	0.007	60.50	783	0.00	2000	
Cd	111	1	No Gas	0.008	0.008	121.46	53	0.01	2000	
Sr	88	1	No Gas	142.483	142.483	2.00	5231851	0.00	2000	
Mo	95	1	No Gas	0.387	0.387	21.57	2997	0.01	2000	
Sn	118	1	No Gas	0.139	0.139	61.85	4129	0.00	2000	
Sb	121	1	No Gas	0.439	0.439	12.88	11999	0.00	2000	
Ba	137	1	No Gas	87.005	87.005	0.56	555652	0.02	2000	
Tl	205	1	No Gas	1.171	1.171	32.80	56591	0.00	2000	
Tl	203	1	No Gas	1.145	1.145	32.80	23635	0.00	2000	
Pb	208	1	No Gas	1.155	1.155	2.36	78247	0.00	2000	
U	238	1	No Gas	0.148	0.148	18.44	11006	0.00	2000	
Ca	43	2	He	7866.958	7866.958	2.38	17381	45.26	200000	
Sb	121	2	He	0.408	0.408	14.02	4794	0.01	2000	
Ti	47	2	He	125.335	125.335	31.31	28752	0.44	2000	
Cu	63	1	No Gas	1.757	1.757	3.37	28423	0.01	2000	
Zn	66	1	No Gas	9.855	9.855	3.94	37831	0.03	2000	
Se	82	1	No Gas	0.532	0.532	107.69	-65	-0.82	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1711604	1.05	1644166	104.10	70	120	
Ge	72	2	He	786058	0.80	773185	101.66	70	120	
Ge	72	1	No Gas	2897586	1.84	2810825	103.09	70	120	
In	115	1	No Gas	3707770	2.12	3620043	102.42	70	120	

Sample Report

Bi	209	1	No Gas	4124527	3.39	3783162	109.02	70	120	

Sample Report

Sample Table

Sample Name	HS21041135-03
Data File Name	093SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:28:55-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	5.460	5.460	3.57	217530	0.00	2000	
Be	9	1	No Gas	0.138	0.138	14.25	725	0.02	2000	
V	51	2	He	6.434	6.434	1.92	48800	0.01	2000	
Cr	52	2	He	3.363	3.363	1.73	27876	0.01	2000	
Fe	56	2	He	2979.363	2979.363	2.33	20219570	0.01	200000	
Se	78	2	He	0.357	0.357	16.98	92	0.39	2000	
As	75	2	He	1.013	1.013	8.35	1242	0.08	2000	
Ca	44	2	He	8286.913	8286.913	0.61	307991	2.69	200000	
Na	23	2	He	14584.389	14584.389	0.53	17271946	0.08	200000	
Mg	24	2	He	4967.056	4967.056	1.25	3379405	0.15	200000	
K	39	2	He	2330.426	2330.426	2.09	1617365	0.14	200000	
Mn	55	2	He	118.694	118.694	0.55	648343	0.02	2000	
Co	59	2	He	0.887	0.887	4.98	10394	0.01	2000	
Ni	60	2	He	4.516	4.516	1.54	12736	0.04	2000	
Cu	63	2	He	2.089	2.089	2.80	17915	0.01	2000	
Zn	66	2	He	8.220	8.220	3.81	11739	0.07	2000	
Al	27	2	He	3727.366	3727.366	3.63	1339891	0.28	2000	>LDR
B	11	1	No Gas	6.707	6.707	10.35	79532	0.01	2000	
Al	27	1	No Gas	3766.771	3766.771	5.58	67096834	0.01	2000	>LDR
Si	28	1	No Gas	11147.127	11147.127	3.40	90024725	0.01	2000	>LDR
Ag	107	1	No Gas	-0.001	-0.001	-620.55	623	0.00	2000	
Cd	111	1	No Gas	0.012	0.012	71.65	70	0.02	2000	
Sr	88	1	No Gas	151.039	151.039	4.29	5505220	0.00	2000	
Mo	95	1	No Gas	0.236	0.236	9.19	1850	0.01	2000	
Sn	118	1	No Gas	0.031	0.031	30.15	2697	0.00	2000	
Sb	121	1	No Gas	0.158	0.158	16.71	7072	0.00	2000	
Ba	137	1	No Gas	87.798	87.798	2.52	556562	0.02	2000	
Tl	205	1	No Gas	0.023	0.023	10.84	1857	0.00	2000	
Tl	203	1	No Gas	0.016	0.016	48.38	660	0.00	2000	
Pb	208	1	No Gas	1.272	1.272	2.01	83488	0.00	2000	
U	238	1	No Gas	0.155	0.155	5.29	11122	0.00	2000	
Ca	43	2	He	8501.261	8501.261	2.94	18616	45.67	200000	
Sb	121	2	He	0.192	0.192	3.36	3140	0.01	2000	
Ti	47	2	He	111.385	111.385	10.53	25300	0.44	2000	
Cu	63	1	No Gas	2.133	2.133	4.53	33505	0.01	2000	
Zn	66	1	No Gas	8.678	8.678	1.87	33245	0.03	2000	
Se	82	1	No Gas	0.550	0.550	85.03	-61	-0.90	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1702525	1.79	1644166	103.55	70	120	
Ge	72	2	He	779005	0.25	773185	100.75	70	120	
Ge	72	1	No Gas	2881667	0.93	2810825	102.52	70	120	
In	115	1	No Gas	3680958	1.38	3620043	101.68	70	120	

Sample Report

Bi	209	1	No Gas	4003297	1.08	3783162	105.82	70	120	

Sample Report

Sample Table

Sample Name	HS21041135-03SD
Data File Name	094SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:30:54-05:00
Sample Type	Sample
Dilution	5
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	0.973	4.865	8.03	117998	0.00	2000	
Be	9	1	No Gas	0.023	0.113	21.08	162	0.01	2000	
V	51	2	He	2.041	10.206	2.80	20243	0.01	2000	
Cr	52	2	He	0.675	3.377	13.61	7092	0.01	2000	
Fe	56	2	He	626.016	3130.080	3.87	4206652	0.01	200000	
Se	78	2	He	0.188	0.938	32.28	77	0.24	2000	
As	75	2	He	0.266	1.330	25.77	508	0.05	2000	
Ca	44	2	He	1673.099	8365.497	0.60	61782	2.71	200000	
Na	23	2	He	3033.993	15169.963	2.62	3600959	0.08	200000	
Mg	24	2	He	1022.351	5111.756	0.54	686811	0.15	200000	
K	39	2	He	453.203	2266.015	1.03	348065	0.13	200000	
Mn	55	2	He	24.225	121.126	0.42	130923	0.02	2000	
Co	59	2	He	0.183	0.915	13.16	2174	0.01	2000	
Ni	60	2	He	0.884	4.418	8.77	2574	0.03	2000	
Cu	63	2	He	0.305	1.526	17.44	4214	0.01	2000	
Zn	66	2	He	1.621	8.103	3.29	2484	0.07	2000	
Al	27	2	He	729.772	3648.860	2.45	259596	0.28	2000	
B	11	1	No Gas	-5.227	-26.136	-2.99	44591	-0.01	2000	
Al	27	1	No Gas	888.046	4440.228	17.42	15641372	0.01	2000	
Si	28	1	No Gas	2213.655	11068.273	4.69	18013358	0.01	2000	>LDR
Ag	107	1	No Gas	-0.016	-0.081	-16.28	330	0.00	2000	
Cd	111	1	No Gas	0.000	-0.001	-2536.68	20	0.00	2000	
Sr	88	1	No Gas	30.635	153.175	2.37	1130053	0.00	2000	
Mo	95	1	No Gas	0.057	0.284	11.28	520	0.01	2000	
Sn	118	1	No Gas	-0.039	-0.196	-9.51	1810	0.00	2000	
Sb	121	1	No Gas	0.052	0.259	17.30	5158	0.00	2000	
Ba	137	1	No Gas	17.654	88.269	0.94	113763	0.02	2000	
Tl	205	1	No Gas	-0.004	-0.019	-17.02	603	0.00	2000	
Tl	203	1	No Gas	-0.007	-0.033	-34.18	210	0.00	2000	
Pb	208	1	No Gas	0.249	1.244	2.85	17685	0.00	2000	
U	238	1	No Gas	0.027	0.134	7.47	2140	0.00	2000	
Ca	43	2	He	1617.334	8086.672	8.55	3497	46.25	200000	
Sb	121	2	He	0.111	0.556	16.89	2504	0.00	2000	
Ti	47	2	He	19.178	95.891	5.05	4312	0.44	2000	
Cu	63	1	No Gas	0.387	1.935	14.13	8976	0.00	2000	
Zn	66	1	No Gas	1.656	8.281	2.43	6925	0.02	2000	
Se	82	1	No Gas	0.565	2.823	74.47	-58	-0.97	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1632868	2.73	1644166	99.31	70	120	
Ge	72	2	He	768759	0.54	773185	99.43	70	120	
Ge	72	1	No Gas	2843836	1.35	2810825	101.17	70	120	
In	115	1	No Gas	3722325	2.00	3620043	102.83	70	120	

Sample Report

Bi	209	1	No Gas	3972130	2.12	3783162	104.99	70	120	

Sample Report

Sample Table

Sample Name	HS21041135-03MS
Data File Name	095SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:32:53-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	5.860	5.860	1.37	217903	0.00	2000	
Be	9	1	No Gas	50.924	50.924	1.81	238072	0.02	2000	
V	51	2	He	54.937	54.937	2.37	363717	0.02	2000	
Cr	52	2	He	50.778	50.778	2.34	395681	0.01	2000	
Fe	56	2	He	7834.879	7834.879	1.18	53530479	0.01	200000	
Se	78	2	He	49.639	49.639	0.88	4289	1.16	2000	
As	75	2	He	48.491	48.491	1.24	47832	0.10	2000	
Ca	44	2	He	13300.871	13300.871	2.51	497551	2.67	200000	
Na	23	2	He	19895.479	19895.479	1.95	23705191	0.08	200000	
Mg	24	2	He	10102.098	10102.098	1.56	6922034	0.15	200000	
K	39	2	He	7473.252	7473.252	1.53	5119230	0.15	200000	
Mn	55	2	He	170.968	170.968	3.97	940254	0.02	2000	
Co	59	2	He	49.029	49.029	0.90	575197	0.01	2000	
Ni	60	2	He	55.583	55.583	1.93	156231	0.04	2000	
Cu	63	2	He	51.197	51.197	0.62	396505	0.01	2000	
Zn	66	2	He	61.711	61.711	1.34	87118	0.07	2000	
Al	27	2	He	4084.729	4084.729	3.86	1478959	0.28	2000	>LDR
B	11	1	No Gas	7.215	7.215	11.20	78044	0.01	2000	
Al	27	1	No Gas	4108.800	4108.800	7.23	73346867	0.01	2000	>LDR
Si	28	1	No Gas	11873.162	11873.162	3.13	96128872	0.01	2000	>LDR
Ag	107	1	No Gas	51.727	51.727	1.50	972387	0.01	2000	
Cd	111	1	No Gas	50.199	50.199	1.72	199896	0.03	2000	
Sr	88	1	No Gas	157.756	157.756	2.90	5663280	0.00	2000	
Mo	95	1	No Gas	48.807	48.807	2.05	357499	0.01	2000	
Sn	118	1	No Gas	0.115	0.115	85.17	3727	0.00	2000	
Sb	121	1	No Gas	47.891	47.891	1.40	836614	0.01	2000	
Ba	137	1	No Gas	141.630	141.630	0.97	883853	0.02	2000	
Tl	205	1	No Gas	50.226	50.226	1.63	2238675	0.00	2000	
Tl	203	1	No Gas	46.015	46.015	0.76	875424	0.01	2000	
Pb	208	1	No Gas	49.883	49.883	0.89	3108286	0.00	2000	
U	238	1	No Gas	0.172	0.172	7.19	11943	0.00	2000	
Ca	43	2	He	13395.778	13395.778	3.67	29539	45.35	200000	
Sb	121	2	He	48.292	48.292	1.53	364518	0.01	2000	
Ti	47	2	He	173.660	173.660	5.45	39714	0.44	2000	
Cu	63	1	No Gas	50.790	50.790	1.45	715763	0.01	2000	
Zn	66	1	No Gas	61.915	61.915	0.77	232733	0.03	2000	
Se	82	1	No Gas	51.000	51.000	2.56	11058	0.46	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1641738	1.86	1644166	99.85	70	120	
Ge	72	2	He	784725	1.22	773185	101.49	70	120	
Ge	72	1	No Gas	2889953	1.03	2810825	102.82	70	120	
In	115	1	No Gas	3624833	1.40	3620043	100.13	70	120	

Sample Report

Bi	209	1	No Gas	3885666	1.62	3783162	102.71	70	120	

Sample Report

Sample Table

Sample Name	HS21041135-03MSD
Data File Name	096SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:34:50-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	5.959	5.959	4.02	224115	0.00	2000	
Be	9	1	No Gas	50.030	50.030	2.13	238393	0.02	2000	
V	51	2	He	55.962	55.962	1.11	371491	0.02	2000	
Cr	52	2	He	51.602	51.602	1.04	403293	0.01	2000	
Fe	56	2	He	8106.865	8106.865	1.52	55547788	0.01	200000	
Se	78	2	He	48.732	48.732	2.67	4224	1.15	2000	
As	75	2	He	48.823	48.823	1.57	48299	0.10	2000	
Ca	44	2	He	13385.344	13385.344	0.71	502230	2.67	200000	
Na	23	2	He	19599.959	19599.959	0.87	23424940	0.08	200000	
Mg	24	2	He	10114.124	10114.124	0.56	6951176	0.15	200000	
K	39	2	He	7274.124	7274.124	1.28	4998549	0.15	200000	
Mn	55	2	He	174.357	174.357	1.22	961937	0.02	2000	
Co	59	2	He	49.190	49.190	1.11	578747	0.01	2000	
Ni	60	2	He	54.975	54.975	1.16	154988	0.04	2000	
Cu	63	2	He	51.900	51.900	1.11	403066	0.01	2000	
Zn	66	2	He	67.210	67.210	0.69	95139	0.07	2000	
Al	27	2	He	4678.291	4678.291	2.47	1698676	0.28	2000	>LDR
B	11	1	No Gas	6.663	6.663	13.15	78044	0.01	2000	
Al	27	1	No Gas	4541.096	4541.096	5.07	82321900	0.01	2000	>LDR
Si	28	1	No Gas	13012.922	13012.922	4.61	106935058	0.01	2000	>LDR
Ag	107	1	No Gas	51.008	51.008	1.72	967990	0.01	2000	
Cd	111	1	No Gas	49.891	49.891	1.26	200565	0.02	2000	
Sr	88	1	No Gas	156.992	156.992	2.58	5689389	0.00	2000	
Mo	95	1	No Gas	48.150	48.150	1.60	356045	0.01	2000	
Sn	118	1	No Gas	0.093	0.093	6.66	3477	0.00	2000	
Sb	121	1	No Gas	46.600	46.600	1.00	826546	0.01	2000	
Ba	137	1	No Gas	141.689	141.689	1.42	892569	0.02	2000	
Tl	205	1	No Gas	51.407	51.407	3.47	2308711	0.00	2000	
Tl	203	1	No Gas	46.706	46.706	2.23	895555	0.01	2000	
Pb	208	1	No Gas	49.977	49.977	2.83	3138288	0.00	2000	
U	238	1	No Gas	0.176	0.176	11.48	12301	0.00	2000	
Ca	43	2	He	13335.402	13335.402	0.59	29499	45.21	200000	
Sb	121	2	He	48.035	48.035	0.55	363672	0.01	2000	
Ti	47	2	He	181.408	181.408	9.90	41626	0.44	2000	
Cu	63	1	No Gas	50.645	50.645	0.47	724596	0.01	2000	
Zn	66	1	No Gas	66.809	66.809	0.26	254867	0.03	2000	
Se	82	1	No Gas	50.248	50.248	2.67	11060	0.45	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1673457	2.11	1644166	101.78	70	120	
Ge	72	2	He	786981	0.44	773185	101.78	70	120	
Ge	72	1	No Gas	2933717	0.53	2810825	104.37	70	120	
In	115	1	No Gas	3659412	1.59	3620043	101.09	70	120	

Sample Report

Bi	209	1	No Gas	3917279	2.49	3783162	103.55	70	120	

Sample Report

Sample Table

Sample Name	HS21041135-03PDS
Data File Name	097SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:36:47-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	5.764	5.764	4.34	212630	0.00	2000	
Be	9	1	No Gas	118.588	118.588	1.91	545914	0.02	2000	
V	51	2	He	122.870	122.870	0.85	773313	0.02	2000	
Cr	52	2	He	116.996	116.996	0.47	874087	0.01	2000	
Fe	56	2	He	14588.955	14588.955	1.14	95808039	0.02	200000	
Se	78	2	He	118.868	118.868	1.81	9789	1.21	2000	
As	75	2	He	116.529	116.529	1.02	110173	0.11	2000	
Ca	44	2	He	20691.444	20691.444	0.83	743911	2.78	200000	
Na	23	2	He	27807.456	27807.456	1.22	31826806	0.09	200000	
Mg	24	2	He	17400.790	17400.790	2.19	11461521	0.15	200000	
K	39	2	He	14190.830	14190.830	0.84	9304056	0.15	200000	
Mn	55	2	He	248.513	248.513	1.73	1313954	0.02	2000	
Co	59	2	He	118.245	118.245	1.62	1333418	0.01	2000	
Ni	60	2	He	123.886	123.886	1.44	334602	0.04	2000	
Cu	63	2	He	118.264	118.264	1.61	877943	0.01	2000	
Zn	66	2	He	126.690	126.690	1.38	171695	0.07	2000	
Al	27	2	He	3734.107	3734.107	2.13	1300097	0.29	2000	>LDR
B	11	1	No Gas	8.108	8.108	12.11	79202	0.01	2000	
Al	27	1	No Gas	3915.093	3915.093	17.45	67914247	0.01	2000	>LDR
Si	28	1	No Gas	11815.410	11815.410	9.37	93096295	0.01	2000	>LDR
Ag	107	1	No Gas	106.221	106.221	1.89	1947824	0.01	2000	
Cd	111	1	No Gas	118.081	118.081	1.26	458810	0.03	2000	
Sr	88	1	No Gas	165.341	165.341	0.08	5792577	0.00	2000	
Mo	95	1	No Gas	117.374	117.374	0.51	838838	0.01	2000	
Sn	118	1	No Gas	0.120	0.120	16.50	3688	0.00	2000	
Sb	121	1	No Gas	119.361	119.361	1.98	2023068	0.01	2000	
Ba	137	1	No Gas	220.935	220.935	1.98	1344842	0.02	2000	
Tl	205	1	No Gas	117.481	117.481	3.13	5157314	0.00	2000	
Tl	203	1	No Gas	116.037	116.037	3.96	2174139	0.01	2000	
Pb	208	1	No Gas	118.007	118.007	3.07	7241548	0.00	2000	
U	238	1	No Gas	0.169	0.169	9.58	11506	0.00	2000	
Ca	43	2	He	20713.689	20713.689	1.84	43914	47.17	200000	
Sb	121	2	He	117.217	117.217	0.97	848257	0.01	2000	
Ti	47	2	He	238.731	238.731	9.42	52449	0.46	2000	
Cu	63	1	No Gas	120.291	120.291	1.96	1644923	0.01	2000	
Zn	66	1	No Gas	127.163	127.163	2.71	464250	0.03	2000	
Se	82	1	No Gas	119.024	119.024	2.43	25354	0.47	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1616875	2.12	1644166	98.34	70	120	
Ge	72	2	He	754414	1.42	773185	97.57	70	120	
Ge	72	1	No Gas	2813111	2.30	2810825	100.08	70	120	
In	115	1	No Gas	3536746	0.59	3620043	97.70	70	120	

Sample Report

Bi	209	1	No Gas	3829998	3.09	3783162	101.24	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	098_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:38:41-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	108.169	1.851	2191876	0.82	100	108.2	90	110	
Be	9	1	No Gas	99.849	0.984	445729	0.53	100	99.8	90	110	
V	51	2	He	95.069	0.916	602040	0.58	100	95.1	90	110	
Cr	52	2	He	95.467	0.438	716064	0.64	100	95.5	90	110	
Fe	56	2	He	10460.965	1.121	68946194	1.57	10000	104.6	90	110	
Se	78	2	He	96.371	1.229	7976	1.69	100	96.4	90	110	
As	75	2	He	97.284	0.620	92330	0.80	100	97.3	90	110	
Ca	44	2	He	10373.563	0.363	374523	0.85	10000	103.7	90	110	
Na	23	2	He	10503.126	0.468	12106196	0.66	10000	105.0	90	110	
Mg	24	2	He	10255.319	1.348	6779722	1.70	10000	102.6	90	110	
K	39	2	He	10312.915	1.510	6797874	1.94	10000	103.1	90	110	
Mn	55	2	He	94.162	0.441	499900	0.62	100	94.2	90	110	
Co	59	2	He	95.627	3.054	1082252	3.25	100	95.6	90	110	
Ni	60	2	He	97.366	0.373	263939	0.49	100	97.4	90	110	
Cu	63	2	He	95.486	0.388	711742	0.60	100	95.5	90	110	
Zn	66	2	He	96.999	1.328	131973	1.78	100	97.0	90	110	
Al	27	2	He	98.922	0.962	35446	0.91	100	98.9	90	110	
B	11	1	No Gas	528.349	2.098	1403343	0.88	500	105.7	90	110	
Al	27	1	No Gas	104.608	5.952	1846748	2.89	100	104.6	90	110	
Si	28	1	No Gas	556.252	2.396	4780264	1.71	5000	11.1	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	102.928	1.554	1900174	0.77	100	102.9	90	110	
Cd	111	1	No Gas	95.721	1.499	374448	1.26	100	95.7	90	110	
Sr	88	1	No Gas	104.648	2.430	3690985	1.49	100	104.6	90	110	
Mo	95	1	No Gas	96.900	1.233	697195	0.39	100	96.9	90	110	
Sn	118	1	No Gas	102.695	1.355	1284217	0.78	100	102.7	90	110	
Sb	121	1	No Gas	102.850	3.999	1726957	1.10	100	102.9	90	110	
Ba	137	1	No Gas	99.551	0.807	610483	0.29	100	99.6	90	110	
Tl	205	1	No Gas	95.123	2.144	4254653	1.34	100	95.1	90	110	
Tl	203	1	No Gas	92.570	2.309	1767210	0.95	100	92.6	90	110	
Pb	208	1	No Gas	97.136	2.279	6073457	1.55	100	97.1	90	110	
U	238	1	No Gas	95.731	0.588	6502768	0.87	100	95.7	90	110	
Ca	43	2	He	10551.918	0.932	22452	0.83	10000	105.5	90	110	
Sb	121	2	He	98.643	0.133	716611	0.43	100	98.6	90	110	
Ti	47	2	He	104.331	1.108	23030	1.58	100	104.3	90	110	
Cu	63	1	No Gas	96.427	1.878	1307176	1.50	100	96.4	90	110	
Se	82	1	No Gas	97.248	2.031	20502	3.74	100	97.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1567586	1.20	1644166	95.34	70	120	
Ge	72	2	He	756994	0.48	773185	97.91	70	120	
Ge	72	1	No Gas	2787378	2.84	2810825	99.17	70	120	
In	115	1	No Gas	3560812	0.96	3620043	98.36	70	120	
Bi	209	1	No Gas	3900337	1.38	3783162	103.10	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	100_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:44:33-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.147	-91.2	95906	0.5	0.5	
Be	9	1	No Gas	-0.003	-94.4	42	34.6	0.5	
V	51	2	He	1.207	6.1	14604	2.9	2.5	
Cr	52	2	He	-0.037	-46.7	1640	7.6	2.5	
Fe	56	2	He	-1.041	-5.1	11115	3.3	100	
Se	78	2	He	0.193	75.4	75	15.6	2	
As	75	2	He	0.089	39.6	330	9.9	2.5	
Ca	44	2	He	-3.581	-16.6	383	5.4	100	
Na	23	2	He	17.637	4.5	87785	1.2	100	
Mg	24	2	He	-0.050	-118.4	457	8.3	100	
K	39	2	He	5.021	7.8	48967	0.6	100	
Mn	55	2	He	-0.019	-46.5	313	14.7	2.5	
Co	59	2	He	-0.002	-118.1	47	53.9	2.5	
Ni	60	2	He	0.014	30.0	177	6.5	2.5	
Cu	63	2	He	-0.104	-13.1	1103	9.1	2	
Zn	66	2	He	-0.009	-154.8	230	8.7	2.5	
Al	27	2	He	0.010	2589.2	913	9.3	5	
B	11	1	No Gas	-5.661	-12.4	43661	1.6	0.5	
Al	27	1	No Gas	0.364	128.6	54042	15.1	5	
Si	28	1	No Gas	0.552	107.6	459317	0.7	10	
Ag	107	1	No Gas	-0.006	-51.9	517	12.4	2.5	
Cd	111	1	No Gas	-0.004	-36.0	3	173.2	1	
Sr	88	1	No Gas	0.001	527.2	983	12.0	2.5	
Mo	95	1	No Gas	0.027	15.0	283	10.8	2.5	
Sn	118	1	No Gas	0.027	65.8	2567	6.6	5	
Sb	121	1	No Gas	0.135	4.6	6405	1.2	2.5	
Ba	137	1	No Gas	-0.054	-22.5	350	19.8	2.5	
Tl	205	1	No Gas	0.014	44.8	1390	23.9	1	
Tl	203	1	No Gas	0.019	42.9	693	26.0	1	
Pb	208	1	No Gas	-0.007	-46.0	1353	11.3	2.5	
U	238	1	No Gas	-0.002	-35.5	163	28.9	2.5	
Ca	43	2	He	6.358	113.9	17	91.7	100	
Sb	121	2	He	0.153	16.7	2747	6.9	2.5	
Ti	47	2	He	-0.059	-44.7	3	173.2	2.5	
Cu	63	1	No Gas	-0.058	-25.6	2770	7.6	2.5	
Se	82	1	No Gas	0.731	29.4	-21	-211.2	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag

Continuing Calibration Blank (CCB) Report

Li	6	1	No Gas	1642493	3.40	1644166	99.90	70	120	
Ge	72	2	He	751354	0.19	773185	97.18	70	120	
Ge	72	1	No Gas	2765141	0.44	2810825	98.37	70	120	
In	115	1	No Gas	3585311	2.06	3620043	99.04	70	120	
Bi	209	1	No Gas	3874360	3.67	3783162	102.41	70	120	

Sample Report

Sample Table

Sample Name	HS21041135-04
Data File Name	101SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T14:46:34-05:00
Sample Type	Sample
Dilution	1
Comment	DOD TW 165436
ISTD Ref FileName	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	5.446	5.446	2.39	207005	0.00	2000	
Be	9	1	No Gas	0.141	0.141	4.77	710	0.02	2000	
V	51	2	He	6.421	6.421	2.40	47595	0.01	2000	
Cr	52	2	He	2.770	2.770	5.67	22763	0.01	2000	
Fe	56	2	He	2650.391	2650.391	1.73	17577749	0.02	200000	
Se	78	2	He	0.366	0.366	11.40	91	0.40	2000	
As	75	2	He	1.037	1.037	7.72	1236	0.08	2000	
Ca	44	2	He	8525.885	8525.885	0.75	309572	2.75	200000	
Na	23	2	He	14905.882	14905.882	1.41	17244235	0.09	200000	
Mg	24	2	He	5127.231	5127.231	1.68	3407847	0.15	200000	
K	39	2	He	2325.236	2325.236	2.07	1576625	0.15	200000	
Mn	55	2	He	105.932	105.932	0.74	565390	0.02	2000	
Co	59	2	He	0.819	0.819	2.99	9393	0.01	2000	
Ni	60	2	He	4.513	4.513	1.79	12433	0.04	2000	
Cu	63	2	He	1.935	1.935	3.78	16360	0.01	2000	
Zn	66	2	He	9.796	9.796	4.64	13617	0.07	2000	
Al	27	2	He	3368.539	3368.539	6.28	1182629	0.28	2000	>LDR
B	11	1	No Gas	9.040	9.040	11.70	81931	0.01	2000	
Al	27	1	No Gas	3358.249	3358.249	6.98	58903569	0.01	2000	>LDR
Si	28	1	No Gas	12260.115	12260.115	19.94	97575277	0.01	2000	>LDR
Ag	107	1	No Gas	0.012	0.012	152.22	837	0.00	2000	
Cd	111	1	No Gas	0.015	0.015	43.52	77	0.02	2000	
Sr	88	1	No Gas	159.344	159.344	1.62	5585743	0.00	2000	
Mo	95	1	No Gas	0.125	0.125	12.89	980	0.01	2000	
Sn	118	1	No Gas	0.057	0.057	4.90	2914	0.00	2000	
Sb	121	1	No Gas	0.142	0.142	25.66	6675	0.00	2000	
Ba	137	1	No Gas	89.872	89.872	1.83	547769	0.02	2000	
Tl	205	1	No Gas	0.018	0.018	10.69	1523	0.00	2000	
Tl	203	1	No Gas	0.011	0.011	24.46	530	0.00	2000	
Pb	208	1	No Gas	1.263	1.263	5.13	79091	0.00	2000	
U	238	1	No Gas	0.158	0.158	13.17	10786	0.00	2000	
Ca	43	2	He	8425.502	8425.502	7.36	18015	46.77	200000	
Sb	121	2	He	0.146	0.146	8.68	2734	0.01	2000	
Ti	47	2	He	105.602	105.602	15.23	23442	0.45	2000	
Cu	63	1	No Gas	2.019	2.019	1.12	31420	0.01	2000	
Zn	66	1	No Gas	9.810	9.810	1.55	36887	0.03	2000	
Se	82	1	No Gas	0.948	0.948	19.54	25	3.76	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1622217	1.66	1644166	98.66	70	120	
Ge	72	2	He	761143	1.34	773185	98.44	70	120	
Ge	72	1	No Gas	2836798	1.55	2810825	100.92	70	120	
In	115	1	No Gas	3539131	1.43	3620043	97.76	70	120	

Sample Report

Bi	209	1	No Gas	3824393	3.76	3783162	101.09	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	104_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T15:01:35-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.632	3.125	2108189	0.44	100	103.6	90	110	
Be	9	1	No Gas	97.371	2.458	435569	0.36	100	97.4	90	110	
V	51	2	He	93.195	0.590	581160	0.63	100	93.2	90	110	
Cr	52	2	He	92.735	0.397	684831	0.41	100	92.7	90	110	
Fe	56	2	He	10298.401	1.522	66823552	2.10	10000	103.0	90	110	
Se	78	2	He	92.826	4.474	7564	3.77	100	92.8	90	110	
As	75	2	He	95.196	0.663	88950	0.25	100	95.2	90	110	
Ca	44	2	He	10171.935	1.329	361547	1.34	10000	101.7	90	110	
Na	23	2	He	10472.986	2.397	11883948	2.23	10000	104.7	90	110	
Mg	24	2	He	10337.853	0.285	6728154	0.95	10000	103.4	90	110	
K	39	2	He	10163.187	1.010	6595333	0.38	10000	101.6	90	110	
Mn	55	2	He	91.516	0.628	478325	0.78	100	91.5	90	110	
Co	59	2	He	94.119	0.935	1048575	0.28	100	94.1	90	110	
Ni	60	2	He	96.784	1.449	258285	1.33	100	96.8	90	110	
Cu	63	2	He	94.375	0.815	692548	0.52	100	94.4	90	110	
Zn	66	2	He	95.305	0.442	127656	0.60	100	95.3	90	110	
Al	27	2	He	98.250	1.136	34663	0.71	100	98.2	90	110	
B	11	1	No Gas	530.585	4.671	1411683	2.30	500	106.1	90	110	
Al	27	1	No Gas	100.353	0.711	1774889	1.11	100	100.4	90	110	
Si	28	1	No Gas	541.622	1.106	4666184	0.35	5000	10.8	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	99.318	0.799	1861893	0.59	100	99.3	90	110	
Cd	111	1	No Gas	92.510	0.699	367478	1.10	100	92.5	90	110	
Sr	88	1	No Gas	100.489	0.506	3599372	0.27	100	100.5	90	110	
Mo	95	1	No Gas	93.354	0.069	682067	0.41	100	93.4	90	110	
Sn	118	1	No Gas	99.038	0.398	1257701	0.46	100	99.0	90	110	
Sb	121	1	No Gas	99.180	0.183	1666100	0.51	100	99.2	90	110	
Ba	137	1	No Gas	96.206	0.830	599098	0.91	100	96.2	90	110	
Tl	205	1	No Gas	93.297	2.780	4155702	1.26	100	93.3	90	110	
Tl	203	1	No Gas	92.037	2.738	1749841	1.02	100	92.0	90	110	
Pb	208	1	No Gas	95.007	2.369	5916191	1.20	100	95.0	90	110	
U	238	1	No Gas	94.479	2.494	6390733	1.20	100	94.5	90	110	
Ca	43	2	He	9850.105	1.911	20632	1.37	10000	98.5	90	110	
Sb	121	2	He	96.614	1.009	690985	0.36	100	96.6	90	110	
Ti	47	2	He	103.622	1.139	22519	1.81	100	103.6	90	110	
Cu	63	1	No Gas	96.538	3.149	1308440	2.60	100	96.5	90	110	
Se	82	1	No Gas	96.177	1.930	20265	1.99	100	96.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1571451	2.81	1644166	95.58	70	120	
Ge	72	2	He	745250	0.68	773185	96.39	70	120	
Ge	72	1	No Gas	2786332	0.67	2810825	99.13	70	120	
In	115	1	No Gas	3615589	0.47	3620043	99.88	70	120	
Bi	209	1	No Gas	3884763	1.75	3783162	102.69	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	105_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq Date Time	2021-05-05T15:03:29-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	012CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.112	-26.0	95637	0.2	0.5	
Be	9	1	No Gas	-0.002	-162.7	48	26.0	0.5	
V	51	2	He	-0.033	-156.7	6963	5.0	2.5	
Cr	52	2	He	-0.043	-27.2	1607	5.6	2.5	
Fe	56	2	He	-0.136	-96.1	17188	4.7	100	
Se	78	2	He	0.071	90.1	66	8.0	2	
As	75	2	He	-0.005	-1182.4	243	25.1	2.5	
Ca	44	2	He	-5.713	-31.3	310	21.2	100	
Na	23	2	He	10.697	5.1	80619	1.0	100	
Mg	24	2	He	0.145	90.5	590	15.1	100	
K	39	2	He	-0.807	-5.9	45592	0.3	100	
Mn	55	2	He	-0.010	-46.5	360	7.3	2.5	
Co	59	2	He	0.003	84.6	100	26.5	2.5	
Ni	60	2	He	0.033	12.0	230	4.3	2.5	
Cu	63	2	He	-0.083	-13.7	1267	6.4	2	
Zn	66	2	He	0.040	31.4	300	5.8	2.5	
Al	27	2	He	0.462	30.1	1080	4.6	5	
B	11	1	No Gas	4.408	39.1	69845	6.1	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.225	-52.1	44486	4.2	5	
Si	28	1	No Gas	-1.915	-39.9	445466	1.0	10	
Ag	107	1	No Gas	0.002	44.7	667	2.3	2.5	
Cd	111	1	No Gas	0.002	387.6	27	94.4	1	
Sr	88	1	No Gas	0.006	44.6	1193	8.1	2.5	
Mo	95	1	No Gas	0.204	44.3	1603	42.0	2.5	
Sn	118	1	No Gas	0.278	25.6	5845	15.8	5	
Sb	121	1	No Gas	0.312	8.7	9447	3.2	2.5	
Ba	137	1	No Gas	-0.045	-45.3	417	30.6	2.5	
Tl	205	1	No Gas	0.992	43.1	47274	44.8	1	
Tl	203	1	No Gas	0.951	41.4	19354	42.9	1	
Pb	208	1	No Gas	0.009	58.7	2463	16.2	2.5	
U	238	1	No Gas	0.027	49.6	2207	44.9	2.5	
Ca	43	2	He	7.843	59.8	20	50.0	100	
Sb	121	2	He	0.255	16.0	3511	8.4	2.5	
Ti	47	2	He	0.031	82.1	23	24.7	2.5	
Cu	63	1	No Gas	-0.043	-49.2	3004	8.7	2.5	
Se	82	1	No Gas	0.749	20.3	-18	-181.0	2	

QC ISTD Table

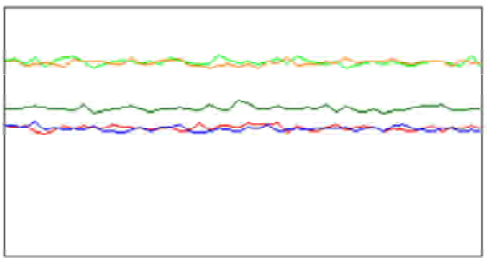
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1625085	0.82	1644166	98.84	70	120	
Ge	72	2	He	758211	0.32	773185	98.06	70	120	
Ge	72	1	No Gas	2797978	1.92	2810825	99.54	70	120	
In	115	1	No Gas	3660241	0.35	3620043	101.11	70	120	
Bi	209	1	No Gas	4058774	2.42	3783162	107.29	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\050521A.b
Acq. Date-Time	5/5/2021 10:05:38 AM
Report Comment	---
Instrument Name	G8421A SG18523544

[No Gas]

Sensitivity



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

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	10000	5173	51729.14		
24	20000	15671	156710.95		
59	50000	25654	256537.47		
115	50000	38990	389899.33		
208	50000	29781	297808.92		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	1.964	5.000	
24	1.709	5.000	
59	1.851	5.000	
115	1.436	5.000	
208	1.607	5.000	

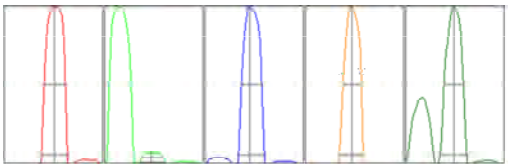
Mass	Background	Background (Required)	Background (Flag)
9	0.300		
24	1.500		
59	0.400		
115	0.100		
208	0.600		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.711 %
Doubly Charged	70 / 140 0.693 %

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	5179.38	9.05	8.90 - 9.10	
24	15717.88	23.95	23.90 - 24.10	
59	26201.61	58.90	58.90 - 59.10	
115	39504.80	114.95	114.90 - 115.10	
208	29824.41	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.787		
24	0.66	0.788		
59	0.62	0.784		
115	0.57	0.732		
208	0.61	0.808		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.47 L/min	Dilution Gas	0.55 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	14.0 V
Extract 2	-195.0 V	Cell Entrance	-30 V	Plate Bias	-45 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	134	Axis Gain	1.0003	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.13		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	-0.6 mm

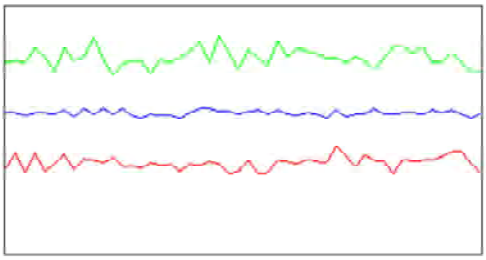
EM

Discriminator	4.6 mV	Analog HV	2541 V	Pulse HV	1281 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	184	1836.32		
24	1000	794	7936.24		
59	20000	11384	113835.94		

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

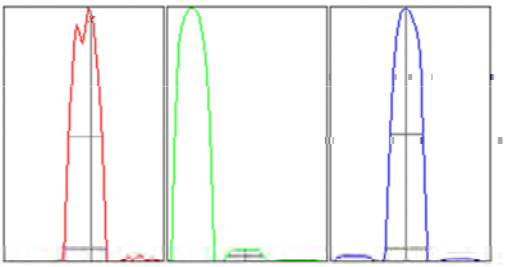
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	7.298	5.000	Fail
24	4.620	5.000	
59	1.938	5.000	

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

Oxide/Doubly Charged Ratio

Oxide 156 / 140 0.355 %
Doubly Charged 70 / 140 0.834 %

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	185.02	9.15	8.90 - 9.10	Fail
24	751.48	24.00	23.90 - 24.10	
59	11468.83	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.63	0.784		
24	0.66	0.787		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.62	0.783		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.47 L/min	Dilution Gas	0.55 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	0.2 V
Extract 2	-195.0 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	3.0 V
He Flow	4.2 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	134	Axis Gain	1.0003	QP Bias	-15.0 V
Mass Offset	125	Axis Offset	0.13		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	-0.6 mm

EM

Discriminator	4.6 mV	Analog HV	2541 V	Pulse HV	1281 V

HS21041135 - Sub Perch Data IV (E2100461)

ALS WO# HS21041135

May 05, 2021 Service Request No:E2100461

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

Laboratory Results for: HS21041135

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 21, 2021
For your reference, these analyses have been assigned our service request number **E2100461.**

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.:**	E2100461
Project:	HS21041135	**Date Received:**	04/21/21
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

Four samples were received for analysis at ALS Environmental in Houston on 04/21/21.

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:

EQ2100262: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS/DLCS recoveries are within QC limits. Both the MS and MSD recoveries were above control 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:**E2100461
Project: HS21041135

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100461-001	16SW01-210419	4/19/2021	1315
E2100461-002	16SW01-210419-FD	4/19/2021	1315
E2100461-003	16SW02-210419	4/19/2021	1340
E2100461-004	16SW03-210419	4/19/2021	1400

Service Request Summary

Folder #: **E2100461**
Client Name: ALS Environmental - US
Project Name: HS21041135
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: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041135
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100461-001	16SW01-210419	Ground Water	04/19/21 1315	**IV**
E2100461-002	16SW01-210419-FD	Ground Water	04/19/21 1315	**IV**
E2100461-003	16SW02-210419	Ground Water	04/19/21 1340	**IV**
E2100461-004	16SW03-210419	Ground Water	04/19/21 1400	**IV**

Service Request Summary

Folder #: **E2100461**
Client Name: ALS Environmental - US
Project Name: HS21041135
Project Number:

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

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/21/21
Internal Due Date: 5/5/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041135
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	3	Level II due 5/5, IV due 5/12
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD

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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
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: 15966**

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:	HS21041135
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041135-01**	**16SW01-210419**	**Groundwater**	**19 Apr 2021 13:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
2.	**HS21041135-02**	**16SW01-210419-FD**	**Groundwater**	**19 Apr 2021 13:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
3.	**HS21041135-03**	**16SW02-210419**	**Groundwater**	**19 Apr 2021 13:40**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021
4.	**HS21041135-04**	**16SW03-210419**	**Groundwater**	**19 Apr 2021 14:00**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			05 May 2021

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS21041135-03 MS/MSD

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **15966**

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 4/21/21 1990

Cooler ID(s): _____ Temperature(s): _____

Cooler Receipt Form

ALS Environmental

Project Chemist: CA

Client/Project: ALS-H

Thermometer ID: IR31

Date/Time Received: 4/21/21 Initials: CA Date/Time Logged in: 4/21/21 Initials: CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other _____

3. Were custody seals on coolers? ○ Yes ✓ No — 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		4/21/21	1440	CA	0.8	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100460-001	16EW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100460-002	16EW04-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100460-003	16EW08-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100460-004	16WW13-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100460-005	16WW42-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100460-006	16RW05-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100460-007	16RW06-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100460-008	16RW07-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100461-001	16SW01-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100461-002	16SW01-210419-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100461-003	16SW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100461-004	16SW03-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100464-001	16EW01-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100464-002	16EW03-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100464-003	16IW10-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100464-004	16RW11-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2100464-005	16RW11-210421-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2100464-006	16IW20-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
19	EQ2100262-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100262-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2100262-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2100262-04	16SW02-210419 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2100262-05	16SW02-210419 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100262-02	1.00µL	EQ2100262-03	1.00µL	EQ2100262-04	1.00µL	EQ2100262-05	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100460-001	100.00µL	E2100460-002	100.00µL	E2100460-003	100.00µL	E2100460-004	100.00µL	E2100460-005	100.00µL	E2100460-006	100.00µL
E2100460-007	100.00µL	E2100460-008	100.00µL	E2100461-001	100.00µL	E2100461-002	100.00µL	E2100461-003	100.00µL	E2100461-004	100.00µL
E2100464-001	100.00µL	E2100464-002	100.00µL	E2100464-003	100.00µL	E2100464-004	100.00µL	E2100464-005	100.00µL	E2100464-006	100.00µL
EQ2100262-01	100.00µL	EQ2100262-02	100.00µL	EQ2100262-03	100.00µL	EQ2100262-04	100.00µL	EQ2100262-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

Preparation Steps

Step: Preparation
Started: 4/30/21 12:02
Finished: 4/30/21 14:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

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:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1315
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW01-210419	**Units:**	µg/L
Lab Code:	E2100461-001	**Basis:**	As Received

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	4/30/21	5/1/21 14:48	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1315
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW01-210419-FD	**Units:**	µg/L
Lab Code:	E2100461-002	**Basis:**	As Received

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	4/30/21	5/1/21 14:57	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1340
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	E2100461-003	**Basis:**	As Received

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	4/30/21	5/1/21 15:06	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1400
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW03-210419	**Units:**	µg/L
Lab Code:	E2100461-004	**Basis:**	As Received

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	4/30/21	5/1/21 15:16	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100262-01	**Basis:**	As Received

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	4/30/21	4/30/21 19:08	378426	722218	

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: HS21041135
Sample Matrix: Ground Water

Service Request: E2100461
Date Analyzed: 4/30/21

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: As Received

Extraction Lot: 378426

	Lab Control Sample EQ2100262-02			Duplicate Lab Control Sample EQ2100262-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0976	0.100	98	0.0984	0.100	98	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:**	E2100461
Project:	HS21041135	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-02	**Basis:**	As Received

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	**0.0976**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:18	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-03	**Basis:**	As Received

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	**0.0984**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:27	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
		Date Analyzed:	5/ 1/21

Matrix Spike Summary

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

Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	E2100461-003	**Basis:**	As Received

Analytical Method: 6850
Prep Method: Method

		16SW02-210419MS				16SW02-210419DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2100262-04				EQ2100262-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**		**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	ND	0.187	0.100	187	*	0.185	0.100	185	*	84 - 119	1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1340
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	EQ2100262-04	**Basis:**	As Received
Run Type:	Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.187**	J	0.500	0.250	0.125	5	4/30/21	5/1/21 14:10	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100461
Project:	HS21041135	**Date Collected:**	4/19/21 1340
Sample Matrix:	Ground Water	**Date Received:**	4/21/21
Sample Name:	16SW02-210419	**Units:**	µg/L
Lab Code:	EQ2100262-05	**Basis:**	As Received
Run Type:	Duplicate Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.185**	J	0.500	0.250	0.125	5	4/30/21	5/1/21 14:19	378426	722220	

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

20210428

1st Review: Grivera
2nd Review: Kneir

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20210428_044	Perchlorate6850b.lcm	1x	☒	3100808-05	4/28/2021 18:16
2	PERCHLORATE2		20210428_045	Perchlorate6850b.lcm	1x	☒	3100808-06	4/28/2021 18:25
3	PERCHLORATE3		20210428_046	Perchlorate6850b.lcm	1x	☒	3100808-07	4/28/2021 18:34
4	PERCHLORATE4		20210428_047	Perchlorate6850b.lcm	1x	☒	3100808-08	4/28/2021 18:44
5	PERCHLORATE5		20210428_048	Perchlorate6850b.lcm	1x	☒	3100808-09	4/28/2021 18:53
6	PERCHLORATE6		20210428_049	Perchlorate6850b.lcm	1x	☒	3100809-01	4/28/2021 19:03
7	PERCHLORATE7		20210428_050	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 19:12
8	PERCHLORATE8		20210428_051	Perchlorate6850b.lcm	1x	☒	3100809-03	4/28/2021 19:22
9	PERCHLORATE9		20210428_052	Perchlorate6850b.lcm	1x	☒	3100809-04	4/28/2021 19:31
10	PERCHLORATEICV		20210428_054	Perchlorate6850b.lcm	1x	☒	3100809-06	4/28/2021 19:50
11	ICS		20210428_055	Perchlorate6850b.lcm	1x	☒		4/28/2021 19:59
12	LODV		20210428_056	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:08
13	PERCHLORATE7		20210428_057	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 20:18
14	EQ2100244-01		20210428_058	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:27
15	EQ2100244-02		20210428_059	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:37
16	EQ2100244-03		20210428_060	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:46
17	E2100412-016X10		20210428_061	Perchlorate6850b.lcm	10X	☒		4/28/2021 20:55
18	E2100412-017X10		20210428_062	Perchlorate6850b.lcm	10X	☒		4/28/2021 21:05
19	E2100412-011X10DNU		20210428_063	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:14
20	E2100412-012X10DNU		20210428_064	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:24
21	E2100412-013X10DNU		20210428_065	Perchlorate6850b.lcm	10X	☒	Over ICAL: Run 50X	4/28/2021 21:33
22	E2100412-014X10DNU		20210428_066	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:42
23	E2100412-015X10DNU		20210428_067	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:52
24	PERCHLORATE7		20210428_068	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:01
25	E2100411-001		20210428_069	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:10
26	E2100412-003X10		20210428_070	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:20
27	E2100412-010X10		20210428_071	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:29
28	R2103214-010		20210428_072	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:38
29	PERCHLORATE7		20210428_073	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:48
30	E2100485-002X10		20210428_074	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:57
31	E2100485-003X10		20210428_075	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:07
32	E2100485-007X10		20210428_076	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:16
33	E2100485-010X10		20210428_077	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:25
34	EQ2100244-04X10DNU		20210428_078	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:35
35	EQ2100244-05X10DNU		20210428_079	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:44
36	PERCHLORATE7		20210428_080	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 23:54
37	E2100485-001		20210428_081	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:03
38	E2100485-004		20210428_082	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:12
39	E2100485-005		20210428_083	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:22
40	E2100485-006DNU		20210428_084	Perchlorate6850b.lcm	1x	☒	DNU: INST failed	4/29/2021 0:31
41	PERCHLORATE7		20210428_085	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 0:40
42	E2100485-008		20210428_086	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:50
43	E2100485-009		20210428_087	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:59
44	E2100485-011		20210428_088	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:09
45	E2100485-012DNU		20210428_089	Perchlorate6850b.lcm	1x	☒	DNU-low INST	4/29/2021 1:18
46	E2100485-013		20210428_090	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:27
47	EQ2100244-04		20210428_091	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:37
48	EQ2100244-05		20210428_092	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:46
49	PERCHLORATE7		20210428_093	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 1:56
50								
51								

Initial Calibration - Detailed Report

Calibration ID: EC2100026 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2100026-01	PERCHLORATE1	20210428_044	04/28/2021 18:16
02	EC2100026-02	PERCHLORATE2	20210428_045	04/28/2021 18:25
03	EC2100026-03	PERCHLORATE3	20210428_046	04/28/2021 18:34
04	EC2100026-04	PERCHLORATE4	20210428_047	04/28/2021 18:44
05	EC2100026-05	PERCHLORATE5	20210428_048	04/28/2021 18:53
06	EC2100026-06	PERCHLORATE6	20210428_049	04/28/2021 19:03
07	EC2100026-07	PERCHLORATE7	20210428_050	04/28/2021 19:12
08	EC2100026-08	PERCHLORATE8	20210428_051	04/28/2021 19:22
10	EC2100026-10	PERCHLORATE9	20210428_052	04/28/2021 19:31

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

Perchlorate **Average RF** **RSD = 13.94** **Average RF = 0.1168**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1516	02	0.5000	0.1269	03	0.7000	0.1246	04	1.0000	0.1032
05	2.0000	0.1172	06	5.0000	0.1124	07	10.0000	0.1144	08	20.0000	0.09843
10	30.0000	0.1026									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.130	29.8	02	0.5000	0.543	8.6	03	0.7000	0.746	6.6
04	1.0000	0.883	-11.7	05	2.0000	2.01	0.3	06	5.0000	4.81	-3.8
07	10.0000	9.79	-2.1	08	20.0000	16.9	-15.7	10	30.0000	26.4	-12.1

Initial Calibration Verification Summary Report

Calibration ID:	EC2100026	**Instrument ID:**	E-LCMS-01
Datafile ID:	20210428_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2100026-09	T	Average RF	10	9.455	ng/mL	-5.4	<= 15

Insight Report

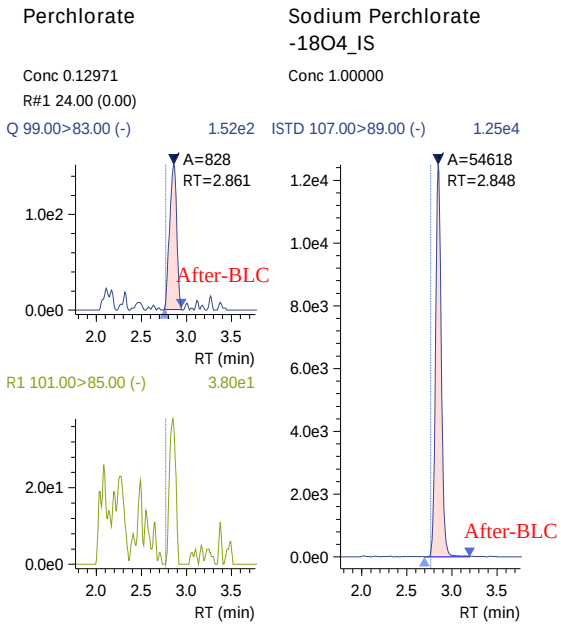
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Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.861	828	54618	1	0.12971	ng/mL	0.1000	24.00
Sodium Perchlorate-18O4 _IS	M	2.848	54618	54618	1	1.00000	ng/mL	1.0000	----



Insight Report

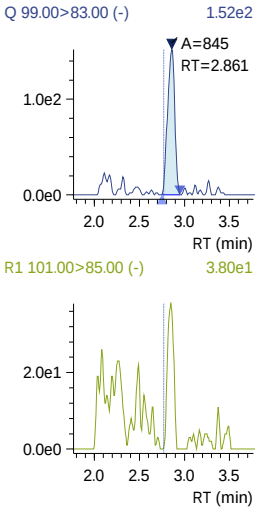
Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

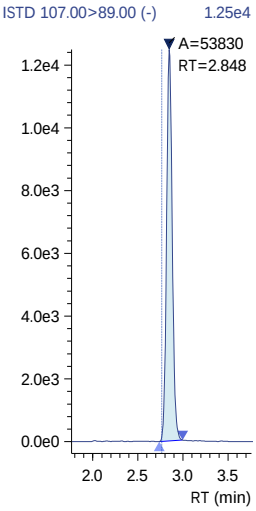
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



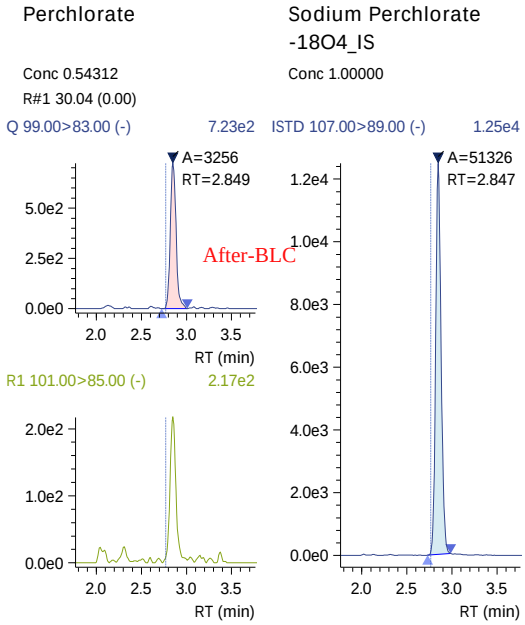
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	3256	51326	1	0.54312	ng/mL	0.5000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.847	51326	51326	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

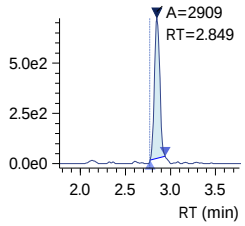
20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

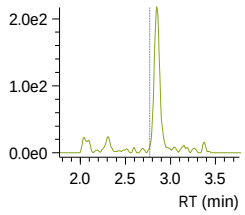
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



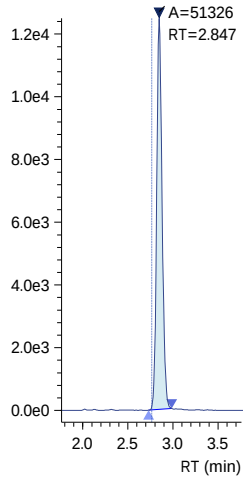
R1 101.00>85.00 (-) 2.17e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



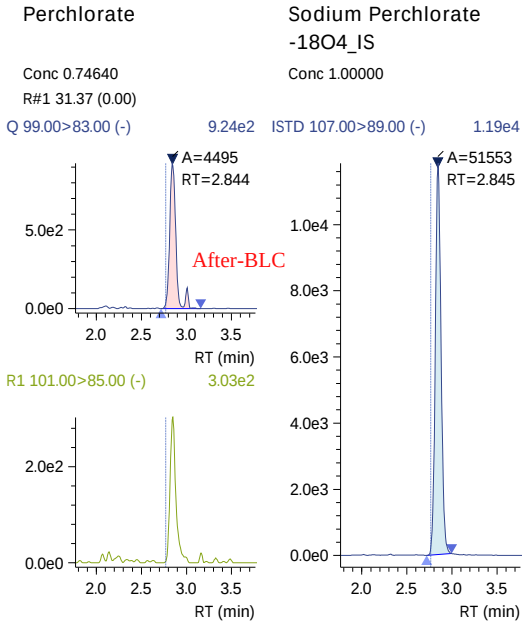
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.844	4495	51553	1	0.74640	ng/mL	0.7000	31.37
Sodium Perchlorate-18O4 _IS	Auto	2.845	51553	51553	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

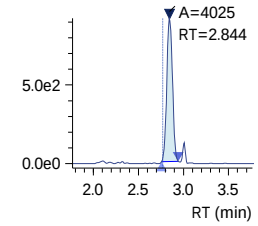
20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

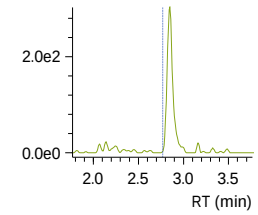
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



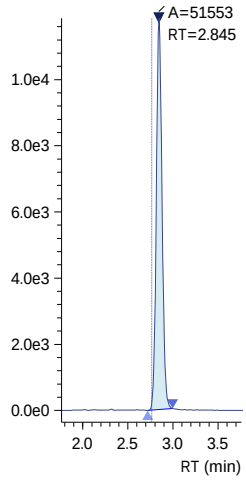
R1 101.00>85.00 (-) 3.03e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



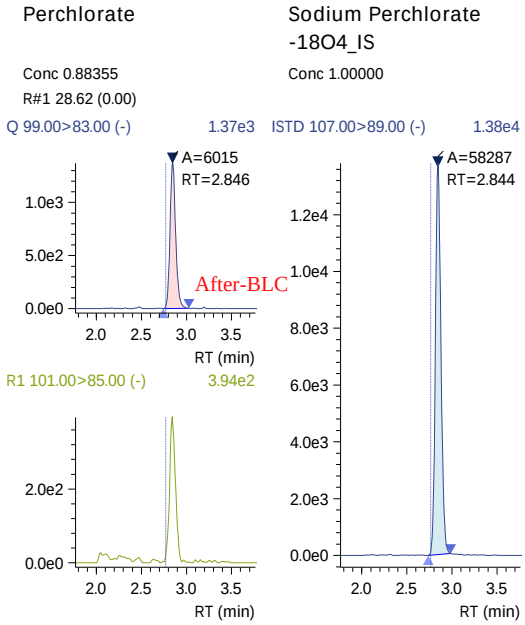
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.846	6015	58287	1	0.88355	ng/mL	1.0000	28.62
Sodium Perchlorate-18O4 _IS	Auto	2.844	58287	58287	1	1.00000	ng/mL	1.0000	----



Insight Report

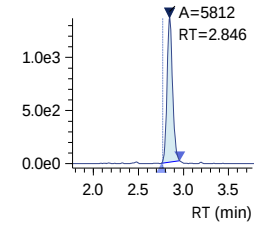
20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

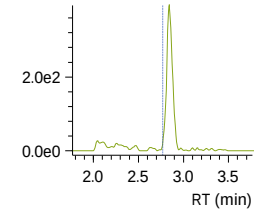
Perchlorate

Conc 0.86245
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.37e3



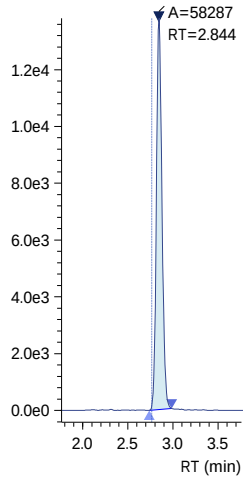
R1 101.00>85.00 (-) 3.94e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



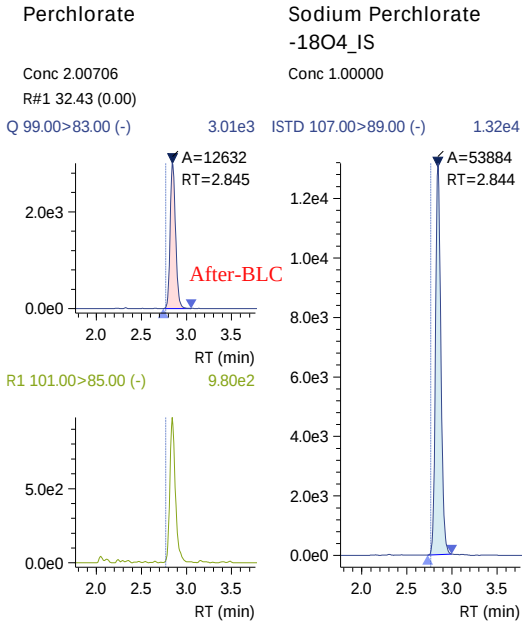
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	12632	53884	1	2.00706	ng/mL	2.0000	32.43
Sodium Perchlorate-18O4 _IS	Auto	2.844	53884	53884	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

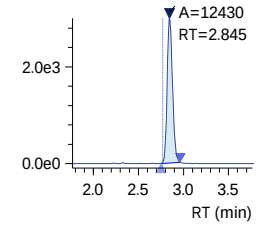
20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

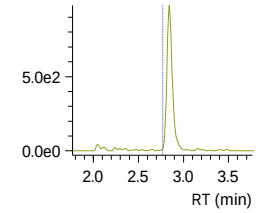
Perchlorate

Conc 1.99532
R#1 32.28 (0.00)

Q 99.00>83.00 (-) 3.01e3



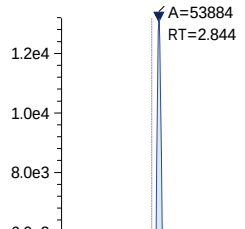
R1 101.00>85.00 (-) 9.80e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.32e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

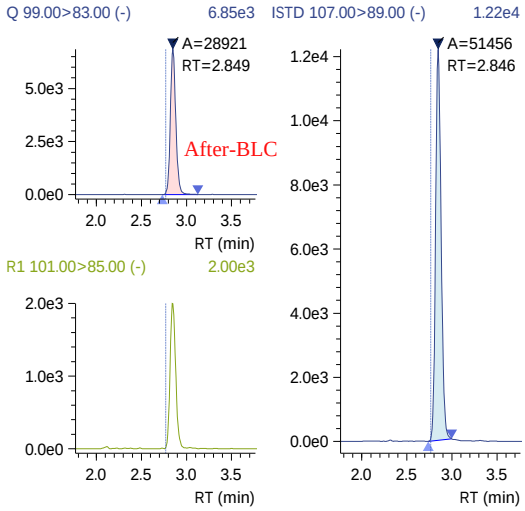
20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	28921	51456	1	4.81188	ng/mL	5.0000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.846	51456	51456	1	1.00000	ng/mL	1.0000	----

Perchlorate

Conc 4.81188
R#1 30.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

Printed at 4/29/2021 1:28:28 PM

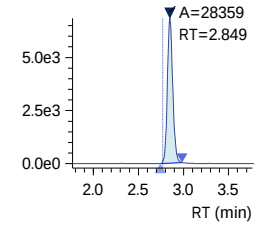
20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

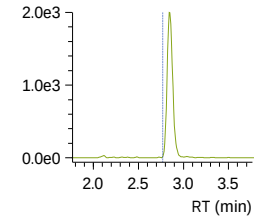
Perchlorate

Conc 4.76710
R#1 30.13 (0.00)

Q 99.00>83.00 (-) 6.85e3



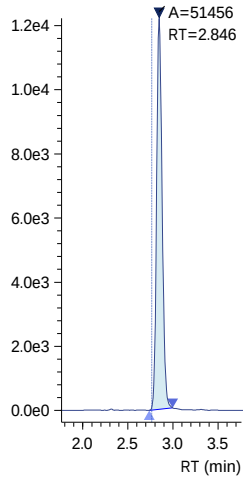
R1 101.00>85.00 (-) 2.00e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

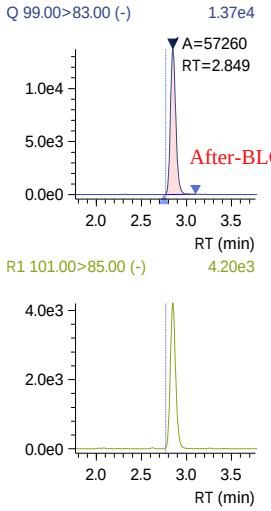
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	57260	50051	1	9.79458	ng/mL	10.0000	30.74
Sodium Perchlorate-18O4 _IS	Auto	2.848	50051	50051	1	1.00000	ng/mL	1.0000	----

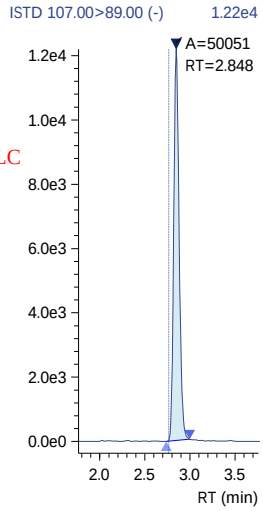
Perchlorate

Conc 9.79458
R#1 30.74 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

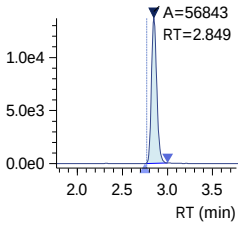
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

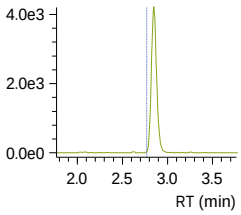
Perchlorate

Conc 9.82335
R#1 30.77 (0.00)

Q 99.00>83.00 (-) 1.37e4



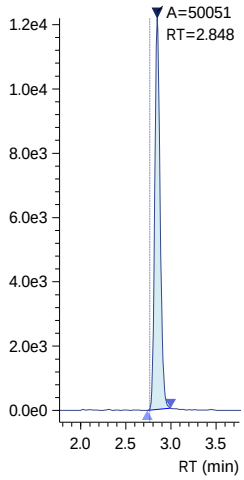
R1 101.00>85.00 (-) 4.20e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

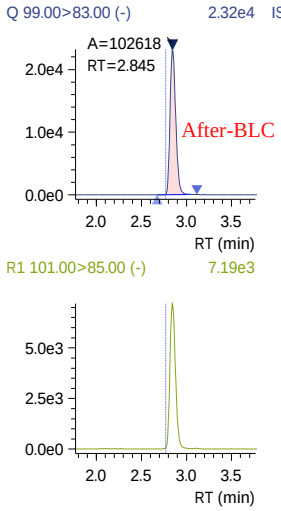
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	102618	52128	1	16.85388	ng/mL	20.0000	30.96
Sodium Perchlorate-18O4_IS	Auto	2.844	52128	52128	1	1.00000	ng/mL	1.0000	----

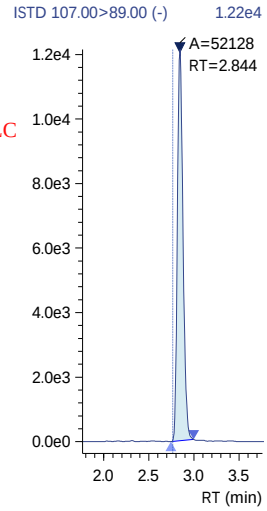
Perchlorate

Conc 16.85388
R#1 30.96 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

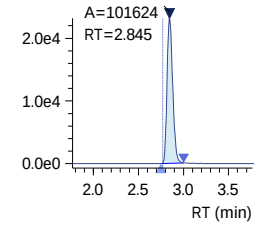
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

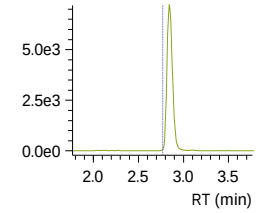
Perchlorate

Conc 16.86268
R#1 30.97 (0.00)

Q 99.00>83.00 (-) 2.32e4



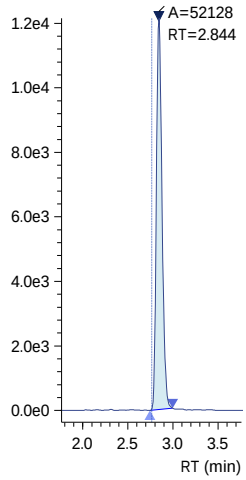
R1 101.00>85.00 (-) 7.19e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

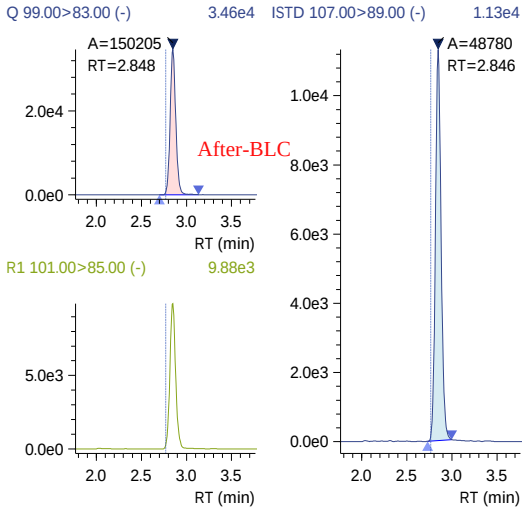
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.848	150205	48780	1	26.36258	ng/mL	30.0000	29.04
Sodium Perchlorate-18O4_IS	Auto	2.846	48780	48780	1	1.00000	ng/mL	1.0000	----

Perchlorate

Conc 26.36258
R#1 29.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

Printed at 4/29/2021 1:28:28 PM

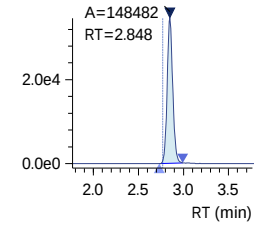
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

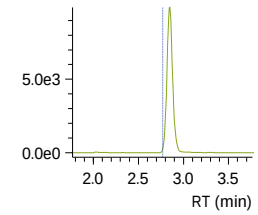
Perchlorate

Conc 26.32873
R#1 29.04 (0.00)

Q 99.00>83.00 (-) 3.46e4



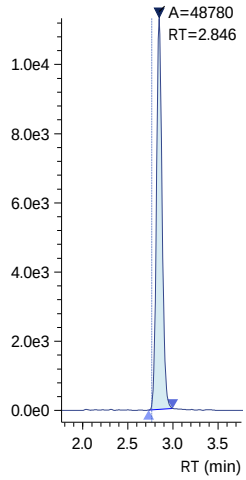
R1 101.00>85.00 (-) 9.88e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

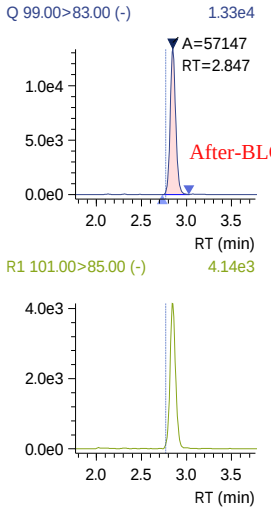
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.847	57147	51740	1	9.45615	ng/mL	10.0000	31.56
Sodium Perchlorate-18O4 _IS	Auto	2.847	51740	51740	1	1.00000	ng/mL	1.0000	----

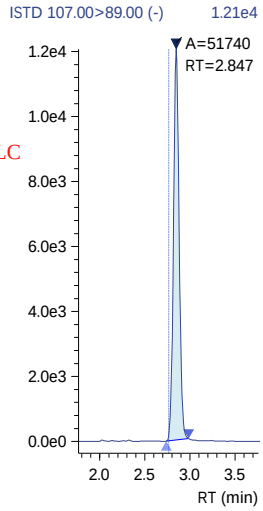
Perchlorate

Conc 9.45615
R#1 31.56 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

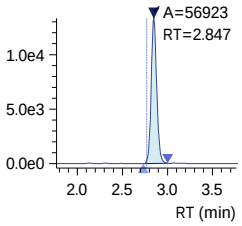
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

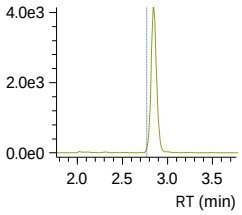
Perchlorate

Conc 9.51618
R#1 31.56 (0.00)

Q 99.00>83.00 (-) 1.33e4



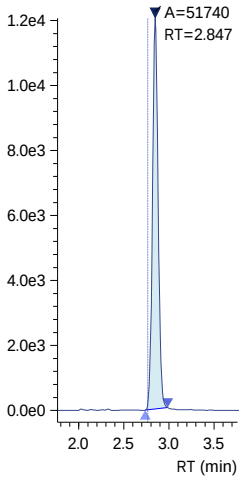
R1 101.00>85.00 (-) 4.14e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



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

20210430

1st Review: Grivera
2nd Review: Kneir

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210430_001	Perchlorate6850b.lcm	1x	☒		4/30/2021 13:53
2	null		20210430_002	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:04
3	IB		20210430_003	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:11
4	IB		20210430_004	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:21
5	ICS		20210430_005	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:30
6	LODV		20210430_006	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:39
7	PERCHLORATE7		20210430_007	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 14:49
8	EQ2100261-01		20210430_008	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:04
9	EQ2100261-02		20210430_009	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:13
10	EQ2100261-03		20210430_010	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:23
11	EQ2100261-04		20210430_011	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:32
12	EQ2100261-05		20210430_012	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:42
13	E2100458-001		20210430_013	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:51
14	E2100459-001DNU		20210430_014	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	4/30/2021 16:00
15	E2100459-002DNU		20210430_015	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	4/30/2021 16:10
16	E2100459-003		20210430_016	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:19
17	E2100459-004		20210430_017	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:29
18	PERCHLORATE7		20210430_018	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 16:38
19	E2100459-005		20210430_019	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:47
20	E2100459-006		20210430_020	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:57
21	E2100459-007DNU		20210430_021	Perchlorate6850b.lcm	1x	☒	DNU:Over Ical Range	4/30/2021 17:06
22	E2100459-008DNU		20210430_022	Perchlorate6850b.lcm	1x	☒	DNU:Over Ical Range	4/30/2021 17:16
23	E2100459-009		20210430_023	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:25
24	E2100459-010-DNU		20210430_024	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 17:34
25	E2100486-001		20210430_025	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:44
26	E2100486-002		20210430_026	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:53
27	E2100486-003		20210430_027	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:02
28	PERCHLORATE7		20210430_028	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 18:12
29	E2100486-004		20210430_029	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:21
30	E2100486-005		20210430_030	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:31
31	E2100486-006		20210430_031	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:40
32	E2100486-007		20210430_032	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:49
33	PERCHLORATE7		20210430_033	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 18:59
34	EQ2100262-01		20210430_034	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:08
35	EQ2100262-02		20210430_035	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:18
36	EQ2100262-03		20210430_036	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:27
37	EQ2100262-04DNU		20210430_037	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 19:36
38	EQ2100262-05DNU		20210430_038	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 19:46
39	E2100460-001		20210430_039	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:55
40	E2100460-002		20210430_040	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:05
41	E2100460-003		20210430_041	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:14
42	E2100460-004		20210430_042	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:23
43	E2100460-005		20210430_043	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:33
44	PERCHLORATE7		20210430_044	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 20:42
45	E2100460-006DNU		20210430_045	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 20:52
46	E2100460-007DNU		20210430_046	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:01
47	E2100460-008		20210430_047	Perchlorate6850b.lcm	1x	☒		4/30/2021 21:10
48	E2100461-001DNU		20210430_048	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:20
49	E2100461-002DNU		20210430_049	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:29
50	E2100461-003DNU		20210430_050	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:38
51	E2100461-004DNU		20210430_051	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:48
52	E2100464-001DNU		20210430_052	Perchlorate6850b.lcm	1x	☒	DNU-Over Ical Range	4/30/2021 21:57
53	E2100464-002		20210430_053	Perchlorate6850b.lcm	1x	☒		4/30/2021 22:07
54	E2100464-003DNU		20210430_054	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:16
55	PERCHLORATE7		20210430_055	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 22:25
56	E2100464-004DNU		20210430_056	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:35
57	E2100464-005DNU		20210430_057	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:44
58	E2100464-006		20210430_058	Perchlorate6850b.lcm	1x	☒		4/30/2021 22:53
59	PERCHLORATE7		20210430_059	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 23:03
60								

20210501

1st Review: Grivera
2nd Review: Kneir

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210501_001	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:07
2	null		20210501_002	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:13
3	IB		20210501_003	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:19
4	IB		20210501_004	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:29
5	ICS		20210501_005	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:38
6	LODV		20210501_006	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:48
7	PERCHLORATE7		20210501_007	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 13:04
8	E2100459-001X5		20210501_008	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:14
9	E2100459-002X5		20210501_009	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:23
10	E2100459-007X10		20210501_010	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:32
11	E2100459-008X2		20210501_011	Perchlorate6850b.lcm	2x	☒		5/1/2021 13:42
12	E2100459-010X10		20210501_012	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:51
13	PERCHLORATE7		20210501_013	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 14:01
14	EQ2100262-04X5		20210501_014	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:10
15	EQ2100262-05X5		20210501_015	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:19
16	E2100460-006X2		20210501_016	Perchlorate6850b.lcm	2x	☒		5/1/2021 14:29
17	E2100460-007X2DNU		20210501_017	Perchlorate6850b.lcm	2x	☒	DNU:INST failed	5/1/2021 14:38
18	E2100461-001X5		20210501_018	Perchlorate6850b.lcm	5x	☒	3100809-02	5/1/2021 14:48
19	E2100461-002X5		20210501_019	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:57
20	E2100461-003X5		20210501_020	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:06
21	E2100461-004X5		20210501_021	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:16
22	E2100464-001X2		20210501_022	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:25
23	E2100464-003X2		20210501_023	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:35
24	PERCHLORATE7		20210501_024	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 15:44
25	E2100464-004X2		20210501_025	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:53
26	E2100464-005X2		20210501_026	Perchlorate6850b.lcm	2x	☒		5/1/2021 16:03
27	PERCHLORATE7		20210501_027	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 16:12
28	EQ2100263-01		20210501_028	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:22
29	EQ2100263-02		20210501_029	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:31
30	EQ2100263-03		20210501_030	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:40
31	E2100469-001		20210501_031	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:50
32	E2100469-002DNU		20210501_032	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 16:59
33	E2100469-003		20210501_033	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:09
34	E2100469-004		20210501_034	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:18
35	E2100469-005		20210501_035	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:27
36	E2100469-006		20210501_036	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:37
37	E2100469-007DNU		20210501_037	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 17:46
38	PERCHLORATE7		20210501_038	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:56
39	E2100470-001DNU		20210501_039	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 18:05
40	E2100470-002DNU		20210501_040	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 18:14
41	E2100492-001-DNU		20210501_041	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:24
42	E2100492-002-DNU		20210501_042	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:33
43	E2100492-003-DNU		20210501_043	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:43
44	E2100492-004-DNU		20210501_044	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:52
45	E2100492-005-DNU		20210501_045	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:01
46	E2100492-006-DNU		20210501_046	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:11
47	E2100493-001-DNU		20210501_047	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:20
48	PERCHLORATE7		20210501_048	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 19:30
49								

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 4/30/21

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\20210430\20210430_033

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.83	0.1168	0.1149	-1.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 4/30/21

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\20210430\20210430_044

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.71	0.1168	0.1135	-2.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 4/30/21

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\20210430\20210430_055

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.0	0.1168	0.1173	0.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 4/30/21

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\20210430\20210430_059

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.83	0.1168	0.1148	-1.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 5/ 1/21

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\20210501\20210501_007

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.87	0.1168	0.1153	-1.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 5/ 1/21

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\20210501\20210501_013

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.23	0.1168	0.1079	-7.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 5/ 1/21

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\20210501\20210501_024

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.49	0.1168	0.1109	-5.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 5/ 1/21

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\20210501\20210501_027

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.12	0.1168	0.1065	-8.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 5/ 1/21

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\20210501\20210501_038

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1168	0.1138	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041135

Service Request: E2100461
Date Analyzed: 4/30/21 18:59

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

File ID: I:\LCMS01\DATA\20210430\20210430_033
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2100271-01
Analysis Lot: 722218
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-01	52,539	2.84
Method Blank	EQ2100262-01	48,538	2.84
Lab Control Sample	EQ2100262-02	50,308	2.84
Duplicate Lab Control Sample	EQ2100262-03	51,554	2.84

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	4/30/21 20:42

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20210430\20210430_044	**Lab Code:**	EQ2100271-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-02	54,759	2.84

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	4/30/21 22:25

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20210430\20210430_055	**Lab Code:**	EQ2100271-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-03	41,221	2.84

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	4/30/21 23:03

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

File ID:	I:\LCMS01\DATA\20210430\20210430_059	**Lab Code:**	EQ2100271-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-04	34,913	2.84

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	5/1/21 13:04

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

File ID:	I:\LCMS01\DATA\20210501\20210501_007	**Lab Code:**	EQ2100272-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-01	51,400	2.71

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	5/1/21 14:01

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

File ID:	I:\LCMS01\DATA\20210501\20210501_013	**Lab Code:**	EQ2100272-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-02	46,369	2.84
16SW02-210419MS	EQ2100262-04	69,627	2.84
16SW02-210419DMS	EQ2100262-05	78,178	2.84
16SW01-210419	E2100461-001	69,695	2.84
16SW01-210419-FD	E2100461-002	68,970	2.84
16SW02-210419	E2100461-003	66,414	2.84
16SW03-210419	E2100461-004	72,649	2.84

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	5/1/21 15:44

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

File ID:	I:\LCMS01\DATA\20210501\20210501_024	**Lab Code:**	EQ2100272-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-03	45,961	2.85

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	5/1/21 16:12

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

File ID:	I:\LCMS01\DATA\20210501\20210501_027	**Lab Code:**	EQ2100272-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-04	41,773	2.85

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:**	E2100461
Project:	HS21041135	**Date Analyzed:**	5/1/21 17:56

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

File ID:	I:\LCMS01\DATA\20210501\20210501_038	**Lab Code:**	EQ2100272-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-05	42,418	2.85

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

Insight Report

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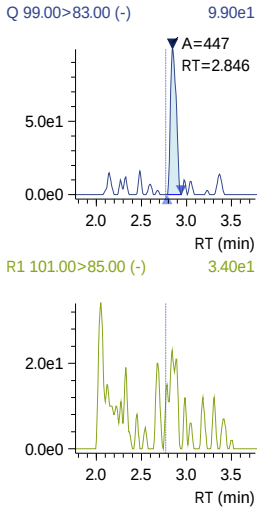
20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	447	64733	1	0.05905	ng/mL	----	12.12
Sodium Perchlorate-18O4 _IS	Auto	2.845	64733	64733	1	1.00000	ng/mL	----	----

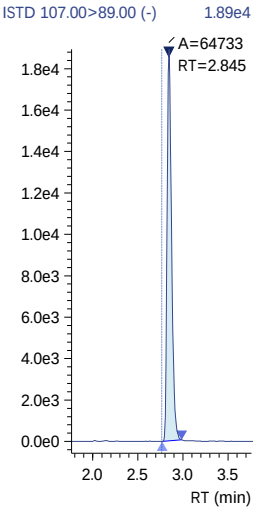
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

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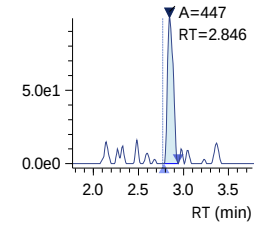
20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

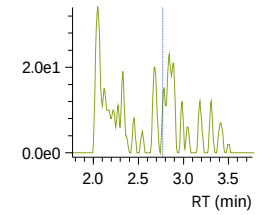
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)

Q 99.00>83.00 (-) 9.90e1



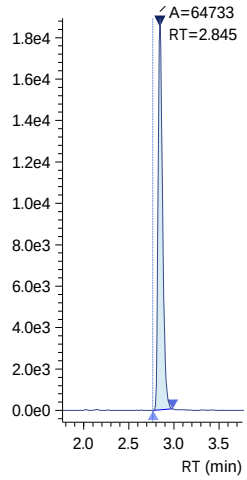
R1 101.00>85.00 (-) 3.40e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.89e4



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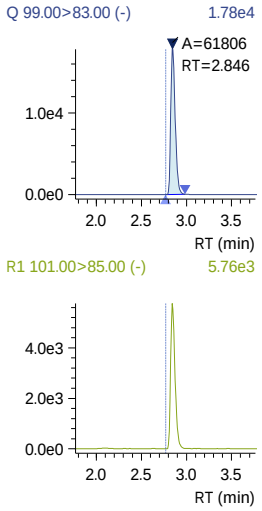
20210430_007

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 2:49:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	61806	56664	1	9.33832	ng/mL	10.0000	32.34
Sodium Perchlorate-18O4 _IS	Auto	2.845	56664	56664	1	1.00000	ng/mL	1.0000	----

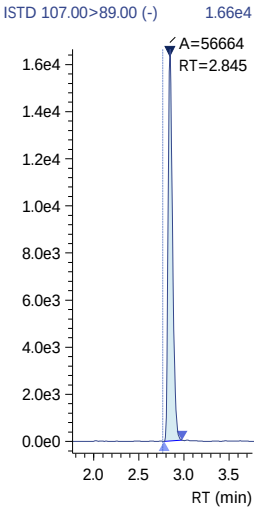
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

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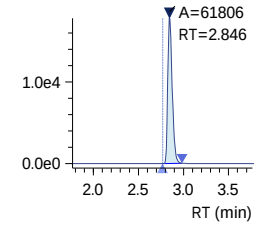
20210430_007

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Date Acquired: 4/30/2021 2:49:18 PM
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Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

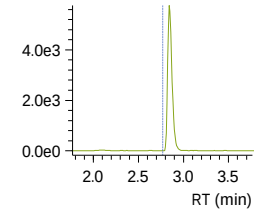
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)

Q 99.00>83.00 (-) 1.78e4



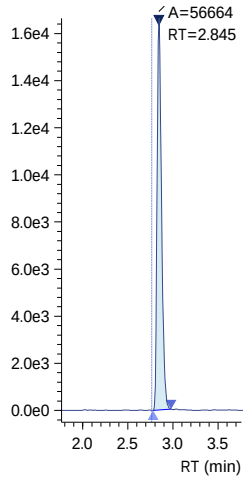
R1 101.00>85.00 (-) 5.76e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.66e4



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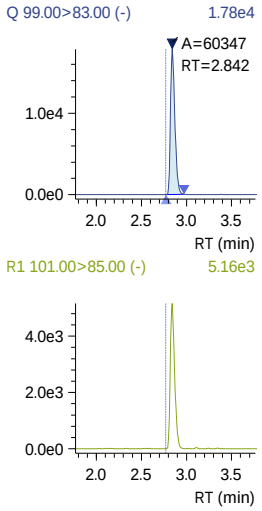
20210430_033

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 6:59:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	60347	52539	1	9.83366	ng/mL	10.0000	28.94
Sodium Perchlorate-18O4 _IS	Auto	2.841	52539	52539	1	1.00000	ng/mL	1.0000	----

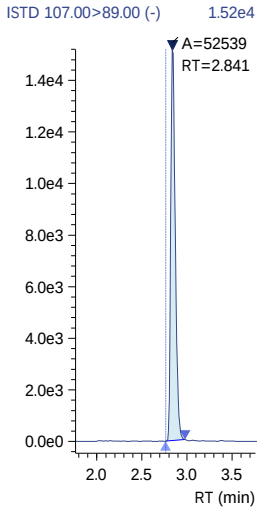
Perchlorate

Conc 9.83366
R#1 28.94 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

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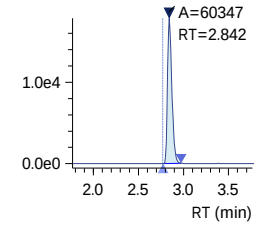
20210430_033

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 6:59:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

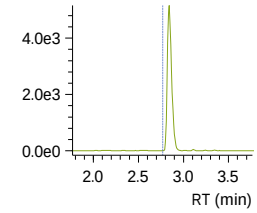
Perchlorate

Conc 9.83366
R#1 28.94 (0.00)

Q 99.00>83.00 (-) 1.78e4



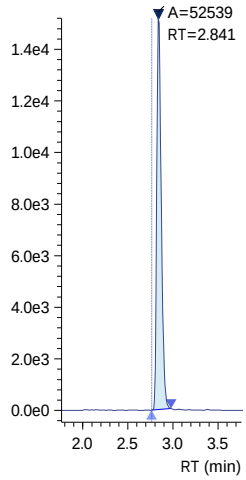
R1 101.00>85.00 (-) 5.16e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.52e4



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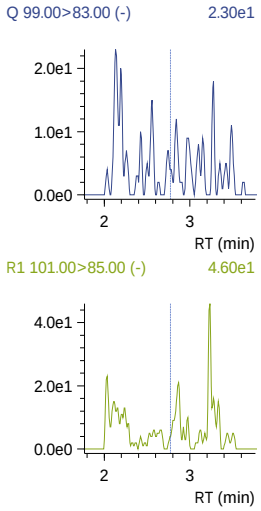
20210430_034

Sample ID: EQ2100262-01
Date Acquired: 4/30/2021 7:08:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_034.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	48538	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.841	48538	48538	1	1.00000	ng/mL	----	----

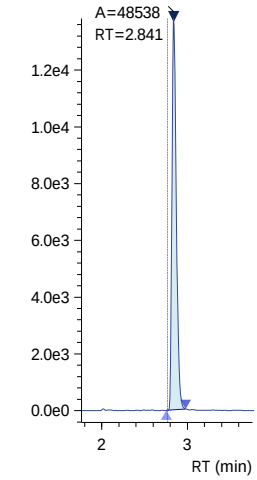
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate-18O4_IS

Conc 1.00000

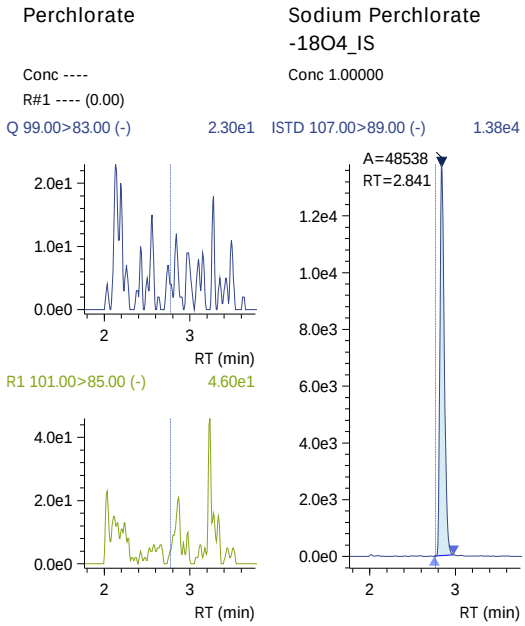


Insight Report

Printed at 5/3/2021 9:31:38 AM

20210430_034

Sample ID: EQ2100262-01
Date Acquired: 4/30/2021 7:08:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_034.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2



Insight Report

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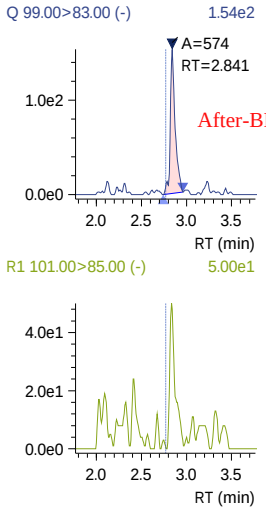
20210430_035

Sample ID: EQ2100262-02
Date Acquired: 4/30/2021 7:18:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_035.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.841	574	50308	1	0.09764	ng/mL	----	32.37
Sodium Perchlorate-18O4_IS	Auto	2.842	50308	50308	1	1.00000	ng/mL	----	----

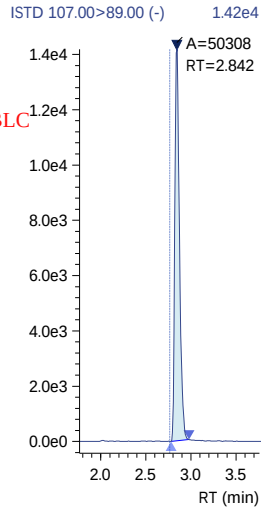
Perchlorate

Conc 0.09764
R#1 32.37 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

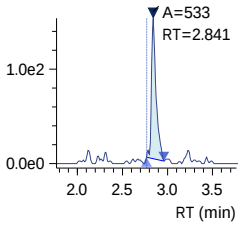
20210430_035

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Date Acquired: 4/30/2021 7:18:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_035.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

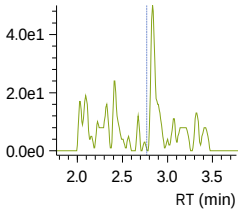
Perchlorate

Conc 0.09062
R#1 35.34 (0.00)

Q 99.00>83.00 (-) 1.54e2



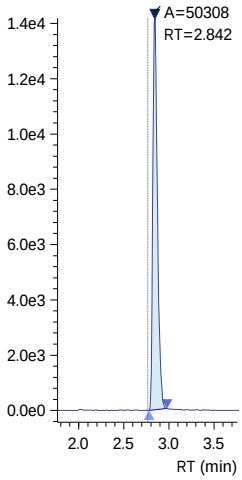
R1 101.00>85.00 (-) 5.00e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.42e4



Insight Report

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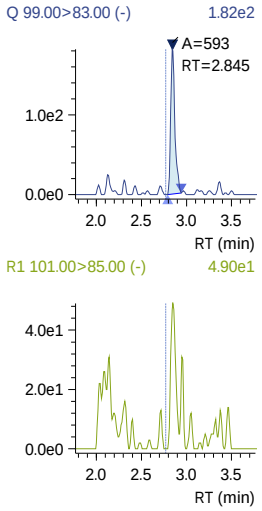
20210430_036

Sample ID: EQ2100262-03
Date Acquired: 4/30/2021 7:27:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_036.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	593	51554	1	0.09840	ng/mL	----	21.91
Sodium Perchlorate-18O4 _IS	Auto	2.843	51554	51554	1	1.00000	ng/mL	----	----

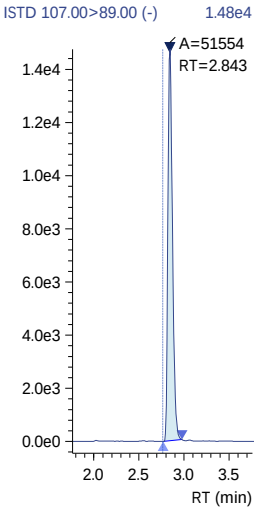
Perchlorate

Conc 0.09840
R#1 21.91 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

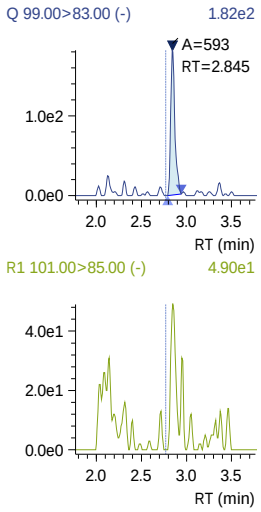
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20210430_036

Sample ID: EQ2100262-03
Date Acquired: 4/30/2021 7:27:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_036.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

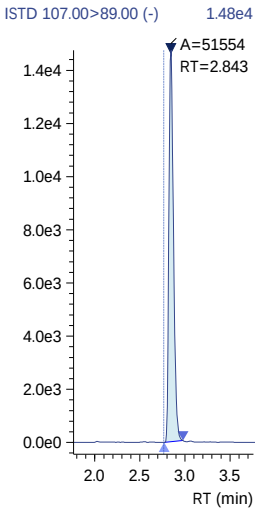
Perchlorate

Conc 0.09840
R#1 21.91 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:29:52 AM

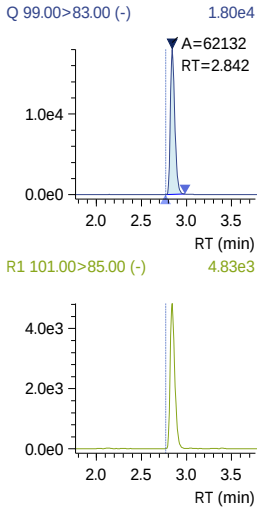
20210430_044

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 8:42:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_044.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	62132	54759	1	9.71420	ng/mL	10.0000	26.86
Sodium Perchlorate-18O4 _IS	Auto	2.840	54759	54759	1	1.00000	ng/mL	1.0000	----

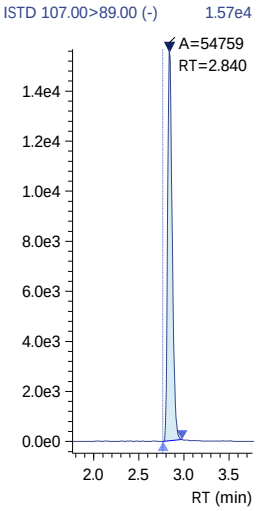
Perchlorate

Conc 9.71420
R#1 26.86 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

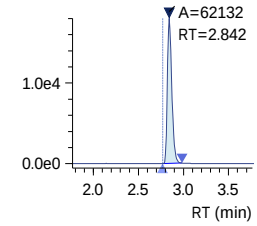
20210430_044

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 8:42:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_044.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

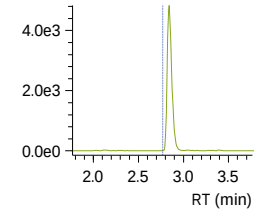
Perchlorate

Conc 9.71420
R#1 26.86 (0.00)

Q 99.00>83.00 (-) 1.80e4



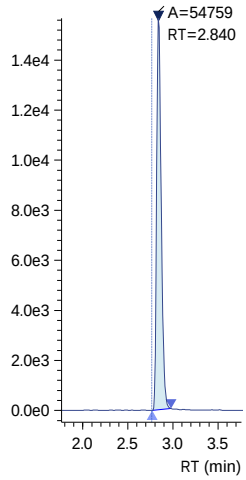
R1 101.00>85.00 (-) 4.83e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.57e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

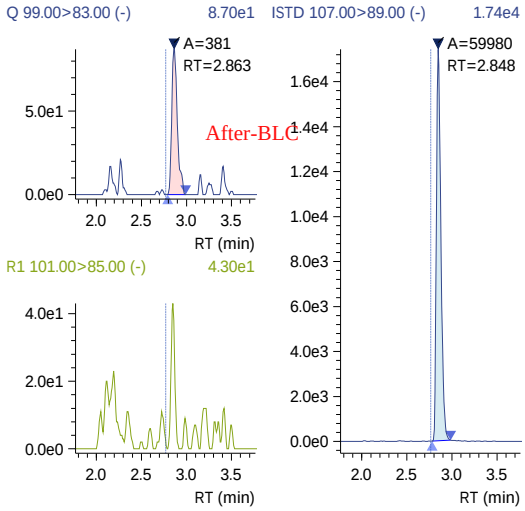
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.863	381	59980	1	0.05431	ng/mL	----	40.70
Sodium Perchlorate-18O4 _IS	Auto	2.848	59980	59980	1	1.00000	ng/mL	----	----

Perchlorate

Conc 0.05431
R#1 40.70 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

After-BLC

Insight Report

Printed at 5/3/2021 9:27:25 AM

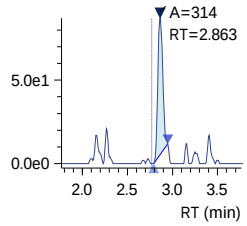
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

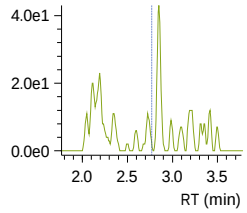
Perchlorate

Conc 0.04482
R#1 46.91 (0.00)

Q 99.00>83.00 (-) 8.70e1



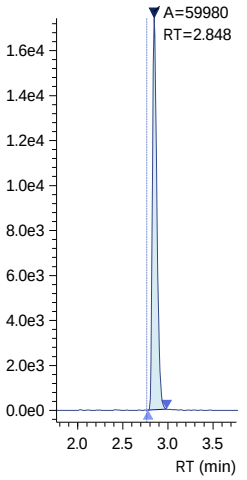
R1 101.00>85.00 (-) 4.30e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.74e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

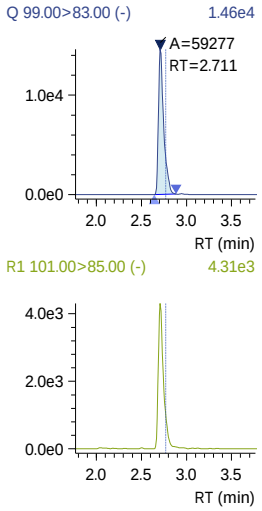
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.711	59277	51400	1	9.87331	ng/mL	10.0000	29.40
Sodium Perchlorate-18O4 _IS	Auto	2.710	51400	51400	1	1.00000	ng/mL	1.0000	----

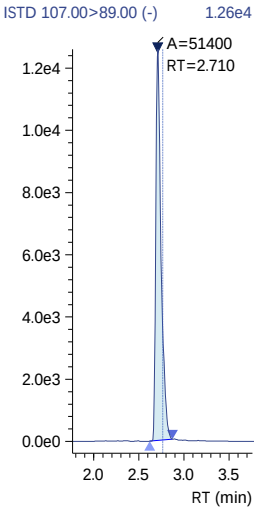
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

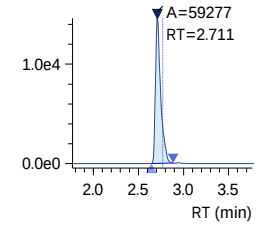
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

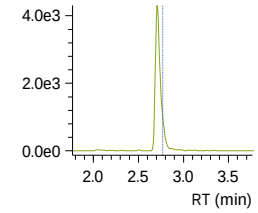
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)

Q 99.00>83.00 (-) 1.46e4



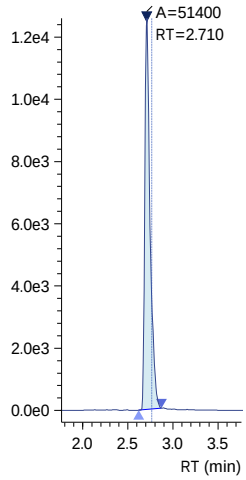
R1 101.00>85.00 (-) 4.31e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.26e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

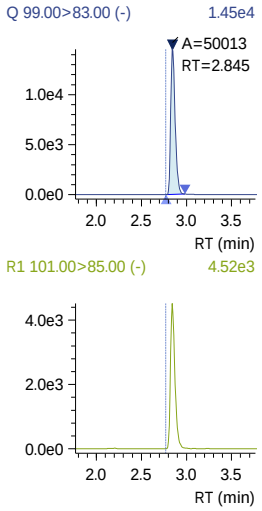
20210501_013

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 2:01:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	50013	46369	1	9.23433	ng/mL	10.0000	31.00
Sodium Perchlorate-18O4 _IS	Auto	2.844	46369	46369	1	1.00000	ng/mL	1.0000	----

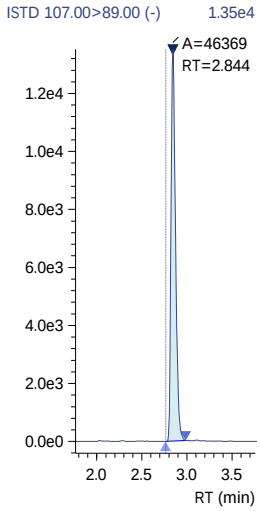
Perchlorate

Conc 9.23433
R#1 31.00 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

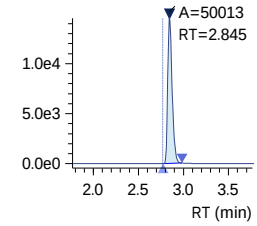
20210501_013

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 2:01:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

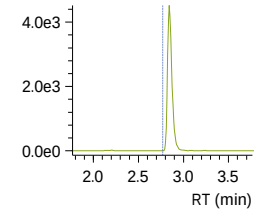
Perchlorate

Conc 9.23433
R#1 31.00 (0.00)

Q 99.00>83.00 (-) 1.45e4



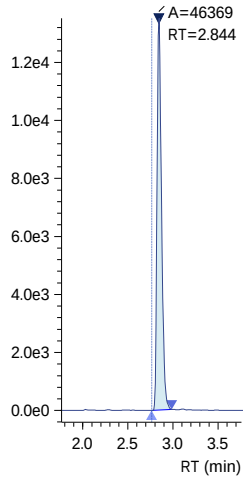
R1 101.00>85.00 (-) 4.52e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.35e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

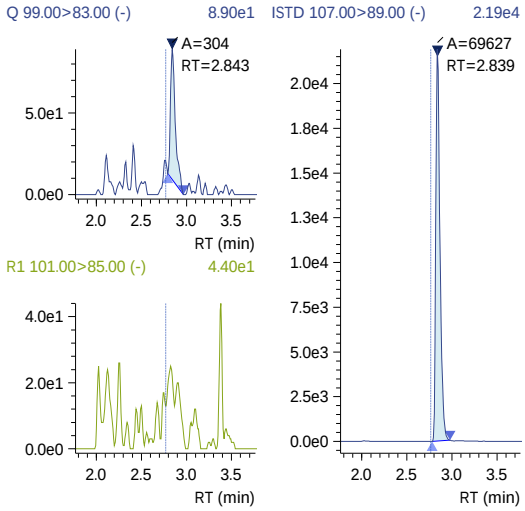
20210501_014

Sample ID: EQ2100262-04X5
Date Acquired: 5/1/2021 2:10:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_014.lcd
Vial: 42 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.843	304	69627	1	0.03738	ng/mL	----	7.60
Sodium Perchlorate-18O4 _IS	Auto	2.839	69627	69627	1	1.00000	ng/mL	----	----

Perchlorate

Conc 0.03738
R#1 7.60 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

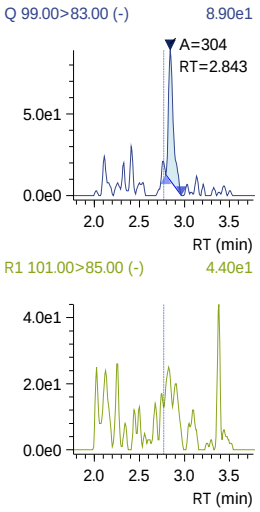
Printed at 5/3/2021 9:27:25 AM

20210501_014

Sample ID: EQ2100262-04X5
Date Acquired: 5/1/2021 2:10:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_014.lcd
Vial: 42 | Inj. Volume: 25.0000uL | Tray: 2

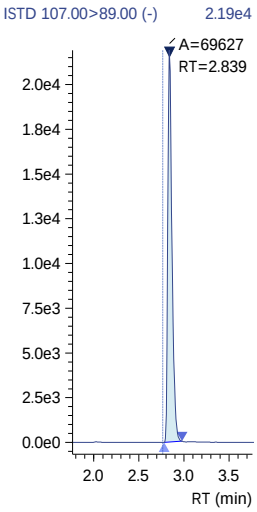
Perchlorate

Conc 0.03738
R#1 7.60 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:25:34 AM

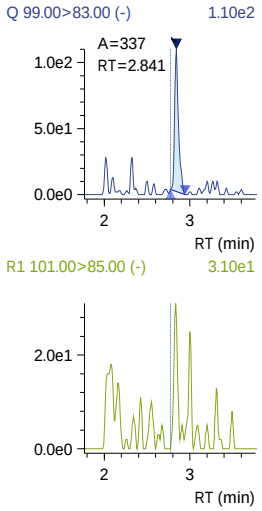
20210501_015

Sample ID: EQ2100262-05X5
Date Acquired: 5/1/2021 2:19:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_015.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.841	337	78178	1	0.03691	ng/mL	----	30.21
Sodium Perchlorate-18O4 _IS	Auto	2.839	78178	78178	1	1.00000	ng/mL	----	----

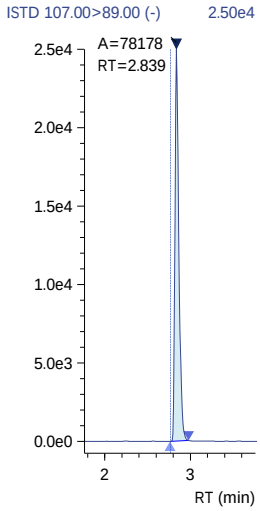
Perchlorate

Conc 0.03691
R#1 30.21 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

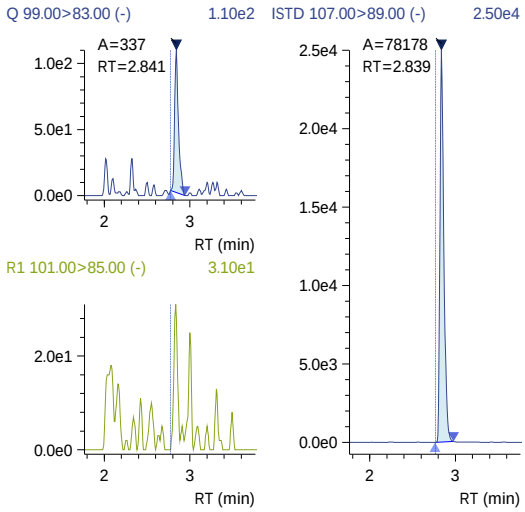
Printed at 5/3/2021 9:27:25 AM

20210501_015

Sample ID: EQ2100262-05X5
Date Acquired: 5/1/2021 2:19:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_015.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 2

Perchlorate

Conc 0.03691
R#1 30.21 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

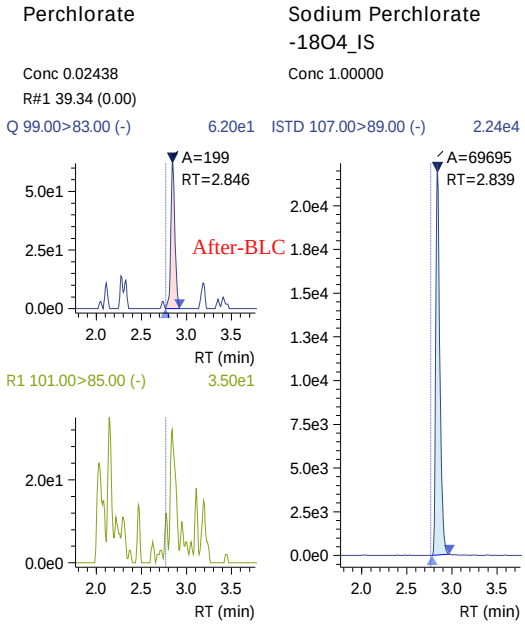
Insight Report

Printed at 5/3/2021 9:25:34 AM

20210501_018

Sample ID: E2100461-001X5
Date Acquired: 5/1/2021 2:48:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_018.lcd
Vial: 52 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.846	199	69695	1	0.02438	ng/mL	----	39.34
Sodium Perchlorate-18O4 _IS	Auto	2.839	69695	69695	1	1.00000	ng/mL	----	----



Insight Report

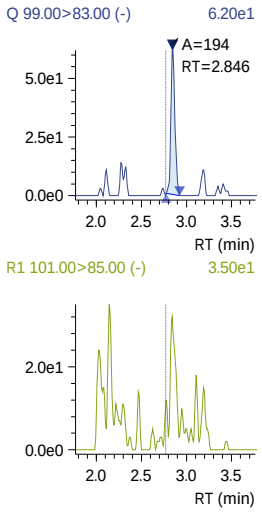
Printed at 5/3/2021 9:27:25 AM

20210501_018

Sample ID: E2100461-001X5
Date Acquired: 5/1/2021 2:48:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_018.lcd
Vial: 52 | Inj. Volume: 25.0000uL | Tray: 2

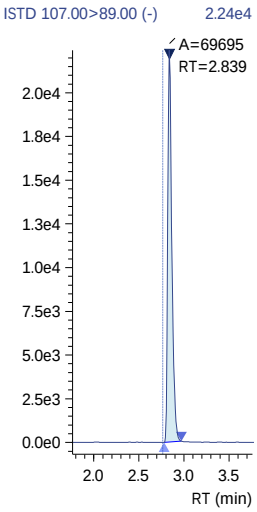
Perchlorate

Conc 0.02380
R#1 36.67 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:25:34 AM

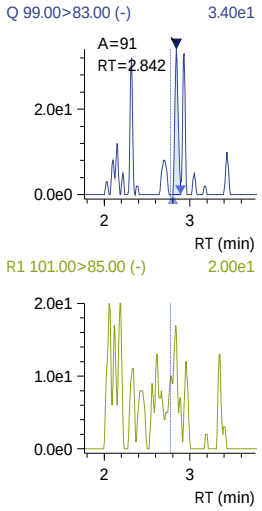
20210501_019

Sample ID: E2100461-002X5
Date Acquired: 5/1/2021 2:57:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_019.lcd
Vial: 53 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	91	68970	1	0.01127	ng/mL	----	21.88
Sodium Perchlorate-18O4 _IS	Auto	2.838	68970	68970	1	1.00000	ng/mL	----	----

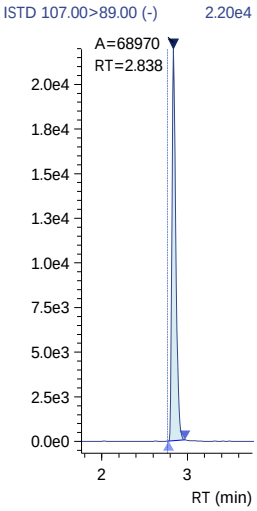
Perchlorate

Conc 0.01127
R#1 21.88 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

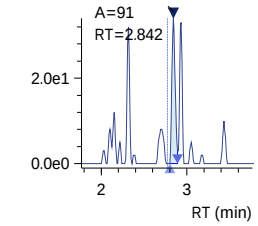
20210501_019

Sample ID: E2100461-002X5
Date Acquired: 5/1/2021 2:57:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_019.lcd
Vial: 53 | Inj. Volume: 25.0000uL | Tray: 2

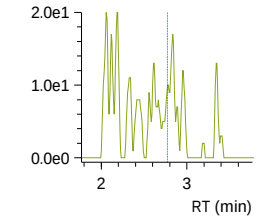
Perchlorate

Conc 0.01127
R#1 21.88 (0.00)

Q 99.00>83.00 (-) 3.40e1



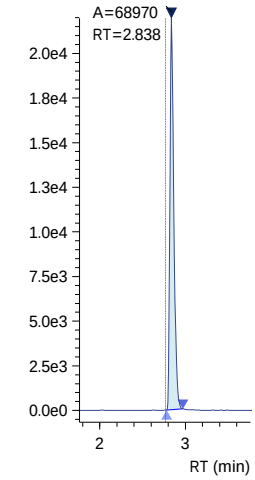
R1 101.00>85.00 (-) 2.00e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.20e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

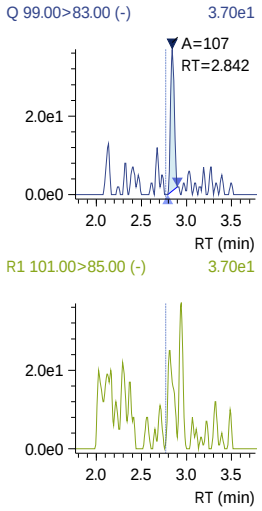
20210501_020

Sample ID: E2100461-003X5
Date Acquired: 5/1/2021 3:06:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_020.lcd
Vial: 54 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	107	66414	1	0.01379	ng/mL	----	19.44
Sodium Perchlorate-18O4 _IS	Auto	2.841	66414	66414	1	1.00000	ng/mL	----	----

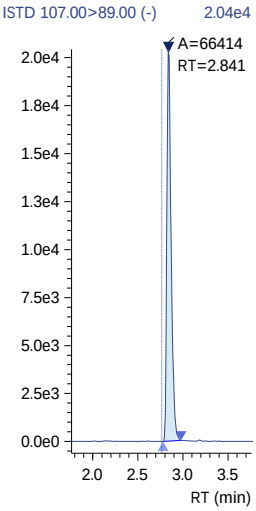
Perchlorate

Conc 0.01379
R#1 19.44 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

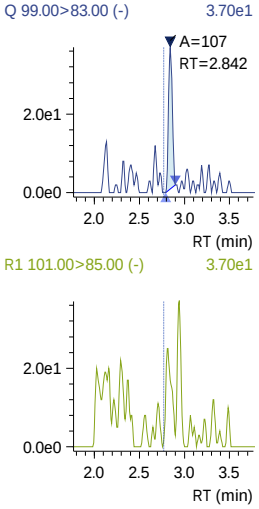
Printed at 5/3/2021 9:27:25 AM

20210501_020

Sample ID: E2100461-003X5
Date Acquired: 5/1/2021 3:06:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_020.lcd
Vial: 54 | Inj. Volume: 25.0000uL | Tray: 2

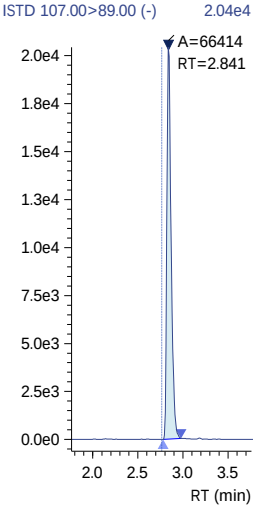
Perchlorate

Conc 0.01379
R#1 19.44 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:25:34 AM

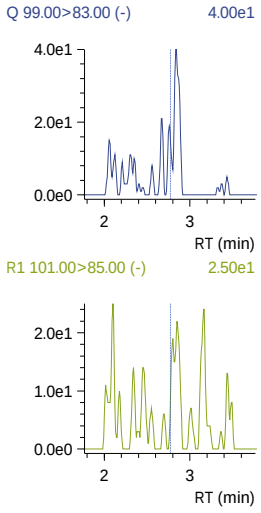
20210501_021

Sample ID: E2100461-004X5
Date Acquired: 5/1/2021 3:16:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_021.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	72649	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.837	72649	72649	1	1.00000	ng/mL	----	----

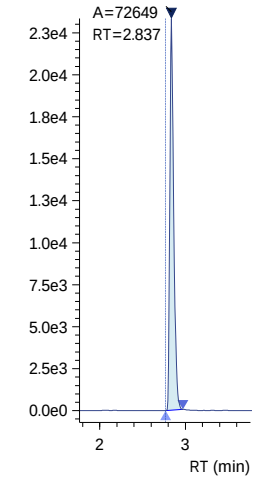
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate-18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

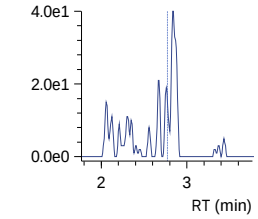
20210501_021

Sample ID: E2100461-004X5
Date Acquired: 5/1/2021 3:16:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_021.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 3

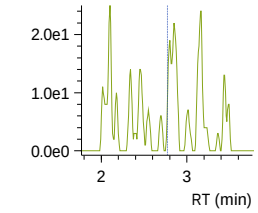
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 4.00e1



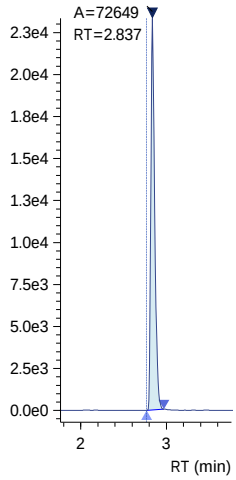
R1 101.00>85.00 (-) 2.50e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 2.34e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

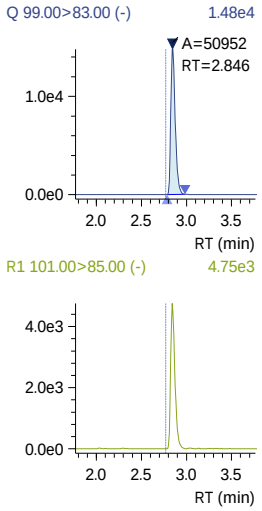
20210501_024

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 3:44:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_024.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	50952	45961	1	9.49107	ng/mL	10.0000	32.18
Sodium Perchlorate-18O4 _IS	Auto	2.845	45961	45961	1	1.00000	ng/mL	1.0000	----

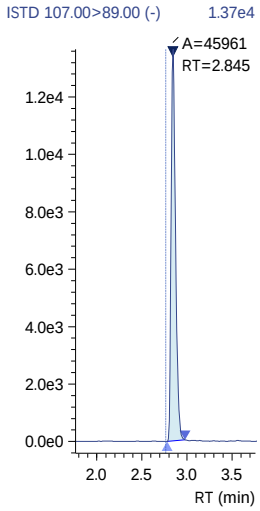
Perchlorate

Conc 9.49107
R#1 32.18 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

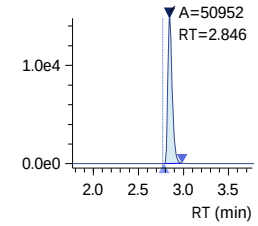
20210501_024

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 3:44:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_024.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

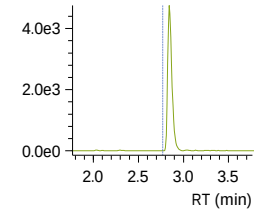
Perchlorate

Conc 9.49107
R#1 32.18 (0.00)

Q 99.00>83.00 (-) 1.48e4



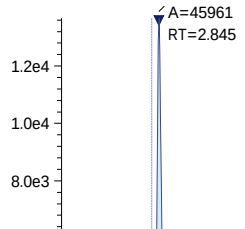
R1 101.00>85.00 (-) 4.75e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.37e4



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

WorkOrder: HS21041169

Longhorn Army Ammunition Plant 16 April 2021

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

20-May-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

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HS21041169 Longhorn Army Ammunition Plant
16 April 2021 Final

ALS WO# HS21041169

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

May 05, 2021

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

Work Order: **HS21041169**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 April 2021**

Dear Vicki Graves ,

ALS Environmental received 6 sample(s) on Apr 22, 2021 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041169

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21041169-01	16EW01-210421	Groundwater		21-Apr-2021 07:15	22-Apr-2021 10:00	☐
HS21041169-02	16EW03-210421	Groundwater		21-Apr-2021 08:00	22-Apr-2021 10:00	☐
HS21041169-03	16IW10-210421	Groundwater		21-Apr-2021 08:50	22-Apr-2021 10:00	☐
HS21041169-04	16RW11-210421	Groundwater		21-Apr-2021 09:45	22-Apr-2021 10:00	☐
HS21041169-05	16RW11-210421-FD	Groundwater		21-Apr-2021 09:45	22-Apr-2021 10:00	☐
HS21041169-06	16IW20-210421	Groundwater		21-Apr-2021 10:55	22-Apr-2021 10:00	☐

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041169

Work Order Comments

- The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R382396

Sample ID: 16IW10-210421 (HS21041169-03MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 16IW10-210421 (HS21041169-03MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R382319,R382341

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

WetChemistry by Method SM5310B

Batch ID: R382895

Sample ID: 16IW10-210421 (HS21041169-03MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Batch ID: R383002

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

WetChemistry by Method SW9056

Batch ID: R382240

Sample ID: 16EW01-210421 (HS21041169-01)

- Sample ran at 5X due to high concentration of Sulfate

Sample ID: 16IW10-210421 (HS21041169-03)

- Sample ran at 2x due to sample matrix

Sample ID: 16IW10-210421 (HS21041169-03MS)

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

MS/MSD failed QC limit due to suspect matrix effect. Nitrogen, Nitrate (As N)

Batch ID: R382840

Sample ID: HS21041595-02MSD

- MS and MSD are for an unrelated sample

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041169

WetChemistry by Method SM2320B

Batch ID: R382228

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041169
Sample ID: 16EW01-210421 Lab ID:HS21041169-01
Collection Date: 21-Apr-2021 07:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	25	U	7.5	25	25	ug/L	25	25-Apr-2021 21:07
1,1-Dichloroethene	**22**	J	**5.0**	**12**	**25**	**ug/L**	25	25-Apr-2021 21:07
1,2-Dichloroethane	**18**	J	**5.0**	**12**	**25**	**ug/L**	25	25-Apr-2021 21:07
cis-1,2-Dichloroethene	**6,000**		**50**	**120**	**250**	**ug/L**	250	25-Apr-2021 21:28
Methylene chloride	50	U	10	50	50	ug/L	25	25-Apr-2021 21:07
Trichloroethene	**3,500**		**5.0**	**12**	**25**	**ug/L**	25	25-Apr-2021 21:07
Vinyl chloride	**720**		**5.0**	**12**	**25**	**ug/L**	25	25-Apr-2021 21:07
Surr: 1,2-Dichloroethane-d4	*102*			**0**	*81-118*	*%REC*	*25*	*25-Apr-2021 21:07*
Surr: 1,2-Dichloroethane-d4	*99.3*			**0**	*81-118*	*%REC*	*250*	*25-Apr-2021 21:28*
Surr: 4-Bromofluorobenzene	*94.2*			**0**	*85-114*	*%REC*	*25*	*25-Apr-2021 21:07*
Surr: 4-Bromofluorobenzene	*94.1*			**0**	*85-114*	*%REC*	*250*	*25-Apr-2021 21:28*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*250*	*25-Apr-2021 21:28*
Surr: Dibromofluoromethane	*95.6*			**0**	*80-119*	*%REC*	*25*	*25-Apr-2021 21:07*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*25*	*25-Apr-2021 21:07*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*250*	*25-Apr-2021 21:28*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	26-Apr-2021 15:28
Ethene	**0.102**		**0.00585**	**0.0125**	**0.0250**	**mg/L**	25	26-Apr-2021 16:39
Methane	**0.406**		**0.00268**	**0.0125**	**0.0125**	**mg/L**	25	26-Apr-2021 16:39
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**529**		**5.00**	**5.00**	**5.00**	**mg/L**	1	22-Apr-2021 20:27
TOTAL ORGANIC CARBON - SM5310B		**Method:SM5310B**						Analyst: MZD
Organic Carbon, Total	**16.8**		**0.500**	**0.500**	**1.00**	**mg/L**	1	03-May-2021 18:24
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**8.22**		**0.150**	**0.500**	**0.500**	**mg/L**	5	22-Apr-2021 16:04
Nitrogen, Nitrate (As N)	**0.494**	J	**0.150**	**0.500**	**0.500**	**mg/L**	5	22-Apr-2021 16:04
Sulfate	**3,420**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Apr-2021 21:32
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041169
Sample ID: 16EW03-210421 Lab ID:HS21041169-02
Collection Date: 21-Apr-2021 08:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	25-Apr-2021 19:43
1,1-Dichloroethene	**3.1**	J	**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:43
1,2-Dichloroethane	**2.8**	J	**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:43
cis-1,2-Dichloroethene	**1,200**		**10**	**25**	**50**	**ug/L**	50	25-Apr-2021 20:04
Methylene chloride	10	U	2.0	10	10	ug/L	5	25-Apr-2021 19:43
Trichloroethene	**250**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:43
Vinyl chloride	**460**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:43
Surr: 1,2-Dichloroethane-d4	*101*			**0**	*81-118*	*%REC*	*5*	*25-Apr-2021 19:43*
Surr: 1,2-Dichloroethane-d4	*97.3*			**0**	*81-118*	*%REC*	*50*	*25-Apr-2021 20:04*
Surr: 4-Bromofluorobenzene	*95.5*			**0**	*85-114*	*%REC*	*5*	*25-Apr-2021 19:43*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*50*	*25-Apr-2021 20:04*
Surr: Dibromofluoromethane	*92.5*			**0**	*80-119*	*%REC*	*5*	*25-Apr-2021 19:43*
Surr: Dibromofluoromethane	*92.7*			**0**	*80-119*	*%REC*	*50*	*25-Apr-2021 20:04*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*5*	*25-Apr-2021 19:43*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*50*	*25-Apr-2021 20:04*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	26-Apr-2021 15:53
Ethene	**0.527**		**0.0117**	**0.0250**	**0.0500**	**mg/L**	50	26-Apr-2021 16:49
Methane	**0.528**		**0.00535**	**0.0250**	**0.0250**	**mg/L**	50	26-Apr-2021 16:49
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**961**		**5.00**	**5.00**	**5.00**	**mg/L**	1	22-Apr-2021 20:36
TOTAL ORGANIC CARBON - SM5310B		**Method:SM5310B**						Analyst: MZD
Organic Carbon, Total	**12.2**		**0.500**	**0.500**	**1.00**	**mg/L**	1	03-May-2021 18:41
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.93**		**0.150**	**0.500**	**0.500**	**mg/L**	5	22-Apr-2021 16:17
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	22-Apr-2021 16:17
Sulfate	**1,090**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Apr-2021 21:52
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041169
Sample ID: 16IW10-210421 Lab ID:HS21041169-03
Collection Date: 21-Apr-2021 08:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 14:48
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:48
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:48
cis-1,2-Dichloroethene	**15**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 14:48
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 14:48
Trichloroethene	**5.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 14:48
Vinyl chloride	**2.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 14:48
Surr: 1,2-Dichloroethane-d4	*94.1*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 14:48*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 14:48*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 14:48*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 14:48*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	26-Apr-2021 16:01
Ethene	**0.00683**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	26-Apr-2021 16:01
Methane	**0.733**		**0.00535**	**0.0250**	**0.0250**	**mg/L**	50	26-Apr-2021 16:59
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,190**		**5.00**	**5.00**	**5.00**	**mg/L**	1	22-Apr-2021 19:42
TOTAL ORGANIC CARBON - SM5310B		**Method:SM5310B**						Analyst: MZD
Organic Carbon, Total	**746**		**50.0**	**50.0**	**100**	**mg/L**	100	04-May-2021 20:46
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**88.1**		**0.600**	**2.00**	**2.00**	**mg/L**	20	30-Apr-2021 22:11
Nitrogen, Nitrate (As N)	**1.26**		**0.0600**	**0.200**	**0.200**	**mg/L**	2	22-Apr-2021 17:21
Sulfate	1.00	U	0.400	1.00	1.00	mg/L	2	22-Apr-2021 17:21
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041169
Sample ID: 16RW11-210421 Lab ID:HS21041169-04
Collection Date: 21-Apr-2021 09:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 16:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:12
cis-1,2-Dichloroethene	**0.85**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 16:12
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 16:12
Trichloroethene	**2.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 16:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:12
Surr: 1,2-Dichloroethane-d4	*94.9*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 16:12*
Surr: 4-Bromofluorobenzene	*99.1*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 16:12*
Surr: Dibromofluoromethane	*89.7*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 16:12*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 16:12*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041169
Sample ID: 16RW11-210421-FD Lab ID:HS21041169-05
Collection Date: 21-Apr-2021 09:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 16:33
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:33
cis-1,2-Dichloroethene	**0.75**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 16:33
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 16:33
Trichloroethene	**1.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 16:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:33
Surr: 1,2-Dichloroethane-d4	*95.3*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 16:33*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 16:33*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 16:33*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 16:33*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Sample ID: 16IW20-210421
Collection Date: 21-Apr-2021 10:55

ANALYTICAL REPORT
WorkOrder:HS21041169
Lab ID:HS21041169-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	23-Apr-2021 18:31
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	23-Apr-2021 18:31
1,2-Dichloroethane	**0.70**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	23-Apr-2021 18:31
cis-1,2-Dichloroethene	**30**		**0.20**	**0.50**	**1.0**	**ug/L**	1	23-Apr-2021 18:31
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	23-Apr-2021 18:31
Trichloroethene	**5.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	23-Apr-2021 18:31
Vinyl chloride	**9.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	23-Apr-2021 18:31
Surr: 1,2-Dichloroethane-d4	*99.6*			**0**	*81-118*	*%REC*	*1*	*23-Apr-2021 18:31*
Surr: 4-Bromofluorobenzene	*92.2*			**0**	*85-114*	*%REC*	*1*	*23-Apr-2021 18:31*
Surr: Dibromofluoromethane	*93.4*			**0**	*80-119*	*%REC*	*1*	*23-Apr-2021 18:31*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*23-Apr-2021 18:31*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	26-Apr-2021 16:29
Ethene	**0.0202**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	26-Apr-2021 16:29
Methane	**2.24**		**0.0214**	**0.100**	**0.100**	**mg/L**	200	26-Apr-2021 17:07
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**550**		**5.00**	**5.00**	**5.00**	**mg/L**	1	22-Apr-2021 19:58
TOTAL ORGANIC CARBON - SM5310B		**Method:SM5310B**						Analyst: MZD
Organic Carbon, Total	**10.6**		**0.500**	**0.500**	**1.00**	**mg/L**	1	03-May-2021 20:07
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**12.3**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	22-Apr-2021 17:09
Nitrogen, Nitrate (As N)	**0.0503**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	22-Apr-2021 17:09
Sulfate	**95.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	22-Apr-2021 17:09
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-May-2021 16:22

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

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R382228 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			22 Apr 2021 20:27	1
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			22 Apr 2021 20:36	1
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			22 Apr 2021 19:42	1
HS21041169-06	16IW20-210421	21 Apr 2021 10:55			22 Apr 2021 19:58	1
Batch ID: R382240 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			22 Apr 2021 16:04	5
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			22 Apr 2021 16:17	5
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			22 Apr 2021 17:21	2
HS21041169-06	16IW20-210421	21 Apr 2021 10:55			22 Apr 2021 17:09	1
Batch ID: R382319 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21041169-06	16IW20-210421	21 Apr 2021 10:55			23 Apr 2021 18:31	1
Batch ID: R382341 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			25 Apr 2021 21:28	250
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			25 Apr 2021 21:07	25
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			25 Apr 2021 20:04	50
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			25 Apr 2021 19:43	5
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			25 Apr 2021 14:48	1
HS21041169-04	16RW11-210421	21 Apr 2021 09:45			25 Apr 2021 16:12	1
HS21041169-05	16RW11-210421-FD	21 Apr 2021 09:45			25 Apr 2021 16:33	1
Batch ID: R382396 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			26 Apr 2021 16:39	25
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			26 Apr 2021 15:28	1
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			26 Apr 2021 16:49	50
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			26 Apr 2021 15:53	1
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			26 Apr 2021 16:59	50
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			26 Apr 2021 16:01	1
HS21041169-06	16IW20-210421	21 Apr 2021 10:55			26 Apr 2021 17:07	200
HS21041169-06	16IW20-210421	21 Apr 2021 10:55			26 Apr 2021 16:29	1
Batch ID: R382840 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			30 Apr 2021 21:32	50
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			30 Apr 2021 21:52	50
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			30 Apr 2021 22:11	20
Batch ID: R382895 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B				**Matrix:** Groundwater	
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			03 May 2021 18:24	1
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			03 May 2021 18:41	1
HS21041169-06	16IW20-210421	21 Apr 2021 10:55			03 May 2021 20:07	1

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R383002 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B				**Matrix:** Groundwater	
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			04 May 2021 20:46	100
Batch ID: R383059 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS21041169-01	16EW01-210421	21 Apr 2021 07:15			05 May 2021 16:22	1
HS21041169-02	16EW03-210421	21 Apr 2021 08:00			05 May 2021 16:22	1
HS21041169-03	16IW10-210421	21 Apr 2021 08:50			05 May 2021 16:22	1
HS21041169-04	16RW11-210421	21 Apr 2021 09:45			05 May 2021 16:22	1
HS21041169-05	16RW11-210421-FD	21 Apr 2021 09:45			05 May 2021 16:22	1
HS21041169-06	16IW20-210421	21 Apr 2021 10:55			05 May 2021 16:22	1

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382396 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-210426** Units: **mg/L** Analysis Date: **26-Apr-2021 12:07**
Client ID: Run ID: **FID-4_382396** SeqNo: **6061648** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-210426** Units: **mg/L** Analysis Date: **26-Apr-2021 12:26**
Client ID: Run ID: **FID-4_382396** SeqNo: **6061649** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0176	0.00100	0.01804	0	97.5	75 - 125				
Ethene	0.0138	0.00100	0.0168	0	82.2	75 - 125				
Methane	0.00837	0.000500	0.009647	0	86.8	75 - 125				

MS Sample ID: **HS21041169-03MS** Units: **mg/L** Analysis Date: **26-Apr-2021 16:10**
Client ID: **16IW10-210421** Run ID: **FID-4_382396** SeqNo: **6061667** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.00942	0.00100	0.01804	0	52.2	75 - 125				S
Ethene	0.0146	0.00100	0.0168	0.006834	46.1	75 - 125				S
Methane	0.649	0.000500	0.009647	0.7203	-740	75 - 125				SEO

MSD Sample ID: **HS21041169-03MSD** Units: **mg/L** Analysis Date: **26-Apr-2021 16:19**
Client ID: **16IW10-210421** Run ID: **FID-4_382396** SeqNo: **6061668** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0103	0.00100	0.01804	0	57.3	75 - 125	0.009419	9.33	30	S
Ethene	0.0151	0.00100	0.0168	0.006834	49.4	75 - 125	0.01458	3.77	30	S
Methane	0.691	0.000500	0.009647	0.7203	-300	75 - 125	0.6490	6.32	30	SEO

The following samples were analyzed in this batch: HS21041169-01 HS21041169-02 HS21041169-03 HS21041169-06

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382319 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210423** Units: **ug/L** Analysis Date: **23-Apr-2021 12:54**
Client ID: Run ID: **VOA6_382319** SeqNo: **6059743** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	2.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*48.59*	*1.0*	*50*	*0*	*97.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*45.27*	*1.0*	*50*	*0*	*90.5*	*85 - 114*				
Surr: Dibromofluoromethane	*45.98*	*1.0*	*50*	*0*	*92.0*	*80 - 119*				
Surr: Toluene-d8	*53.8*	*1.0*	*50*	*0*	*108*	*89 - 112*				

LCS Sample ID: **VLCSW-210423** Units: **ug/L** Analysis Date: **23-Apr-2021 12:12**
Client ID: Run ID: **VOA6_382319** SeqNo: **6059742** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	22.45	1.0	20	0	112	80 - 119				
1,1-Dichloroethene	21.76	1.0	20	0	109	71 - 131				
1,2-Dichloroethane	21.06	1.0	20	0	105	73 - 128				
cis-1,2-Dichloroethene	22.4	1.0	20	0	112	78 - 123				
Methylene chloride	23.68	2.0	20	0	118	74 - 124				
Trichloroethene	21.93	1.0	20	0	110	79 - 123				
Vinyl chloride	23.85	1.0	20	0	119	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.43*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*53.54*	*1.0*	*50*	*0*	*107*	*85 - 114*				
Surr: Dibromofluoromethane	*53.15*	*1.0*	*50*	*0*	*106*	*80 - 119*				
Surr: Toluene-d8	*52.72*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382319 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21041135-03MS** Units: **ug/L** Analysis Date: **23-Apr-2021 16:25**
Client ID: Run ID: **VOA6_382319** SeqNo: **6059753** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	17.84	1.0	20	0	89.2	80 - 119				
1,1-Dichloroethene	19	1.0	20	0	95.0	71 - 131				
1,2-Dichloroethane	18.35	1.0	20	0	91.8	73 - 128				
cis-1,2-Dichloroethene	17.91	1.0	20	0	89.6	78 - 123				
Methylene chloride	18.11	2.0	20	0	90.5	74 - 124				
Trichloroethene	20.15	1.0	20	0	101	79 - 123				
Vinyl chloride	21.08	1.0	20	0	105	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.37*	*1.0*	*50*	*0*	*92.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.46*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.85*	*1.0*	*50*	*0*	*91.7*	*80 - 119*				
Surr: Toluene-d8	*51.29*	*1.0*	*50*	*0*	*103*	*89 - 112*				

MSD Sample ID: **HS21041135-03MSD** Units: **ug/L** Analysis Date: **23-Apr-2021 16:46**
Client ID: Run ID: **VOA6_382319** SeqNo: **6059754** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	17.92	1.0	20	0	89.6	80 - 119	17.84	0.443	20	
1,1-Dichloroethene	17.94	1.0	20	0	89.7	71 - 131	19	5.74	20	
1,2-Dichloroethane	17.62	1.0	20	0	88.1	73 - 128	18.35	4.06	20	
cis-1,2-Dichloroethene	17.03	1.0	20	0	85.2	78 - 123	17.91	5.03	20	
Methylene chloride	18.42	2.0	20	0	92.1	74 - 124	18.11	1.71	20	
Trichloroethene	18.81	1.0	20	0	94.1	79 - 123	20.15	6.88	20	
Vinyl chloride	19.65	1.0	20	0	98.3	58 - 137	21.08	7	20	
Surr: 1,2-Dichloroethane-d4	*47.83*	*1.0*	*50*	*0*	*95.7*	*81 - 118*	*46.37*	*3.12*	*20*	
Surr: 4-Bromofluorobenzene	*49.66*	*1.0*	*50*	*0*	*99.3*	*85 - 114*	*50.46*	*1.6*	*20*	
Surr: Dibromofluoromethane	*45.54*	*1.0*	*50*	*0*	*91.1*	*80 - 119*	*45.85*	*0.68*	*20*	
Surr: Toluene-d8	*51.67*	*1.0*	*50*	*0*	*103*	*89 - 112*	*51.29*	*0.733*	*20*	

The following samples were analyzed in this batch: HS21041169-06

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382341 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-210425** Units: **ug/L** Analysis Date: **25-Apr-2021 13:45**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	2.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*47.35*	*1.0*	*50*	*0*	*94.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.34*	*1.0*	*50*	*0*	*92.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.8*	*1.0*	*50*	*0*	*91.6*	*80 - 119*				
Surr: Toluene-d8	*53.63*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-210425** Units: **ug/L** Analysis Date: **25-Apr-2021 13:03**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	21.98	1.0	20	0	110	80 - 119				
1,1-Dichloroethene	17.51	1.0	20	0	87.5	71 - 131				
1,2-Dichloroethane	20.39	1.0	20	0	102	73 - 128				
cis-1,2-Dichloroethene	21.09	1.0	20	0	105	78 - 123				
Methylene chloride	21.19	2.0	20	0	106	74 - 124				
Trichloroethene	19.92	1.0	20	0	99.6	79 - 123				
Vinyl chloride	18.77	1.0	20	0	93.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*53.91*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.34*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.43*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*51.26*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382341 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21041169-03MS** Units: **ug/L** Analysis Date: **25-Apr-2021 15:09**
Client ID: **16IW10-210421** Run ID: **VOA6_382341** SeqNo: **6060292** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.9	1.0	20	0	99.5	80 - 119				
1,1-Dichloroethene	17.96	1.0	20	0	89.8	71 - 131				
1,2-Dichloroethane	18.76	1.0	20	0	93.8	73 - 128				
cis-1,2-Dichloroethene	32.24	1.0	20	15.28	84.8	78 - 123				
Methylene chloride	18.33	2.0	20	0	91.7	74 - 124				
Trichloroethene	24.38	1.0	20	5.447	94.7	79 - 123				
Vinyl chloride	22.63	1.0	20	2.451	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.44*	*1.0*	*50*	*0*	*96.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.76*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*47.82*	*1.0*	*50*	*0*	*95.6*	*80 - 119*				
Surr: Toluene-d8	*52.13*	*1.0*	*50*	*0*	*104*	*89 - 112*				

MSD Sample ID: **HS21041169-03MSD** Units: **ug/L** Analysis Date: **25-Apr-2021 15:30**
Client ID: **16IW10-210421** Run ID: **VOA6_382341** SeqNo: **6060293** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.3	1.0	20	0	101	80 - 119	19.9	1.98	20	
1,1-Dichloroethene	17.12	1.0	20	0	85.6	71 - 131	17.96	4.74	20	
1,2-Dichloroethane	18.86	1.0	20	0	94.3	73 - 128	18.76	0.516	20	
cis-1,2-Dichloroethene	32.68	1.0	20	15.28	87.0	78 - 123	32.24	1.34	20	
Methylene chloride	18.48	2.0	20	0	92.4	74 - 124	18.33	0.778	20	
Trichloroethene	23.57	1.0	20	5.447	90.6	79 - 123	24.38	3.38	20	
Vinyl chloride	21.86	1.0	20	2.451	97.0	58 - 137	22.63	3.47	20	
Surr: 1,2-Dichloroethane-d4	*48.73*	*1.0*	*50*	*0*	*97.5*	*81 - 118*	*48.44*	*0.614*	*20*	
Surr: 4-Bromofluorobenzene	*47.89*	*1.0*	*50*	*0*	*95.8*	*85 - 114*	*48.76*	*1.82*	*20*	
Surr: Dibromofluoromethane	*46.89*	*1.0*	*50*	*0*	*93.8*	*80 - 119*	*47.82*	*1.95*	*20*	
Surr: Toluene-d8	*52.33*	*1.0*	*50*	*0*	*105*	*89 - 112*	*52.13*	*0.386*	*20*	

The following samples were analyzed in this batch: HS21041169-01 HS21041169-02 HS21041169-03 HS21041169-04 HS21041169-05

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382228 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW1-210422** Units: **mg/L** Analysis Date: **22-Apr-2021 18:55**
Client ID: Run ID: **ManTech01_382228** SeqNo: **6057475** PrepDate: DF: **1**

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

LCS Sample ID: **LCS1-210422** Units: **mg/L** Analysis Date: **22-Apr-2021 19:03**
Client ID: Run ID: **ManTech01_382228** SeqNo: **6057476** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1025	5.00	1000	0	102	85 - 115				

LCSD Sample ID: **LCSD1-210422** Units: **mg/L** Analysis Date: **22-Apr-2021 19:12**
Client ID: Run ID: **ManTech01_382228** SeqNo: **6057477** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1025	5.00	1000	0	102	85 - 115	1025	0.0176	20	

DUP Sample ID: **HS21041169-03DUP** Units: **mg/L** Analysis Date: **22-Apr-2021 19:52**
Client ID: **16IW10-210421** Run ID: **ManTech01_382228** SeqNo: **6057482** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1199	5.00					1186	1.06	20	

DUP Sample ID: **HS21041166-02DUP** Units: **mg/L** Analysis Date: **22-Apr-2021 19:25**
Client ID: Run ID: **ManTech01_382228** SeqNo: **6057479** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	137	5.00					137.7	0.539	20	

The following samples were analyzed in this batch: HS21041169-01 HS21041169-02 HS21041169-03 HS21041169-06

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382240 (0) **Instrument:** ICS2100 **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **22-Apr-2021 18:41**
Client ID: Run ID: **ICS2100_382240** SeqNo: **6057888** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **22-Apr-2021 18:54**
Client ID: Run ID: **ICS2100_382240** SeqNo: **6057889** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.827	0.100	4	0	95.7	80 - 120				
Nitrogen, Nitrate (As N)	3.945	0.100	4	0	98.6	80 - 120				
Sulfate	19.24	0.500	20	0	96.2	80 - 120				

MS Sample ID: **HS21041169-03MS** Units: **mg/L** Analysis Date: **22-Apr-2021 17:36**
Client ID: **16IW10-210421** Run ID: **ICS2100_382240** SeqNo: **6057884** PrepDate: DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	91.93	0.200	4	89.57	59.0	80 - 120				SEO
Nitrogen, Nitrate (As N)	3.849	0.200	4	1.264	64.6	80 - 120				S
Sulfate	21.11	1.00	20	0	106	80 - 120				

MSD Sample ID: **HS21041169-03MSD** Units: **mg/L** Analysis Date: **22-Apr-2021 17:49**
Client ID: **16IW10-210421** Run ID: **ICS2100_382240** SeqNo: **6057885** PrepDate: DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	91.26	0.200	4	89.57	42.3	80 - 120	91.93	0.732	20	SEO
Nitrogen, Nitrate (As N)	3.846	0.200	4	1.264	64.6	80 - 120	3.849	0.078	20	S
Sulfate	20.99	1.00	20	0	105	80 - 120	21.11	0.563	20	

The following samples were analyzed in this batch: HS21041169-01 HS21041169-02 HS21041169-03 HS21041169-06

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382840 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **01-May-2021 08:23**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6071997** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **01-May-2021 08:41**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6071998** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.528	0.100	4	0	88.2	80 - 120				
Sulfate	19.12	0.500	20	0	95.6	80 - 120				

MS Sample ID: **HS21041595-02MS** Units: **mg/L** Analysis Date: **30-Apr-2021 13:47**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6072007** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.772	0.100	2	0.8359	96.8	80 - 120				
Sulfate	294.5	0.500	10	285	95.1	80 - 120				EO

MSD Sample ID: **HS21041595-02MSD** Units: **mg/L** Analysis Date: **30-Apr-2021 14:06**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6072033** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.929	0.100	2	0.8359	105	80 - 120	2.772	5.52	20	
Sulfate	298.2	0.500	10	285	132	80 - 120	294.5	1.25	20	SEO

The following samples were analyzed in this batch: HS21041169-01 HS21041169-02 HS21041169-03

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R382895 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B**

MBLK Sample ID: **MBLK-05032021** Units: **mg/L** Analysis Date: **03-May-2021 16:25**
Client ID: Run ID: **TOC_04_382895** SeqNo: **6073620** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS-05032021** Units: **mg/L** Analysis Date: **03-May-2021 16:41**
Client ID: Run ID: **TOC_04_382895** SeqNo: **6073621** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.38	1.00	10	0	104	85 - 115				

LCSD Sample ID: **LCSD-05032021** Units: **mg/L** Analysis Date: **03-May-2021 16:57**
Client ID: Run ID: **TOC_04_382895** SeqNo: **6073622** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.36	1.00	10	0	104	85 - 115	10.38	0.193	20	

MS Sample ID: **HS21041169-03MS** Units: **mg/L** Analysis Date: **03-May-2021 19:50**
Client ID: **16IW10-210421** Run ID: **TOC_04_382895** SeqNo: **6073633** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	780.7	1.00	10	784.1	-34.0	80 - 120				SEO

The following samples were analyzed in this batch: HS21041169-01 HS21041169-02 HS21041169-06

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041169

QC BATCH REPORT

Batch ID: R383002 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B**

MBLK Sample ID: **MBLK-05042021** Units: **mg/L** Analysis Date: **04-May-2021 17:35**
Client ID: Run ID: **TOC_04_383002** SeqNo: **6075960** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS-05042021** Units: **mg/L** Analysis Date: **04-May-2021 17:51**
Client ID: Run ID: **TOC_04_383002** SeqNo: **6075961** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.83	1.00	10	0	98.3	85 - 115				

LCSD Sample ID: **LCSD-05042021** Units: **mg/L** Analysis Date: **04-May-2021 18:06**
Client ID: Run ID: **TOC_04_383002** SeqNo: **6075962** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.588	1.00	10	0	95.9	85 - 115	9.83	2.49	20	

MS Sample ID: **HS21041169-03MS** Units: **mg/L** Analysis Date: **04-May-2021 21:03**
Client ID: **16IW10-210421** Run ID: **TOC_04_383002** SeqNo: **6075974** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1800	100	1000	746.1	105	80 - 120				

The following samples were analyzed in this batch: HS21041169-03

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: **HS21041169**

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	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	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, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022

ALS Houston, US Date: 05-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041169

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21041169-01	16EW01-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376
HS21041169-01	16EW01-210421	Login	4/22/2021 12:42:49 PM	JRM	Sub
HS21041169-01	16EW01-210421	Login	4/22/2021 12:42:49 PM	JRM	VOA041
HS21041169-01	16EW01-210421	Login	4/22/2021 12:42:49 PM	JRM	RSK004
HS21041169-01	16EW01-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376
HS21041169-02	16EW03-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376
HS21041169-02	16EW03-210421	Login	4/22/2021 12:42:49 PM	JRM	Sub
HS21041169-02	16EW03-210421	Login	4/22/2021 12:42:49 PM	JRM	VOA041
HS21041169-02	16EW03-210421	Login	4/22/2021 12:42:49 PM	JRM	RSK004
HS21041169-02	16EW03-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376
HS21041169-03	16IW10-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376
HS21041169-03	16IW10-210421	Login	4/22/2021 12:42:49 PM	JRM	Sub
HS21041169-03	16IW10-210421	Login	4/22/2021 12:42:49 PM	JRM	VOA041
HS21041169-03	16IW10-210421	Login	4/22/2021 12:42:49 PM	JRM	RSK004
HS21041169-03	16IW10-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376
HS21041169-04	16RW11-210421	Login	4/22/2021 12:42:49 PM	JRM	Sub
HS21041169-04	16RW11-210421	Login	4/22/2021 12:42:49 PM	JRM	VOA041
HS21041169-06	16IW20-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376
HS21041169-06	16IW20-210421	Login	4/22/2021 12:42:49 PM	JRM	Sub
HS21041169-06	16IW20-210421	Login	4/22/2021 12:42:49 PM	JRM	VOA041
HS21041169-06	16IW20-210421	Login	4/22/2021 12:42:49 PM	JRM	RSK004
HS21041169-06	16IW20-210421	Login	4/22/2021 12:42:49 PM	JRM	WET376

ALS Houston, US Date: 05-May-21

Sample Receipt Checklist

Work Order ID: HS21041169 **Date/Time Received:** 22-Apr-2021 10:00

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

Completed By:	/S/ Paresh M. Giga	21-Apr-2021 15:23	**Reviewed by:**	/S/ RJ Modashia	22-Apr-2021 17:06
	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):	0.4°C UC/C	IR31
Cooler(s)/Kit(s):	46602	
Date/Time sample(s) sent to storage:	4/22/2021 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

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 601032
Job: **LHAAP 16 April 2021**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D. Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16EW01-210421	WG	4/21/21/0715		10	X	X	X	X	X	X						
16 EW03-210421	WG	4/21/21/0800		10	X	X	X	X	X	X						
16IW10-210421	WG	4/21/21/0850		10	X	X	X	X	X	X						
16IW10-210421-MS	WG	4/21/21/0850		10	X	X	X	X	X	X						
16IW10-210421-MSD	WG	4/21/21/0850		10	X	X	X	X	X	X						
16 RW11-210421	WG	4/21/21/0945		4	X					X						
16 RW11-210421-FD	WG	4/21/21/0945		4	X					X						
16IW20-210421	WG	4/21/21/1055		10	X	X	X	X	X	X						

Additional Remarks: Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	4/21/21	1330	[signature]	4/22/21	10:10						

For Lab Use Only

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

Remarks:

45534 0.4C IR31 CFO

HS21041169

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 April 2021

(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

45539

CUSTODY SEAL

Date: 4/21/21 Time: 1320
Name: Scott Beesinger
Company: BHMS

Seal Broken By: SM
Date: 04/22/21

45539

APR 2 2 2021

4

Must Deliver Next Business Day
Time and Tempature Sensitive!

45539

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 29MAR21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP--BO 77443-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0841 7502

THU - 22 APR AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

F3D: 5090257 21Apr2021 CGGA 560C3/F9A6/1B23

May 05, 2021 Service Request No:E2100464

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

Laboratory Results for: HS21041169

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 22, 2021
For your reference, these analyses have been assigned our service request number **E2100464.**

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.:**	E2100464
Project:	HS21041169	**Date Received:**	04/22/21
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

Six samples were received for analysis at ALS Environmental in Houston on 04/22/21.

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:

EQ2100262: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The MS/MSD was performed on an unrelated sample. The LCS/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:**E2100464
Project: HS21041169

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100464-001	16EW01-210421	4/21/2021	0715
E2100464-002	16EW03-210421	4/21/2021	0800
E2100464-003	16IW10-210421	4/21/2021	0850
E2100464-004	16RW11-210421	4/21/2021	0945
E2100464-005	16RW11-210421-FD	4/21/2021	0945
E2100464-006	16IW20-210421	4/21/2021	1055

Service Request Summary

Folder #: **E2100464**
Client Name: ALS Environmental - US
Project Name: HS21041169
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: 04/22/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041169
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100464-001	16EW01-210421	Ground Water	04/21/21 0715	**IV**
E2100464-002	16EW03-210421	Ground Water	04/21/21 0800	**IV**
E2100464-003	16IW10-210421	Ground Water	04/21/21 0850	**IV**
E2100464-004	16RW11-210421	Ground Water	04/21/21 0945	**IV**
E2100464-005	16RW11-210421-FD	Ground Water	04/21/21 0945	**IV**
E2100464-006	16IW20-210421	Ground Water	04/21/21 1055	**IV**

Service Request Summary

Folder #: **E2100464**
Client Name: ALS Environmental - US
Project Name: HS21041169
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: 04/22/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041169
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 5/6,IV due 5/13
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD

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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration 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	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
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: 15972**

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:	HS21041169
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041169-01**	**16EW01-210421**	**Groundwater**	**21 Apr 2021 07:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
2.	**HS21041169-02**	**16EW03-210421**	**Groundwater**	**21 Apr 2021 08:00**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
3.	**HS21041169-03**	**16IW10-210421**	**Groundwater**	**21 Apr 2021 08:50**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
4.	**HS21041169-04**	**16RW11-210421**	**Groundwater**	**21 Apr 2021 09:45**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
5.	**HS21041169-05**	**16RW11-210421-FD**	**Groundwater**	**21 Apr 2021 09:45**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
6.	**HS21041169-06**	**16IW20-210421**	**Groundwater**	**21 Apr 2021 10:55**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021

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

QC Level: DOD IV (DoD Data Package)

WORLDWIDE LABORATORY NETWORK

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **15972**

Relinquished By: J. Jimerson

Date/Time:

Received By:

Date/Time: 4/22/21 1498

Cooler ID(s):

Temperature(s):

Cooler Receipt Form

ALS Environmental

Project Chemist CA

Client/Project ALS-H

Thermometer ID 1231

Date/Time Received: 4122121 Initials: CA

Date/Time Logged in: 4122121 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

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

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where?

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		4122121	1458	CA	4.5	☒ NA
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100460-001	16EW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100460-002	16EW04-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100460-003	16EW08-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100460-004	16WW13-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100460-005	16WW42-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100460-006	16RW05-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100460-007	16RW06-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100460-008	16RW07-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100461-001	16SW01-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100461-002	16SW01-210419-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100461-003	16SW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100461-004	16SW03-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100464-001	16EW01-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100464-002	16EW03-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100464-003	16IW10-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100464-004	16RW11-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2100464-005	16RW11-210421-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2100464-006	16IW20-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
19	EQ2100262-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100262-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2100262-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2100262-04	16SW02-210419 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2100262-05	16SW02-210419 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100262-02	1.00µL	EQ2100262-03	1.00µL	EQ2100262-04	1.00µL	EQ2100262-05	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100460-001	100.00µL	E2100460-002	100.00µL	E2100460-003	100.00µL	E2100460-004	100.00µL	E2100460-005	100.00µL	E2100460-006	100.00µL
E2100460-007	100.00µL	E2100460-008	100.00µL	E2100461-001	100.00µL	E2100461-002	100.00µL	E2100461-003	100.00µL	E2100461-004	100.00µL
E2100464-001	100.00µL	E2100464-002	100.00µL	E2100464-003	100.00µL	E2100464-004	100.00µL	E2100464-005	100.00µL	E2100464-006	100.00µL
EQ2100262-01	100.00µL	EQ2100262-02	100.00µL	EQ2100262-03	100.00µL	EQ2100262-04	100.00µL	EQ2100262-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

Preparation Steps

Step: Preparation
Started: 4/30/21 12:02
Finished: 4/30/21 14:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0715
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16EW01-210421	**Units:**	µg/L
Lab Code:	E2100464-001	**Basis:**	As Received

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	**41.9**		0.200	0.100	0.0500	2	4/30/21	5/1/21 15:25	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0800
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16EW03-210421	**Units:**	µg/L
Lab Code:	E2100464-002	**Basis:**	As Received

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	4/30/21	4/30/21 22:07	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0850
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16IW10-210421	**Units:**	µg/L
Lab Code:	E2100464-003	**Basis:**	As Received

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	0.200	0.100	0.0500	2	4/30/21	5/1/21 15:35	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0945
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16RW11-210421	**Units:**	µg/L
Lab Code:	E2100464-004	**Basis:**	As Received

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	**0.0617**	J	0.200	0.100	0.0500	2	4/30/21	5/1/21 15:53	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0945
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16RW11-210421-FD	**Units:**	µg/L
Lab Code:	E2100464-005	**Basis:**	As Received

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	0.200	0.100	0.0500	2	4/30/21	5/1/21 16:03	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 1055
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16IW20-210421	**Units:**	µg/L
Lab Code:	E2100464-006	**Basis:**	As Received

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	4/30/21	4/30/21 22:53	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100262-01	**Basis:**	As Received

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	4/30/21	4/30/21 19:08	378426	722218	

Accuracy & Precision

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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169
Sample Matrix: Ground Water

Service Request: E2100464
Date Analyzed: 4/30/21

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: As Received

Extraction Lot: 378426

	Lab Control Sample EQ2100262-02			Duplicate Lab Control Sample EQ2100262-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0976	0.100	98	0.0984	0.100	98	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:**	E2100464
Project:	HS21041169	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-02	**Basis:**	As Received

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	**0.0976**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:18	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-03	**Basis:**	As Received

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	**0.0984**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:27	378426	722218	

HS21041169 8260_W_DOD Raw Data

ALS WO# HS21041169

MSVOA06 -Logbook

Batch: 44312 **Analyst:** Presenta Cabascango

Date: 04-02-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-02-2021 10:32 am	1.00	50 mL	50 mL	X040201.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	04-02-2021 10:53 am	1.00	50 mL	50 mL	X040202.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	04-02-2021 11:35 am	1.00	50 mL	50 mL	X040203.D	Liquid	Y	NA
4	VSTD001	ICAL3	04-02-2021 11:56 am	1.00	50 mL	50 mL	X040204.D	Liquid	Y	NA
5	VSTD002	ICAL4	04-02-2021 12:17 pm	1.00	50 mL	50 mL	X040205.D	Liquid	Y	NA
6	VSTD005	ICAL5	04-02-2021 12:38 pm	1.00	50 mL	50 mL	X040206.D	Liquid	Y	NA
7	VSTD020	ICAL6	04-02-2021 12:59 pm	1.00	50 mL	50 mL	X040207.D	Liquid	Y	NA
8	VSTD050	ICAL7	04-02-2021 01:20 pm	1.00	50 mL	50 mL	X040208.D	Liquid	Y	NA
9	VSTD100	ICAL8	04-02-2021 01:41 pm	1.00	50 mL	50 mL	X040209.D	Liquid	Y	NA
10	VSTD150	ICAL9	04-02-2021 02:02 pm	1.00	50 mL	50 mL	X040210.D	Liquid	Y	NA
11	VSTD200	ICAL	04-02-2021 02:23 pm	1.00	50 mL	50 mL	X040211.D	Liquid	Y	NA
12	BLANK	SAMP	04-02-2021 02:44 pm	1.00	50 mL	50 mL	X040212.D	Liquid	Y	NA
13	CCV	SAMP	04-02-2021 03:05 pm	1.00	50 mL	50 mL	X040213.D	Liquid	Y	NA
14	CCV	CCV	04-02-2021 03:26 pm	1.00	50 mL	50 mL	X040214.D	Liquid	Y	NA
15	CCB	SAMP	04-02-2021 03:47 pm	1.00	50 mL	50 mL	X040215.D	Liquid	Y	NA
16	VLCSW-210402	LCS	04-02-2021 04:08 pm	1.00	50 mL	50 mL	X040216.D	Liquid	Y	NA
17	BLANK	SAMP	04-02-2021 04:29 pm	1.00	50 mL	50 mL	X040217.D	Liquid	Y	NA
18	BLANK	SAMP	04-02-2021 04:50 pm	1.00	50 mL	50 mL	X040218.D	Liquid	Y	NA
19	VBLKW-210402	MBLK	04-02-2021 05:11 pm	1.00	50 mL	50 mL	X040219.D	Liquid	Y	NA
20	HS21031390-28	SAMP	04-02-2021 05:32 pm	1.00	50 mL	50 mL	X040220.D	Liquid	Y	NA
21	HS21031390-01	SAMP	04-02-2021 05:53 pm	1.00	50 mL	50 mL	X040221.D	Liquid	Y	NA
22	HS21031390-02	SAMP	04-02-2021 06:14 pm	1.00	50 mL	50 mL	X040222.D	Liquid	Y	NA
23	HS21031390-08	SAMP	04-02-2021 06:35 pm	1.00	50 mL	50 mL	X040223.D	Liquid	Y	NA
24	HS21031390-14	SAMP	04-02-2021 06:56 pm	1.00	50 mL	50 mL	X040224.D	Liquid	Y	NA
25	HS21031390-06	SAMP	04-02-2021 07:17 pm	10.00	5 mL	50 mL	X040225.D	Liquid	Y	NA
26	HS21031390-09	SAMP	04-02-2021 07:38 pm	5.00	10 mL	50 mL	X040226.D	Liquid	Y	NA
27	HS21031390-28MS	MS	04-02-2021 07:59 pm	1.00	50 mL	50 mL	X040227.D	Liquid	Y	NA
28	HS21031390-28MSD	MSD	04-02-2021 08:20 pm	1.00	50 mL	50 mL	X040228.D	Liquid	Y	NA
29	HS21031390-06	SAMP	04-02-2021 08:41 pm	100.0(	500 µL	50 mL	X040229.D	Liquid	Y	NA
30	HS21031390-09	SAMP	04-02-2021 09:03 pm	25.00	2 mL	50 mL	X040230.D	Liquid	Y	NA
31	HS21031318-29	SAMP	04-02-2021 09:24 pm	1.00	50 mL	50 mL	X040231.D	Liquid	Y	NA
32	HS21040032-03	SAMP	04-02-2021 09:45 pm	1.00	50 mL	50 mL	X040232.D	Liquid	Y	NA
33	BFB	TUNE	04-02-2021 10:06 pm	1.00	50 mL	50 mL	Y040201.D	Liquid	Y	NA
34	CCV	CCV	04-02-2021 10:27 pm	1.00	50 mL	50 mL	Y040202a.D	Liquid	Y	NA
35	CCV	CCV	04-02-2021 10:48 pm	1.00	50 mL	50 mL	Y040203.D	Liquid	Y	NA
36	CCB	SAMP	04-02-2021 11:09 pm	1.00	50 mL	50 mL	Y040204.D	Liquid	Y	NA
37	VLCSW-210402	LCS	04-02-2021 11:30 pm	1.00	50 mL	50 mL	Y040205.D	Liquid	Y	NA
38	BLANK	SAMP	04-02-2021 11:51 pm	1.00	50 mL	50 mL	Y040206.D	Liquid	Y	NA
39	VBLKW-210402	MBLK	04-03-2021 12:12 am	1.00	50 mL	50 mL	Y040207.D	Liquid	Y	NA
40	HS21031399-49	SAMP	04-03-2021 12:33 am	1.00	50 mL	50 mL	Y040208.D	Liquid	Y	NA
41	HS21031390-31	SAMP	04-03-2021 12:54 am	1.00	50 mL	50 mL	Y040209.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS21031390-33	SAMP	04-03-2021 01:15 am	1.00	50 mL	50 mL	Y040210.D	Liquid	Y	NA
43	HS21031390-31MS	MS	04-03-2021 01:36 am	1.00	50 mL	50 mL	Y040211.D	Liquid	Y	NA
44	HS21031390-31MSD	MSD	04-03-2021 01:57 am	1.00	50 mL	50 mL	Y040212.D	Liquid	Y	NA
45	BLANK	SAMP	04-03-2021 02:18 am	1.00	50 mL	50 mL	Y040213.D	Liquid	Y	NA
46	BLANK	SAMP	04-03-2021 02:39 am	1.00	50 mL	50 mL	Y040214.D	Liquid	Y	NA
47	HS21031399-38	SAMP	04-03-2021 03:00 am	1.00	50 mL	50 mL	Y040215.D	Liquid	Y	NA
48	HS21031399-39	SAMP	04-03-2021 03:21 am	1.00	50 mL	50 mL	Y040216.D	Liquid	Y	NA
49	HS21031399-41	SAMP	04-03-2021 03:43 am	1.00	50 mL	50 mL	Y040217.D	Liquid	Y	NA
50	HS21031399-42	SAMP	04-03-2021 04:04 am	1.00	50 mL	50 mL	Y040218.D	Liquid	Y	NA
51	HS21031399-43	SAMP	04-03-2021 04:25 am	1.00	50 mL	50 mL	Y040219.D	Liquid	Y	NA
52	HS21031399-44	SAMP	04-03-2021 04:46 am	1.00	50 mL	50 mL	Y040220.D	Liquid	Y	NA
53	HS21031399-45	SAMP	04-03-2021 05:07 am	1.00	50 mL	50 mL	Y040221.D	Liquid	Y	NA
54	HS21031399-46	SAMP	04-03-2021 05:28 am	1.00	50 mL	50 mL	Y040222.D	Liquid	Y	NA
55	HS21031565-01	SAMP	04-03-2021 05:49 am	1.00	50 mL	50 mL	Y040223.D	Liquid	Y	NA
56	HS21031565-05	SAMP	04-03-2021 06:10 am	1.00	50 mL	50 mL	Y040224.D	Liquid	Y	NA
57	HS21031565-06	SAMP	04-03-2021 06:31 am	1.00	50 mL	50 mL	Y040225.D	Liquid	Y	NA
58	HS21031565-07	SAMP	04-03-2021 06:52 am	1.00	50 mL	50 mL	Y040226.D	Liquid	Y	NA
59	HS21031565-08	SAMP	04-03-2021 07:13 am	1.00	50 mL	50 mL	Y040227.D	Liquid	Y	NA
60	HS21031565-11	SAMP	04-03-2021 07:35 am	1.00	50 mL	50 mL	Y040228.D	Liquid	Y	NA
61	HS21031565-14	SAMP	04-03-2021 07:56 am	1.00	50 mL	50 mL	Y040229.D	Liquid	Y	NA
62	HS21031565-15	SAMP	04-03-2021 08:17 am	1.00	50 mL	50 mL	Y040230.D	Liquid	Y	NA
63	HS21031390-32	SAMP	04-03-2021 08:38 am	1.00	50 mL	50 mL	Y040231.D	Liquid	Y	NA
64	BLANJ	SAMP	04-03-2021 08:59 am	1.00	50 mL	50 mL	Y040240.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	46.17	92	80-120
Methylene Chloride	50.00	45.57	91	80-120
1,1-Dichloroethene	50.00	46.21	92	80-120
1,2-Dichloroethane	50.00	47.48	95	80-120
cis-1,2-Dichloroethene	50.00	46.33	93	80-120
1,1,2-Trichloroethane	50.00	48.15	96	80-120
Trichloroethene	50.00	50.43	101	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID: X040201 BFB Injection Date: 04/02/21

Instrument ID: VOA6 BFB Injection Time: 1032

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	22.5
75	30.0 - 60.0% of mass 95	53.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	Greater than 50.0% of mass 95	83.8
175	5.0 - 9.0% of mass 174	6.3 (7.6)1
176	95.0 - 101.0% of mass 174	81.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.4 (5.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X040202	04/02/21	1053
02	VSTD000.5	VSTD000.5	X040203	04/02/21	1135
03	VSTD001	VSTD001	X040204	04/02/21	1156
04	VSTD002	VSTD002	X040205	04/02/21	1217
05	VSTD005	VSTD005	X040206	04/02/21	1238
06	VSTD020	VSTD020	X040207	04/02/21	1259
07	VSTD050	VSTD050	X040208	04/02/21	1320
08	VSTD100	VSTD100	X040209	04/02/21	1341
09	VSTD150	VSTD150	X040210	04/02/21	1402
10	VSTD200	VSTD200	X040211	04/02/21	1423
11	ICV	ICV	X040214	04/02/21	1526
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF0.25: X040202 RF0.5: X040203 RF1: X040204
RF2: X040205 RF5: X040206 RF20: X040207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.844	0.943	0.758	0.756	0.736
Methylene Chloride		2167	4155	7271	17205	63925
1,1-Dichloroethene		0.748	0.754	0.752	0.776	0.659
1,2-Dichloroethane		0.560	0.634	0.506	0.530	0.475
cis-1,2-Dichloroethene		0.588	0.711	0.624	0.604	0.542
1,1,2-Trichloroethane		0.276	0.355	0.300	0.320	0.251
Trichloroethene		0.263	0.401	0.364	0.376	0.308
Dibromofluoromethane		1934	3862	6870	17824	68668
1,2-Dichloroethane-d4		2323	4438	7506	20809	80475
Toluene-d8		6330	12313	22274	56112	218999
4-Bromofluorobenzene		2889	4647	7732	19193	81621

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104116

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF50: X040208 RF100: X040209 RF150: X040210
RF200: X040211

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.712	0.681	0.664	0.652
Methylene Chloride	173954	420832	703062	1013494
1,1-Dichloroethene	0.668	0.684	0.663	0.702
1,2-Dichloroethane	0.517	0.525	0.513	0.503
cis-1,2-Dichloroethene	0.580	0.612	0.608	0.631
1,1,2-Trichloroethane	0.265	0.281	0.281	0.284
Trichloroethene	0.345	0.350	0.337	0.337
Dibromofluoromethane	201590	476731	758989	1061294
1,2-Dichloroethane-d4	243778	568806	919399	1266674
Toluene-d8	658700	1733824	2714142	3949224
4-Bromofluorobenzene	267013	624362	1011725	1473828

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104116

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.74959896	12.472	15.000
Methylene Chloride	LINR	2.966e-002	1.78818120	0.9978871	0.9900000
1,1-Dichloroethene	AVRG		0.71193342	6.418	15.000
1,2-Dichloroethane	AVRG		0.52923847	8.569	15.000
cis-1,2-Dichloroethene	AVRG		0.61120734	7.506	15.000
1,1,2-Trichloroethane	AVRG		0.29044925	10.722	15.000
Trichloroethene	AVRG		0.34228157	11.637	15.000
Dibromofluoromethane	LINR	8.656e-003	1.68407127	0.9996746	0.9900000
1,2-Dichloroethane-d4	LINR	9.666e-003	1.40410549	0.9998489	0.9900000
Toluene-d8	LINR	3.71e-002	0.74922718	0.9979532	0.9900000
4-Bromofluorobenzene	LINR	3.301e-002	2.01663185	0.9986184	0.9900000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

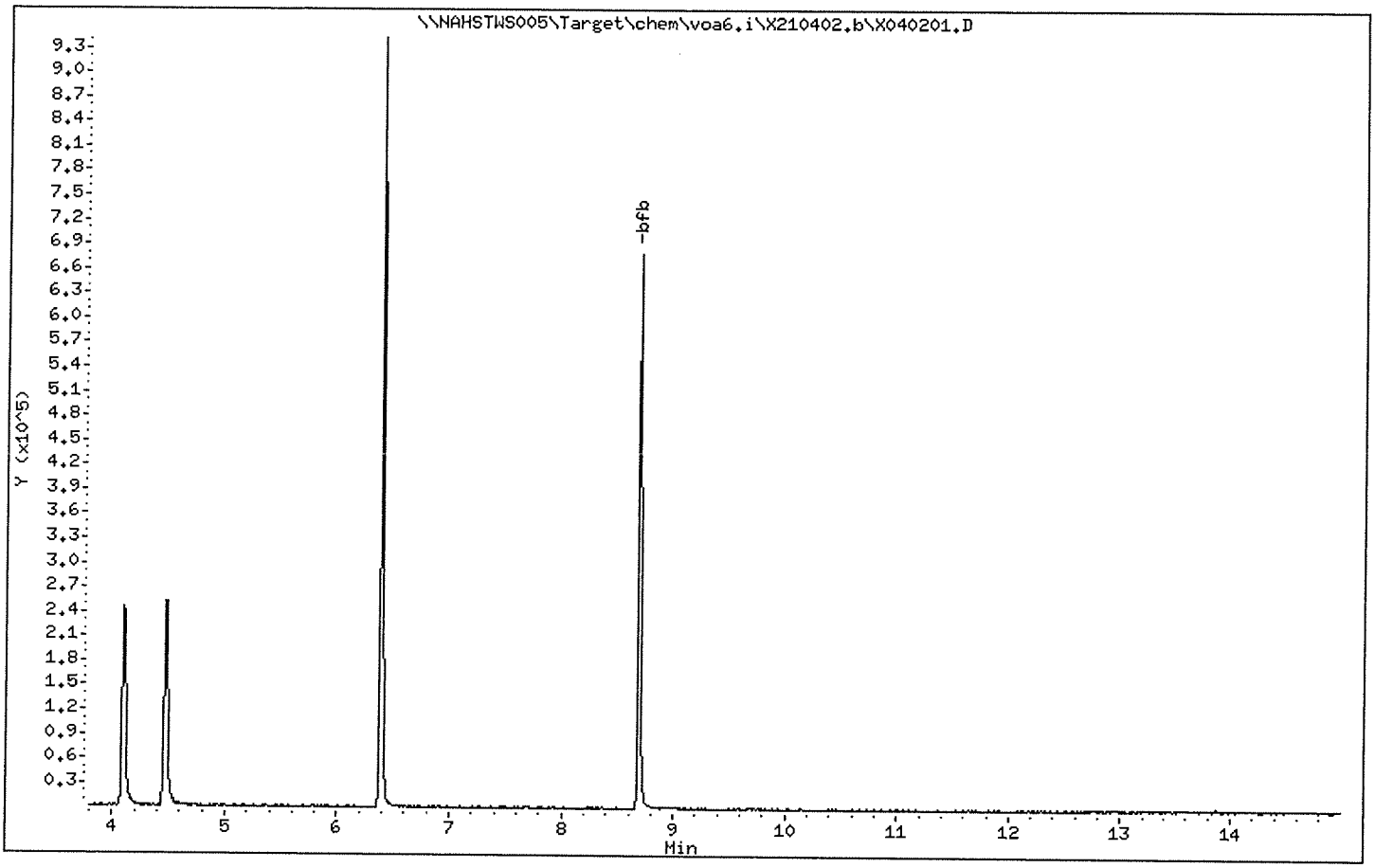
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

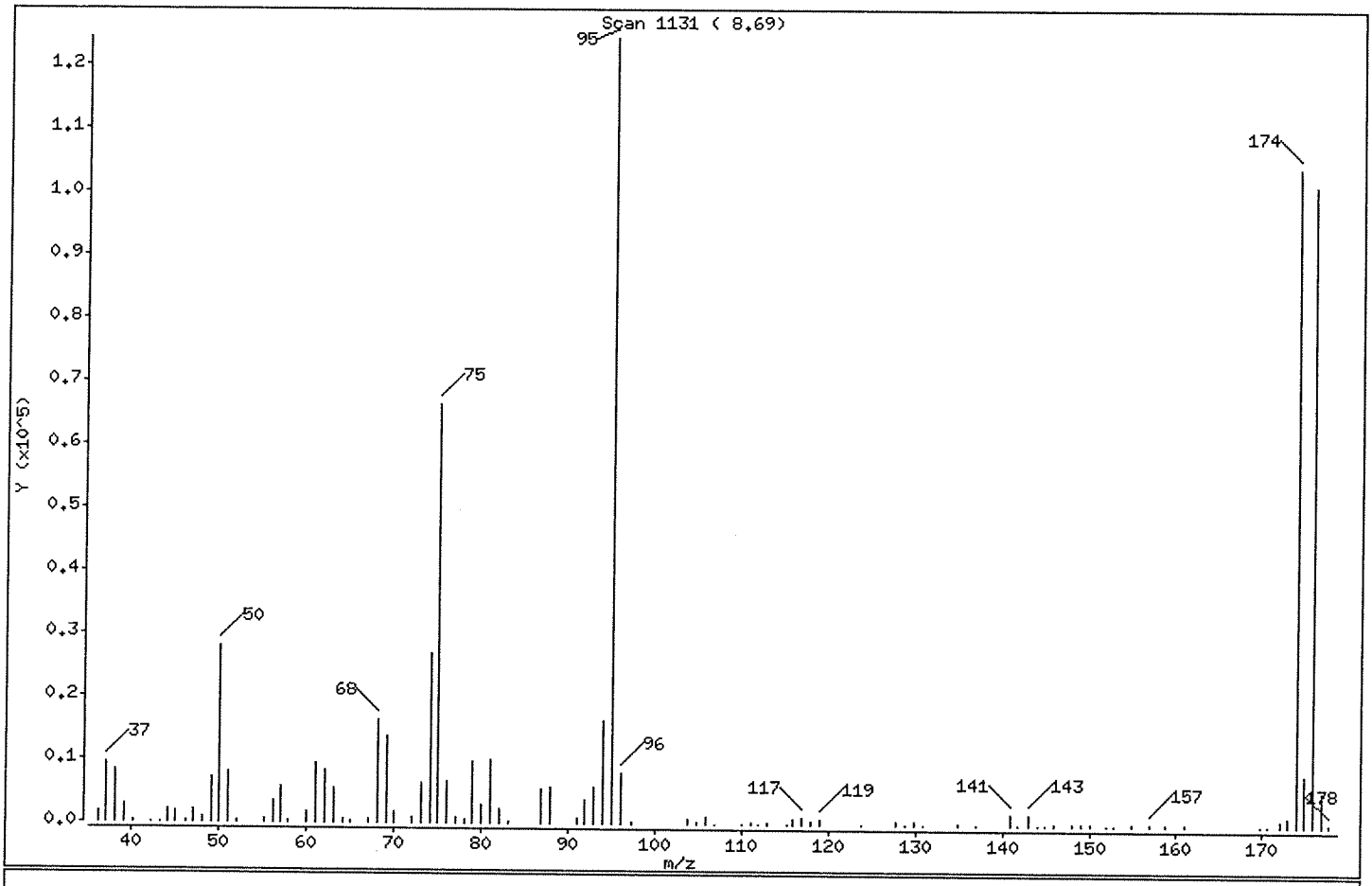
Volume Injected (uL): 2.0

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	22.51
75	30.00 - 60.00% of mass 95	53.31
96	5.00 - 9.00% of mass 95	6.51
173	Less than 2.00% of mass 174	1.06 (1.26)
174	Greater than 50.00% of mass 95	83.79
175	5.00 - 9.00% of mass 174	6.34 (7.56)
176	95.00 - 101.00% of mass 174	81.37 (97.11)
177	5.00 - 9.00% of mass 176	4.40 (5.40)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

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: X040201.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1732	64.00	599	95.00	124200	141.70	84
37.00	9290	65.00	153	96.00	8090	142.90	1576
38.00	8308	67.00	500	97.20	217	143.90	75
39.00	2929	68.00	16384	103.70	740	144.80	94
40.10	424	69.00	13717	104.80	164	145.90	148
42.20	74	70.00	1785	105.80	1029	147.90	250
43.20	72	72.10	777	106.90	112	148.90	155
44.00	2050	73.00	6328	109.90	136	150.00	286
45.00	1795	74.00	26912	111.00	268	151.80	52
46.10	242	75.00	66216	111.90	85	152.70	124
47.00	1874	76.00	6620	112.90	237	154.80	284
48.00	988	77.10	800	115.10	59	156.80	312
49.00	7094	78.10	446	115.80	811	158.80	260
50.00	27952	78.90	9818	116.90	1154	161.00	258
51.00	7947	79.90	2794	117.80	635	169.80	139
51.90	391	80.90	10133	118.90	930	170.60	140
55.20	631	82.00	2269	123.70	57	172.20	893
56.10	3391	83.00	193	127.70	679	172.90	1311
57.00	5690	86.90	5298	128.70	113	173.90	104064
57.90	400	87.90	5776	129.70	519	174.90	7871
59.90	1604	90.90	805	130.80	68	175.90	101056
61.00	9323	91.90	3707	134.80	220	176.90	5459
62.00	8245	92.90	5610	136.80	123	177.80	373
63.00	5418	94.00	16192	140.90	1678		

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-APR-2021 10:53
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

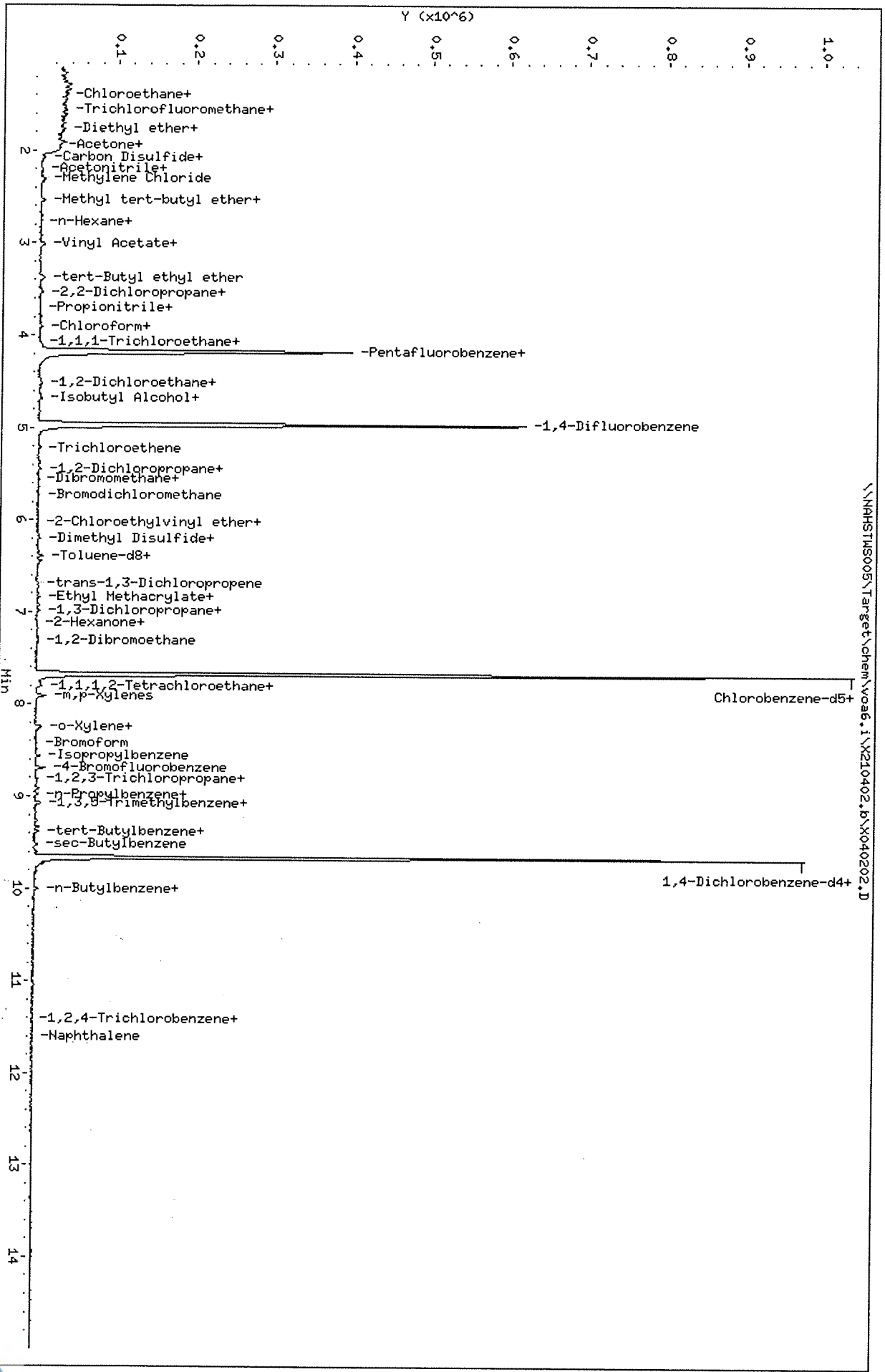
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	311555	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	505232	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	450629	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197083	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	968	0.25000	0.69(M)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1238	0.25000	0.76(TM)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	4819	0.25000	2.25
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3592	0.25000	2.45
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	995	0.25000	0.38(a)
11 1,1-Dichloroethene	96	1.904	1.904	(0.455)	1567	0.25000	0.35(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	1597	0.25000	0.29(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	893	0.25000	0.23(M)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2054	0.25000	2.07(aM)
38 Trichloroethene	130	5.221	5.221	(1.052)	988	0.25000	0.28(M)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1614	0.25000	0.34(M)

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\X210402.b\X040202.D
Date : 02-APR-2021 10:53
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\X210402.b\X040203.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-APR-2021 11:35
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 10:53 Cal File: X040202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

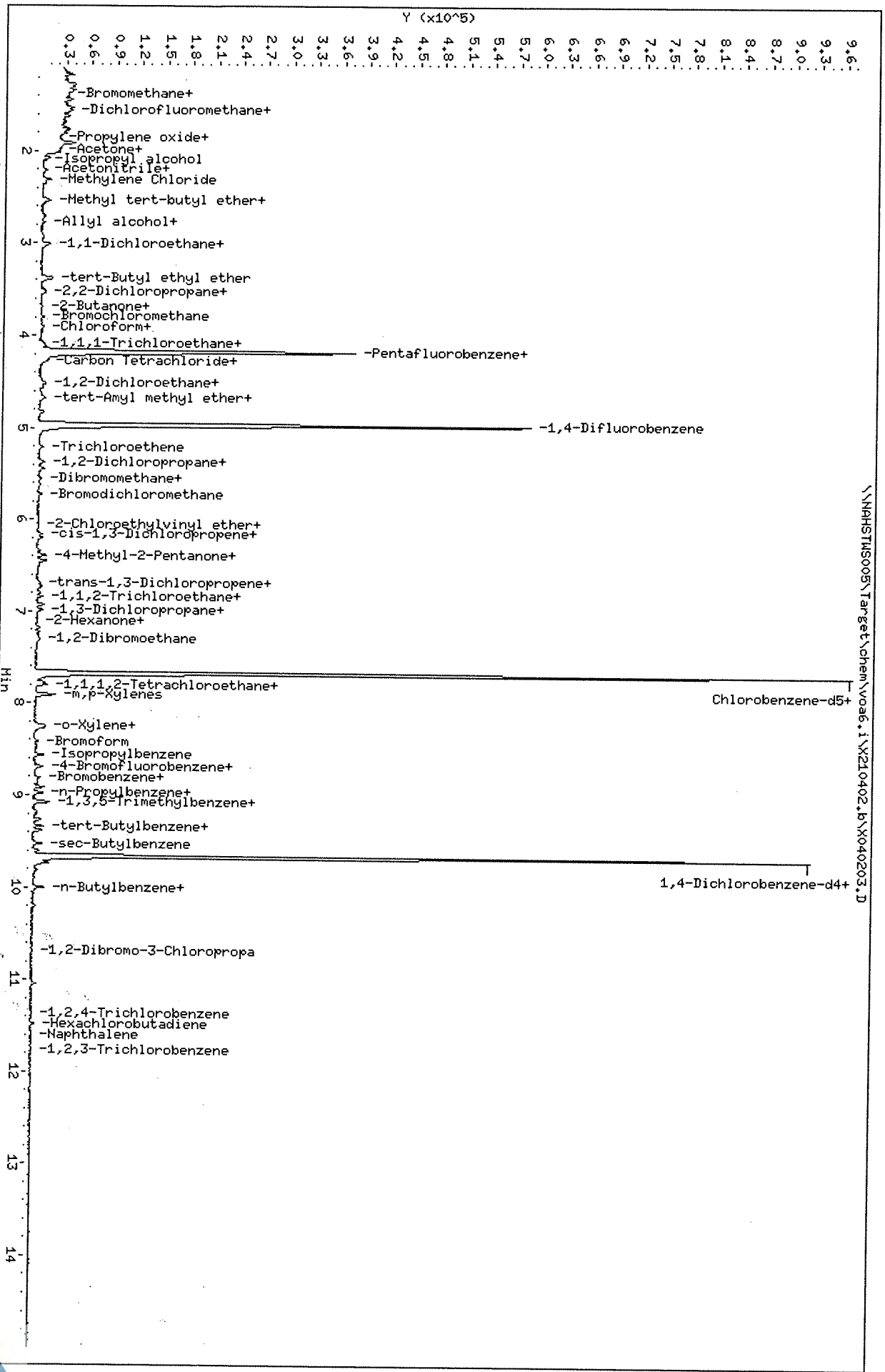
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	292480	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	476531	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	420545	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	191809	50.0000	
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1934	0.50000	0.98
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2323	0.50000	1.04(T)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	6330	0.50000	2.41(T)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2889	0.50000	2.34
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1162	0.50000	0.47(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2188	0.50000	0.52(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	2669	0.50000	0.52(aM)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.848)	1721	0.50000	0.48
17 Methylene Chloride	84	2.306	2.306	(0.551)	2167	0.50000	2.14(aM)
38 Trichloroethene	130	5.214	5.214	(1.049)	1254	0.50000	0.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2470	0.50000	0.56

QC Flag Legend

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

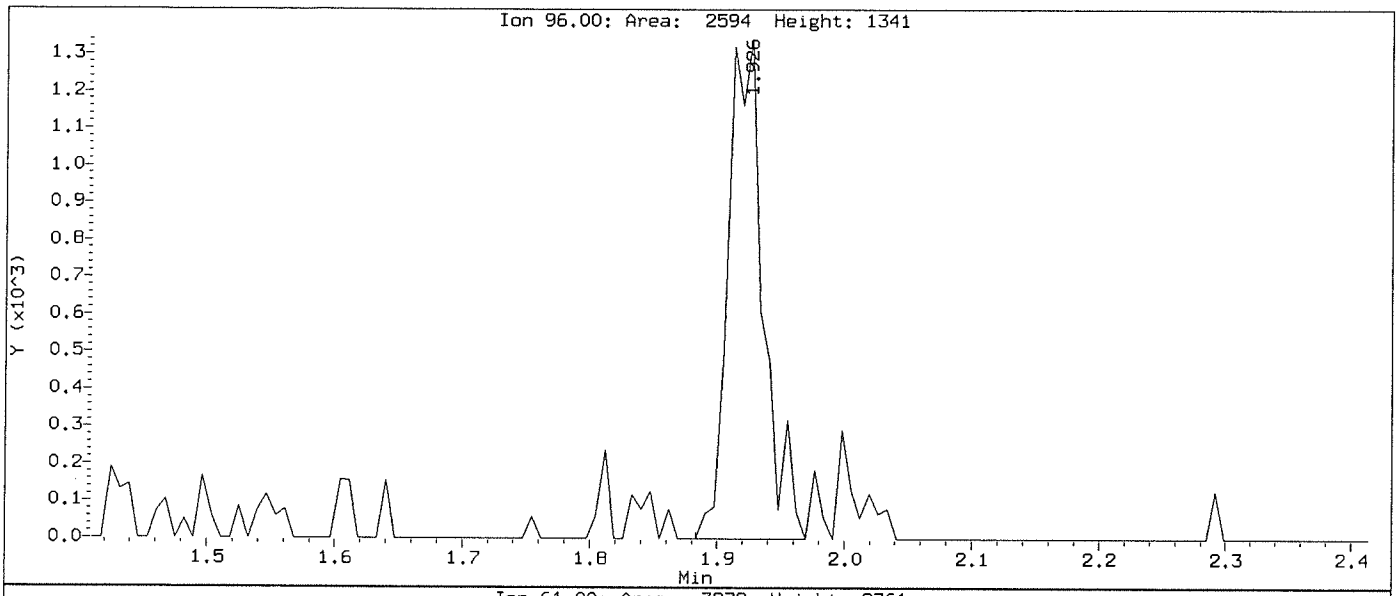


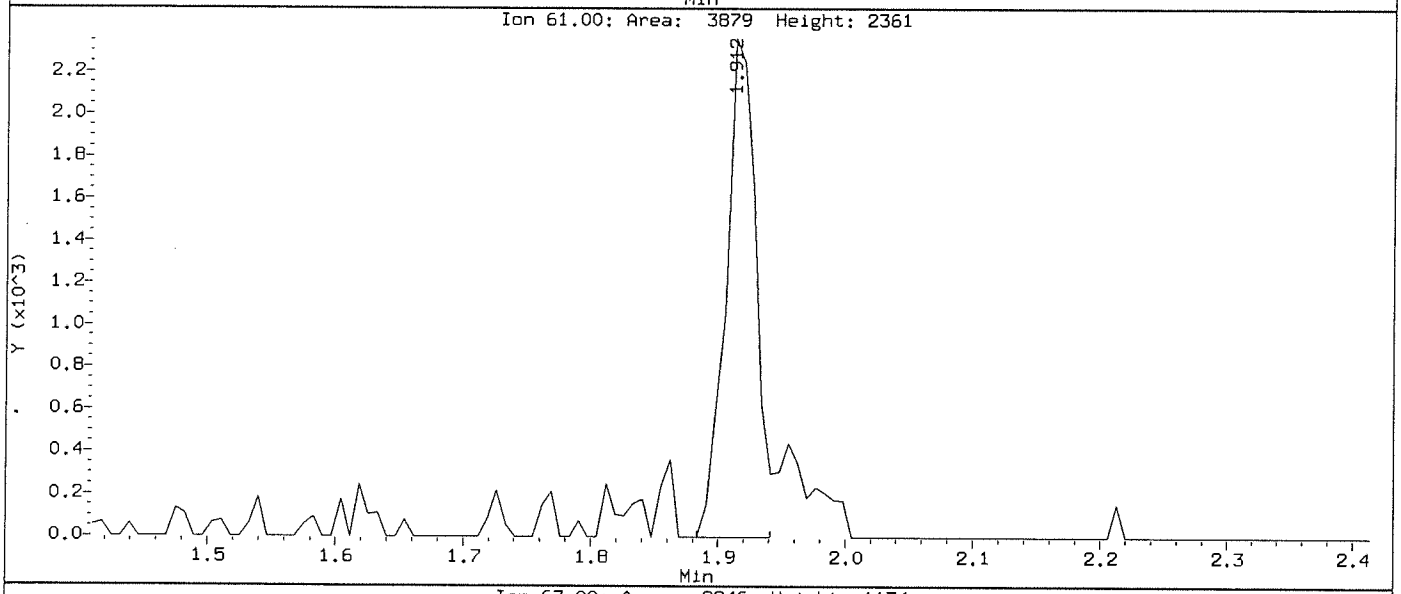
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Date : 02-APR-2021 11:35
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

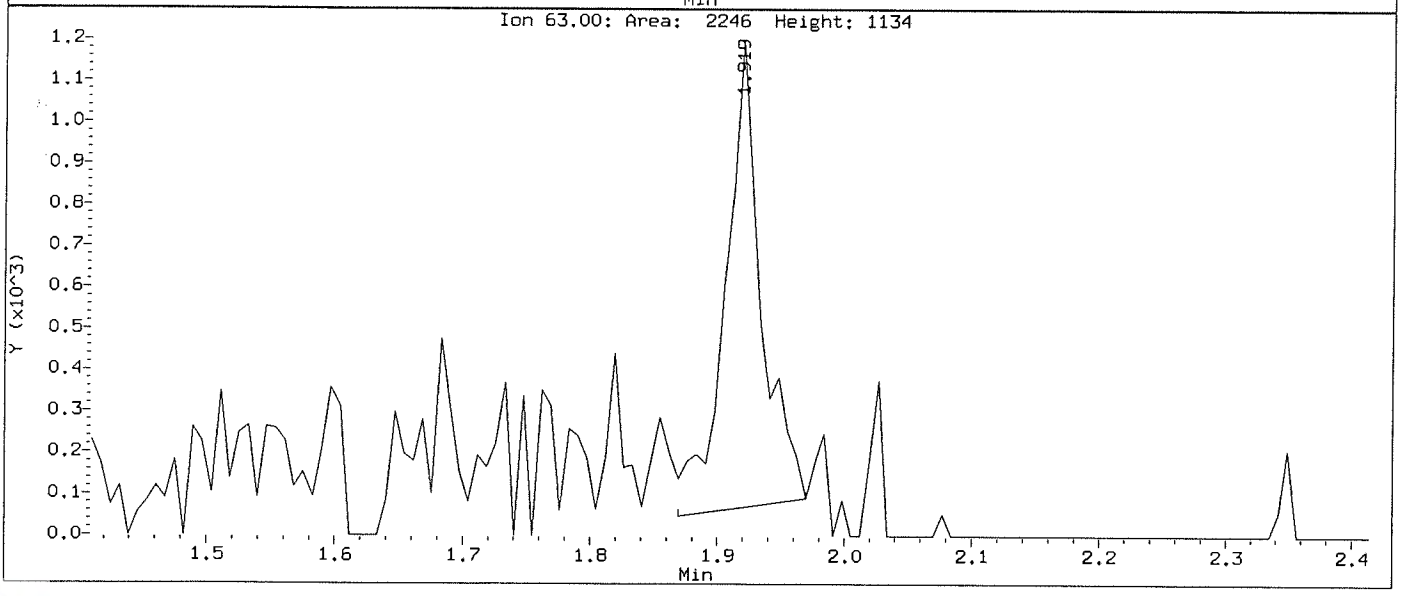
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

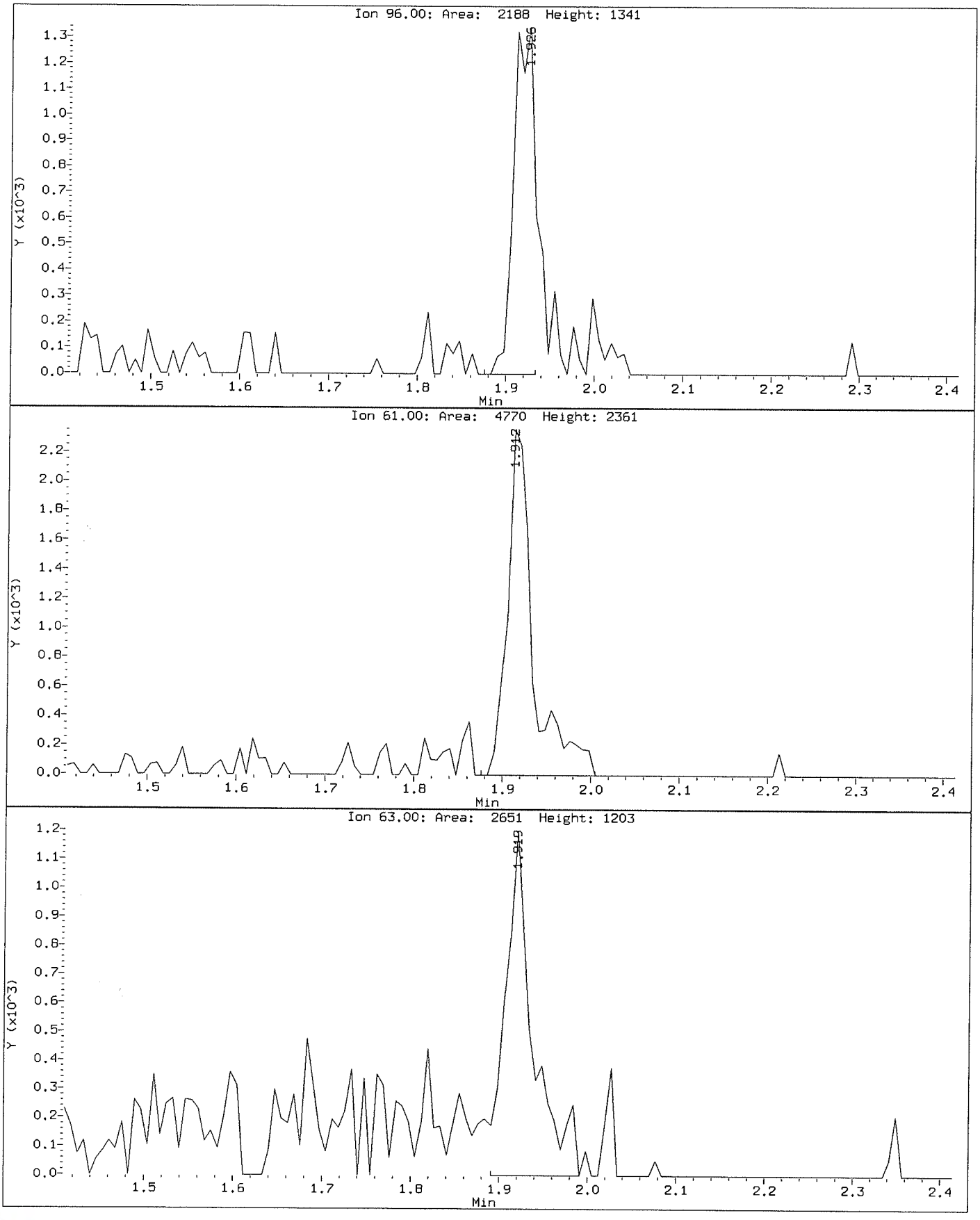






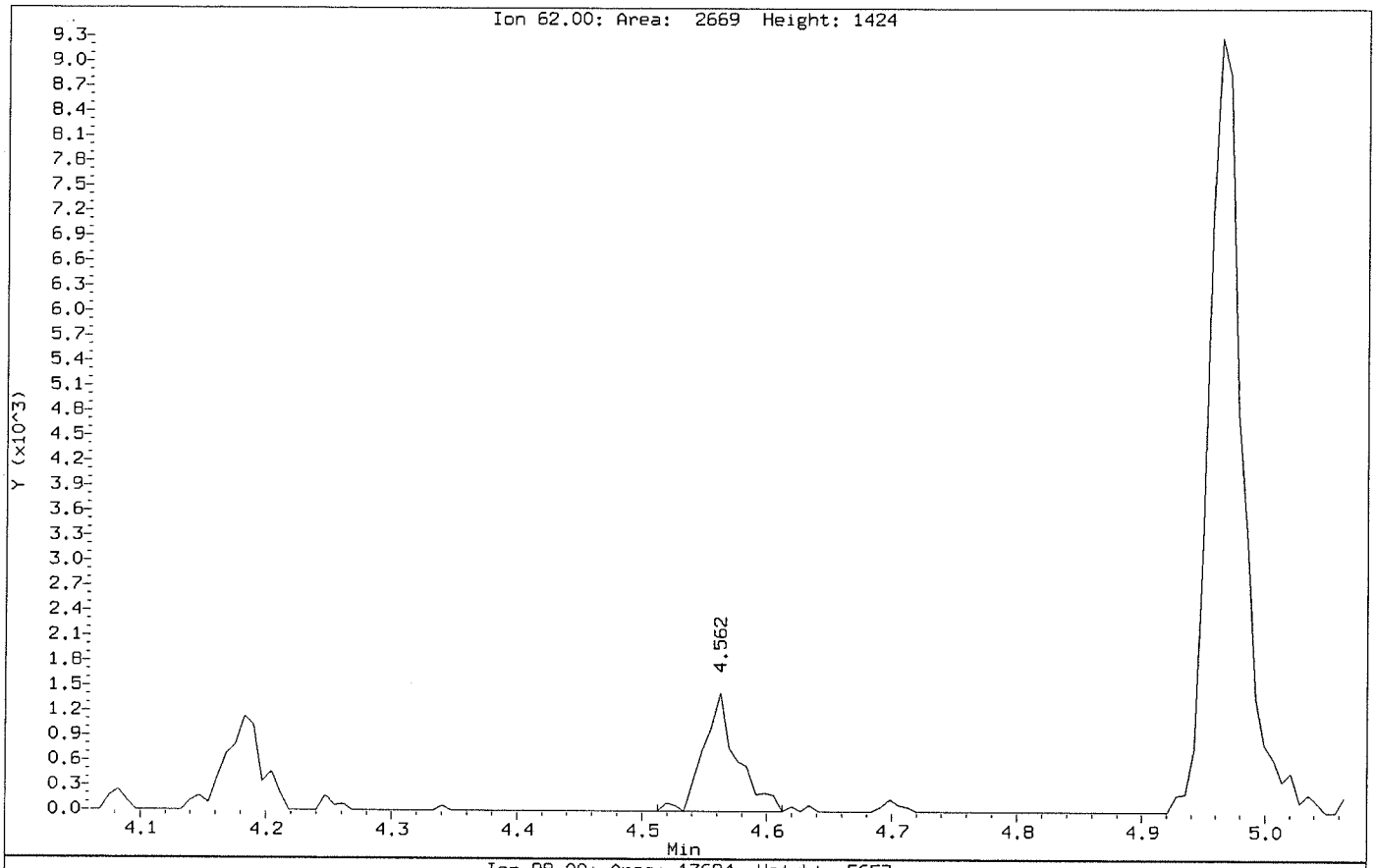
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

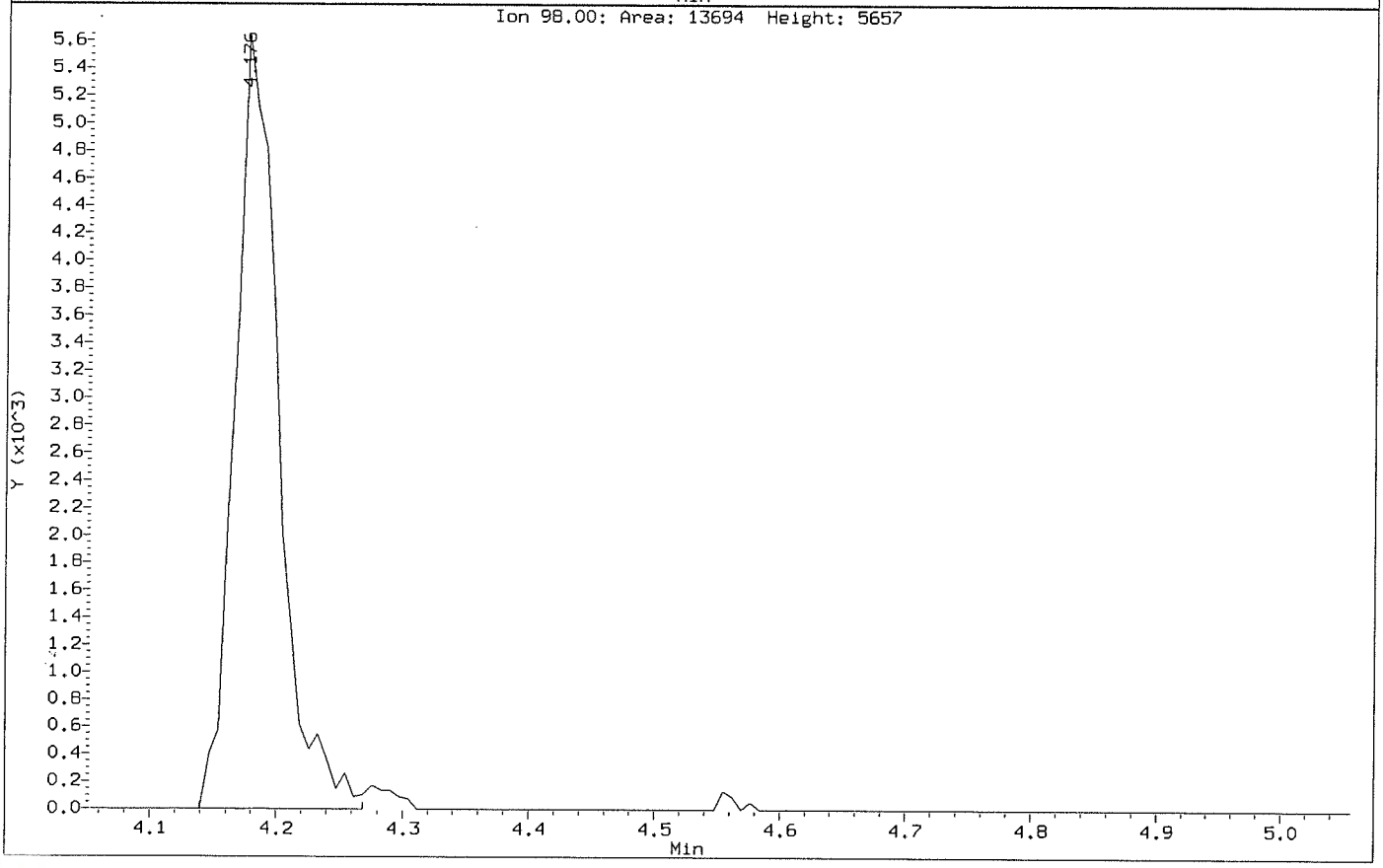
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

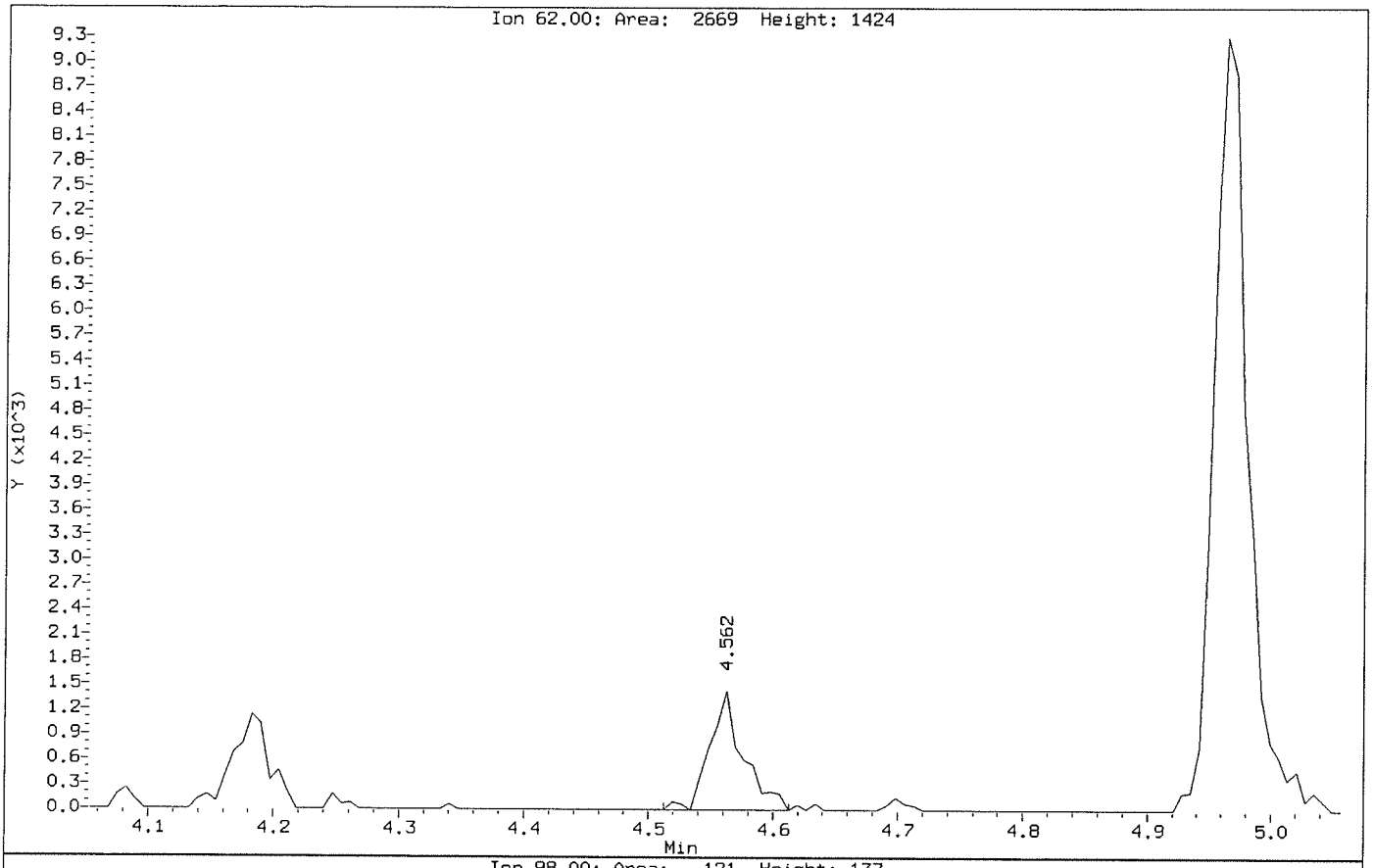
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

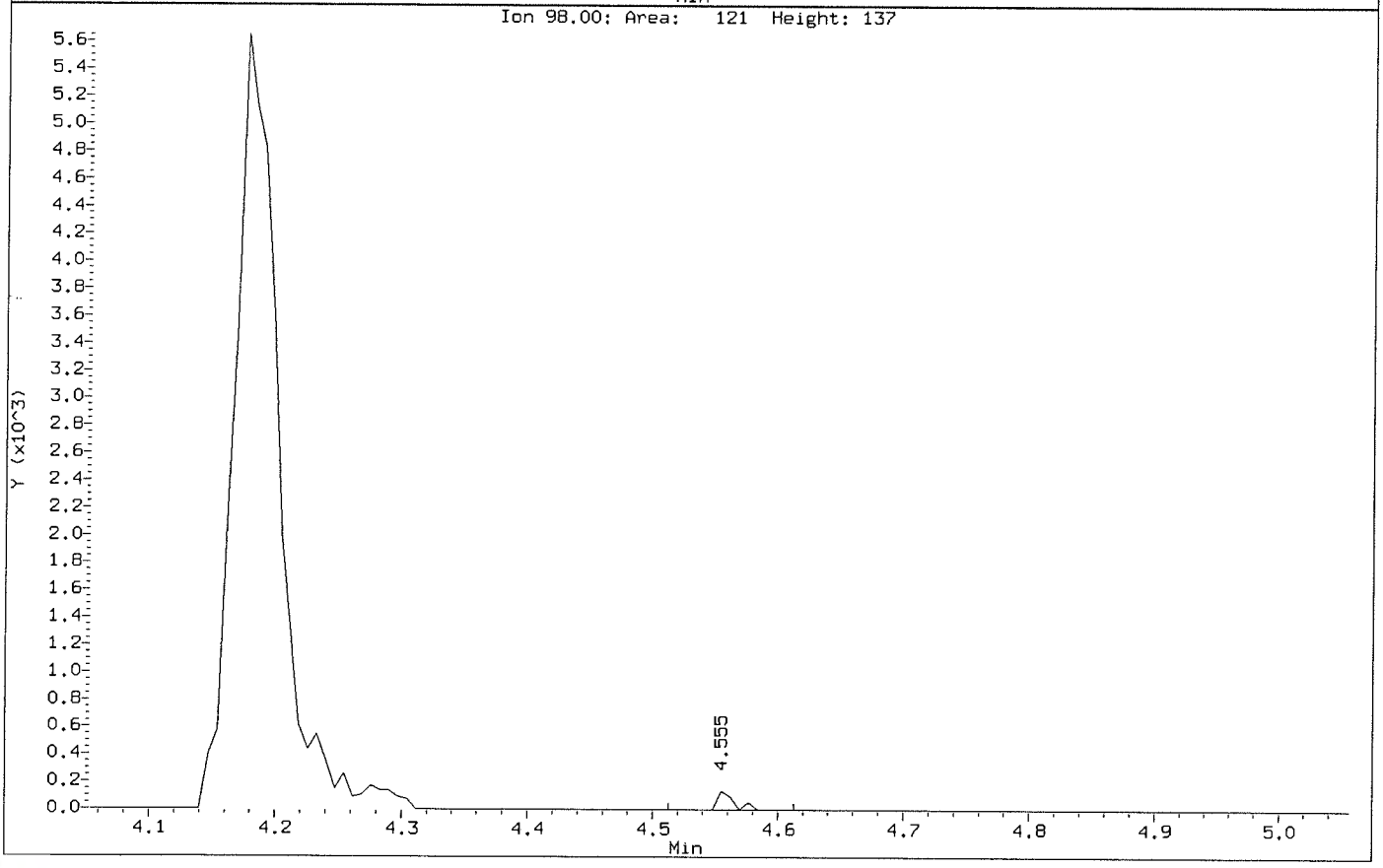




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

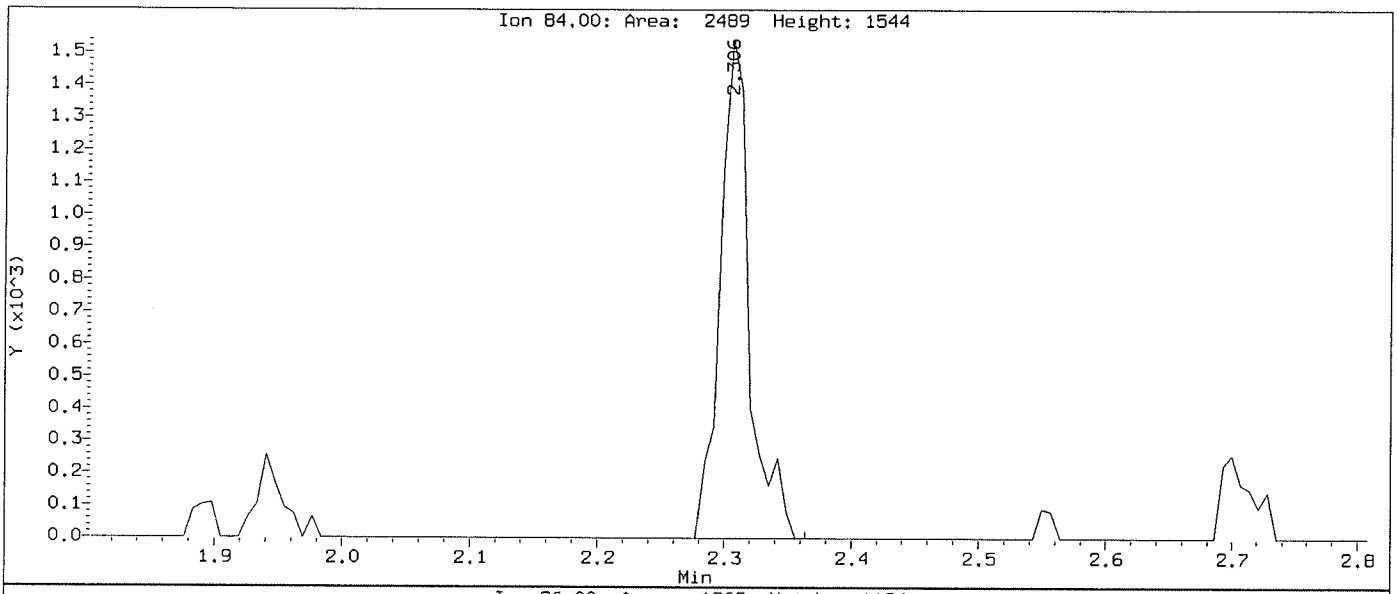
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

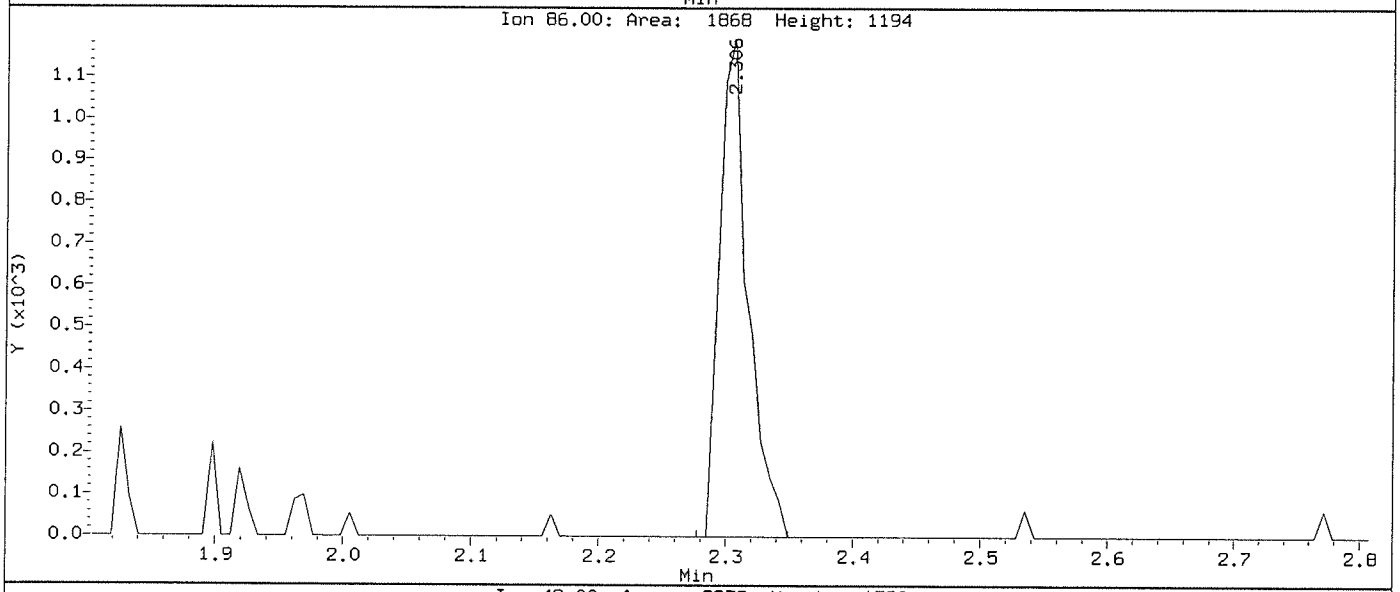


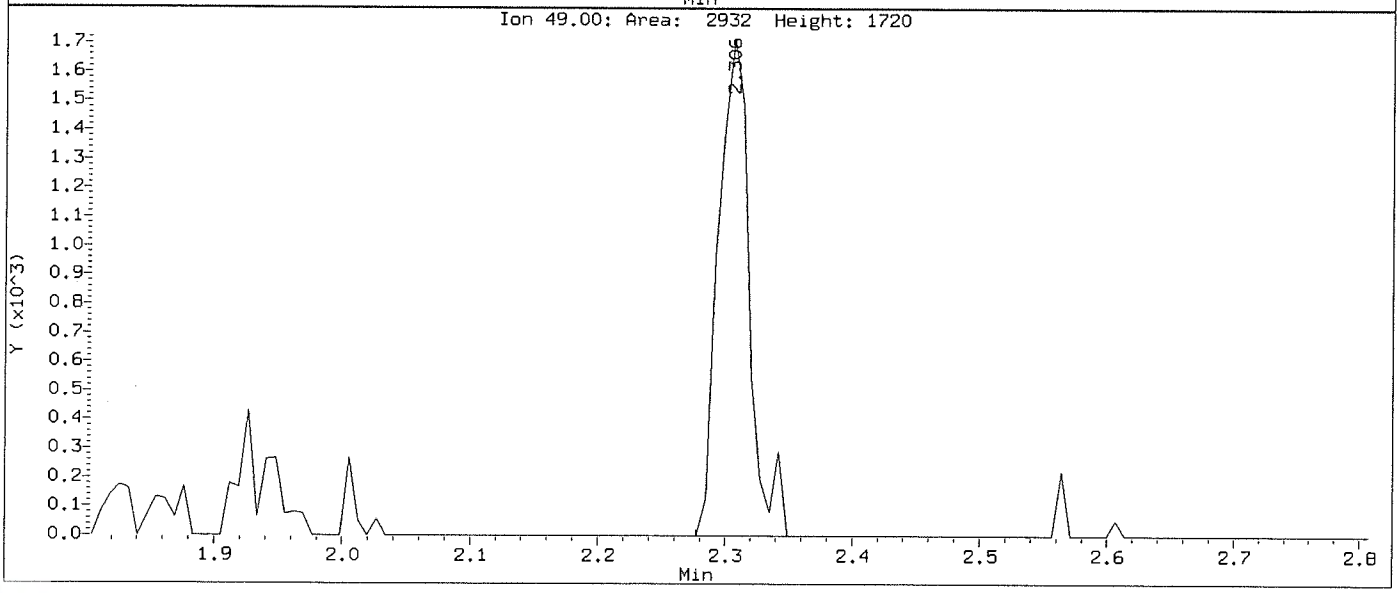


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

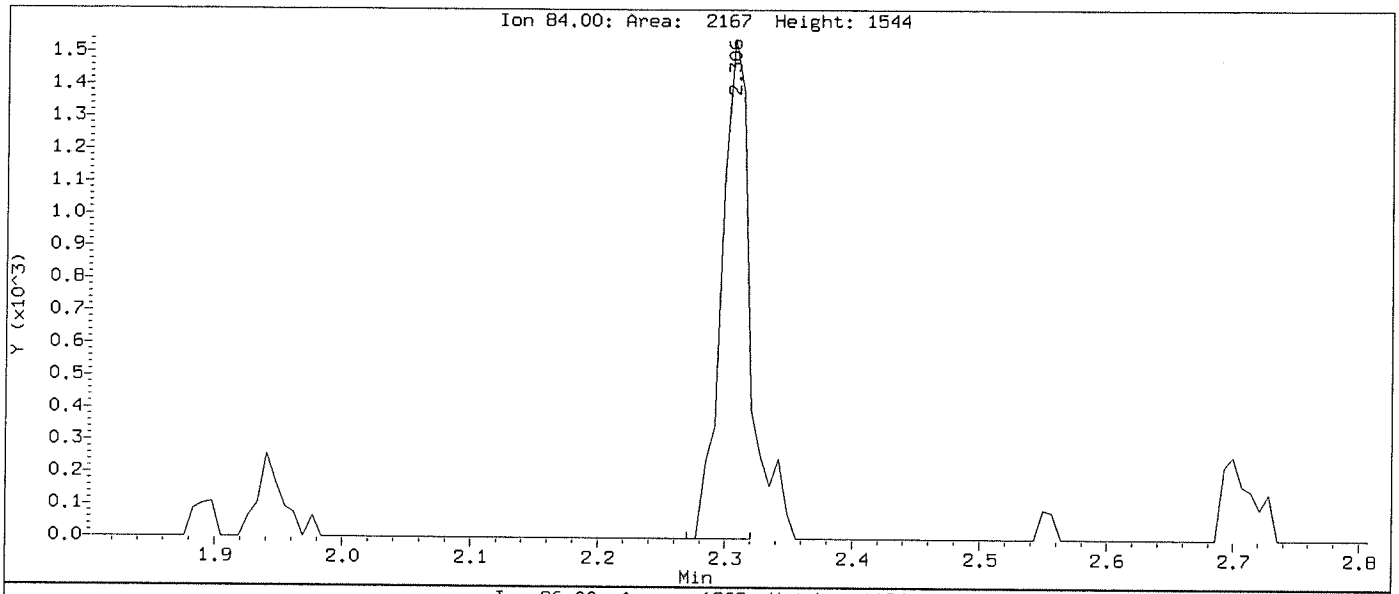


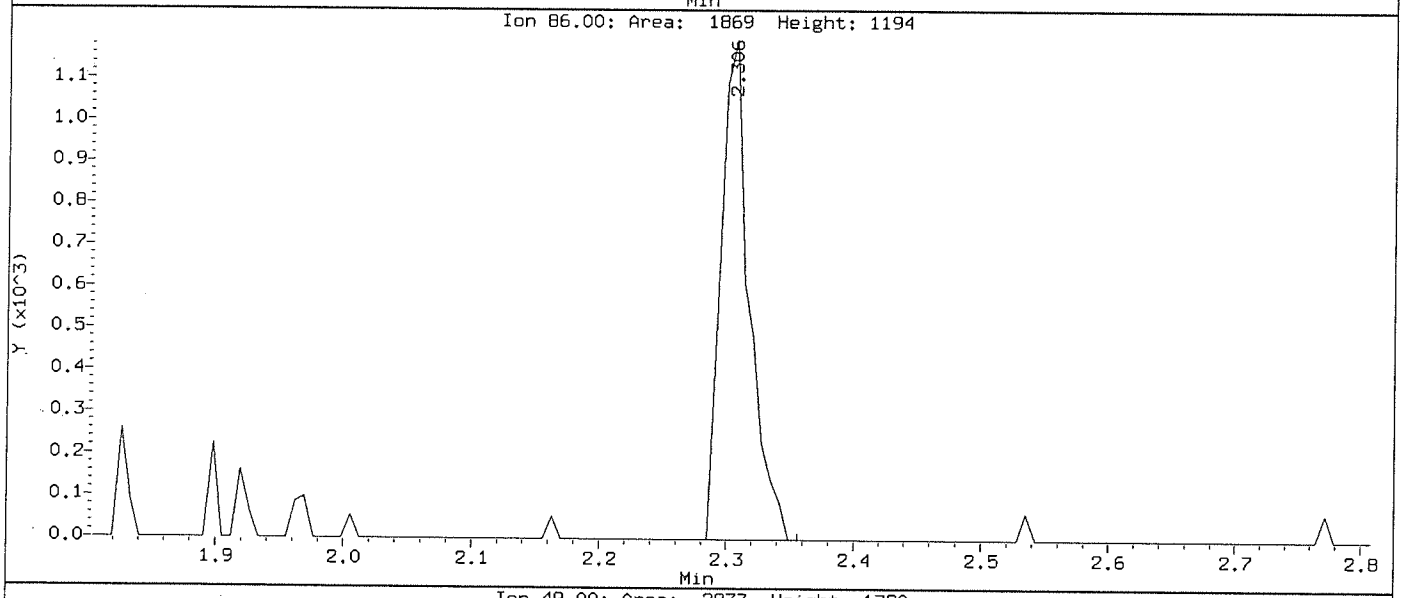


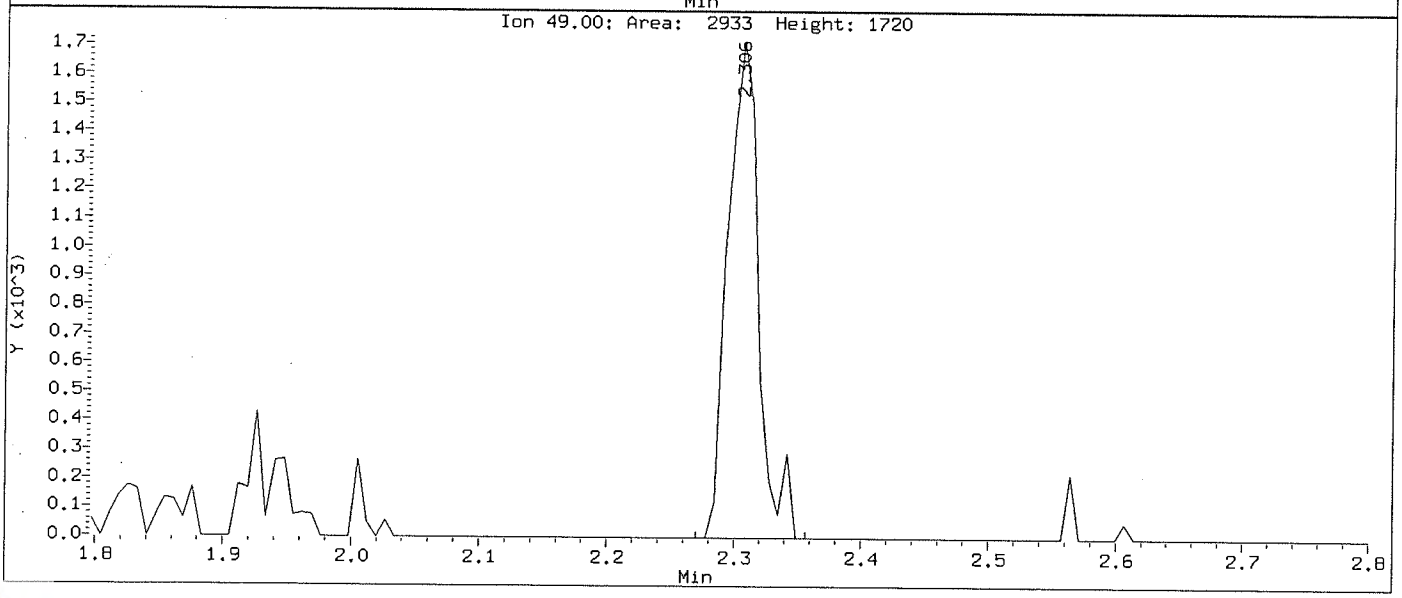


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-APR-2021 11:56
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:35 Cal File: X040203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

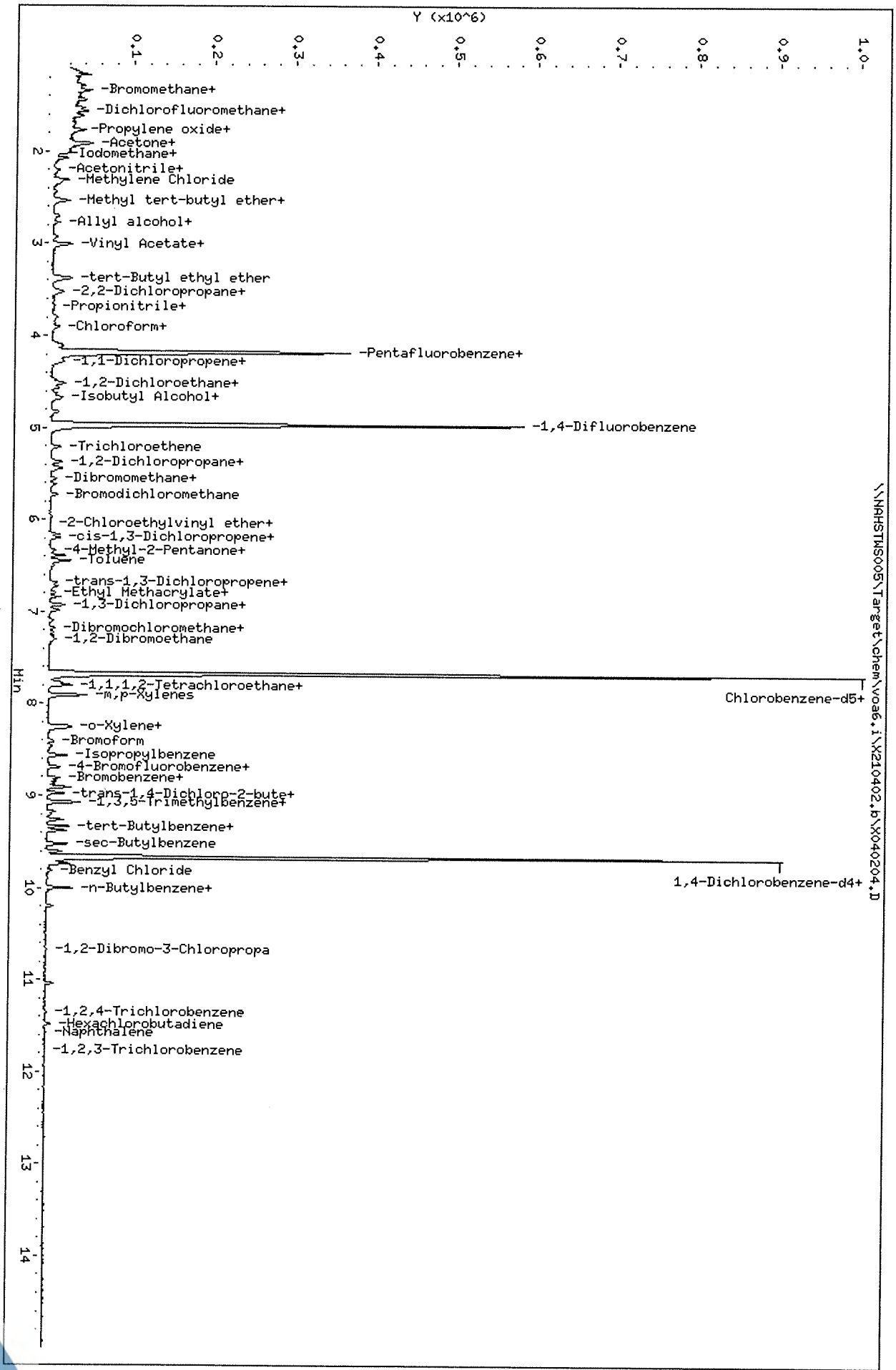
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278422	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	467952	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	425730	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	185938	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3862	1.00000	1.60
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4438	1.00000	1.60
$	48 Toluene-d8	98	6.388	6.388	(0.833)	12313	1.00000	2.93
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4647	1.00000	2.75
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	3024	1.00000	1.22(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4199	1.00000	1.05(aM)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	5931	1.00000	1.19(aM)
	27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3959	1.00000	1.16
	17 Methylene Chloride	84	2.298	2.298	(0.550)	4155	1.00000	2.81(aM)
	38 Trichloroethene	130	5.207	5.207	(1.049)	3757	1.00000	1.17(M)
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	5253	1.00000	1.25(M)

QC Flag Legend

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

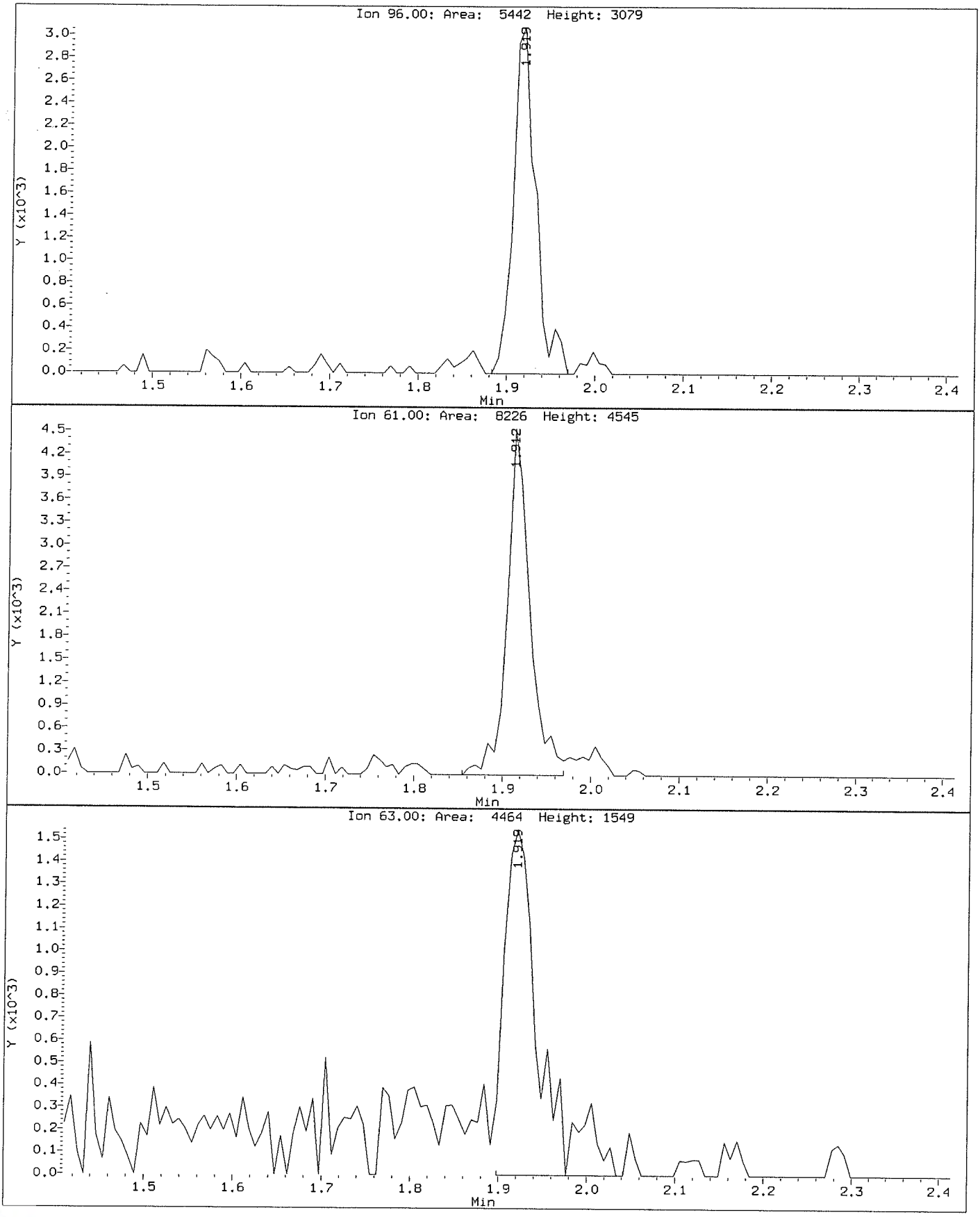


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Date : 02-APR-2021 11:56
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

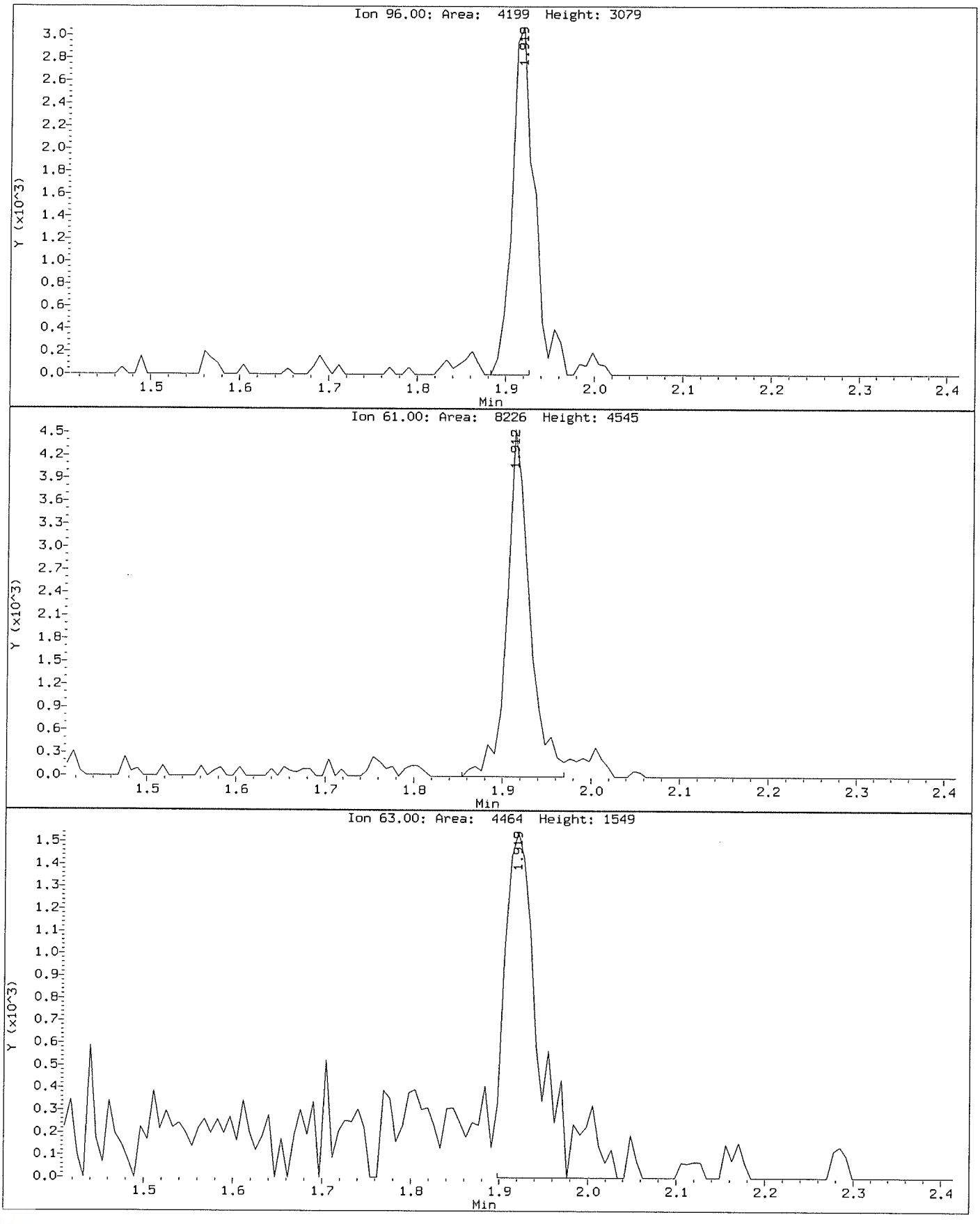
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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



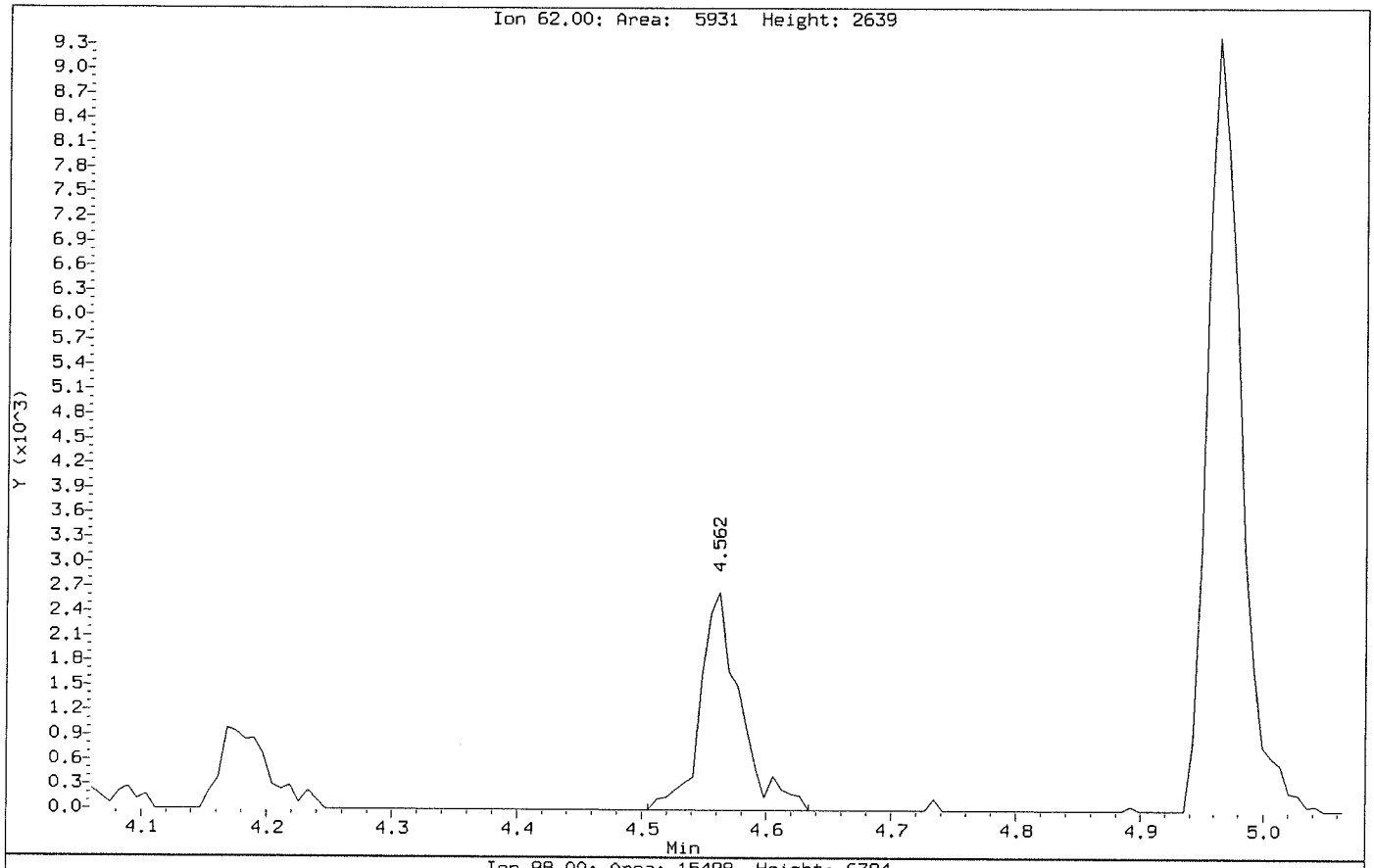
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

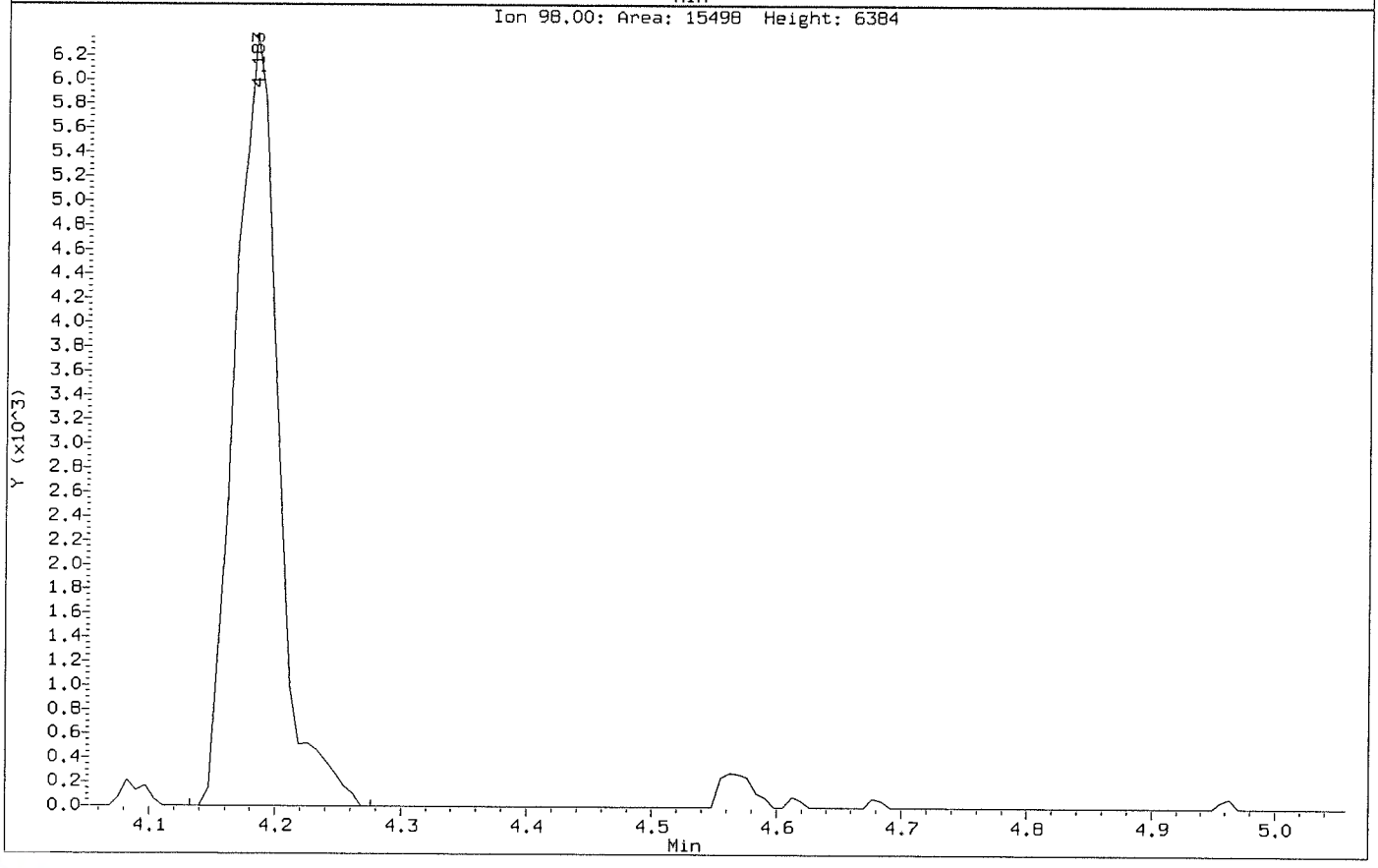
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

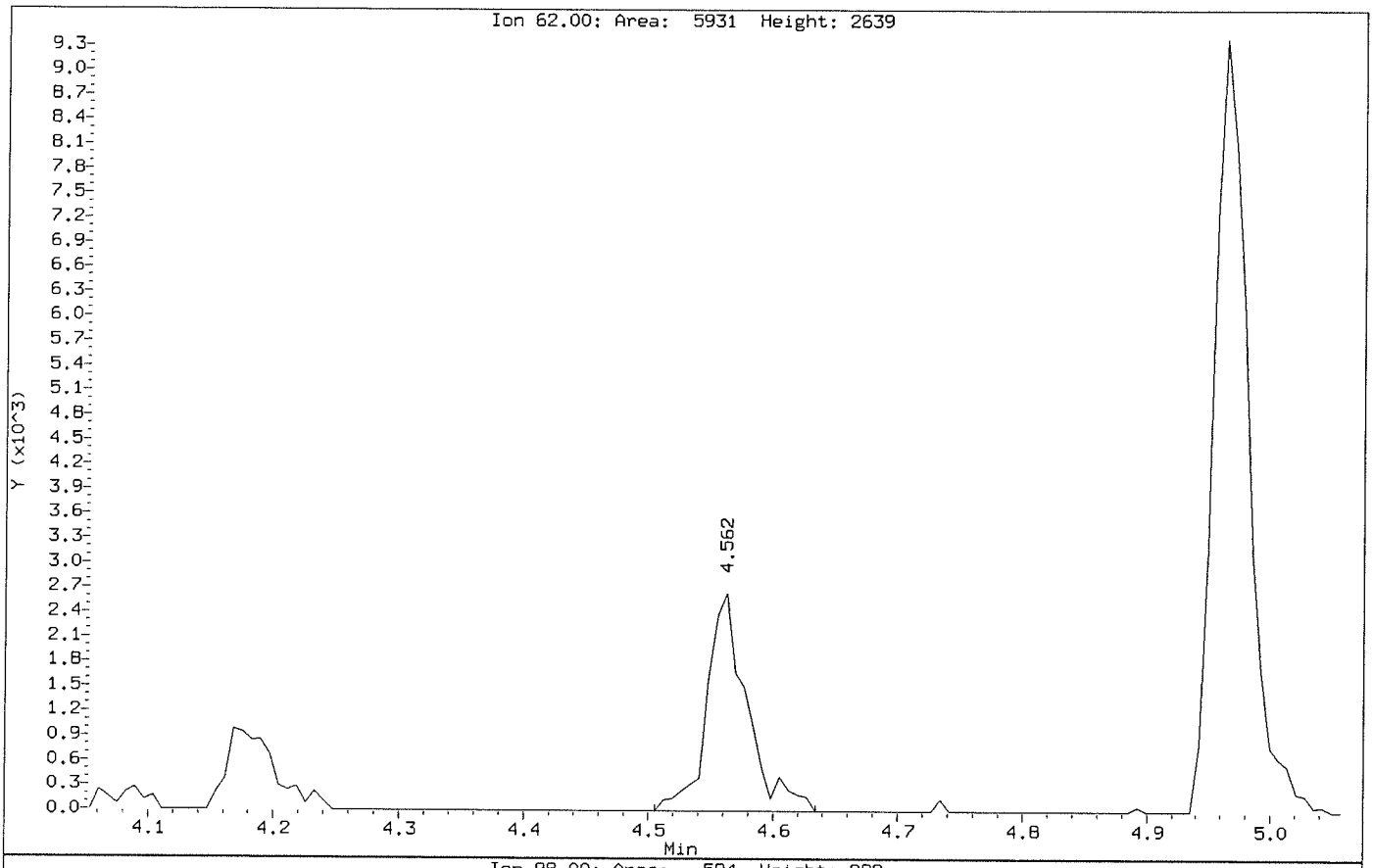
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

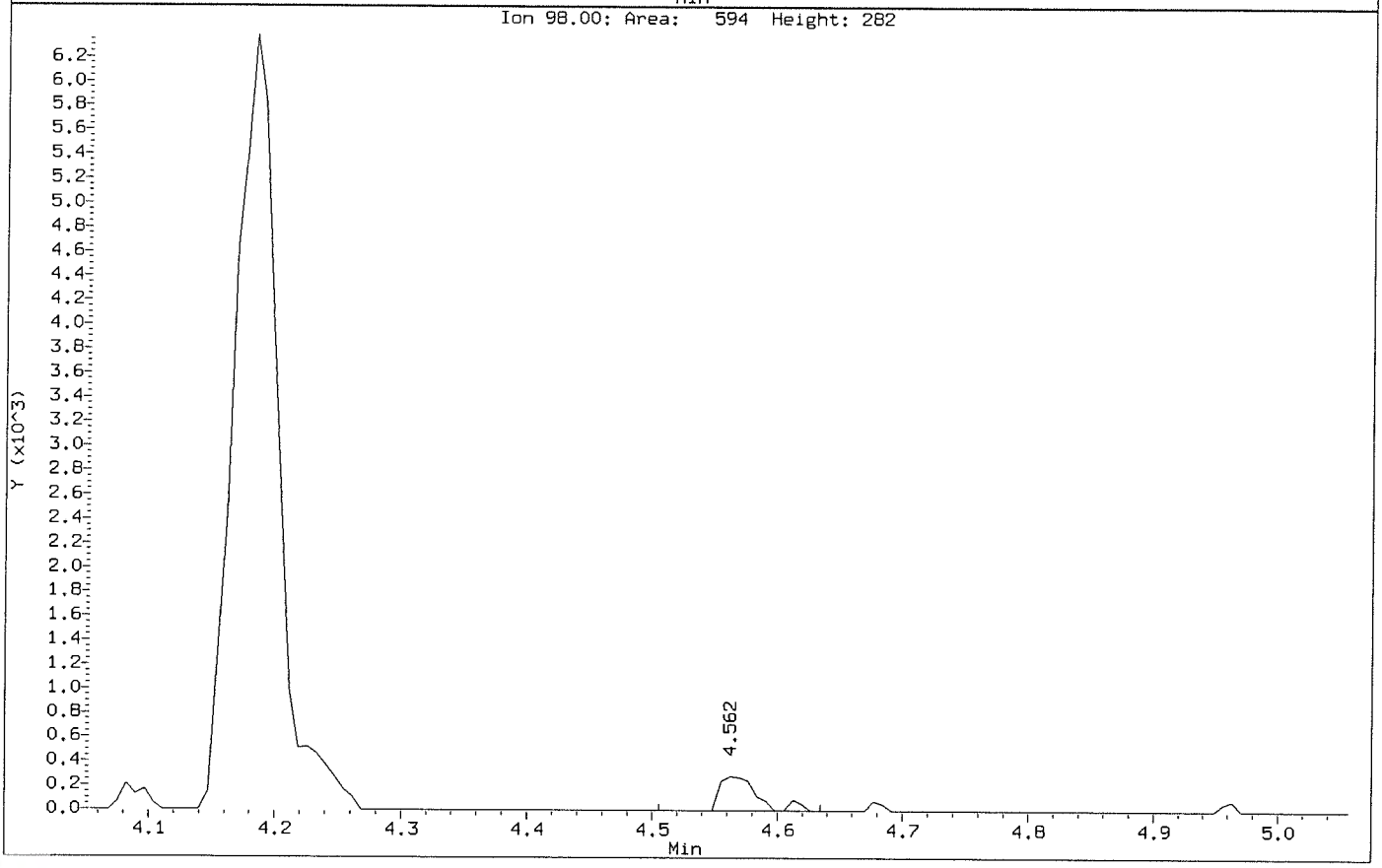




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

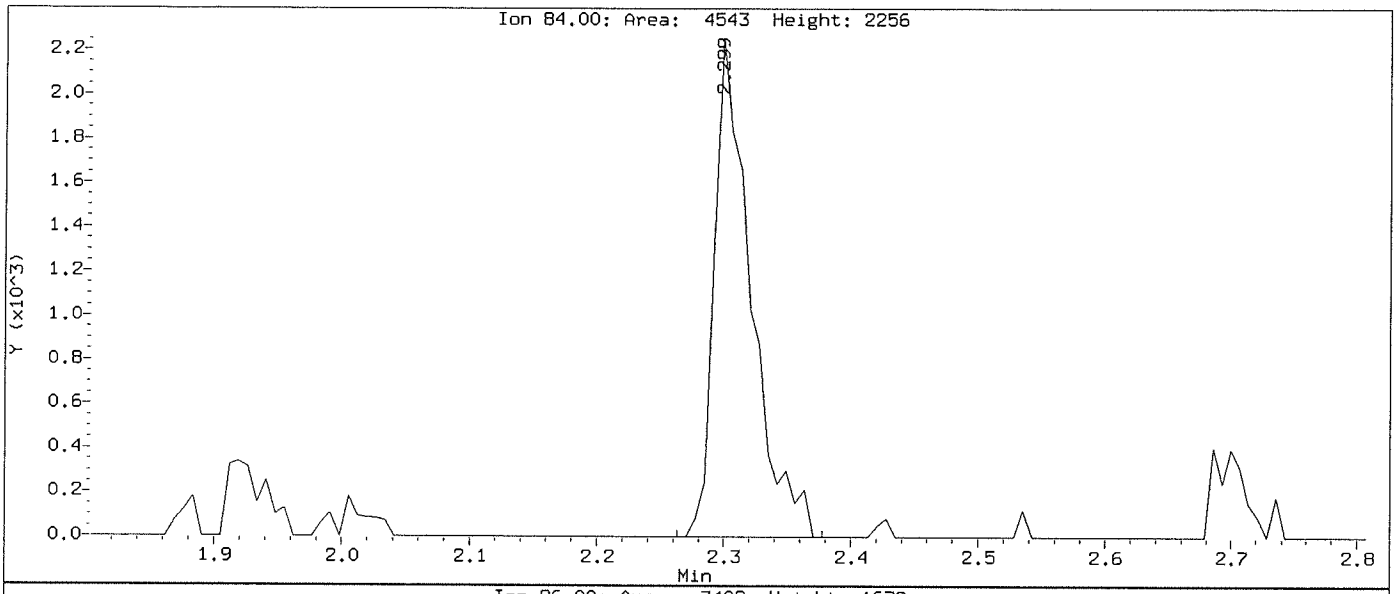
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

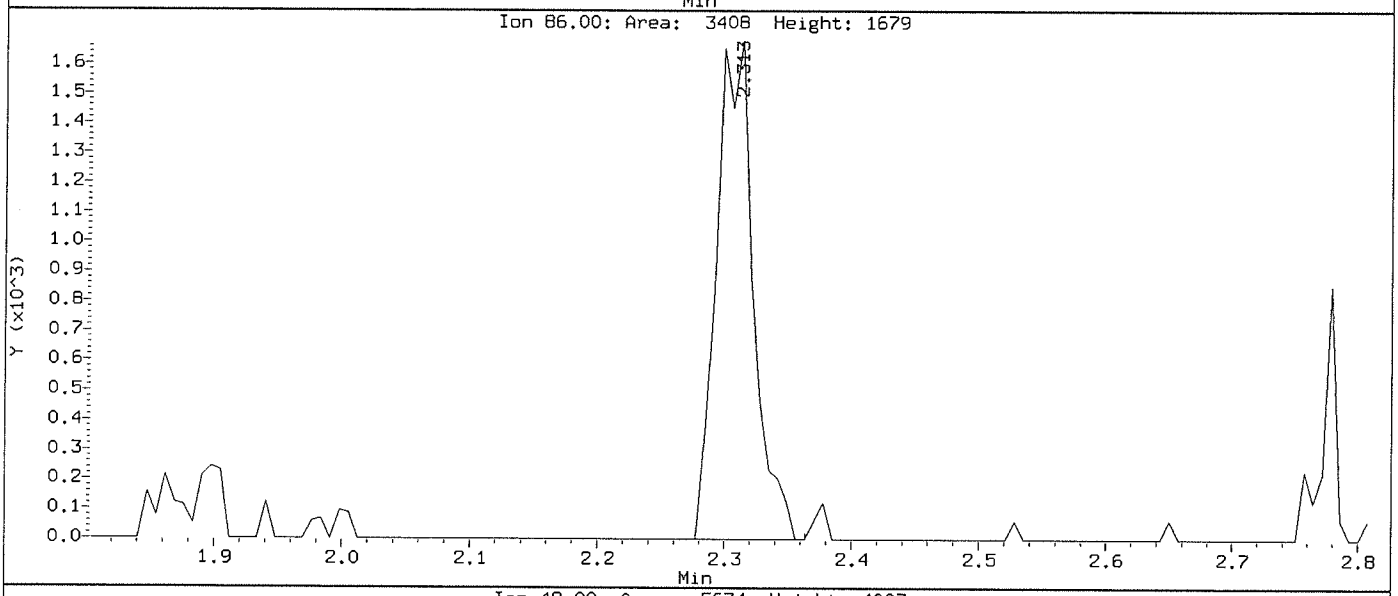


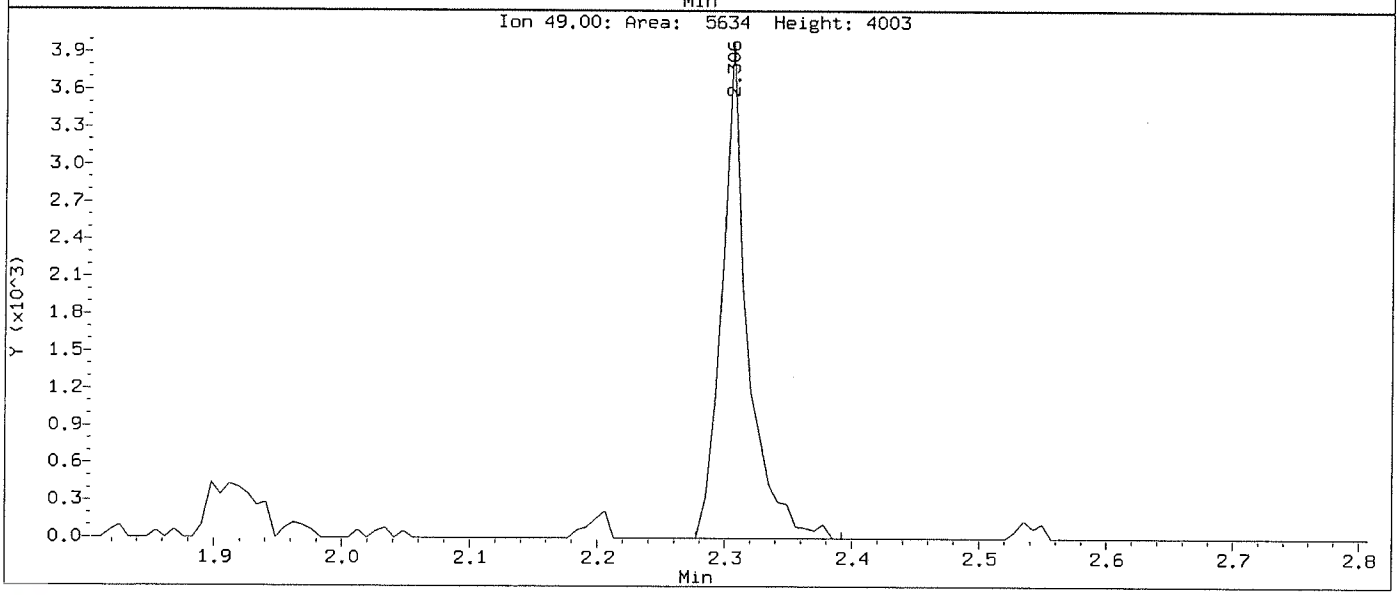


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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

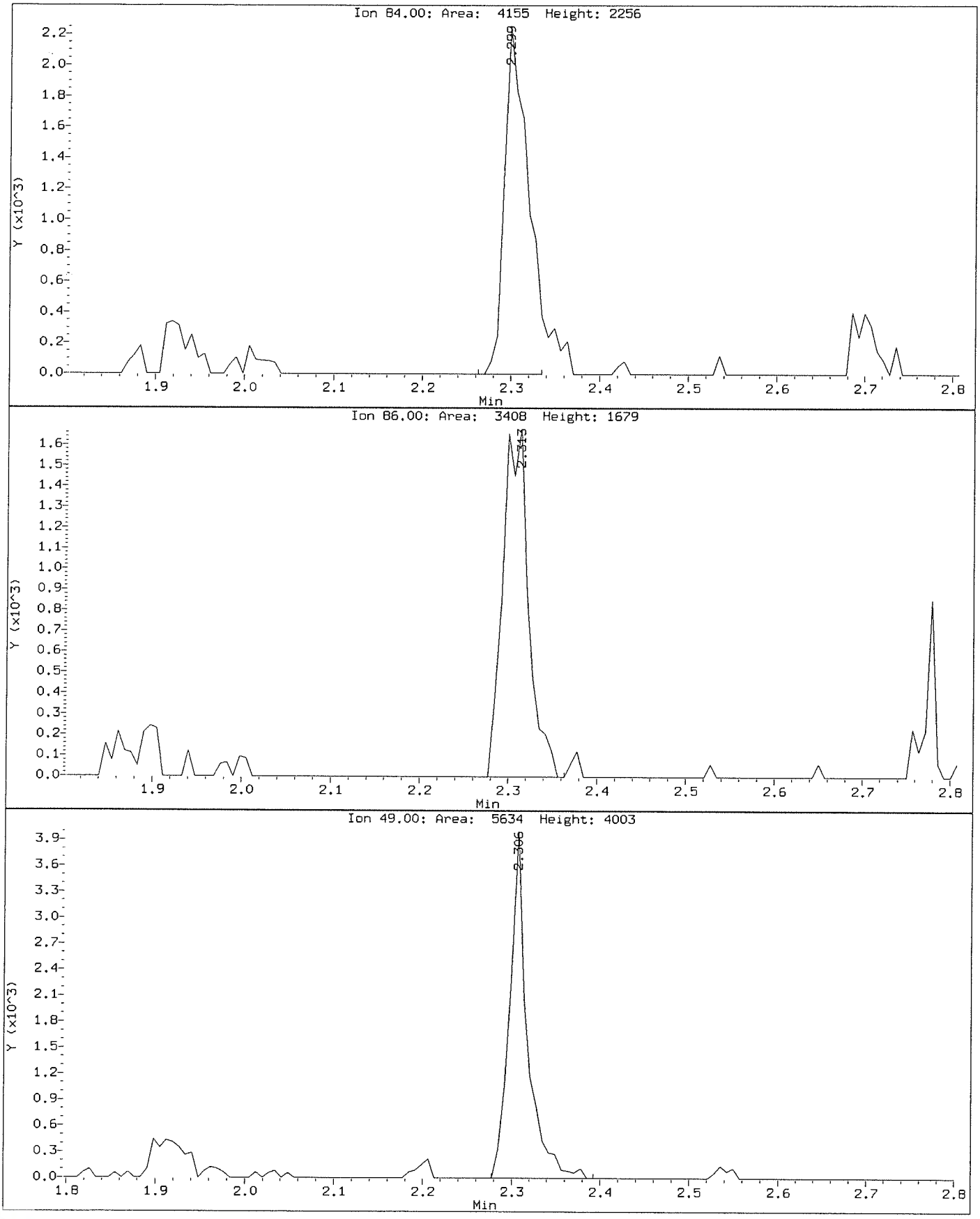






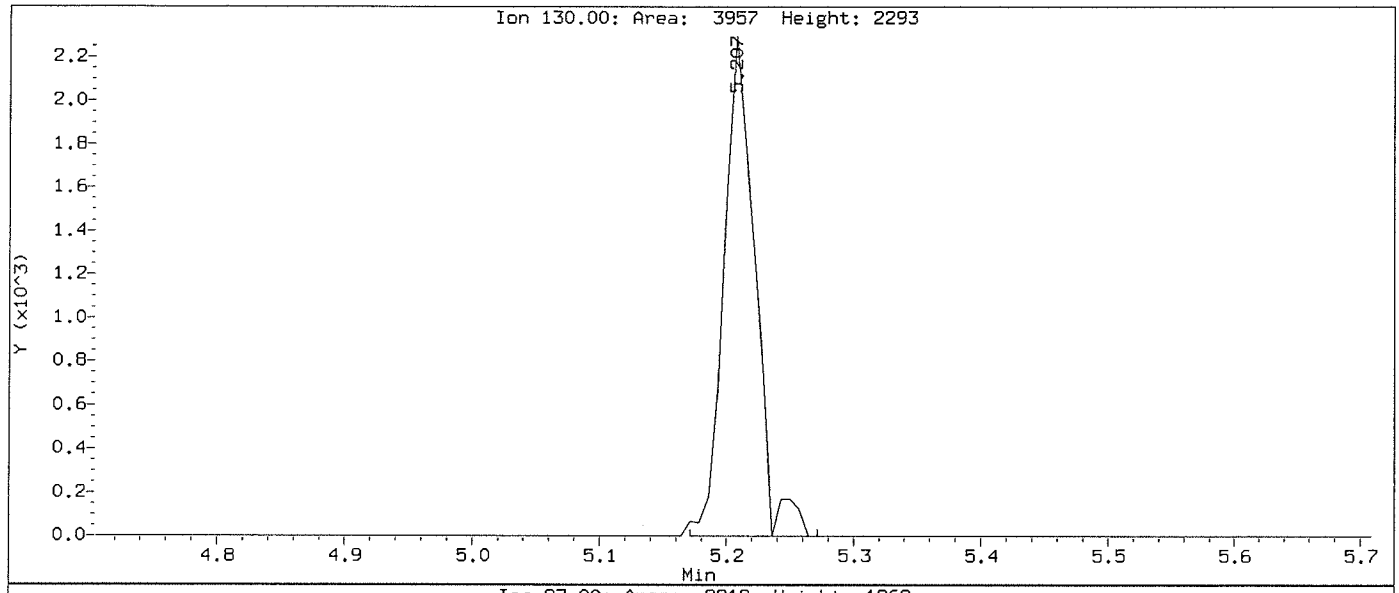
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

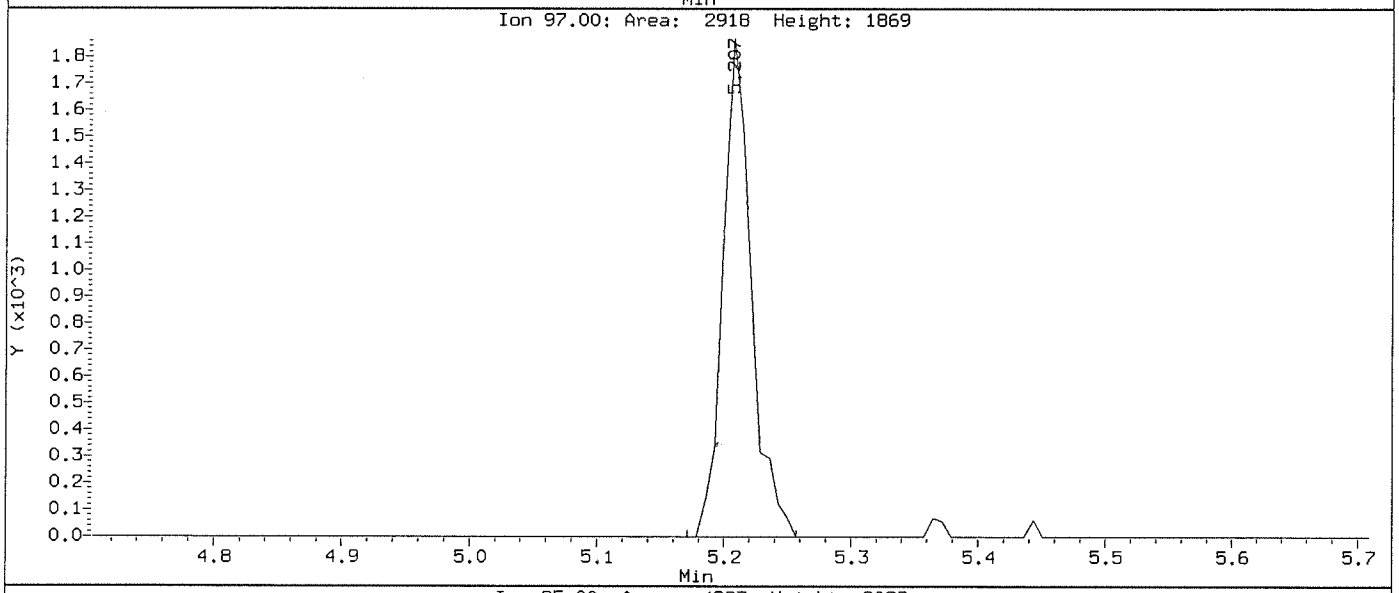
Compound: Methylene Chloride
CAS Number: 75-09-2

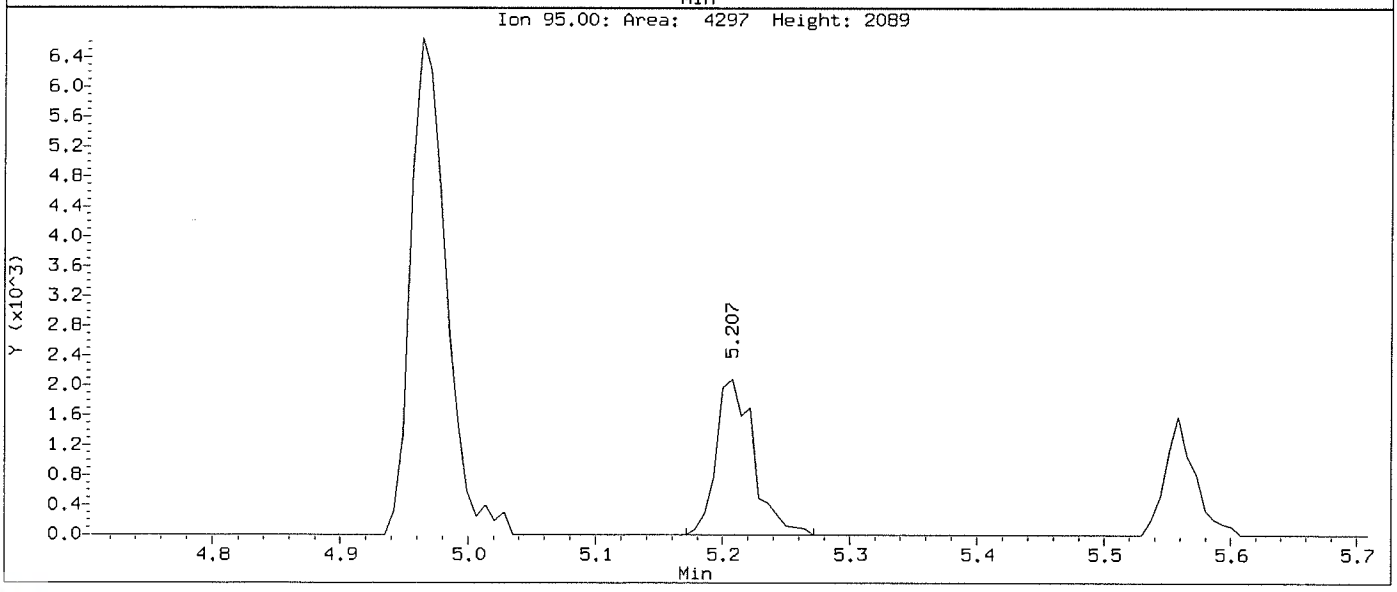


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

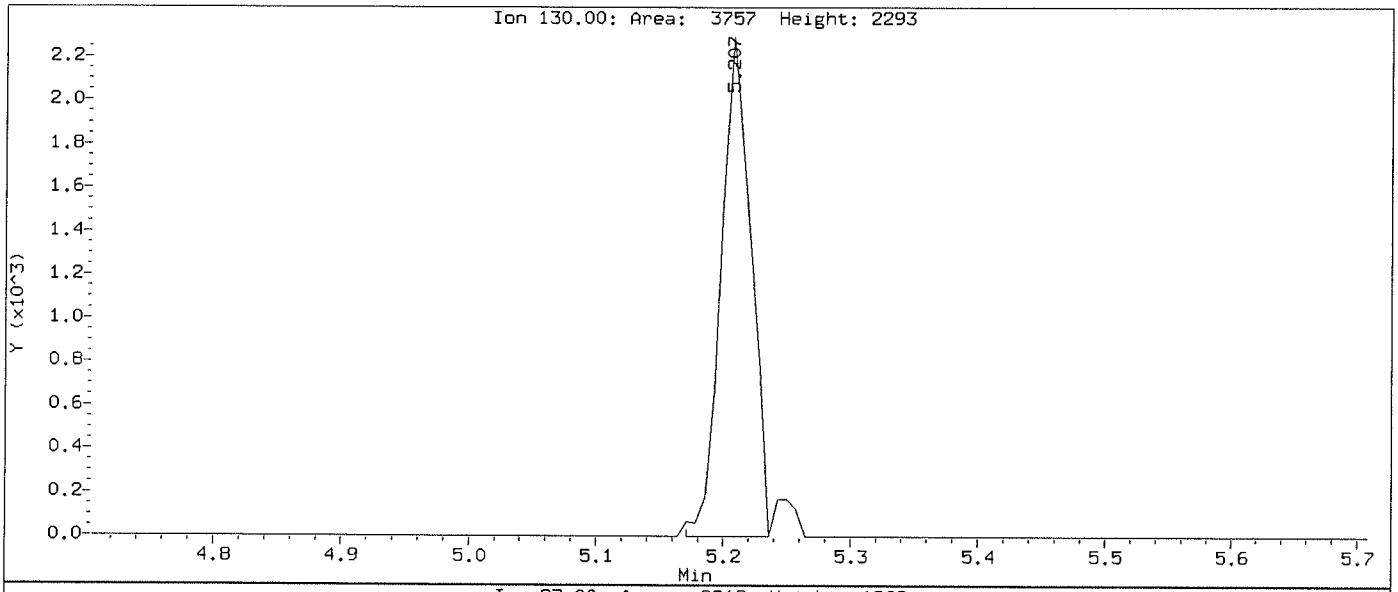


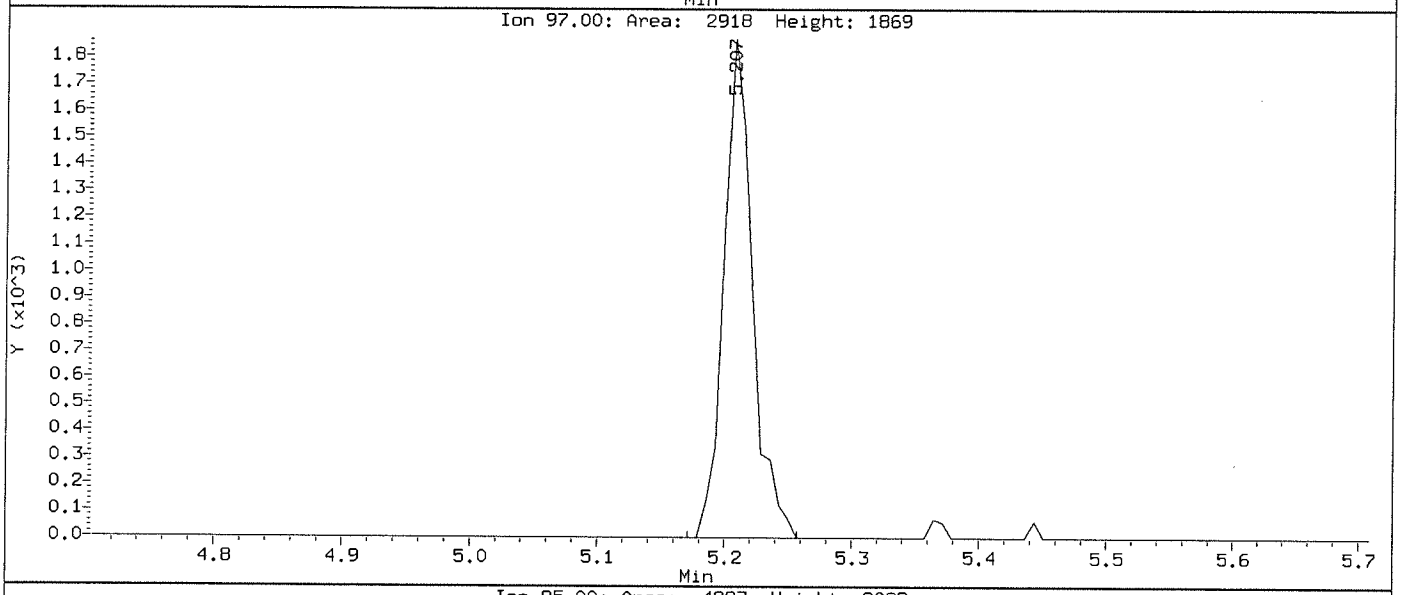


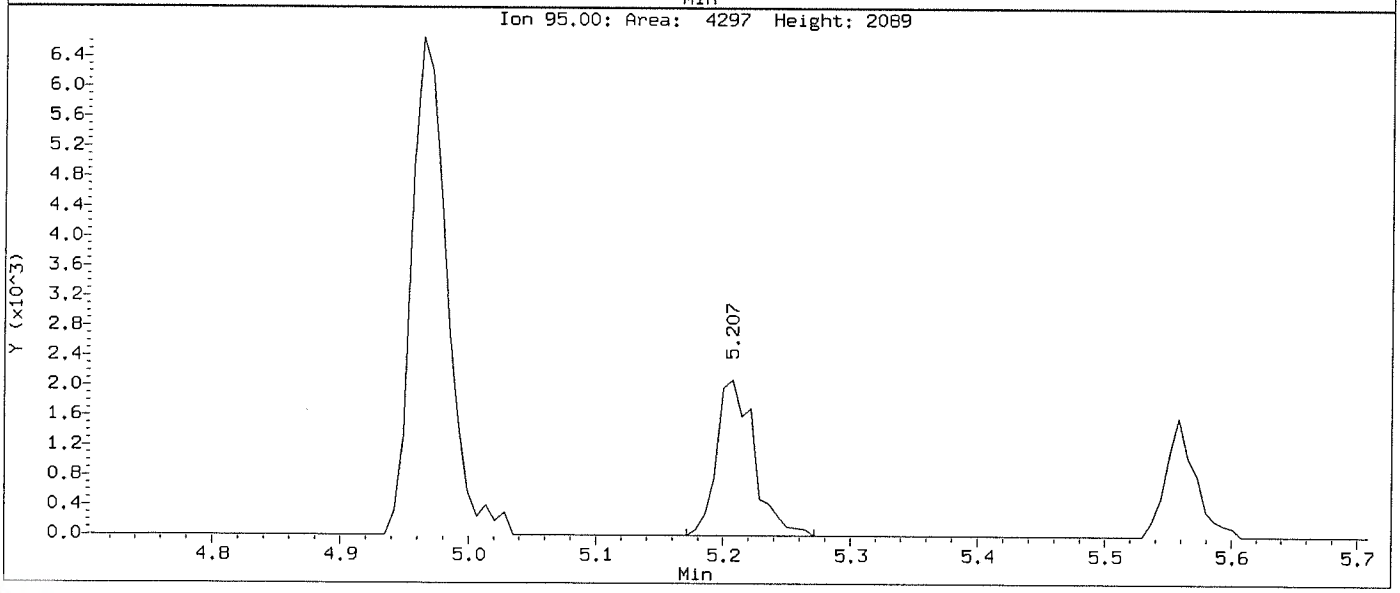


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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

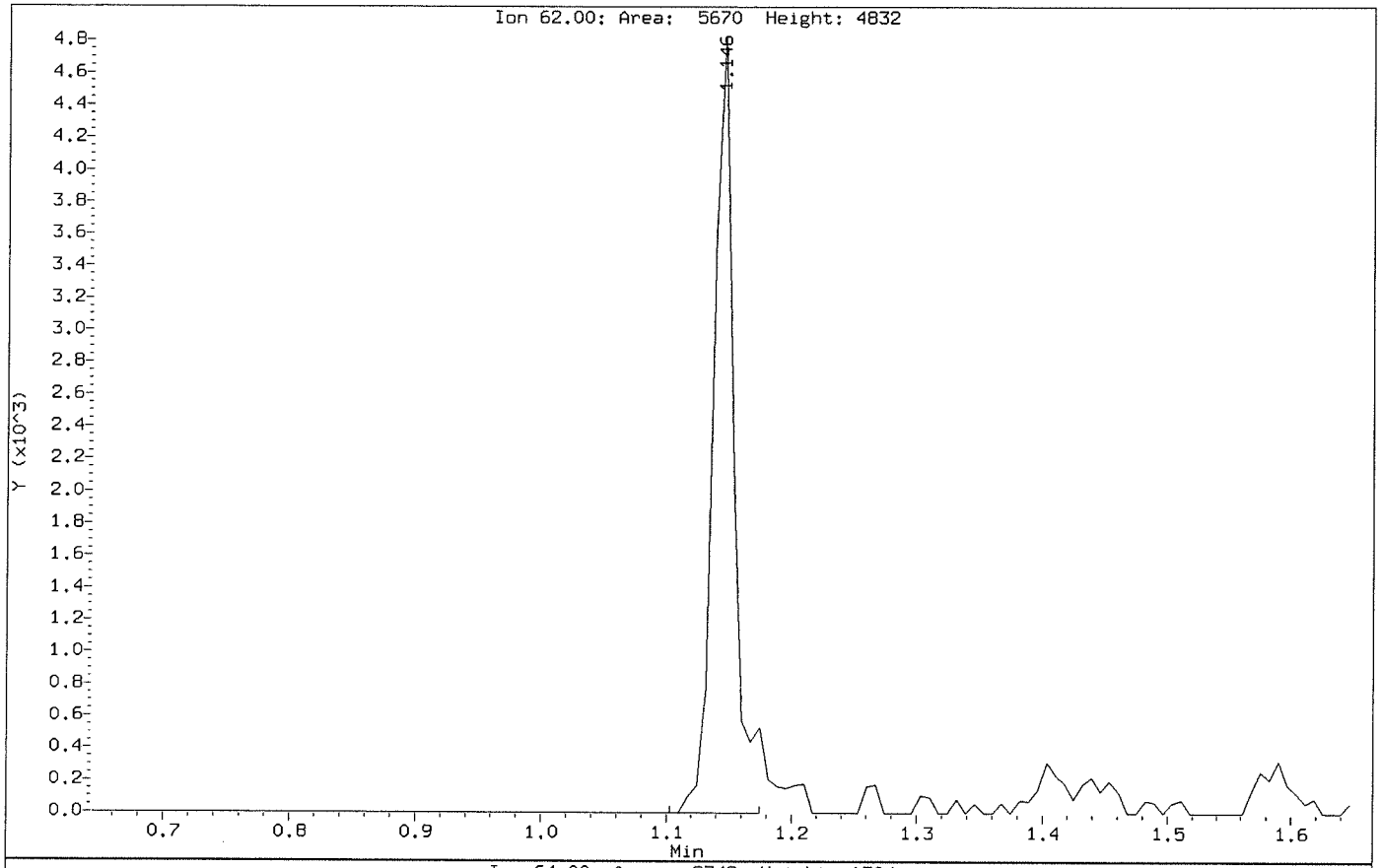


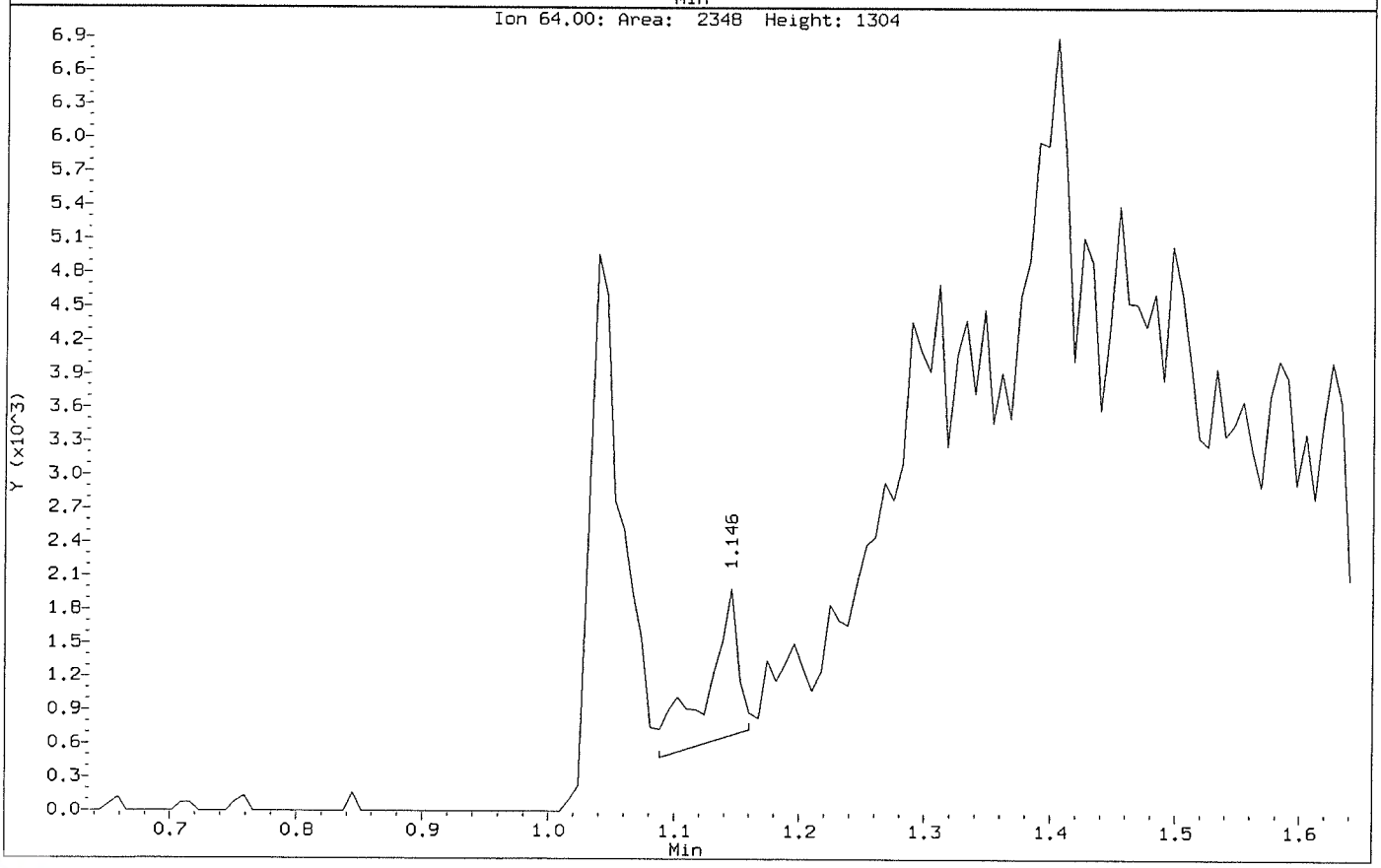




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

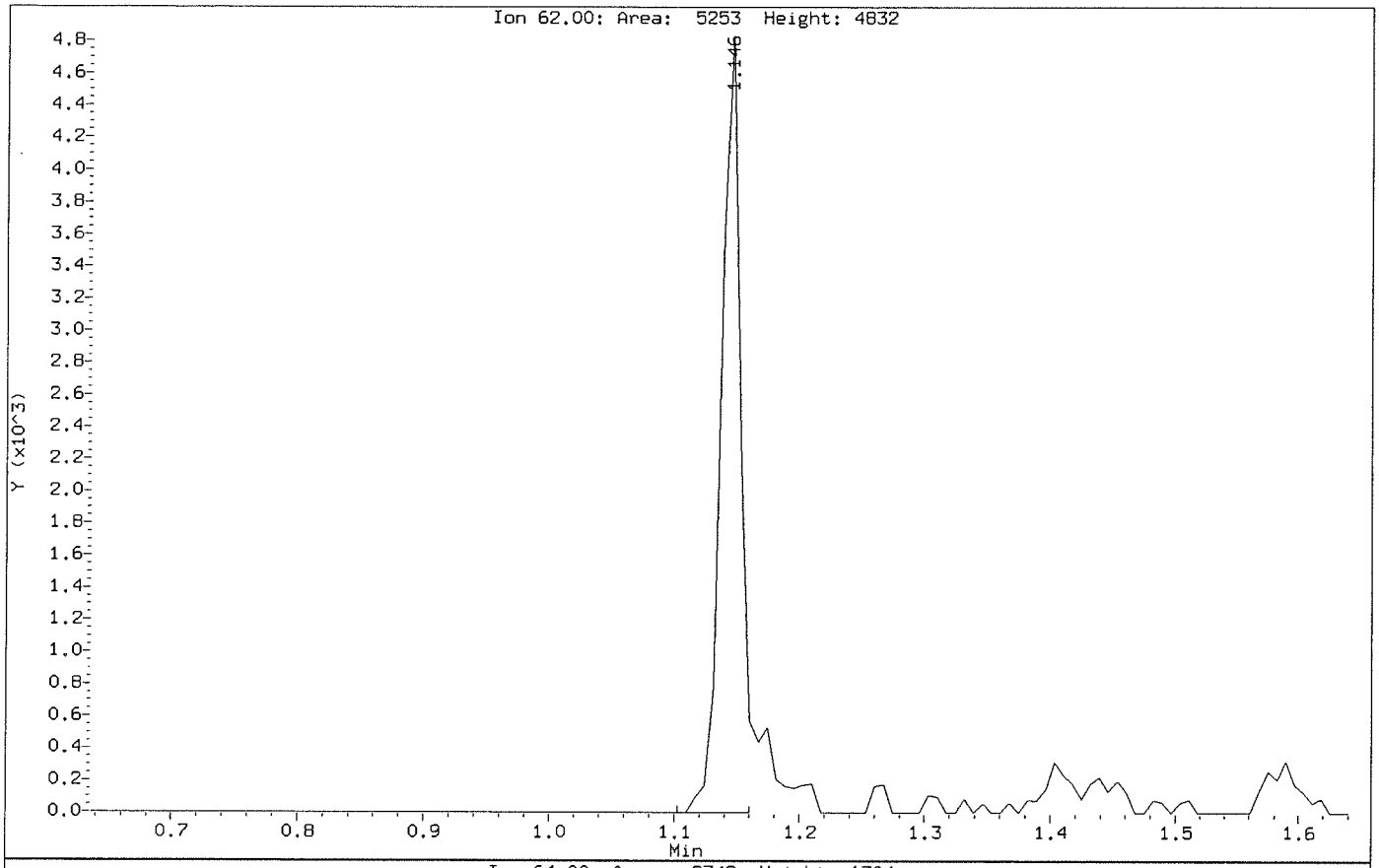
Compound: Vinyl Chloride
CAS Number: 75-01-4

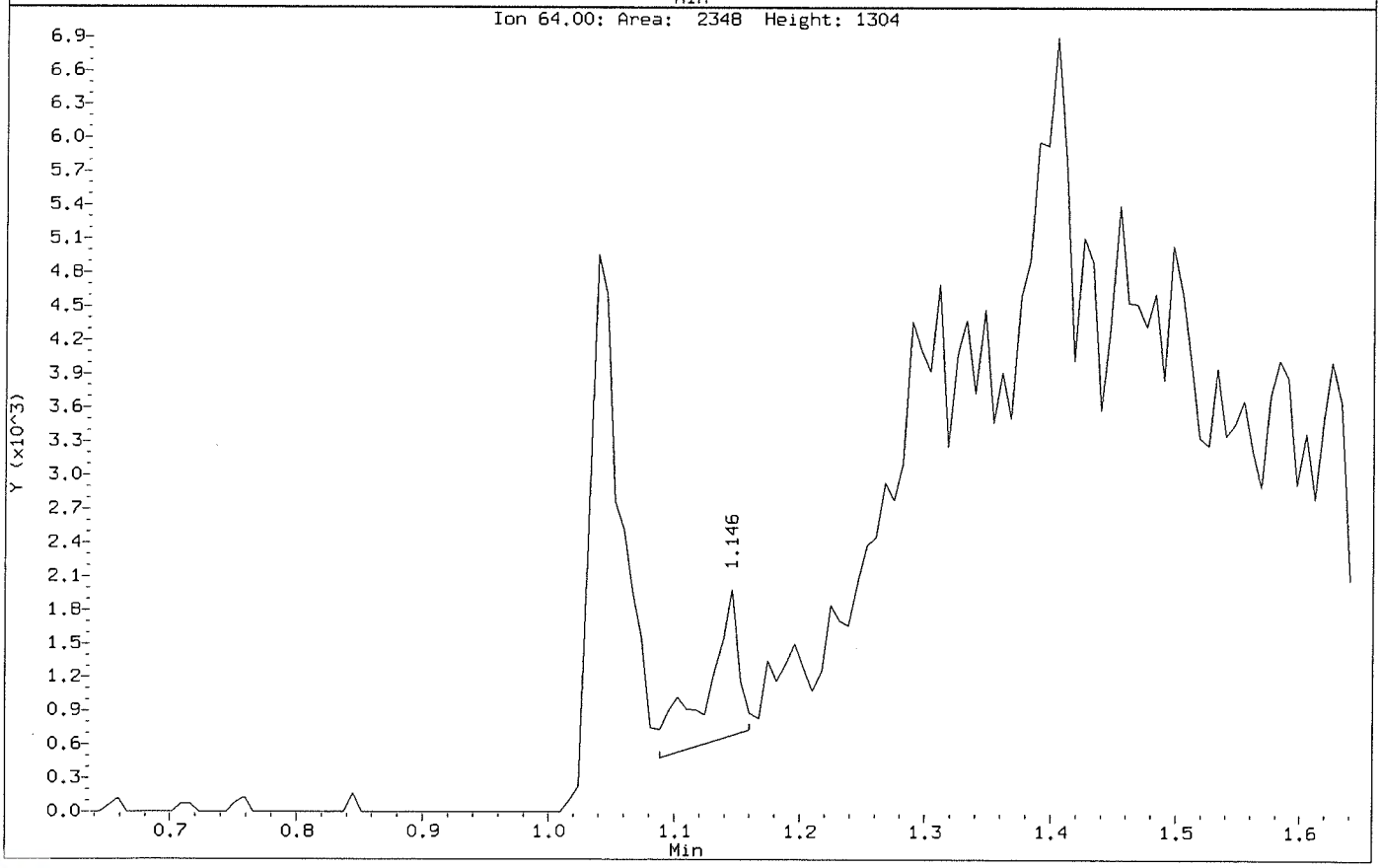




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-APR-2021 12:17
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:56 Cal File: X040204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

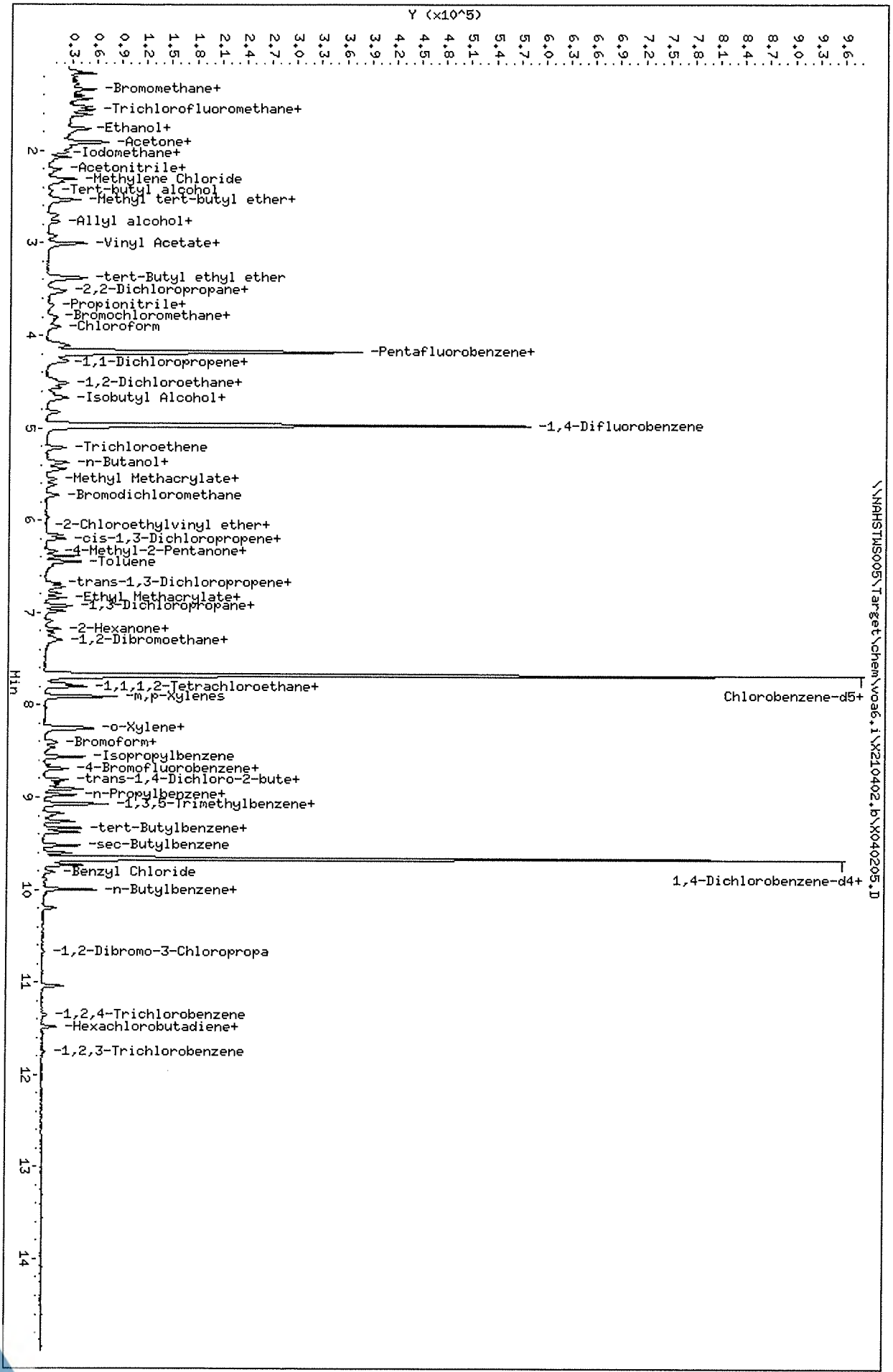
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278535	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	469682	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	424642	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	187429	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	6870	2.00000	2.50
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7506	2.00000	2.37
$	48 Toluene-d8	98	6.388	6.388	(0.833)	22274	2.00000	3.81
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7732	2.00000	3.48
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5102	2.00000	2.06(a)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	8383	2.00000	2.11(aM)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	9508	2.00000	1.91(aM)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6948	2.00000	2.04
	17 Methylene Chloride	84	2.305	2.305	(0.551)	7271	2.00000	3.81(a)
	38 Trichloroethene	130	5.206	5.206	(1.048)	6830	2.00000	2.12
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	8442	2.00000	2.02(M)

QC Flag Legend

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

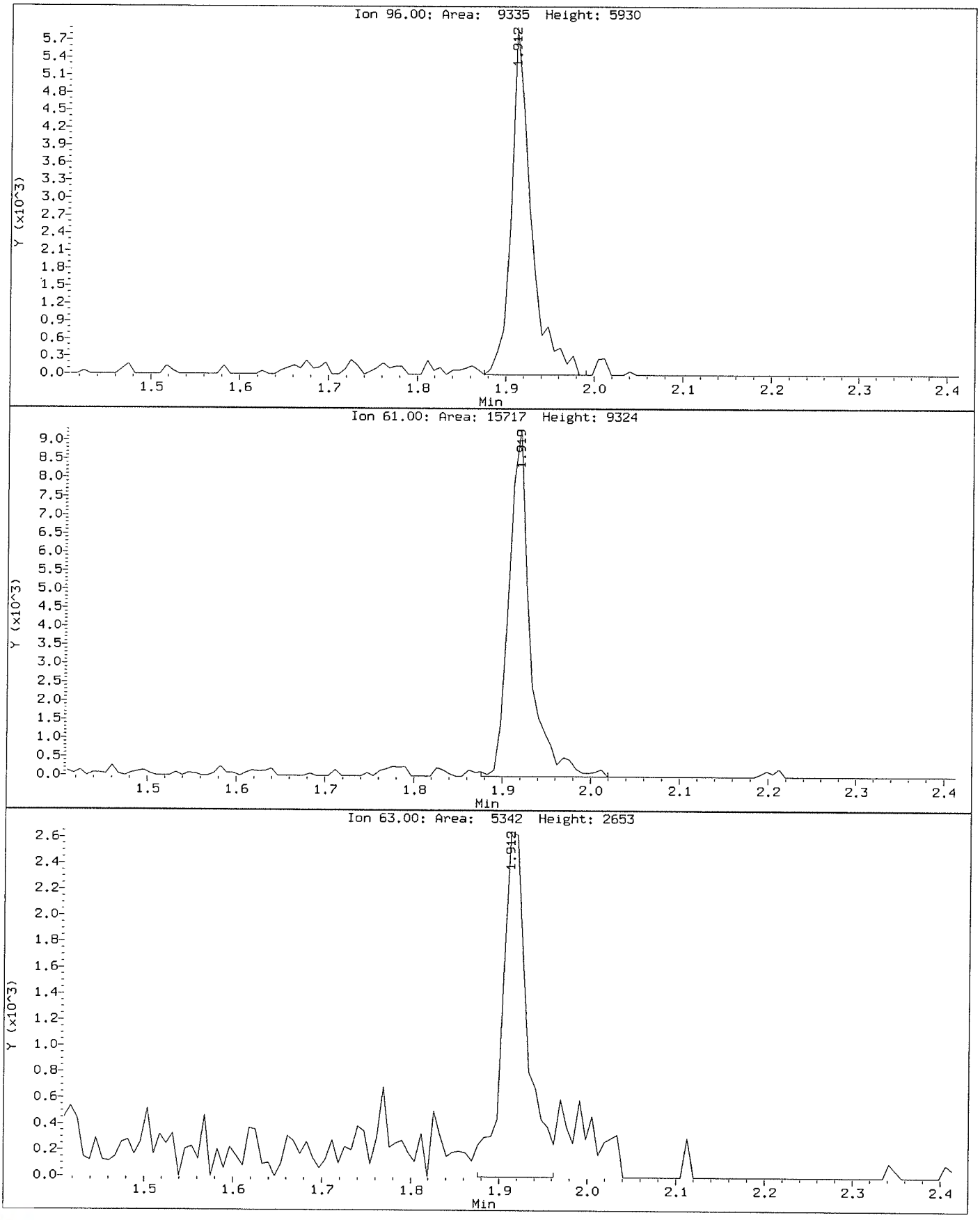


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Date : 02-APR-2021 12:17
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

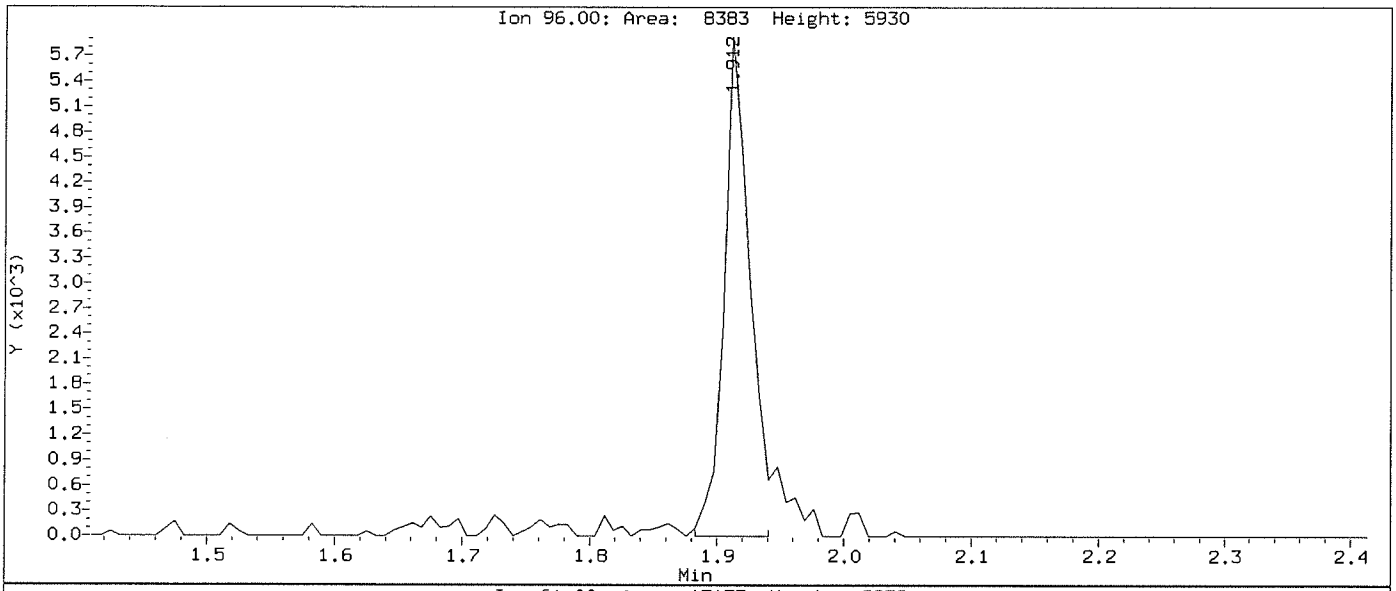
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

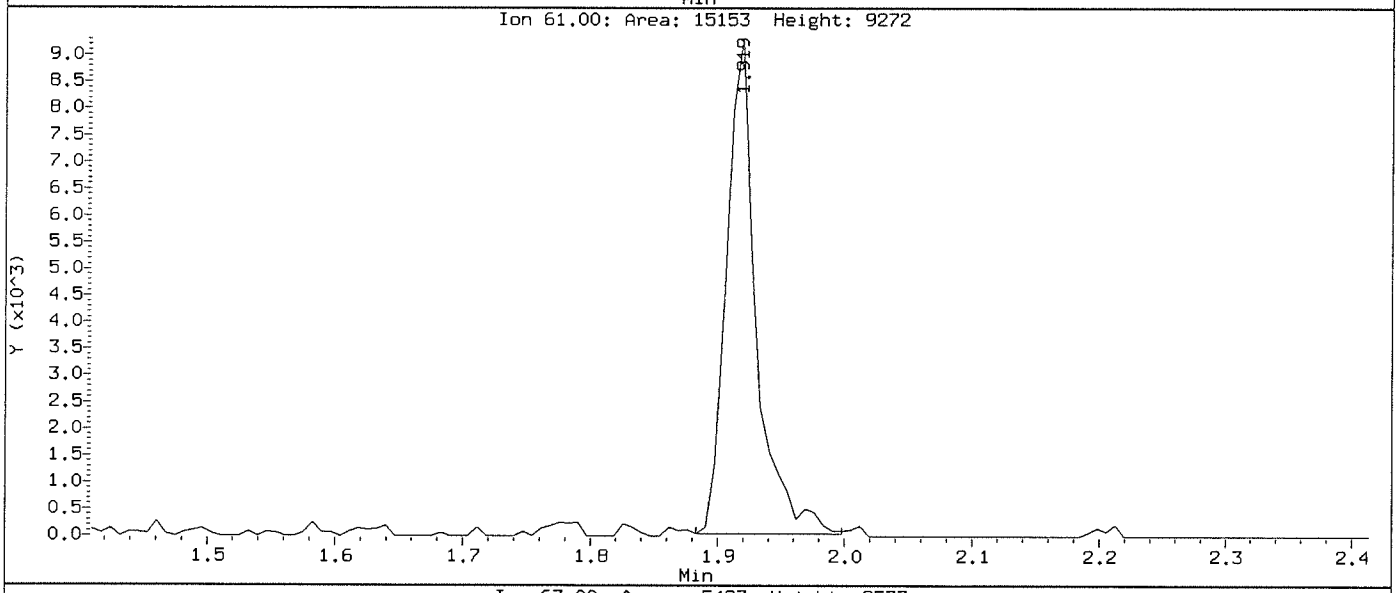
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

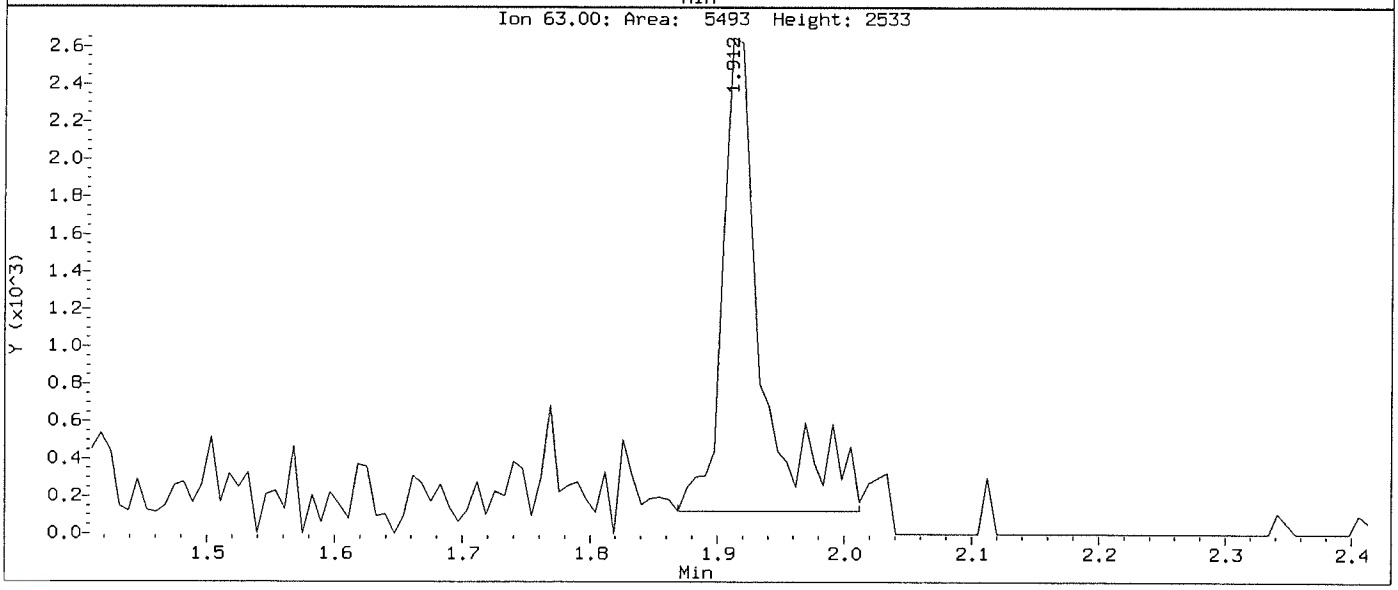


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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

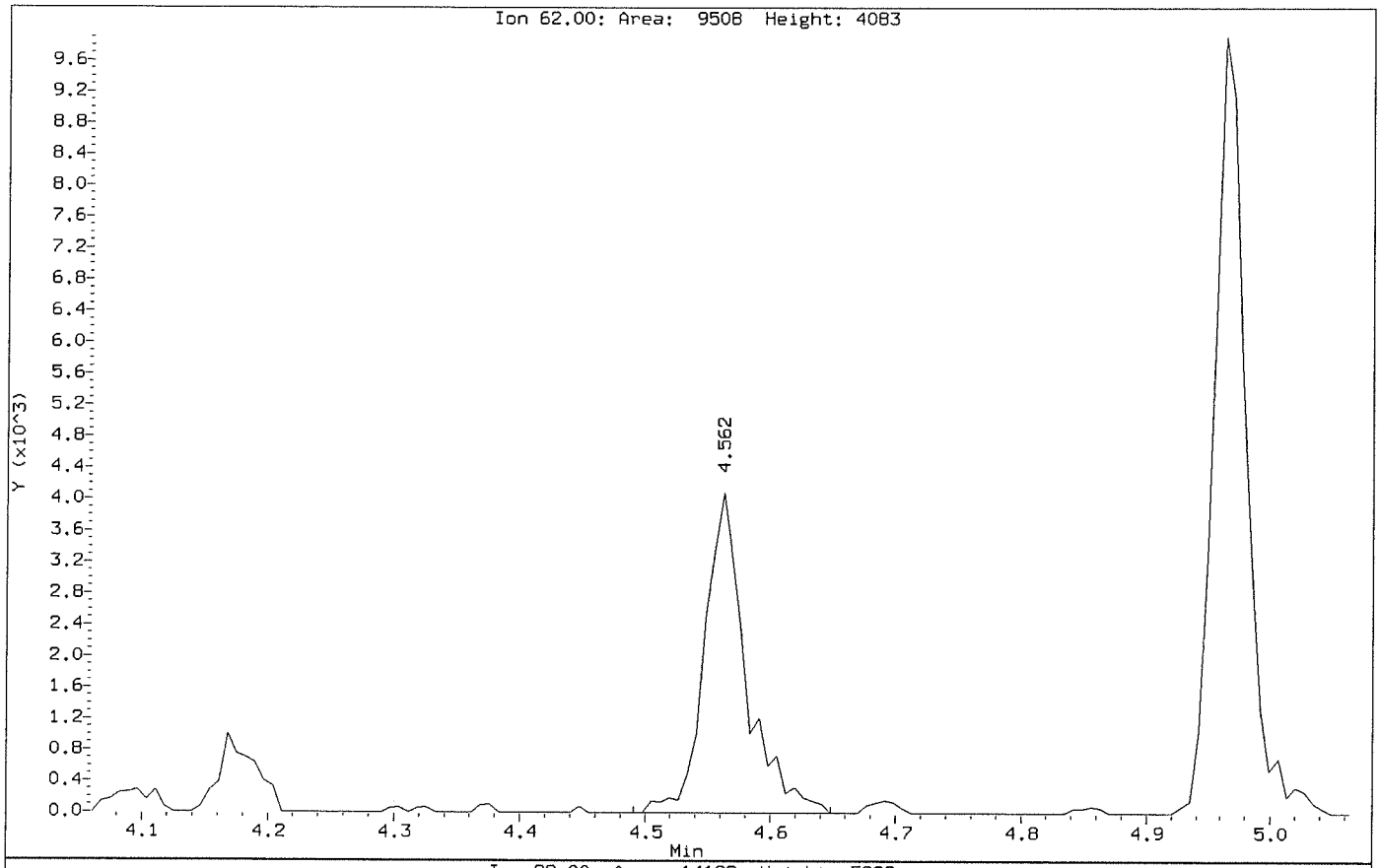


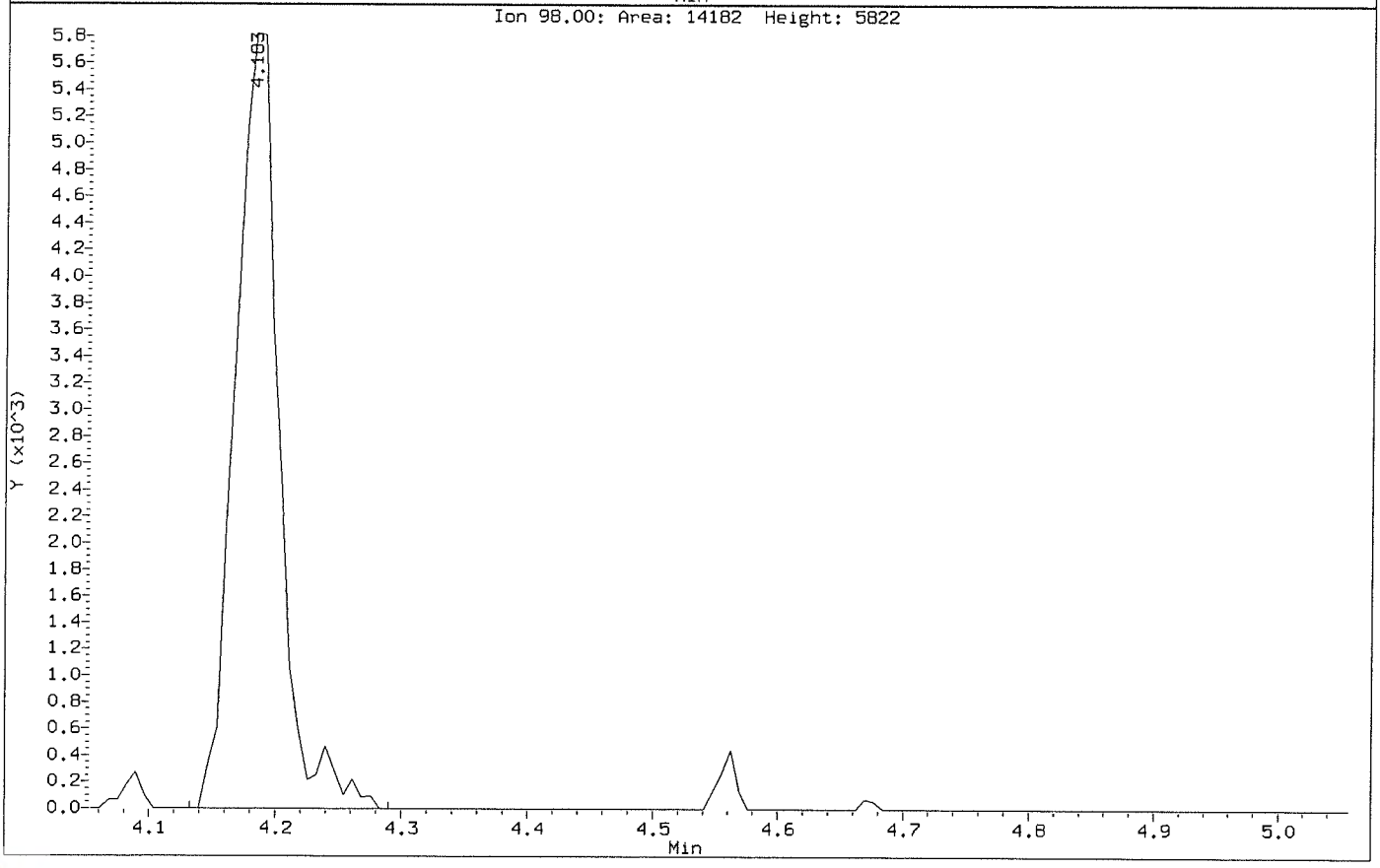




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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

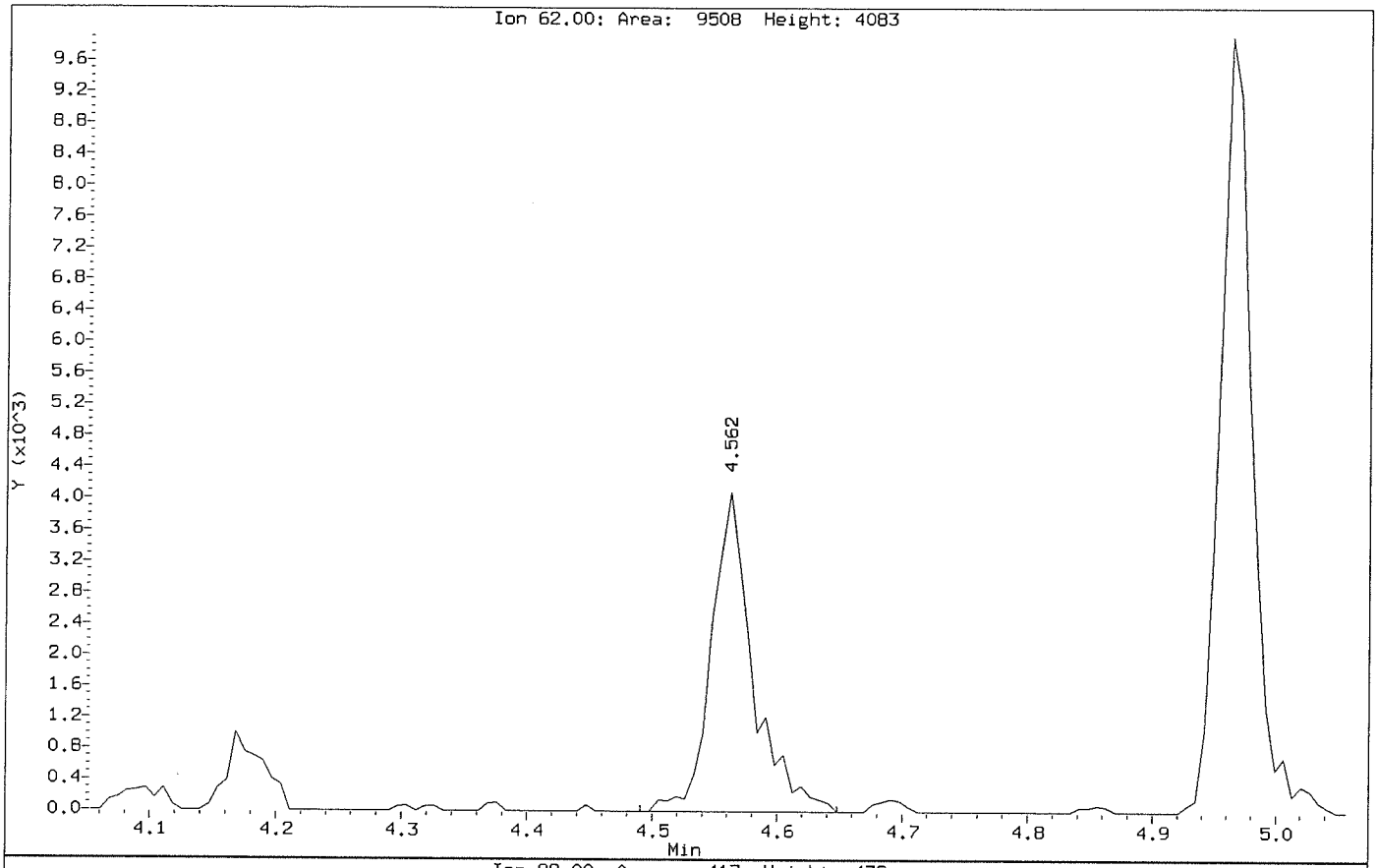
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

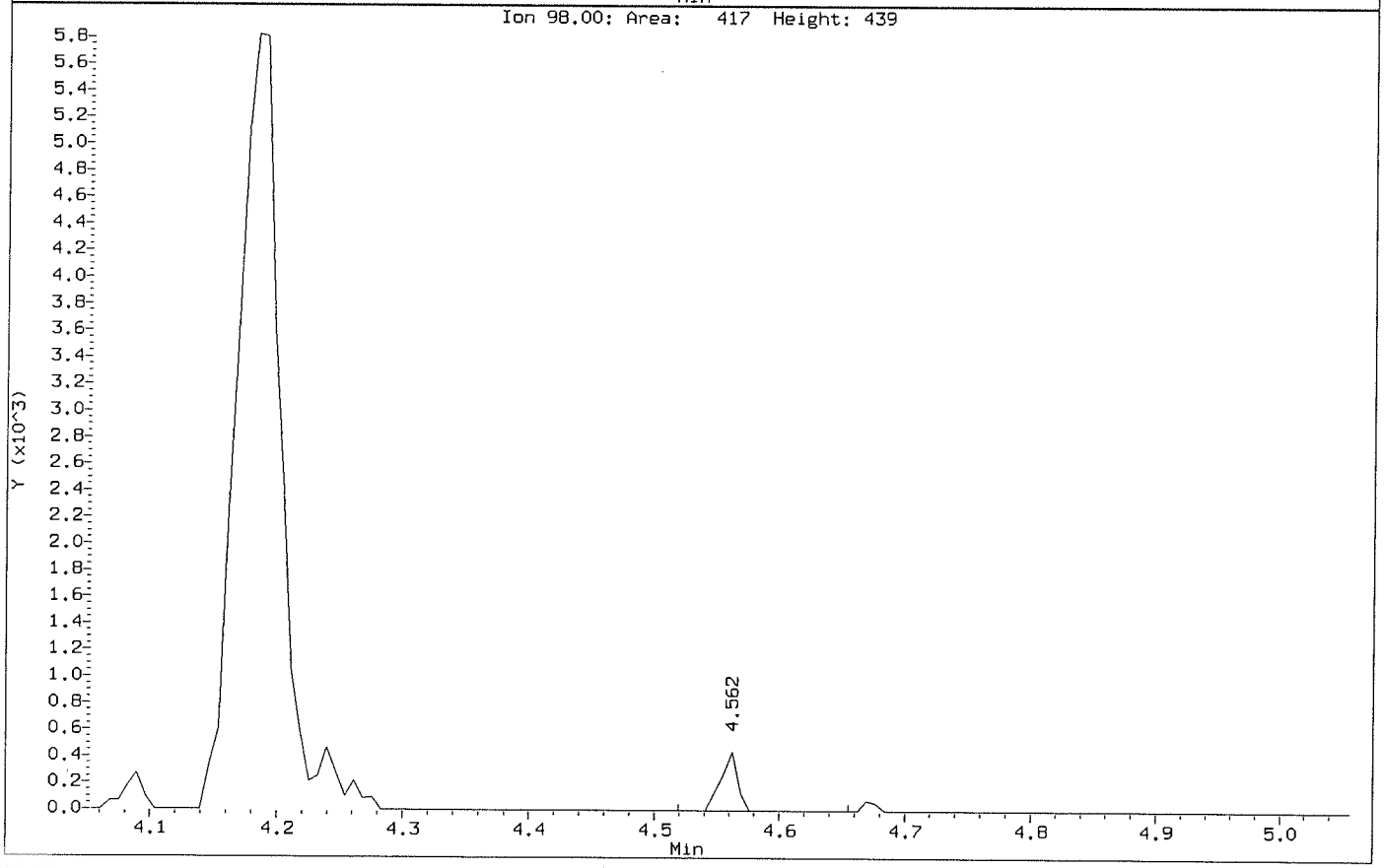




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

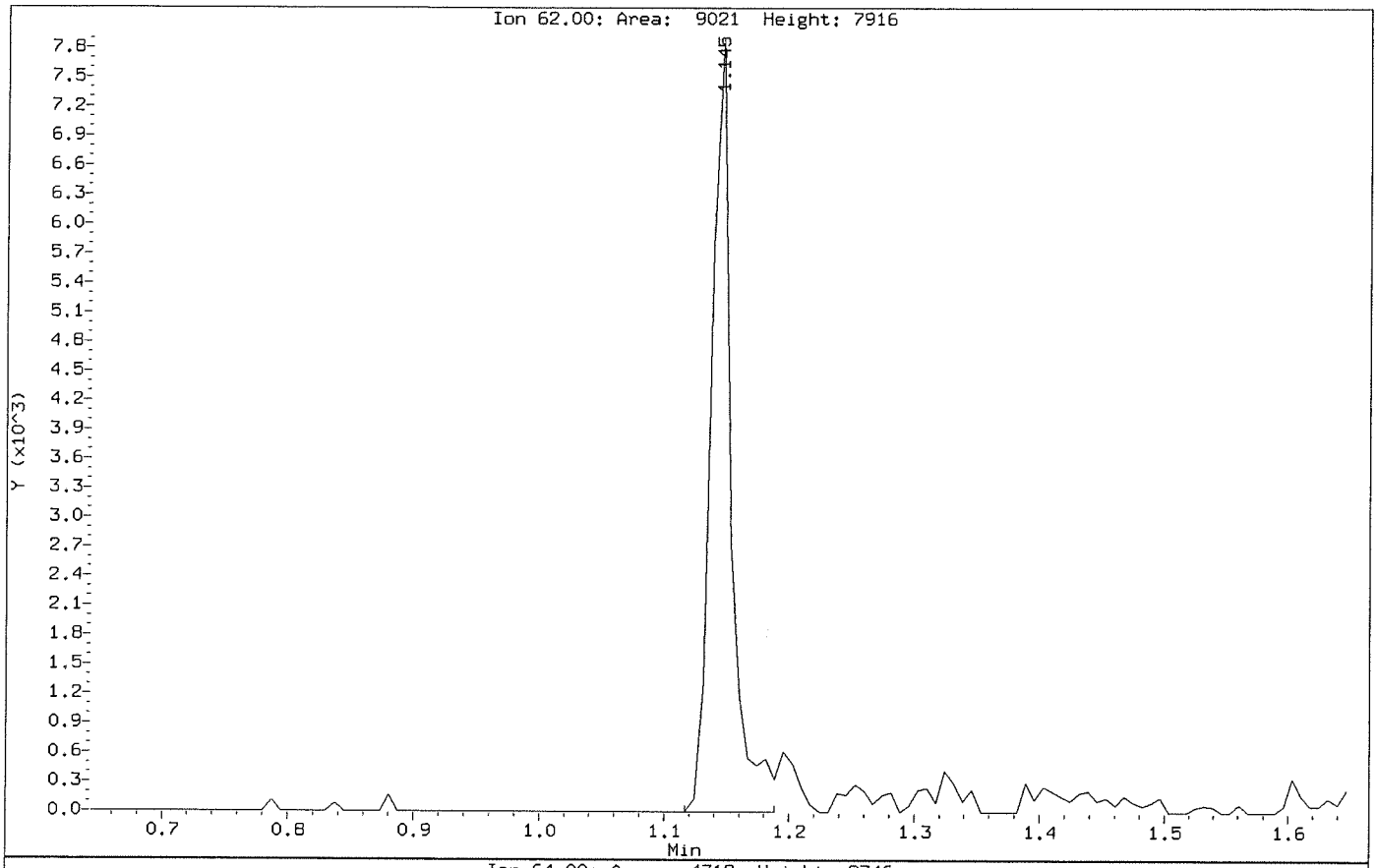
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

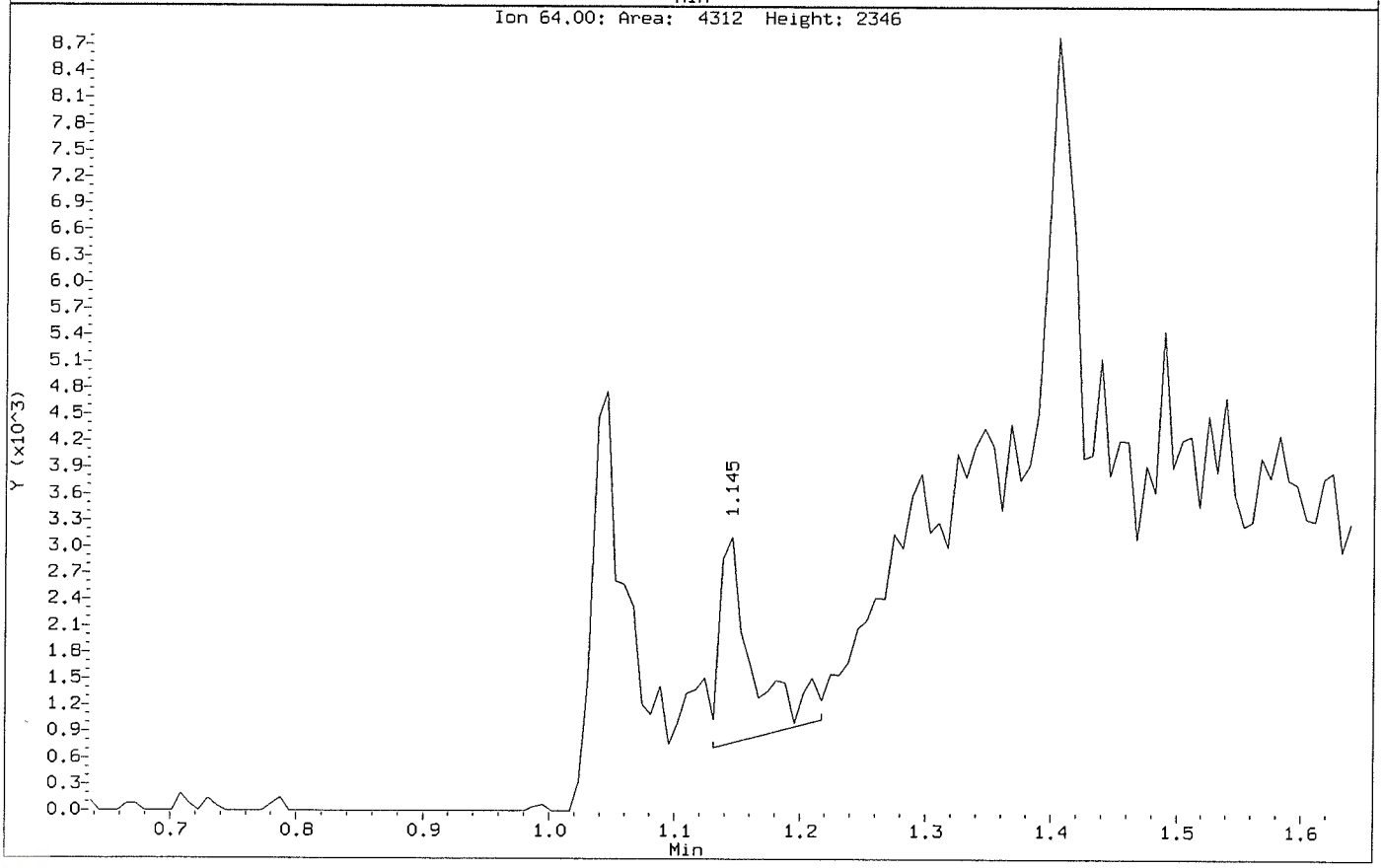




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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

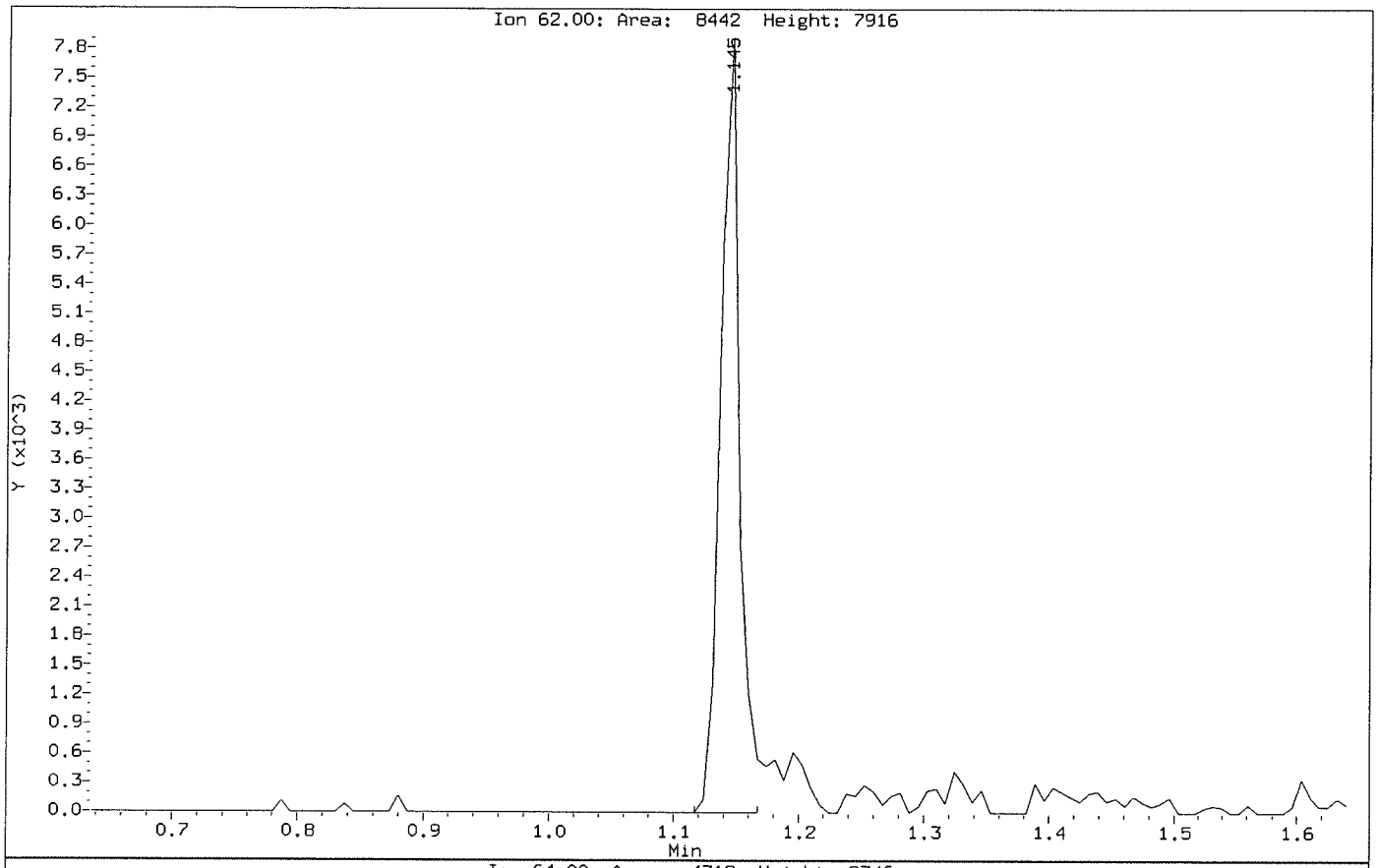
Compound: Vinyl Chloride
CAS Number: 75-01-4

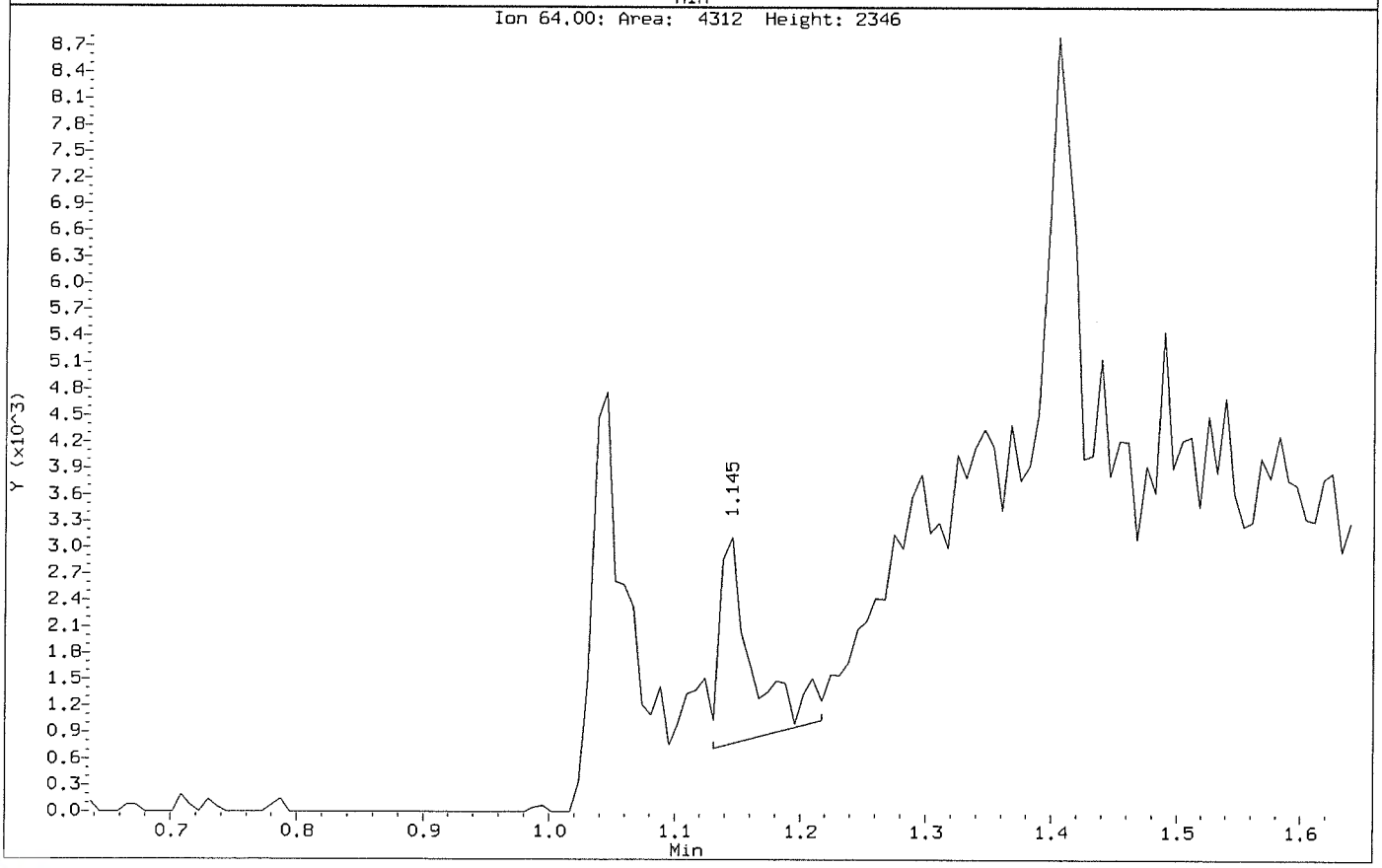




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Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D Page 1
Report Date: 04-May-2021 11:39

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-APR-2021 12:38
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:17 Cal File: X040205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

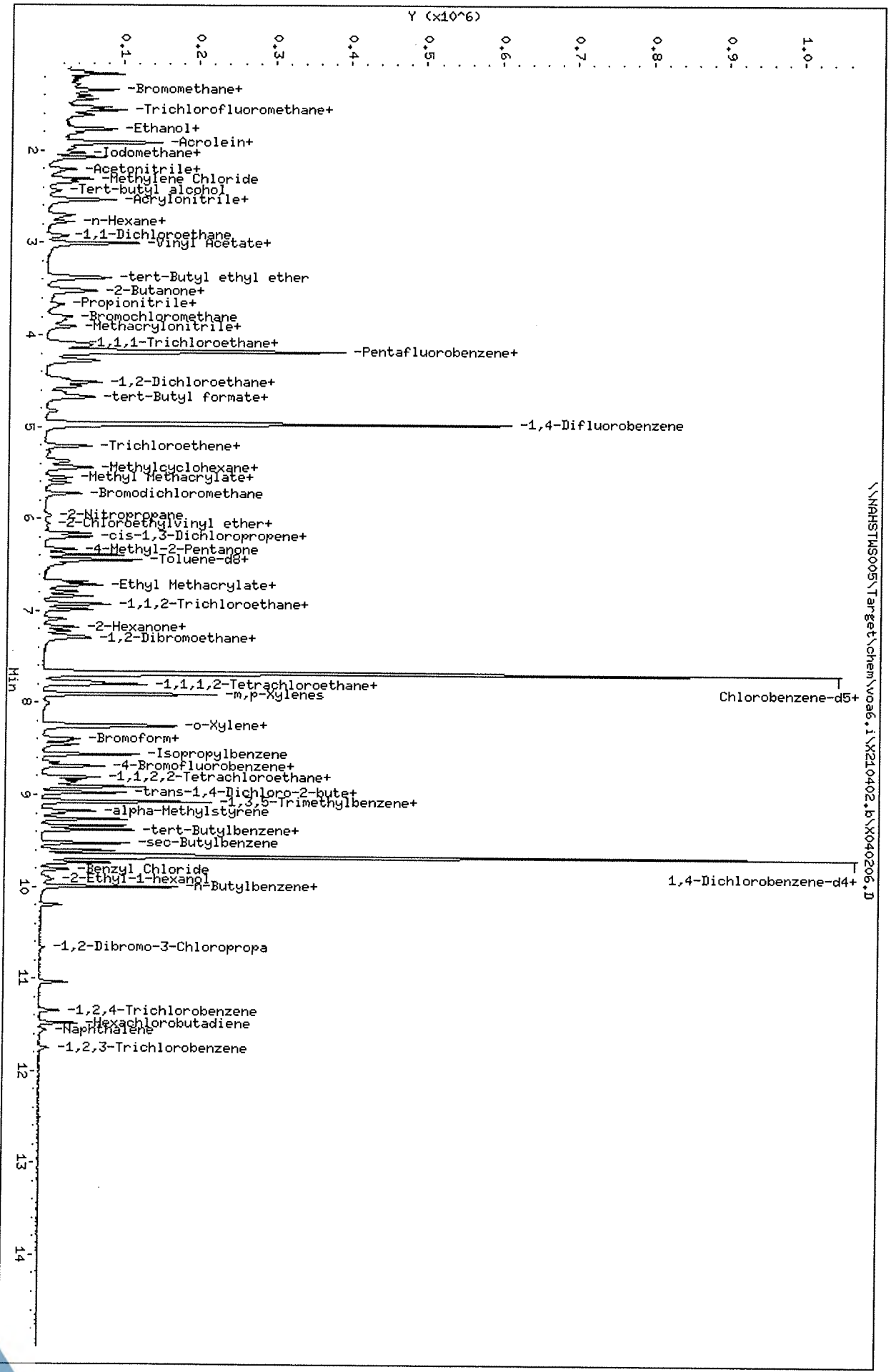
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	291823	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	482057	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	440939	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	205433	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	17824	5.00000	5.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	20809	5.00000	5.48
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	56112	5.00000	6.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	19193	5.00000	6.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	14112	5.00000	5.50
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	22632	5.00000	5.44
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	25538	5.00000	5.00
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17639	5.00000	4.94
17 Methylene Chloride	84	2.306	2.306	(0.551)	17205	5.00000	6.75
38 Trichloroethene	130	5.207	5.207	(1.049)	18140	5.00000	5.49
5 Vinyl Chloride	62	1.145	1.145	(0.274)	22066	5.00000	5.04(M)

QC Flag Legend

M - Compound response manually integrated.

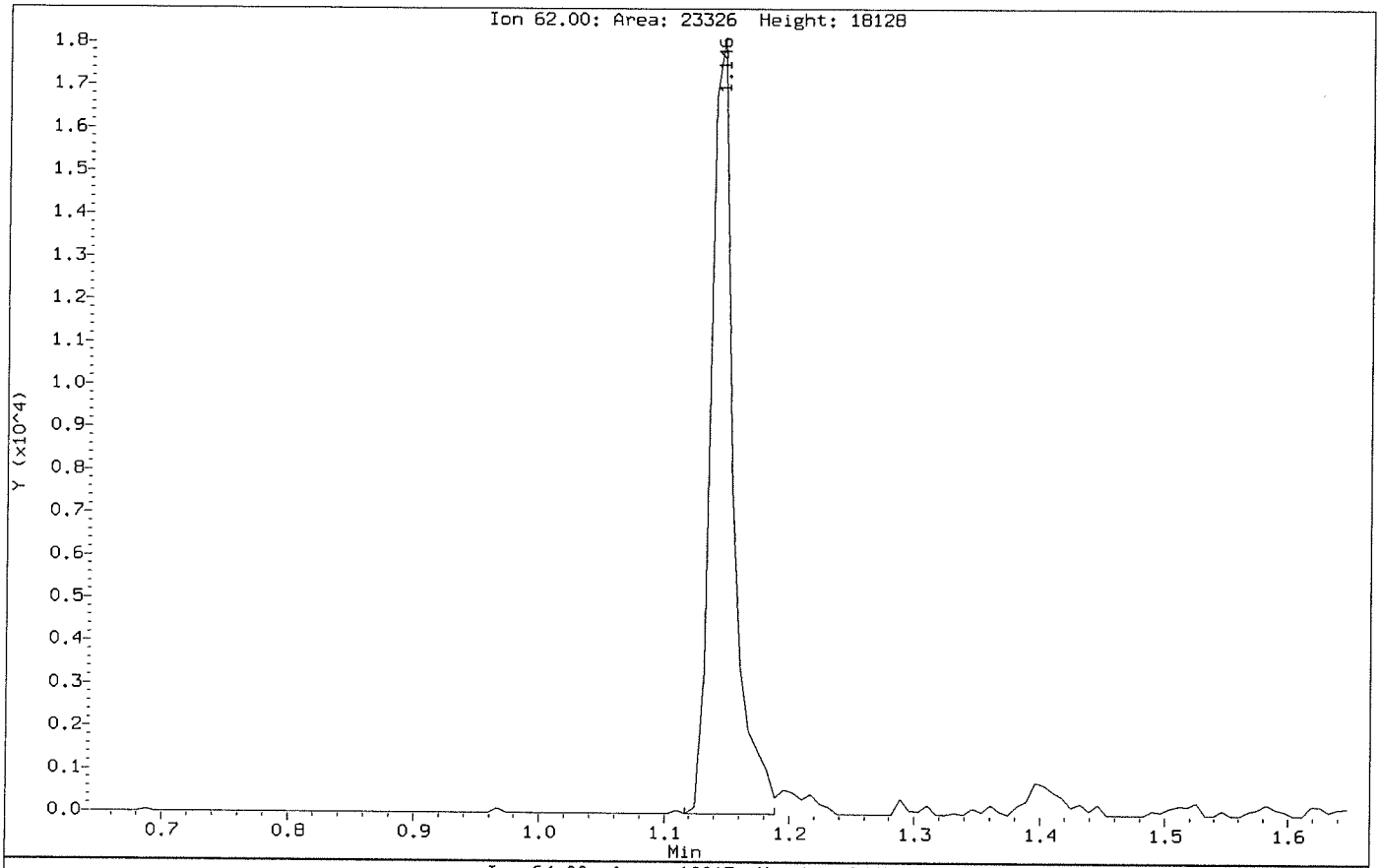


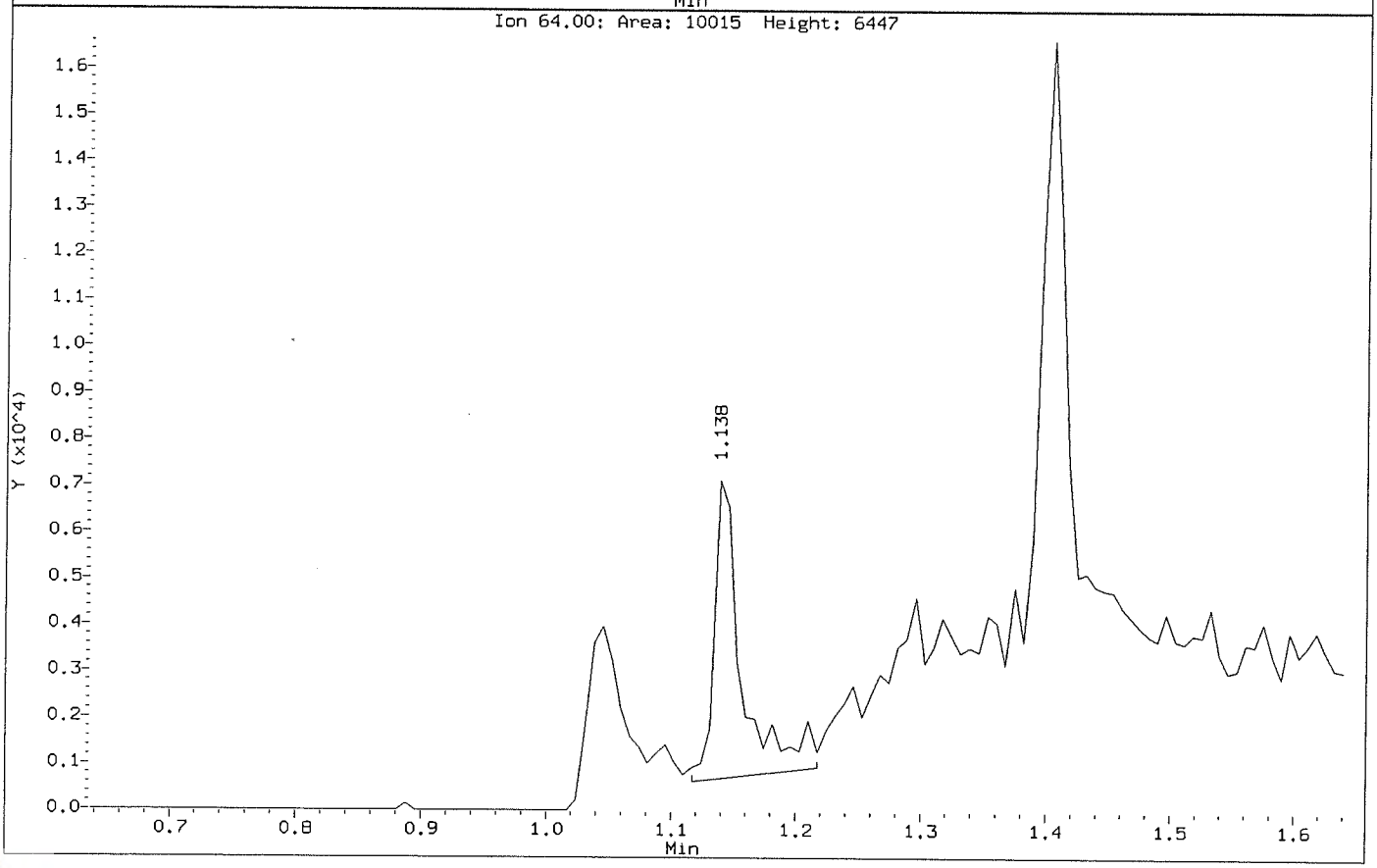
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Date : 02-APR-2021 12:38
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

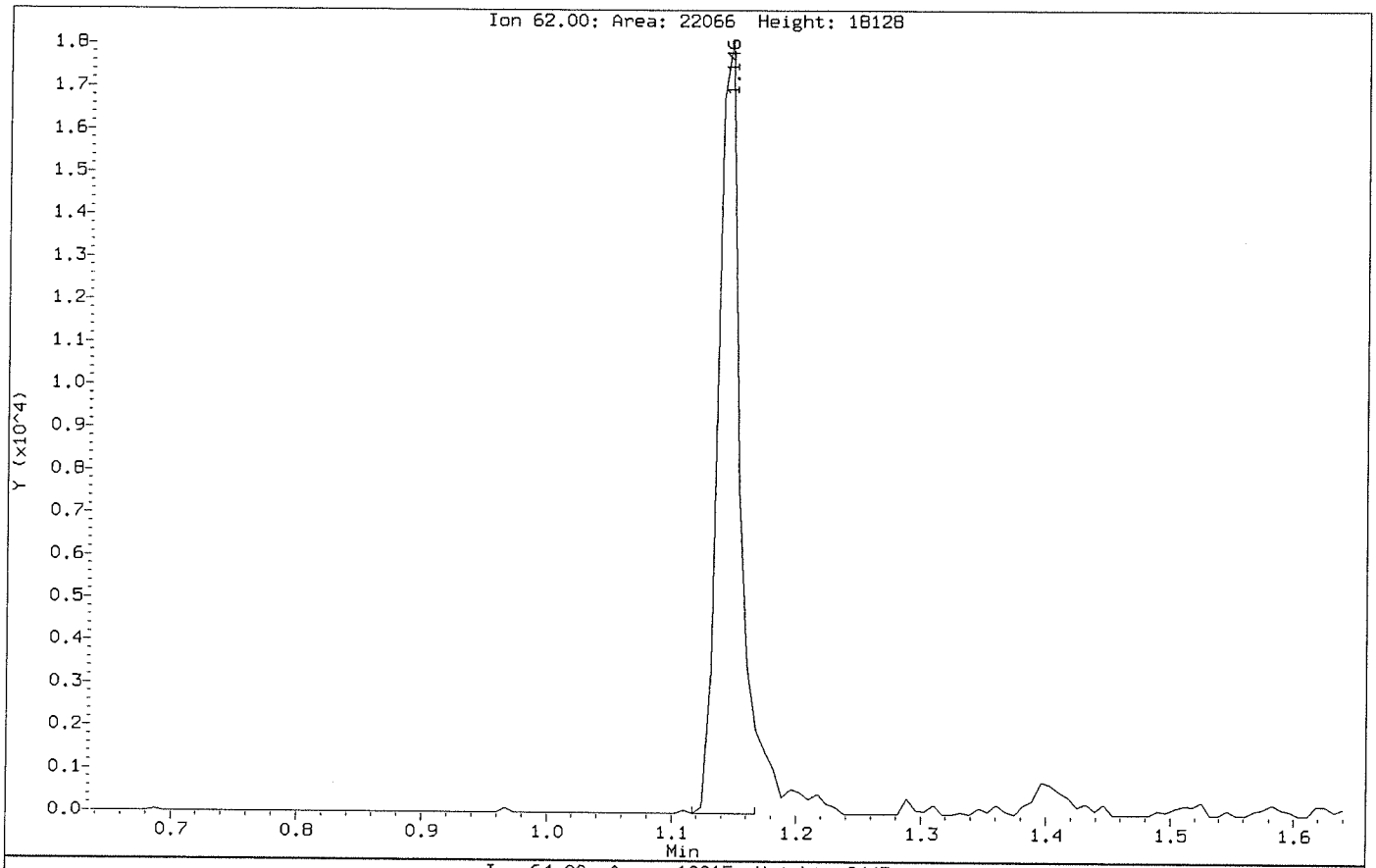
Compound: Vinyl Chloride
CAS Number: 75-01-4

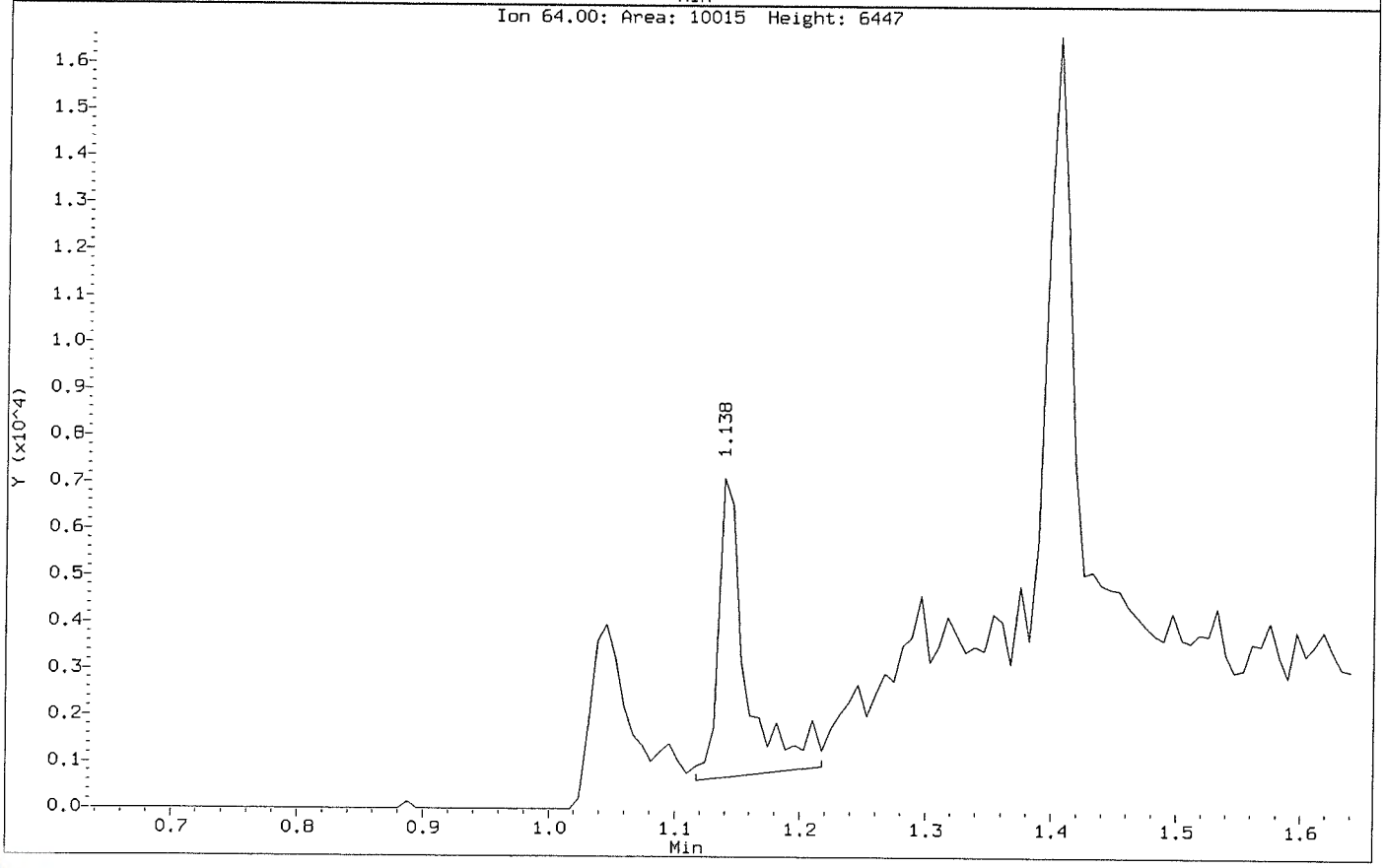




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

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





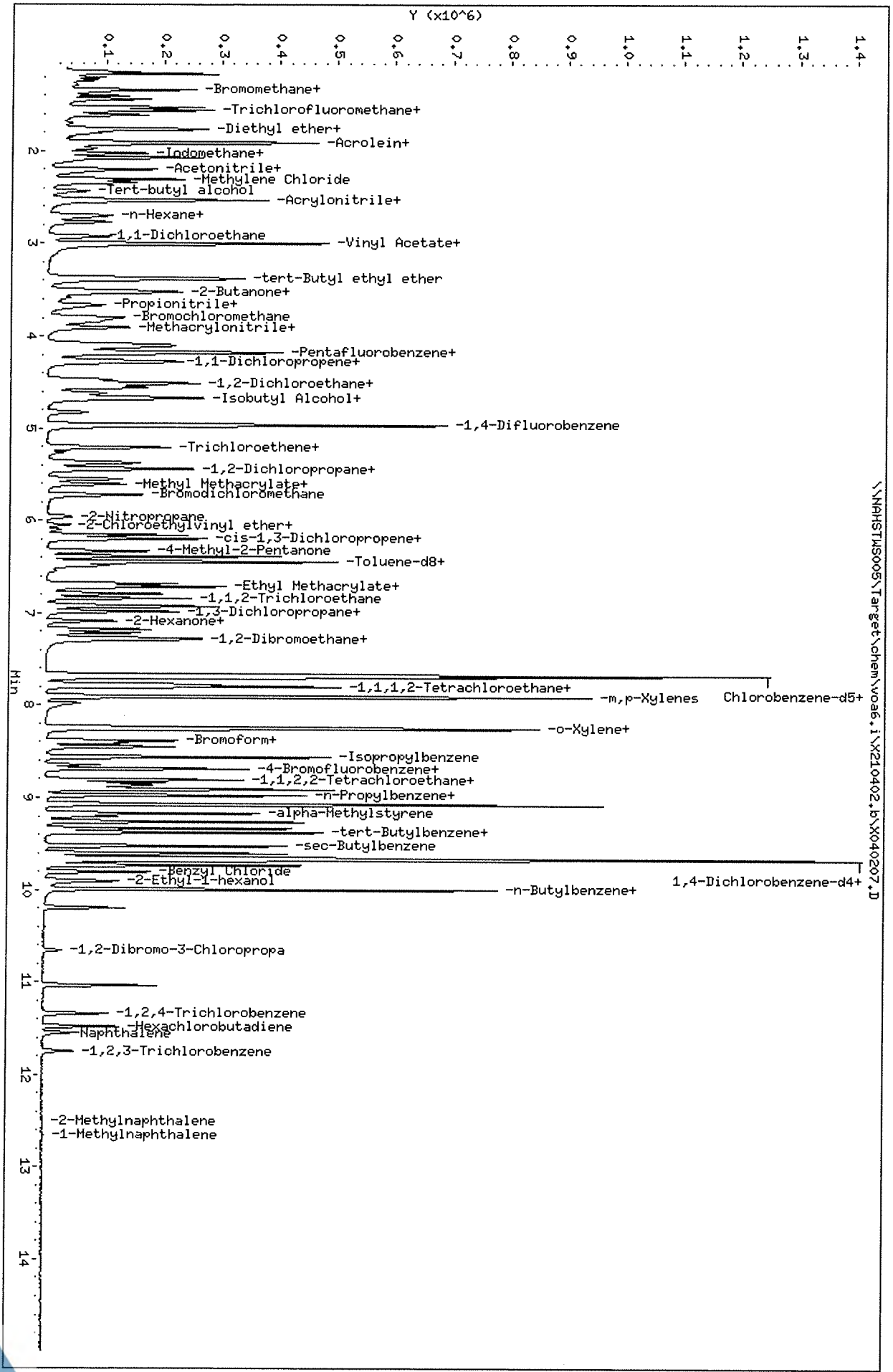
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-APR-2021 12:59
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:38 Cal File: X040206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	303845	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	500849	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	505360	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244406	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	68668	20.0000	19.46
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	80475	20.0000	19.07
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	218999	20.0000	18.08
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	81621	20.0000	17.93
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	50828	20.0000	17.31
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	80105	20.0000	18.51
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	95203	20.0000	17.95
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	65903	20.0000	17.74
17 Methylene Chloride	84	2.305	2.305	(0.551)	63925	20.0000	20.29
38 Trichloroethene	130	5.206	5.206	(1.049)	61652	20.0000	17.98
5 Vinyl Chloride	62	1.145	1.145	(0.274)	89514	20.0000	19.65



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Date : 02-APR-2021 12:59
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\X210402.b\X040208.D Page 1
Report Date: 04-May-2021 11:39

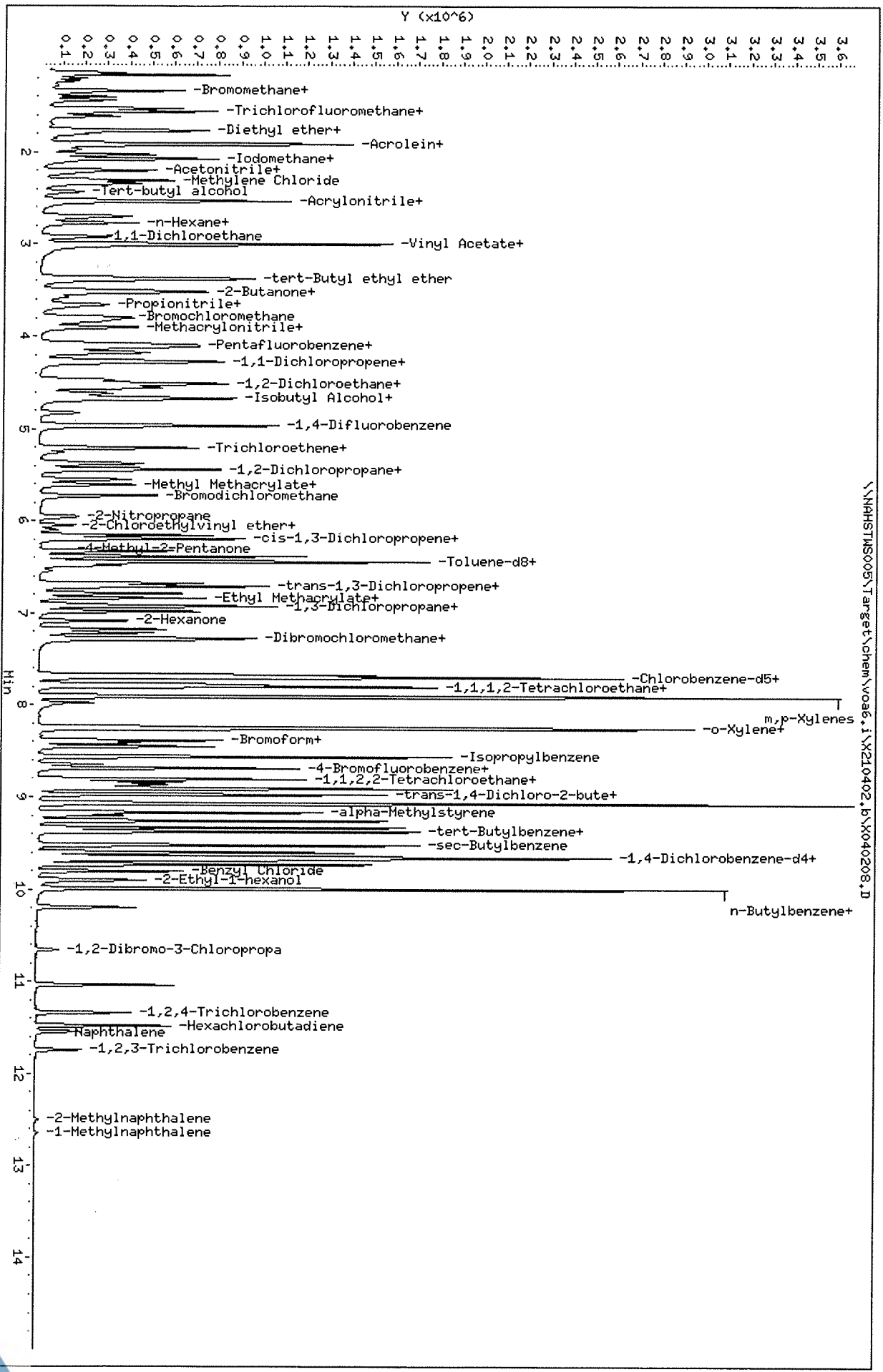
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 02-APR-2021 13:20
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:59 Cal File: X040207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	359684	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	598485	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	588191	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	309539	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	201590	50.0000	47.62
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243778	50.0000	48.06
$	48 Toluene-d8	98	6.388	6.388	(0.833)	658700	50.0000	43.80
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	267013	50.0000	47.42
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	155825	50.0000	45.60
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	240341	50.0000	46.92
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	309702	50.0000	48.88
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	208514	50.0000	47.42
	17 Methylene Chloride	84	2.305	2.305	(0.551)	173954	50.0000	44.72
	38 Trichloroethene	130	5.206	5.206	(1.049)	206412	50.0000	50.38
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	256013	50.0000	47.47



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Date : 02-APR-2021 13:20
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D Page 1
Report Date: 04-May-2021 11:39

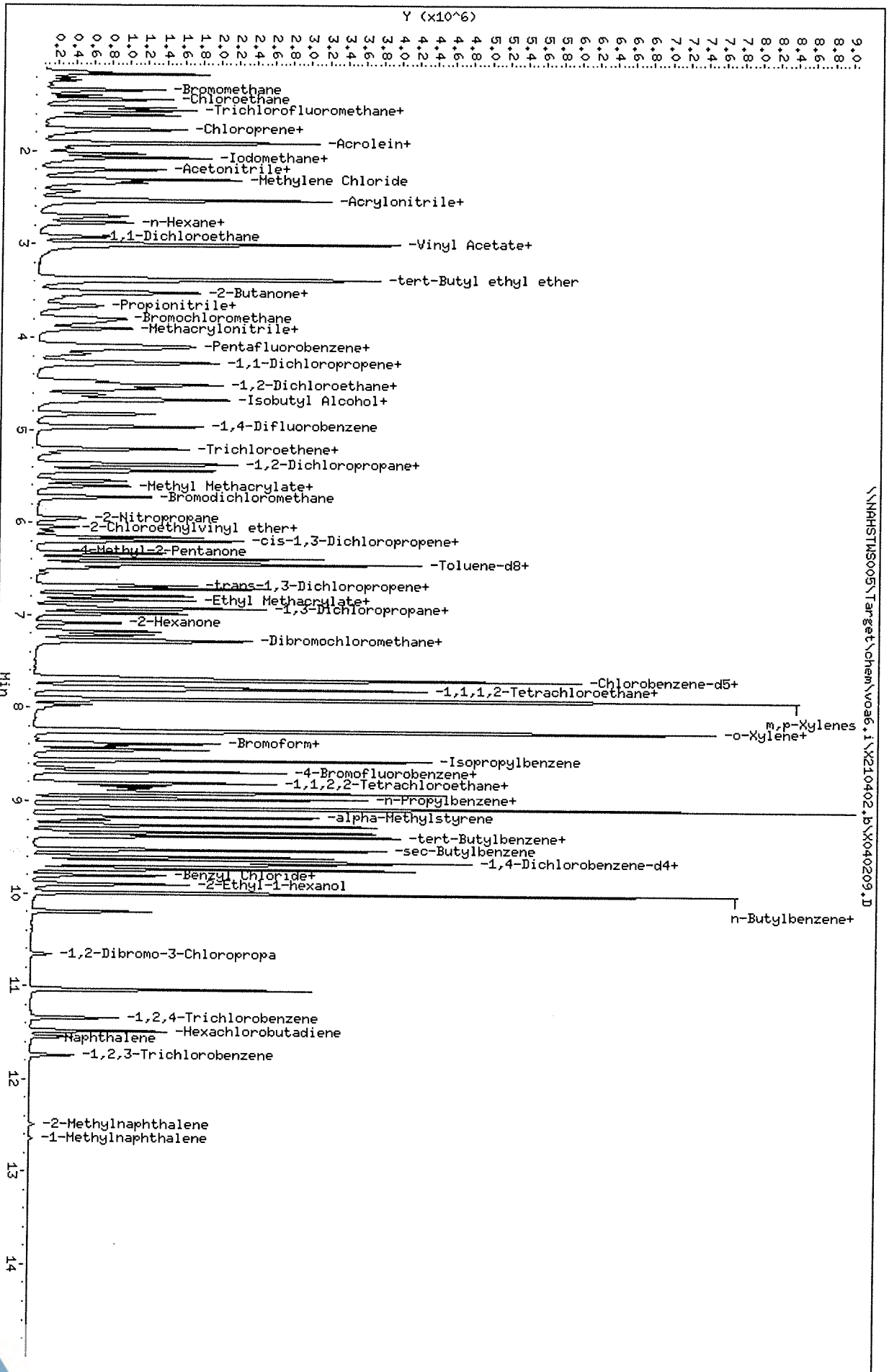
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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-APR-2021 13:41
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	397825	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	683502	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	652649	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	339759	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	476731	100.000	101.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	568806	100.000	100.86
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1733824	100.000	101.37
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	624362	100.000	98.11
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	366869	100.000	96.76
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	544587	100.000	96.14
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	718135	100.000	99.26
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	487101	100.000	100.16
17 Methylene Chloride	84	2.305	2.305	(0.551)	420832	100.000	96.06
38 Trichloroethene	130	5.206	5.206	(1.049)	478548	100.000	102.27
5 Vinyl Chloride	62	1.145	1.145	(0.274)	541798	100.000	90.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Date : 02-APR-2021 13:41
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

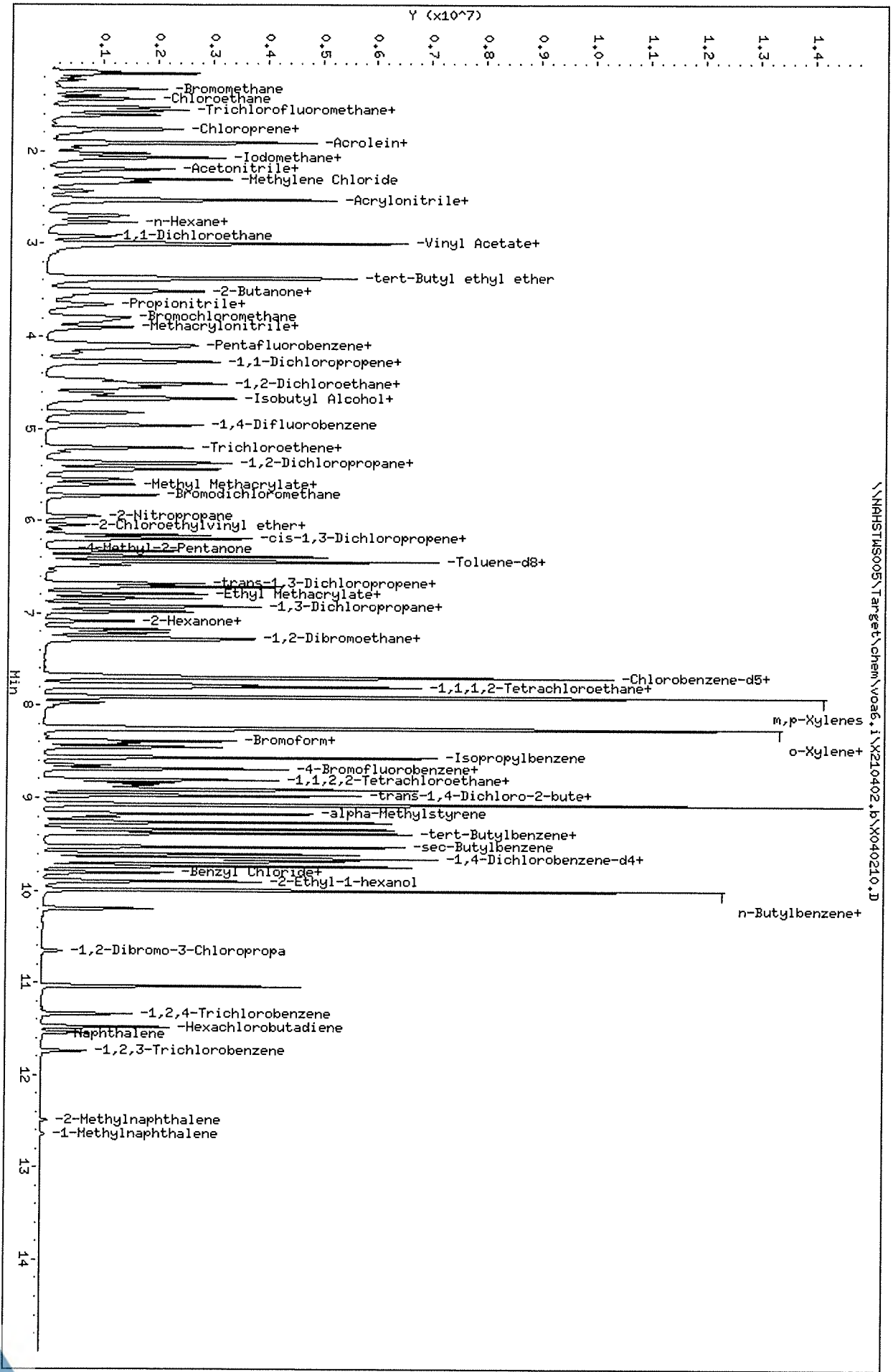
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-APR-2021 14:02
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:41 Cal File: X040209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432906	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	745206	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	707197	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	375287	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	758989	150.000	148.06
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	919399	150.000	149.58
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2714142	150.000	145.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1011725	150.000	145.90
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	595658	150.000	144.99
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	861197	150.000	139.71
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	1146217	150.000	145.31
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	789545	150.000	149.19
17 Methylene Chloride	84	2.298	2.298	(0.550)	703062	150.000	146.68
38 Trichloroethene	130	5.207	5.207	(1.049)	752757	150.000	147.55
5 Vinyl Chloride	62	1.138	1.138	(0.272)	862204	150.000	132.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Date : 02-APR-2021 14:02
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\X210402.b\X040211.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-APR-2021 14:23
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:02 Cal File: X040210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

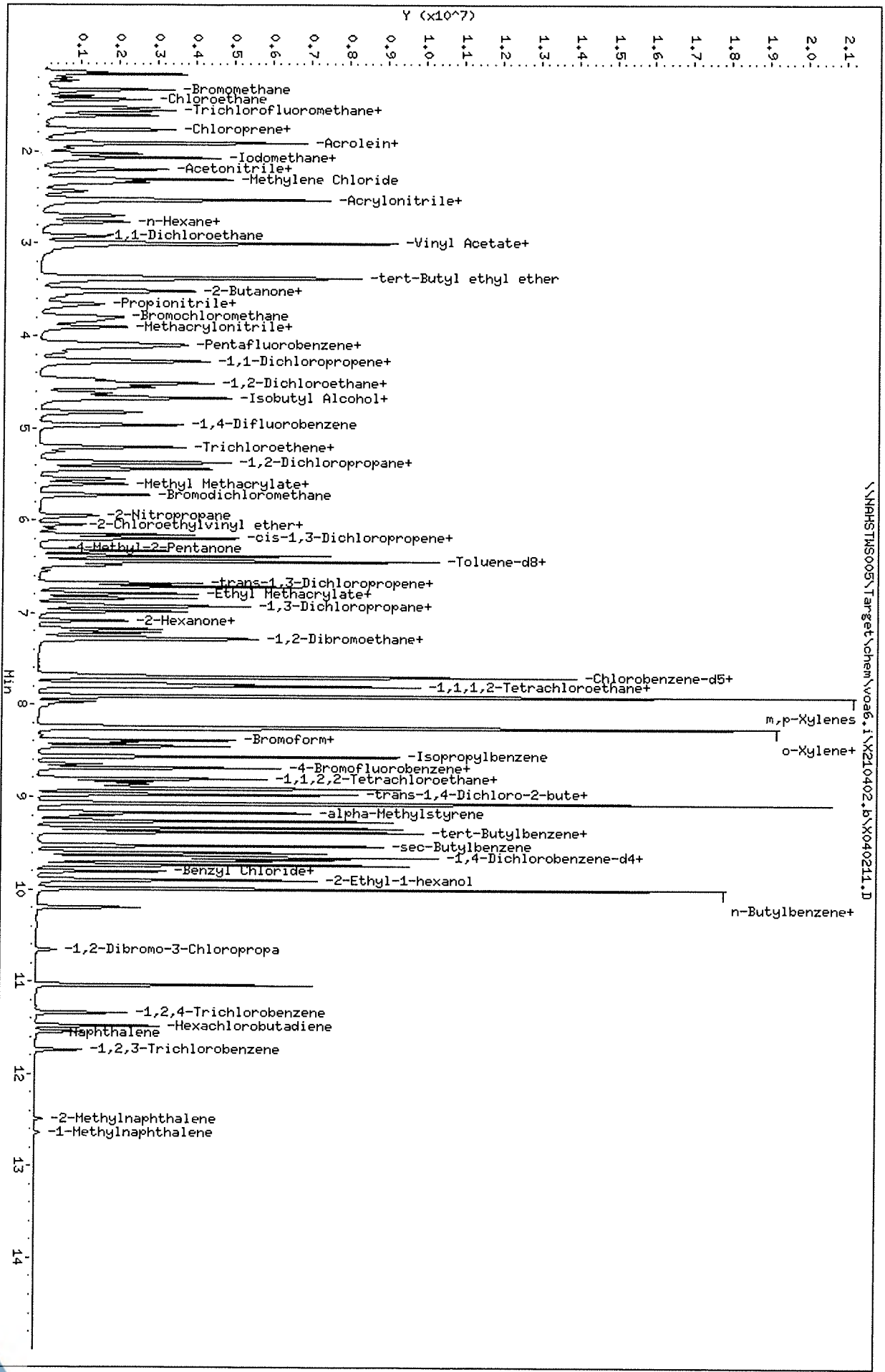
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	444815	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	788136	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	732576	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	399401	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1061294	200.000	201.33(A)
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	1266674	200.000	200.40(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	3949224	200.000	203.80(A)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1473828	200.000	204.50(A)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	832139	200.000	195.54
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1249794	200.000	197.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	1584950	200.000	189.99
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	1123271	200.000	206.57(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	1013494	200.000	205.19(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	1061444	200.000	196.73
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1159290	200.000	173.84

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Date : 02-APR-2021 14:23
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\X210402.b\X040214.D Page 1
Report Date: 04-May-2021 11:39

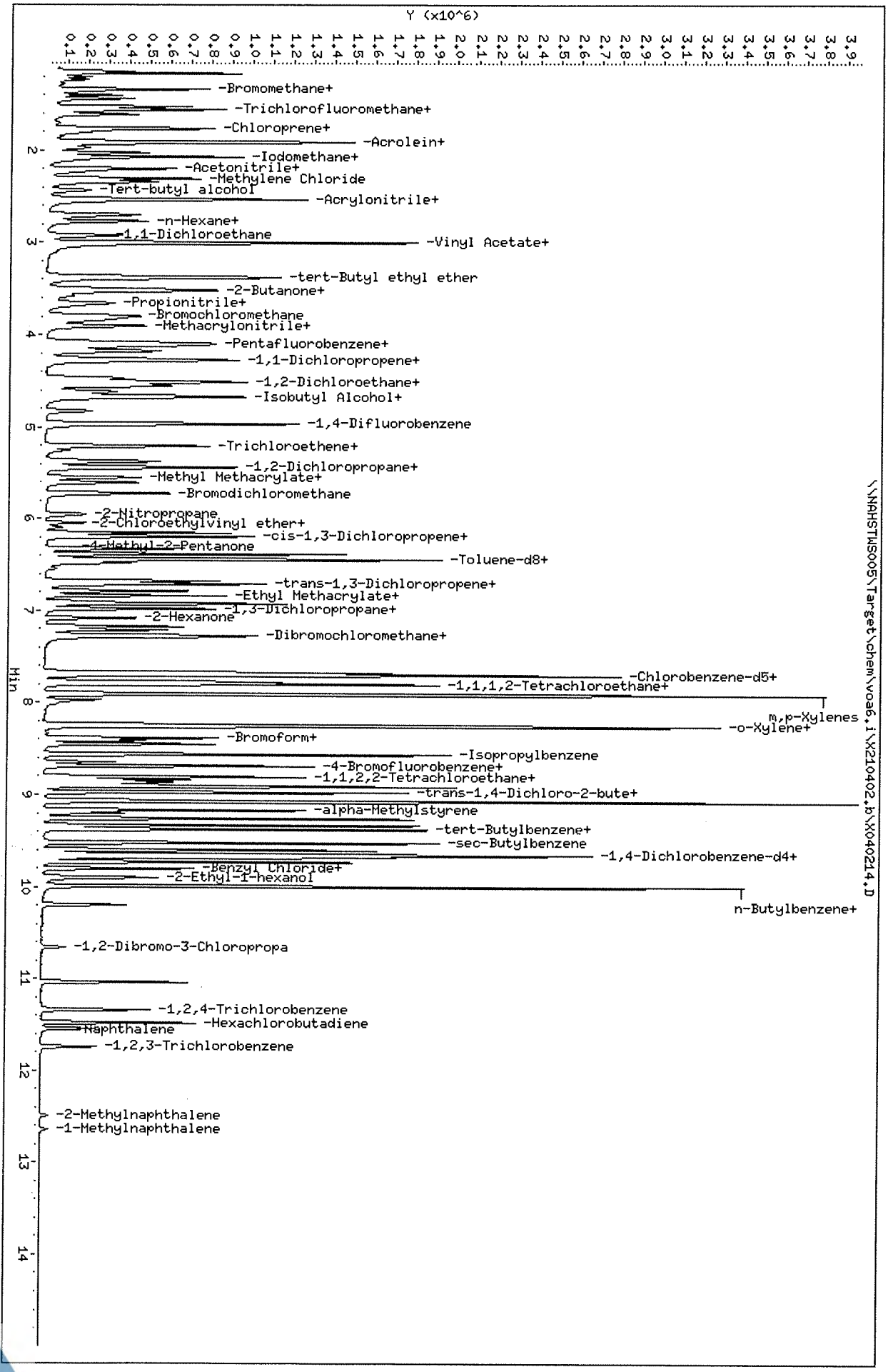
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-APR-2021 15:26
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	403237	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	674704	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	639311	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	322985	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	233448	49.1812	49.18
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	278339	48.9433	48.94
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	812891	49.4873	49.48
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	292882	47.8435	47.84
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178830	48.1535	48.15
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	265347	46.2152	46.21
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	339122	47.4855	47.48
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	228412	46.3383	46.33
17 Methylene Chloride	84	2.305	2.305	(0.551)	198869	45.5779	45.57
38 Trichloroethene	130	5.206	5.206	(1.049)	232943	50.4339	50.43
5 Vinyl Chloride	62	1.145	1.138	(0.274)	279152	46.1765	46.17



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210402,b\X040214,D
Date : 02-APR-2021 15:26
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: 44544 **Analyst:** Presenta Cabascango

Date: 04-23-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-23-2021 10:40 am	1.00	50 mL	50 mL	X042301.D	Liquid	Y	NA
2	CCV	CCV	04-23-2021 11:01 am	1.00	50 mL	50 mL	X042302a.D	Liquid	Y	NA
3	CCV	CCV	04-23-2021 11:22 am	1.00	50 mL	50 mL	X042303.D	Liquid	Y	NA
4	CCB	SAMP	04-23-2021 11:43 am	1.00	50 mL	50 mL	X042304.D	Liquid	Y	NA
5	VLCSW-210423	LCS	04-23-2021 12:12 pm	1.00	50 mL	50 mL	X042305.D	Liquid	Y	NA
6	BLANK	SAMP	04-23-2021 12:33 pm	1.00	50 mL	50 mL	X042306.D	Liquid	Y	NA
7	VBLKW-210423	MBLK	04-23-2021 12:54 pm	1.00	50 mL	50 mL	X042307.D	Liquid	Y	NA
8	HS21041135-05	SAMP	04-23-2021 01:15 pm	1.00	50 mL	50 mL	X042308.D	Liquid	Y	NA
9	HS21041135-03	SAMP	04-23-2021 01:36 pm	1.00	50 mL	50 mL	X042309.D	Liquid	Y	NA
10	HS21041135-01	SAMP	04-23-2021 01:58 pm	1.00	50 mL	50 mL	X042310.D	Liquid	Y	NA
11	HS21041135-02	SAMP	04-23-2021 02:19 pm	1.00	50 mL	50 mL	X042311.D	Liquid	Y	NA
12	HS21041135-04	SAMP	04-23-2021 02:40 pm	1.00	50 mL	50 mL	X042312.D	Liquid	Y	NA
13	HS21041132-03	SAMP	04-23-2021 03:01 pm	1.00	50 mL	50 mL	X042313.D	Liquid	Y	NA
14	HS21041132-04	SAMP	04-23-2021 03:22 pm	1.00	50 mL	50 mL	X042314.D	Liquid	Y	NA
15	HS21041132-05	SAMP	04-23-2021 03:43 pm	1.00	50 mL	50 mL	X042315.D	Liquid	Y	NA
16	HS21041102-08	SAMP	04-23-2021 04:04 pm	5.00	10 mL	50 mL	X042316.D	Liquid	Y	NA
17	HS21041135-03MS	MS	04-23-2021 04:25 pm	1.00	50 mL	50 mL	X042317.D	Liquid	Y	NA
18	HS21041135-03MSD	MSD	04-23-2021 04:46 pm	1.00	50 mL	50 mL	X042318.D	Liquid	Y	NA
19	HS21041102-08	SAMP	04-23-2021 05:07 pm	50.00	1 mL	50 mL	X042319.D	Liquid	Y	NA
20	HS21041102-09	SAMP	04-23-2021 05:28 pm	25.00	2 mL	50 mL	X042320.D	Liquid	Y	NA
21	HS21041132-06	SAMP	04-23-2021 05:49 pm	1.00	50 mL	50 mL	X042321.D	Liquid	Y	NA
22	HS21041132-07	SAMP	04-23-2021 06:10 pm	1.00	50 mL	50 mL	X042322.D	Liquid	Y	NA
23	HS21041169-06	SAMP	04-23-2021 06:31 pm	1.00	50 mL	50 mL	X042323.D	Liquid	Y	NA
24	HS21041132-08	SAMP	04-23-2021 06:52 pm	1.00	50 mL	50 mL	X042324.D	Liquid	Y	NA
25	HS21041132-08	SAMP	04-23-2021 07:13 pm	25.00	2 mL	50 mL	X042325.D	Liquid	Y	NA
26	HS21041132-02	SAMP	04-23-2021 07:35 pm	10.00	5 mL	50 mL	X042326.D	Liquid	Y	NA
27	HS21041132-02	SAMP	04-23-2021 07:56 pm	100.0(	500 µL	50 mL	X042327.D	Liquid	Y	NA
28	HS21041132-01	SAMP	04-23-2021 08:17 pm	25.00	2 mL	50 mL	X042328.D	Liquid	Y	NA
29	HS21041132-01	SAMP	04-23-2021 08:38 pm	250.0(	200 µL	50 mL	X042329.D	Liquid	Y	NA
30	CCV-END	CCV	04-23-2021 08:59 pm	1.00	50 mL	50 mL	X042330.D	Liquid	Y	NA
31	BLANK	SAMP	04-23-2021 09:20 pm	1.00	50 mL	50 mL	X042340.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-210423	106	109	105	107	0
02	VBLKW-210423	92	97	108	90	0
03	HS21041135-03MS	92	93	102	101	0
04	HS21041135-03MSD	91	96	103	99	0
05	HS21041169-06	93	100	104	92	0
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28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(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 II VOA

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-210423

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID: X042307 Lab Sample ID: VBLKW-210423

Date Analyzed: 04/23/21 Time Analyzed: 1254

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-210423	VLCSW-210423	X042305	1212
02	HS21041135-03MS	HS21041135-03MS	X042317	1625
03	HS21041135-03MSD	HS21041135-03MSD	X042318	1646
04	HS21041169-06	HS21041169-06	X042323	1831
05				
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08				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID: X042301 BFB Injection Date: 04/23/21

Instrument ID: VOA6 BFB Injection Time: 1040

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	18.3
75	30.0 - 60.0% of mass 95	46.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	5.7
173	Less than 2.0% of mass 174	1.0 (1.2)1
174	Greater than 50.0% of mass 95	80.9
175	5.0 - 9.0% of mass 174	6.4 (7.9)1
176	95.0 - 101.0% of mass 174	81.0 (100.1)1
177	5.0 - 9.0% of mass 176	5.0 (6.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X042303	04/23/21	1122
02	VLCSW-210423	VLCSW-210423	X042305	04/23/21	1212
03	VBLKW-210423	VBLKW-210423	X042307	04/23/21	1254
04	HS21041135-03MS	HS21041135-03MS	X042317	04/23/21	1625
05	HS21041135-03MSD	HS21041135-03MSD	X042318	04/23/21	1646
06	HS21041169-06	HS21041169-06	X042323	04/23/21	1831
07	CCV-END	CCV-END	X042330	04/23/21	2059
08					
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22					

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: VOA6 Calibration Date: 04/23/21 Time: 1122

Lab File ID: X042303 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.7001918	0.7001918	0.1	6.64	20.00	AVRG
Methylene Chloride	51.071347	50.000000	0.5546236	0.1	-2.14	20.00	LINR
1,1-Dichloroethene	0.7120000	0.6009898	0.6009898	0.1	15.59	20.00	AVRG
1,2-Dichloroethane	0.5290000	0.5157407	0.5157407	0.1	2.51	20.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6212177	0.6212177	0.1	-1.67	20.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.2816699	0.2816699	0.1	2.87	20.00	AVRG
Trichloroethene	0.3420000	0.3334702	0.3334702	0.2	2.49	20.00	AVRG
Dibromofluoromethane	53.554194	50.000000	0.6308685	0.1	-7.11	20.00	LINR
1,2-Dichloroethane-d4	55.278480	50.000000	0.7804992	0.1	-10.56	20.00	LINR
Toluene-d8	51.331948	50.000000	1.3207521	0.1	-2.66	20.00	LINR
4-Bromofluorobenzene	55.429836	50.000000	0.5333590	0.1	-10.86	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: VOA6 Calibration Date: 04/23/21 Time: 2059

Lab File ID: X042330 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.8171111	0.8171111	0.1	-8.95	50.00	AVRG
Methylene Chloride	52.875514	50.000000	0.5748024	0.1	-5.75	50.00	LINR
1,1-Dichloroethene	0.7120000	0.7128928	0.7128928	0.1	-0.12	50.00	AVRG
1,2-Dichloroethane	0.5290000	0.5464335	0.5464335	0.1	-3.30	50.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6501990	0.6501990	0.1	-6.42	50.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3180305	0.3180305	0.1	-9.66	50.00	AVRG
Trichloroethene	0.3420000	0.3401588	0.3401588	0.2	0.54	50.00	AVRG
Dibromofluoromethane	59.574229	50.000000	0.7023623	0.1	-19.15	50.00	LINR
1,2-Dichloroethane-d4	59.629610	50.000000	0.8424764	0.1	-19.26	50.00	LINR
Toluene-d8	54.576488	50.000000	1.4073624	0.1	-9.15	50.00	LINR
4-Bromofluorobenzene	56.179253	50.000000	0.5407913	0.1	-12.36	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID (Standard): X042303 Date Analyzed: 04/23/21

Instrument ID: VOA6 Time Analyzed: 1122

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	400486	4.18	674651	4.97	644744	7.67
	UPPER LIMIT	800972	4.68	1349302	5.47	1289488	8.17
	LOWER LIMIT	200243	3.68	337326	4.47	322372	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-210423	334958	4.18	589014	4.96	564684	7.67
02	VBLKW-210423	410293	4.18	656250	4.97	591009	7.67
03	HS21041135-03MS	426612	4.18	684424	4.96	663475	7.67
04	HS21041135-03MSD	432945	4.18	697264	4.97	666027	7.67
05	HS21041169-06	398580	4.18	641754	4.97	575181	7.67
06							
07							
08							
09							
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11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID (Standard): X042303 Date Analyzed: 04/23/21

Instrument ID: VOA6 Time Analyzed: 1122

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	312454	9.66				
	UPPER LIMIT	624908	10.16				
	LOWER LIMIT	156227	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-210423	258969	9.66				
02	VBLKW-210423	249819	9.66				
03	HS21041135-03MS	305215	9.66				
04	HS21041135-03MSD	298080	9.66				
05	HS21041169-06	251474	9.66				
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

Client ID: BFB

Instrument: voa6.i

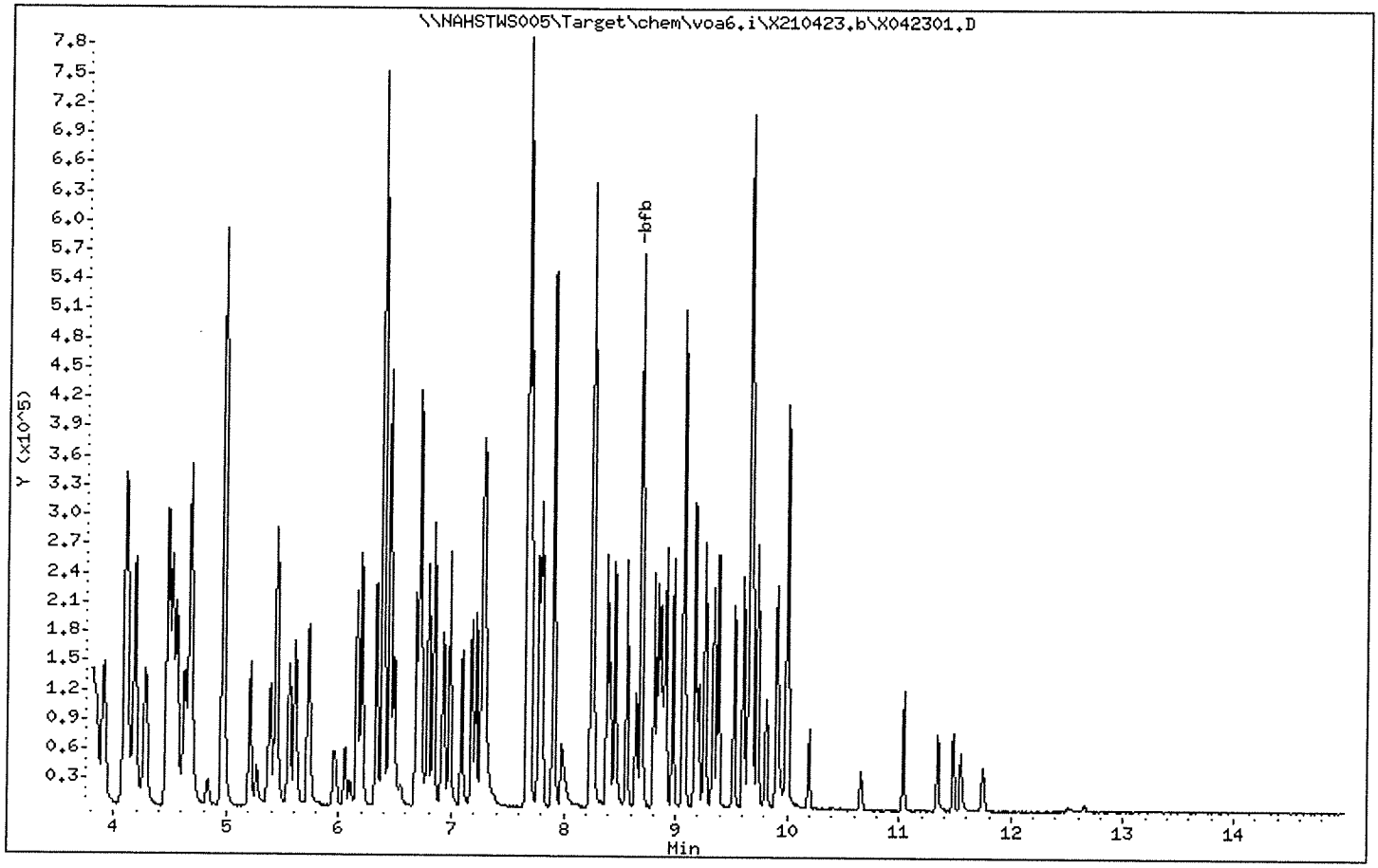
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

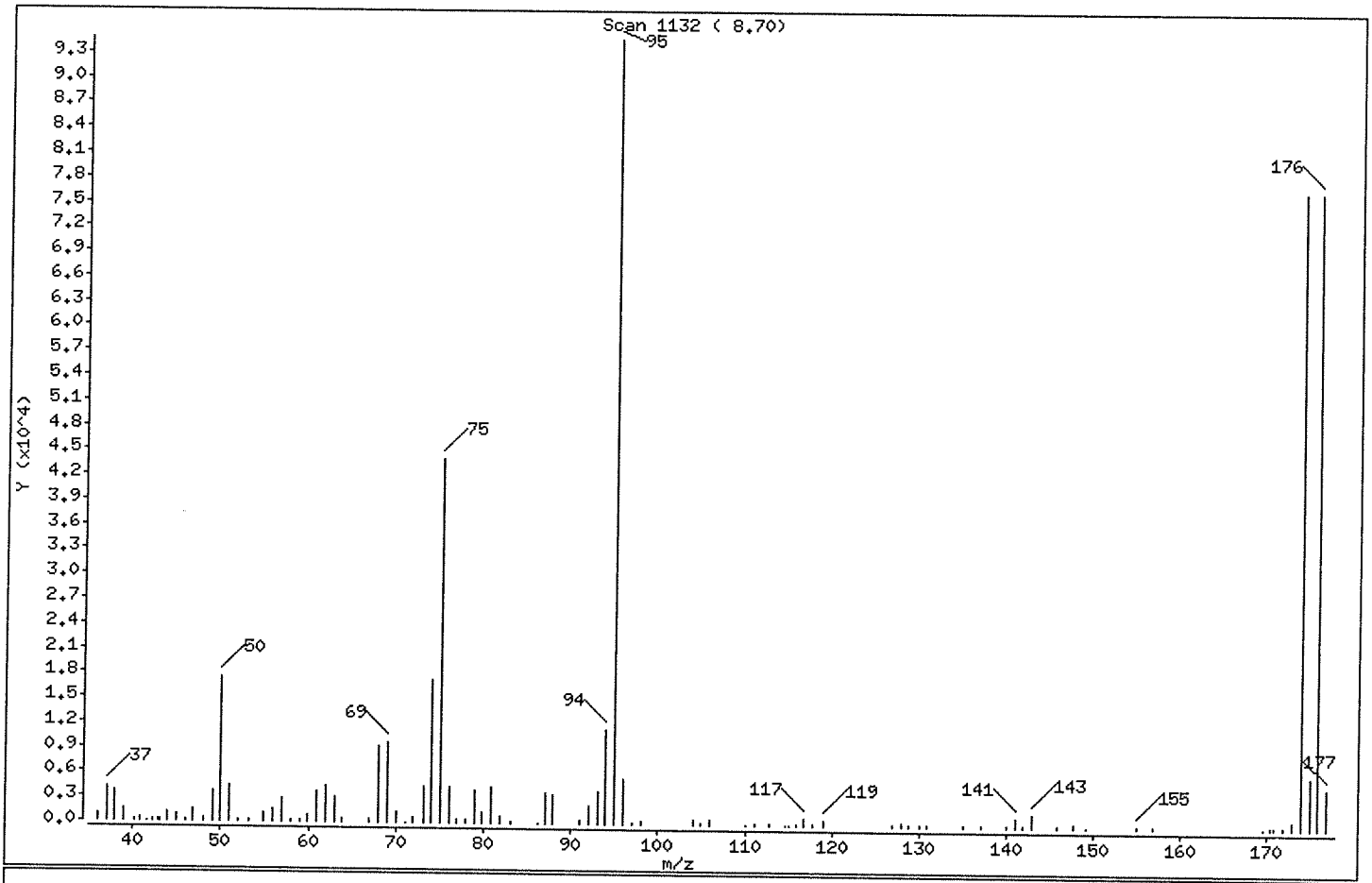
Volume Injected (uL): 2.0

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	18.34
75	30.00 - 60.00% of mass 95	46.36
96	5.00 - 9.00% of mass 95	5.70
173	Less than 2.00% of mass 174	0.96 (1.18)
174	Greater than 50.00% of mass 95	80.86
175	5.00 - 9.00% of mass 174	6.41 (7.92)
176	95.00 - 101.00% of mass 174	80.97 (100.14)
177	5.00 - 9.00% of mass 176	5.05 (6.23)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042301.D

Date : 23-APR-2021 10:40

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: X042301.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	799	59.00	190	87.00	3716	128.80	144
37.00	4109	59.90	859	87.90	3417	129.90	296
38.00	3758	61.00	3800	91.00	406	130.90	149
39.00	1543	62.00	4356	92.00	2110	134.90	173
40.10	281	63.00	2980	93.00	3935	137.00	121
40.90	451	63.90	383	93.90	11332	140.00	149
41.70	66	67.00	487	95.00	94728	141.00	1108
42.20	124	68.00	9063	96.00	5404	141.80	143
42.90	203	69.00	9667	97.00	219	142.90	1418
43.10	202	70.00	1275	98.10	331	145.70	147
44.00	1074	71.10	71	104.00	724	147.70	336
44.90	975	72.00	682	104.90	192	149.00	81
46.00	123	73.10	4276	105.90	733	154.80	134
46.90	1431	74.00	17304	110.00	100	156.80	122
48.00	494	75.00	43912	111.10	132	169.70	63
49.00	3728	76.00	4248	112.80	181	170.50	138
50.00	17376	76.90	459	114.70	61	170.90	144
51.00	4321	78.00	470	115.10	52	171.80	175
52.00	290	78.90	4004	115.80	302	173.00	906
53.20	123	79.90	1335	116.70	849	173.90	76600
55.00	1005	80.90	4280	117.80	206	174.90	6070
56.00	1421	81.90	763	118.90	557	175.90	76704
57.00	2789	83.10	124	126.80	201	176.90	4782
58.10	125	86.20	80	128.00	474		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D Page 1
Report Date: 19-May-2021 10:58

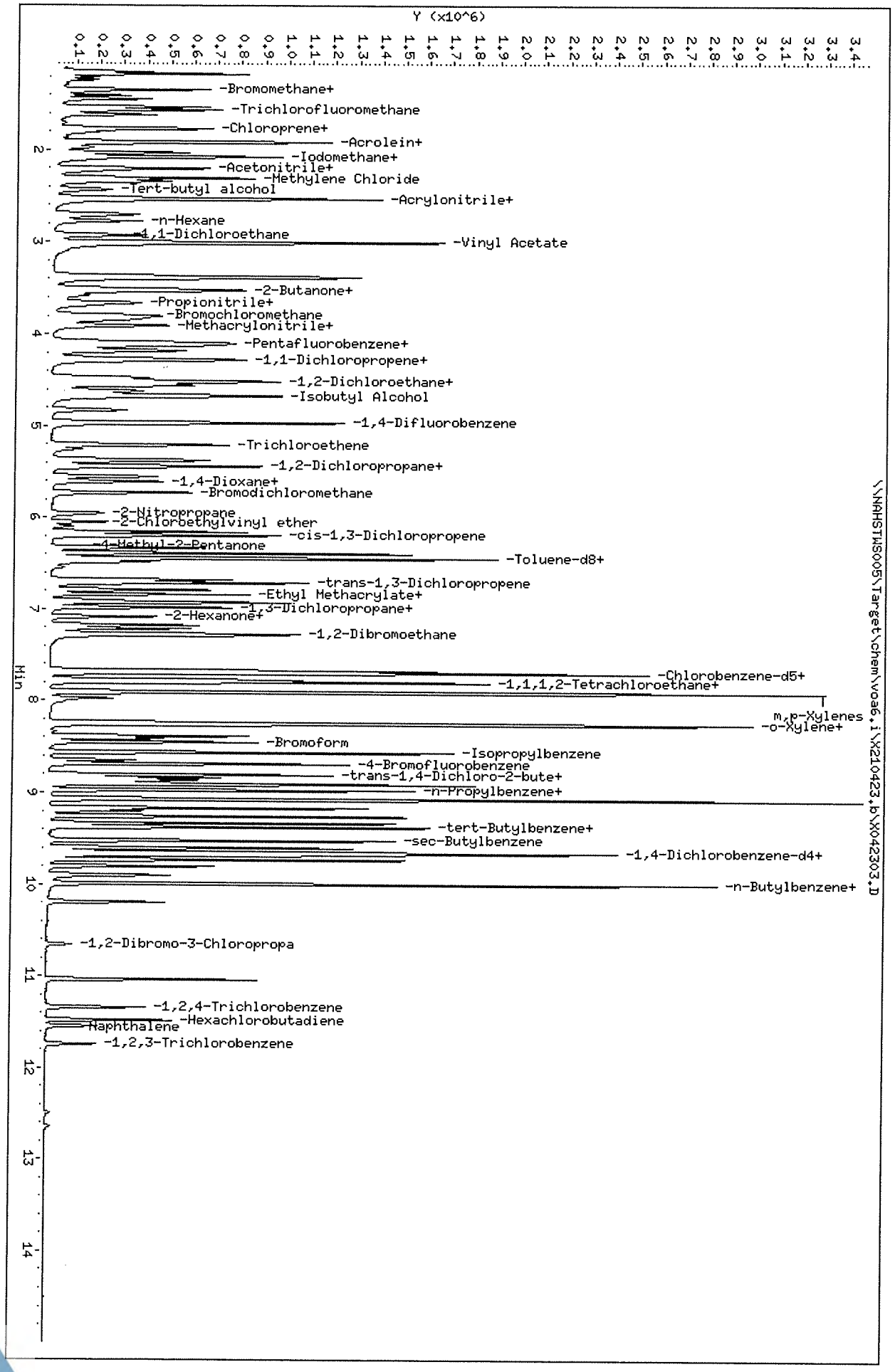
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 23-APR-2021 11:22
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 19-May-2021 10:58 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	400486	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	674651	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	644744	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	312454	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	252654	50.0000	53.55
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	312579	50.0000	55.27
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	851547	50.0000	51.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	343880	50.0000	55.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	181605	50.0000	48.48
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	240688	50.0000	42.20
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	347945	50.0000	48.72
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	248789	50.0000	50.81
17 Methylene Chloride	84	2.306	2.306	(0.551)	222119	50.0000	51.07
38 Trichloroethene	130	5.207	5.207	(1.048)	224976	50.0000	48.71
5 Vinyl Chloride	62	1.145	1.145	(0.274)	280417	50.0000	46.70



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042303.D
Date : 23-APR-2021 11:22
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\X210423.b\X042305.D Page 1
Report Date: 19-May-2021 10:58

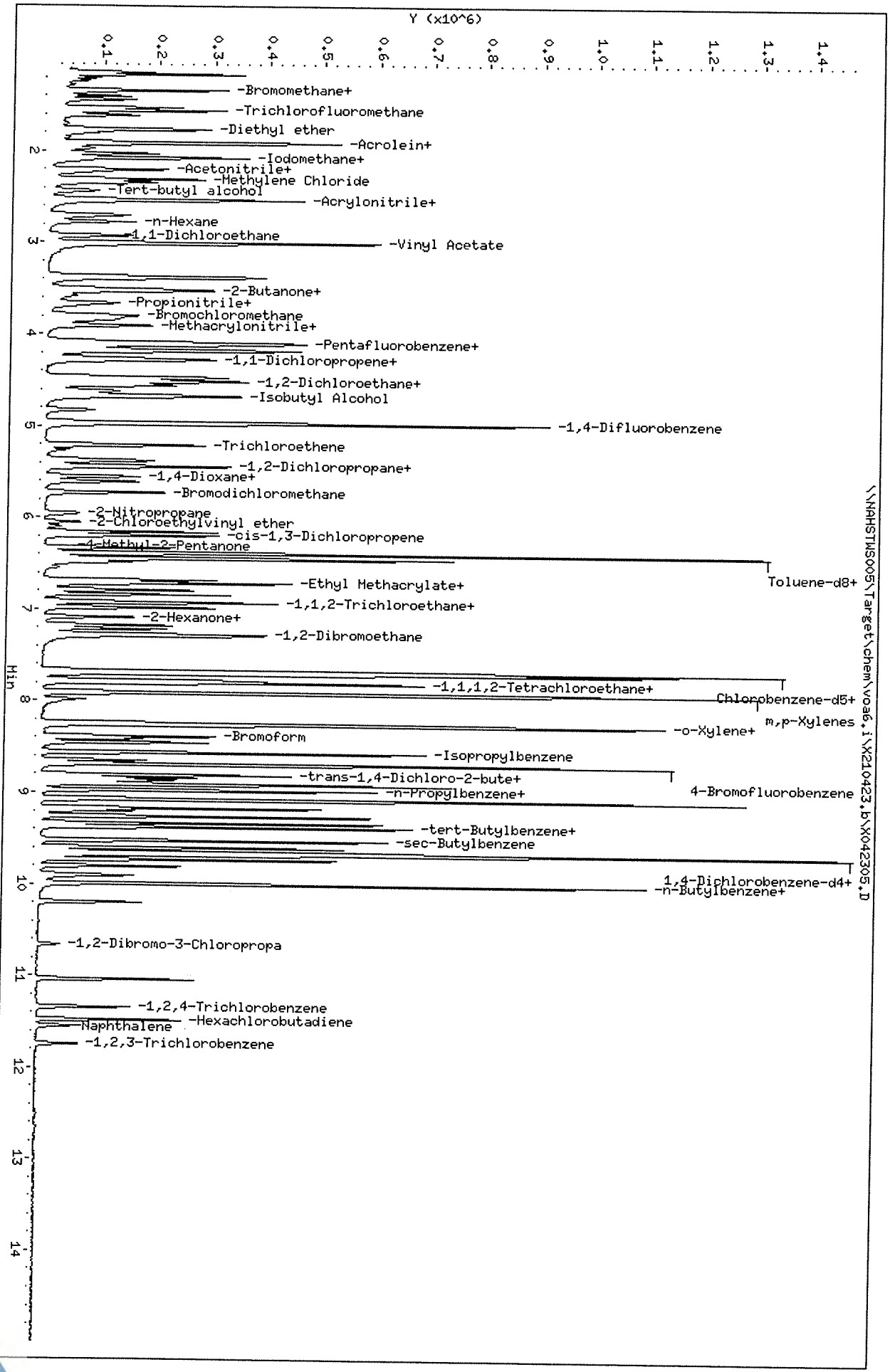
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042305.D
Lab Smp Id: VLCSW-210423 Client Smp ID: VLCSW-210423
Inj Date : 23-APR-2021 12:12
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210423;VLCSW-210423;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 19-May-2021 10:58 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil.Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	334958	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	589014	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	564684	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	258969	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	209698	53.1478	53.14
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	257389	54.4306	54.43
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	766805	52.7249	52.72
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	290578	53.5368	53.53
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	73641	22.4499	22.44
11 1,1-Dichloroethene	96	1.912	1.919	(0.457)	103799	21.7637	21.76
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	131313	21.0621	21.06
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	91706	22.3969	22.39
17 Methylene Chloride	84	2.306	2.306	(0.551)	83158	23.6800	23.68
38 Trichloroethene	130	5.207	5.207	(1.049)	88438	21.9331	21.93
5 Vinyl Chloride	62	1.145	1.145	(0.274)	119780	23.8526	23.85



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042305.D
Date : 23-APR-2021 12:12
Client ID: VLCSW-210423
Sample Info: VLCSW-210423;VLCSW-210423;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

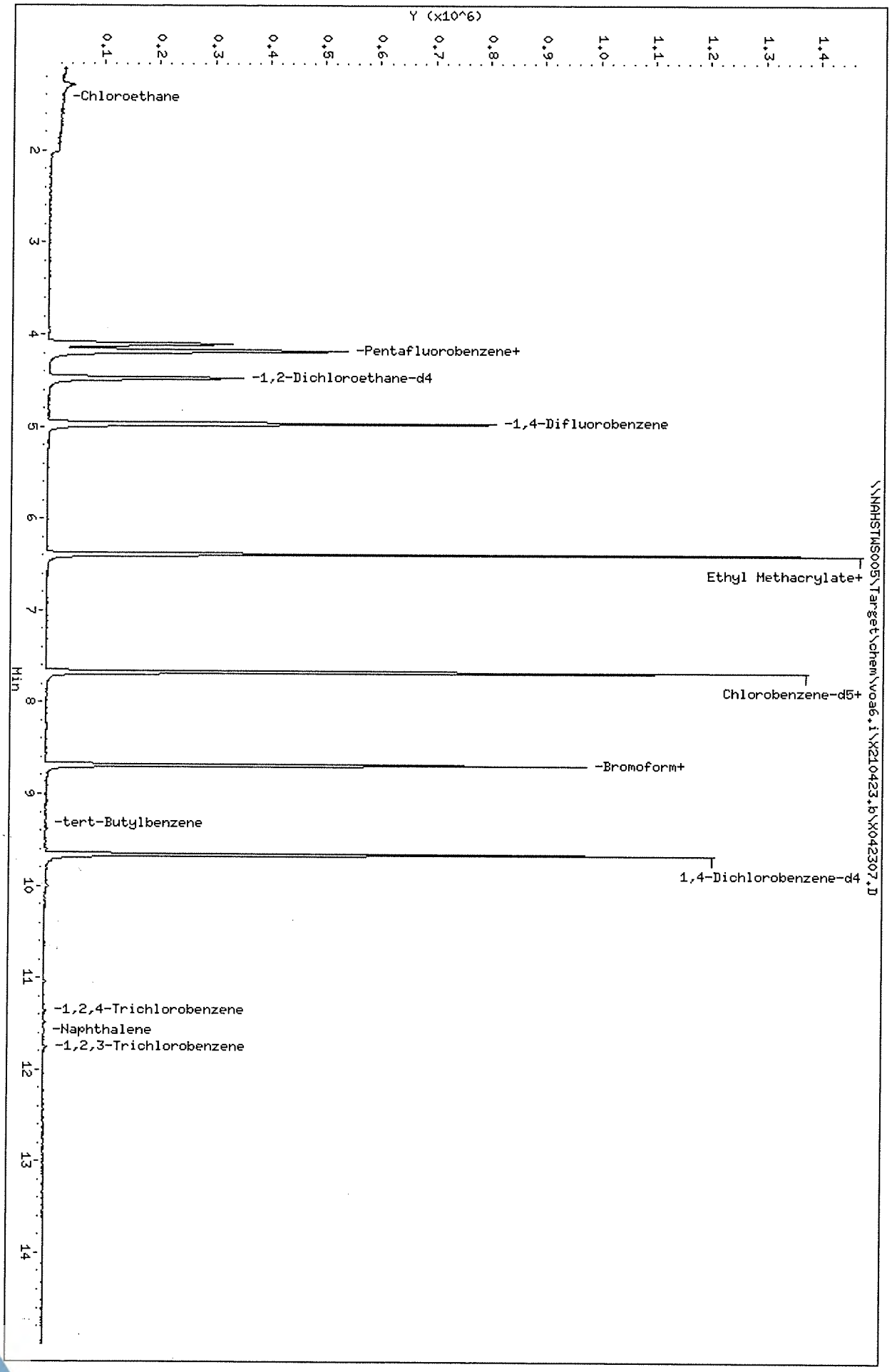
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042307.D
Lab Smp Id: VBLKW-210423 Client Smp ID: VBLKW-210423
Inj Date : 23-APR-2021 12:54
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210423;VBLKW-210423;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 19-May-2021 10:58 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	410293	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	656250	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	591009	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	249819	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	221934	45.9799	45.97
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	281168	48.5940	48.59
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	819568	53.8034	53.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	255661	45.2685	45.26



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210423,b\X042307,D
Date : 23-APR-2021 12:54
Client ID: VBLKW-210423
Sample Info: VBLKW-210423;VBLKW-210423;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\X210423.b\X042317.D Page 1
Report Date: 19-May-2021 10:58

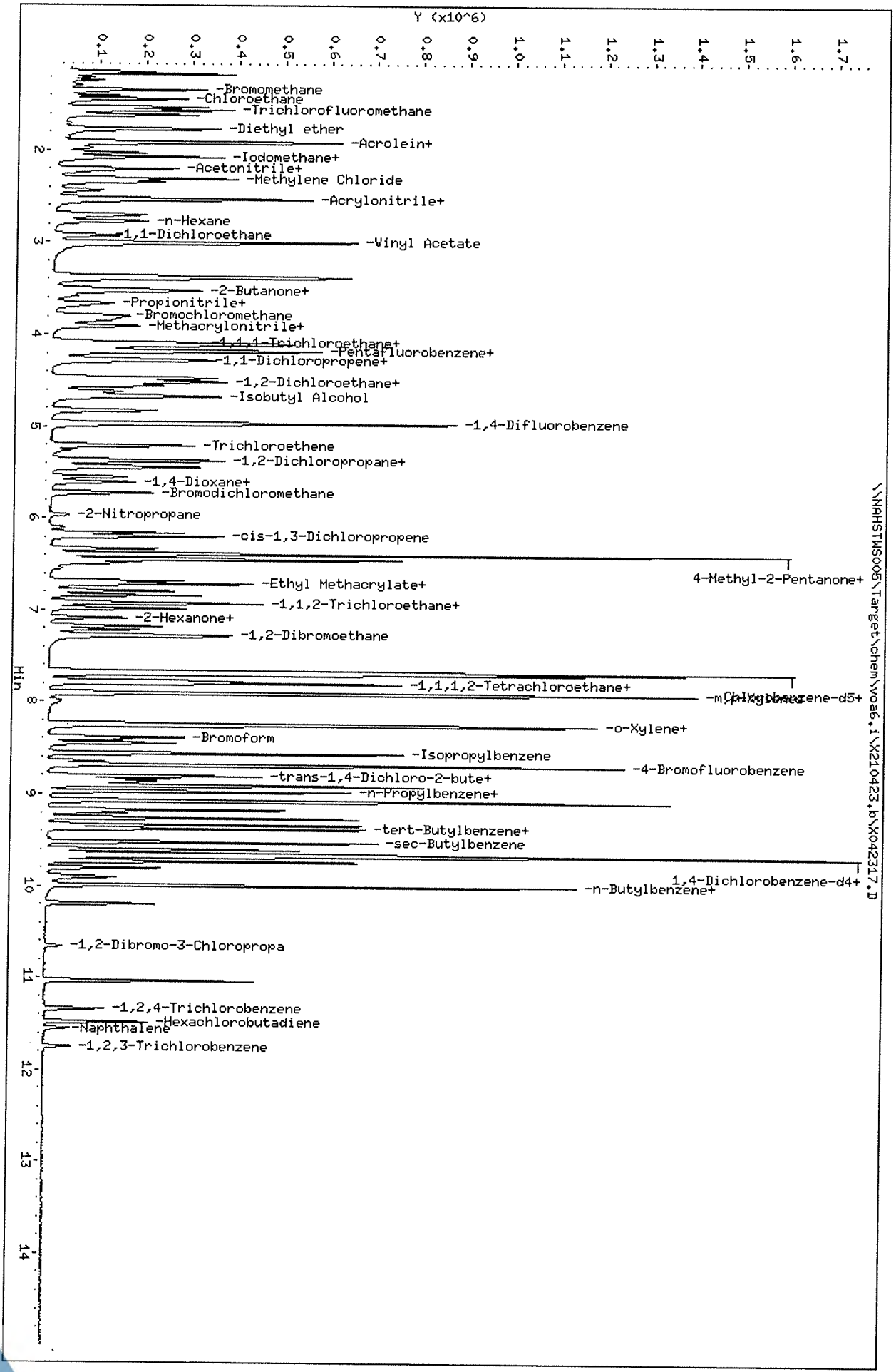
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D
Lab Smp Id: HS21041135-03MS Client Smp ID: HS21041135-03MS
Inj Date : 23-APR-2021 16:25
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-03MS;HS21041135-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 19-May-2021 10:58 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 17 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	426612	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	684424	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	663475	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	305215	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	230082	45.8458	45.84
$	35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	278807	46.3651	46.36
$	48 Toluene-d8	98	6.388	6.388	(0.833)	875607	51.2936	51.29
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	321175	50.4610	50.46
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	68767	17.8425	17.84
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	115385	18.9953	18.99
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	132951	18.3521	18.35
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	93405	17.9109	17.91
	17 Methylene Chloride	84	2.305	2.306	(0.551)	79332	18.1093	18.10
	38 Trichloroethene	130	5.206	5.207	(1.049)	94432	20.1549	20.15
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	134815	21.0788	21.07



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042317.D
Date : 23-APR-2021 16:25
Client ID: HS21041135-03MS
Sample Info: HS21041135-03MS;HS21041135-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042318.D Page 1
Report Date: 19-May-2021 10:58

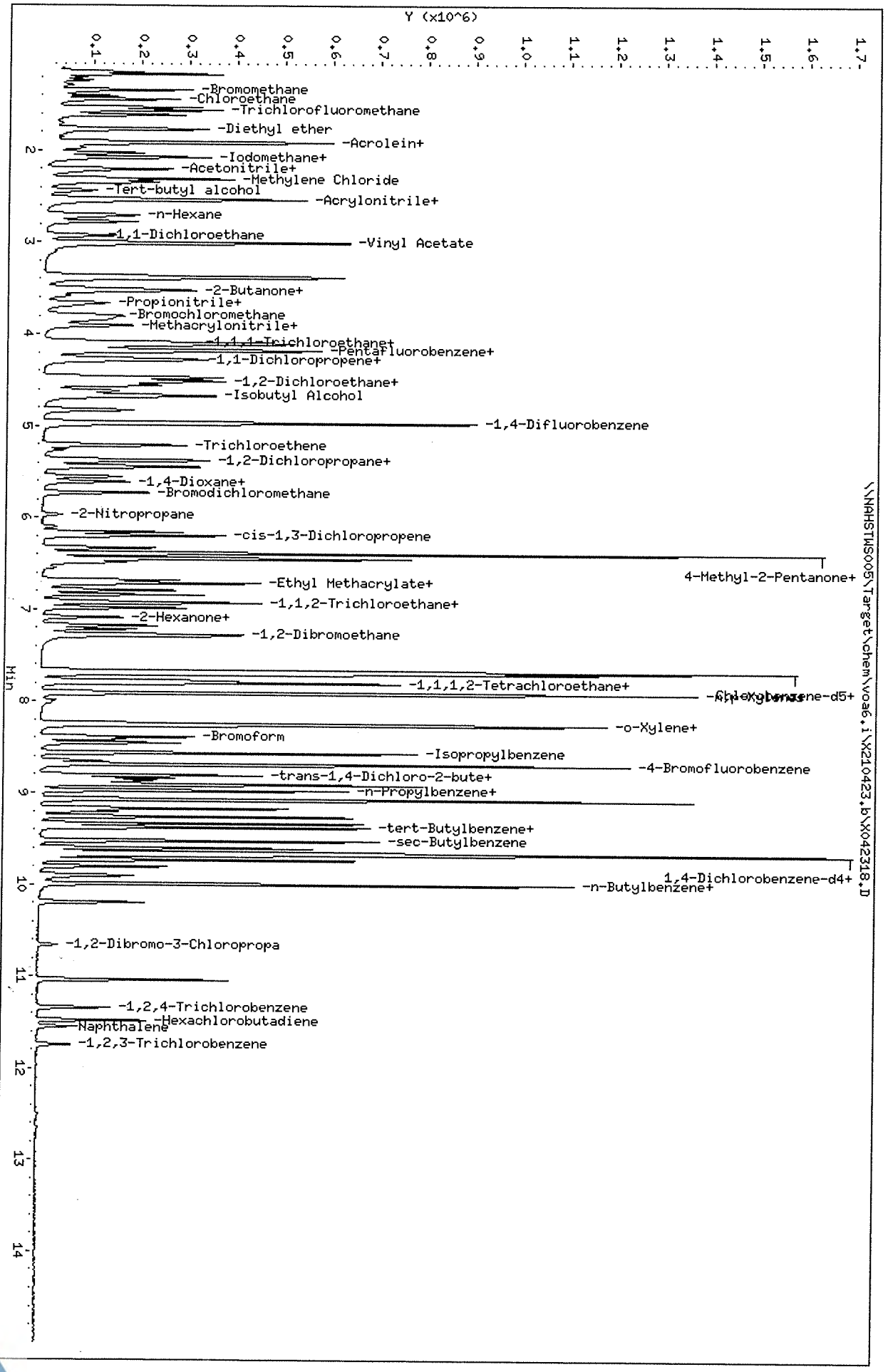
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042318.D
Lab Smp Id: HS21041135-03MSD Client Smp ID: HS21041135-03MSD
Inj Date : 23-APR-2021 16:46
Operator : PC Inst ID: voa6.i
Smp Info : HS21041135-03MSD;HS21041135-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 19-May-2021 10:58 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 17 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432945	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	697264	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	666027	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	298080	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	231900	45.5351	45.53
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	292010	47.8349	47.83
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	885680	51.6707	51.67
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	317112	49.6588	49.65
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	69338	17.9217	17.92
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	110565	17.9356	17.93
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	130057	17.6220	17.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	90140	17.0320	17.03
17 Methylene Chloride	84	2.306	2.306	(0.551)	82026	18.4225	18.42
38 Trichloroethene	130	5.207	5.207	(1.048)	89805	18.8144	18.81
5 Vinyl Chloride	62	1.145	1.145	(0.274)	127563	19.6532	19.65



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210423,b\X042318.D
Date : 23-APR-2021 16:46
Client ID: HS21041135-03HSD
Sample Info: HS21041135-03HSD;HS21041135-03HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042323.D Page 1
Report Date: 19-May-2021 11:34

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042323.D
Lab Smp Id: HS21041169-06 Client Smp ID: HS21041169-06
Inj Date : 23-APR-2021 18:31
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-06;HS21041169-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\8260W.m
Meth Date : 19-May-2021 11:34 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

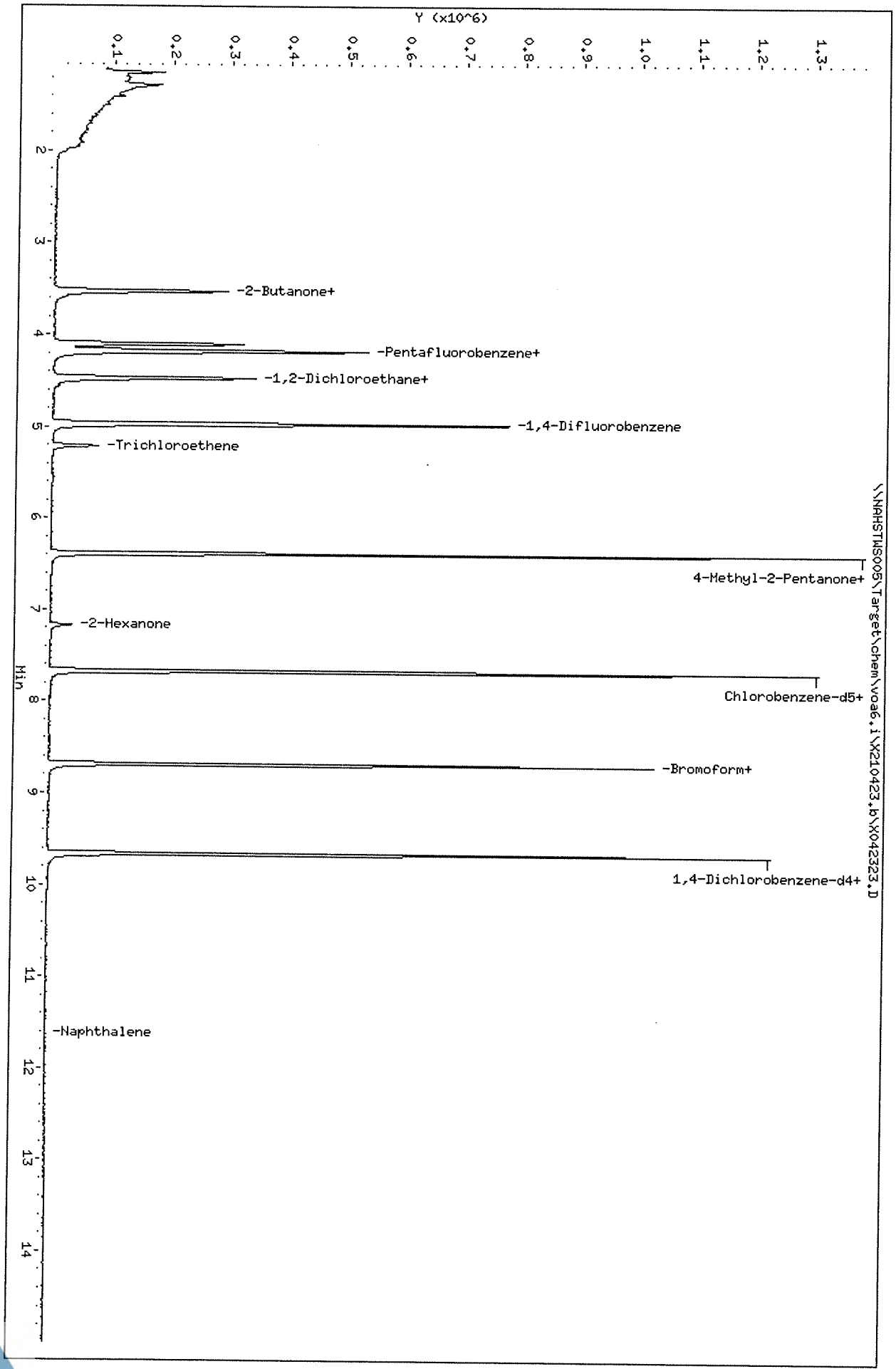
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	398580	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	641754	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	575181	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	251474	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	219025	46.7038	46.70
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	280095	49.8188	49.81
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	768541	51.9096	51.90
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	253443	46.0800	46.08
33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	4743	0.69824	0.69(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	145449	29.8522	29.85
38 Trichloroethene	130	5.206	5.206	(1.048)	24969	5.68354	5.68
5 Vinyl Chloride	62	1.145	1.145	(0.274)	54267	9.08158	9.08

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042323.D
Date : 23-APR-2021 18:31
Client ID: HS21041169-06
Sample Info: HS21041169-06;HS21041169-06;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042323.D

Date : 23-APR-2021 18:31

Client ID: HS21041169-06

Instrument: voa6.i

Sample Info: HS21041169-06;HS21041169-06;;;

Purge Volume: 5.0

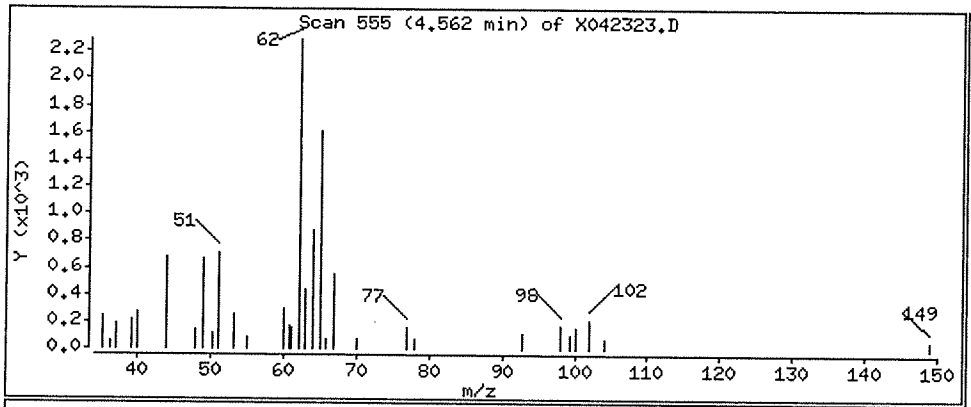
Operator: PC

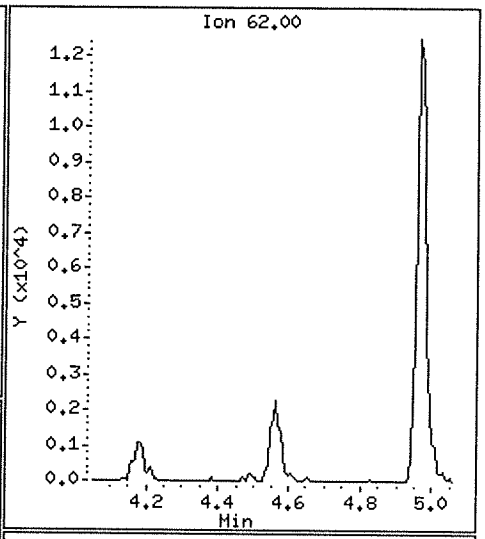
Column phase: DB624

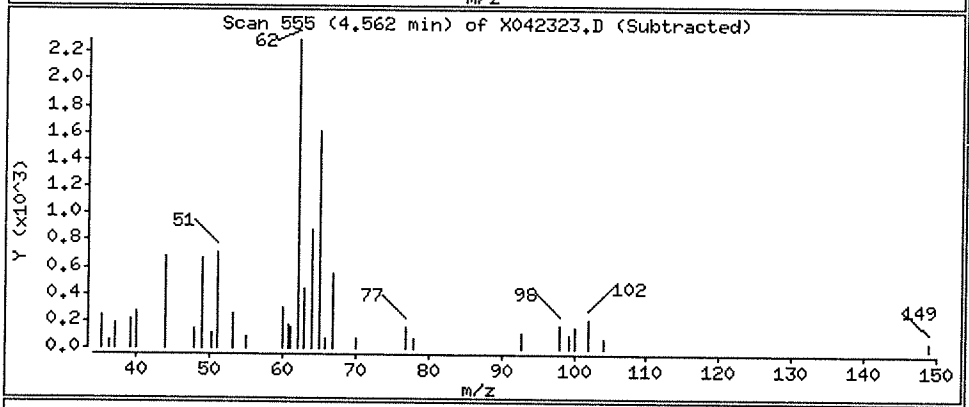
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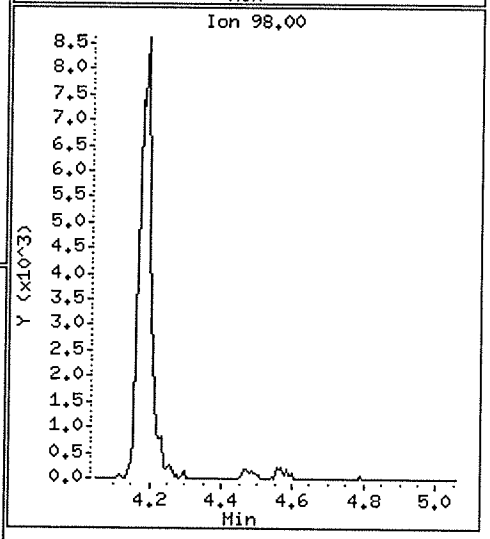
33 1,2-Dichloroethane

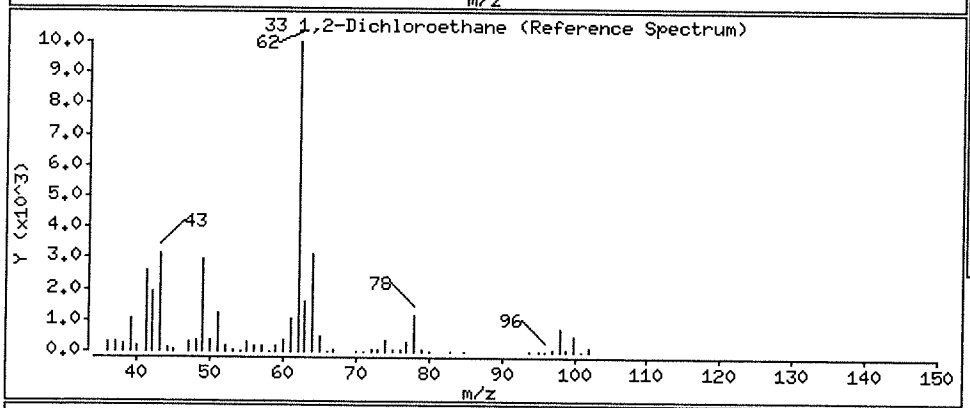
Concentration: 0.69 ug/l

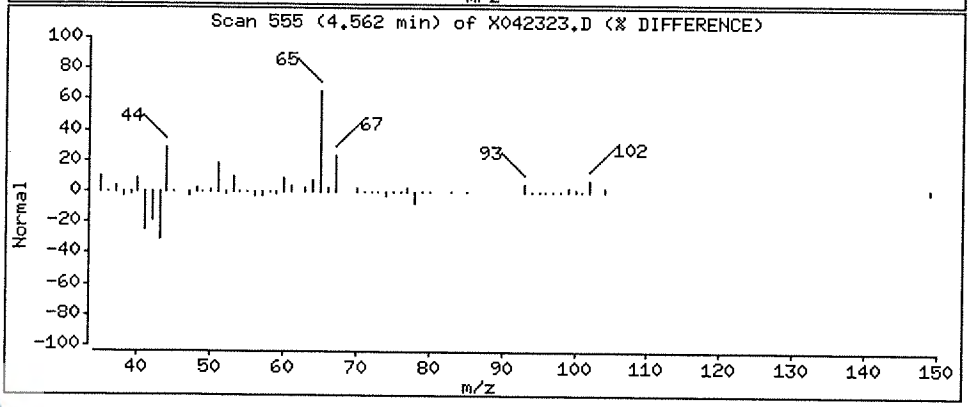












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042323.D

Date : 23-APR-2021 18:31

Client ID: HS21041169-06

Instrument: voa6.i

Sample Info: HS21041169-06;HS21041169-06;;;

Purge Volume: 5.0

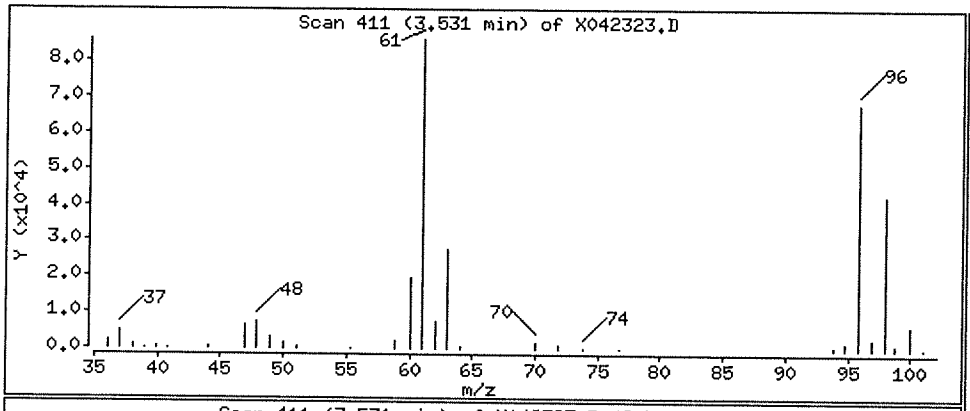
Operator: PC

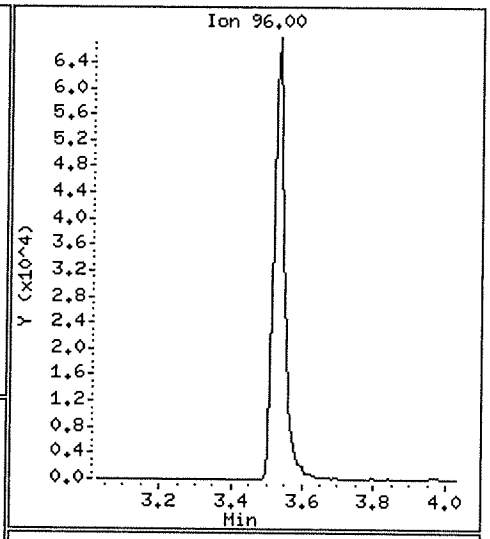
Column phase: DB624

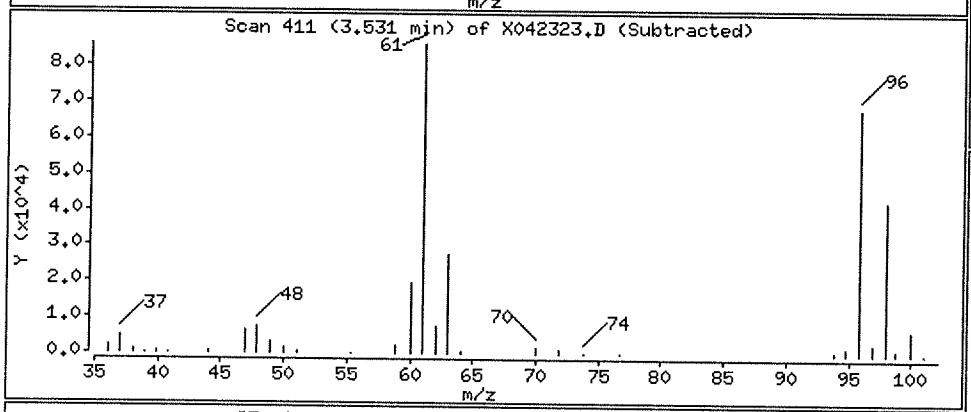
Column diameter: 0.18

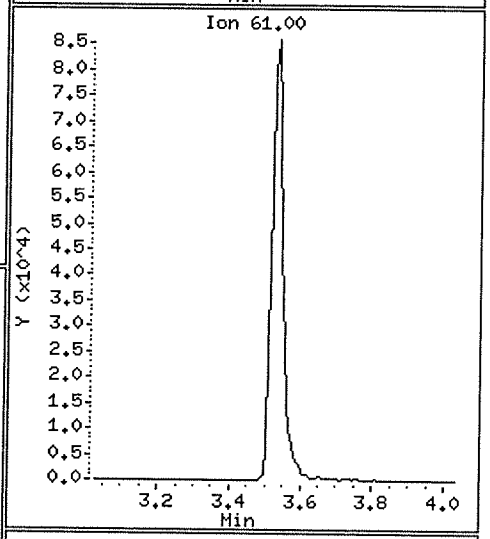
27 cis-1,2-Dichloroethene

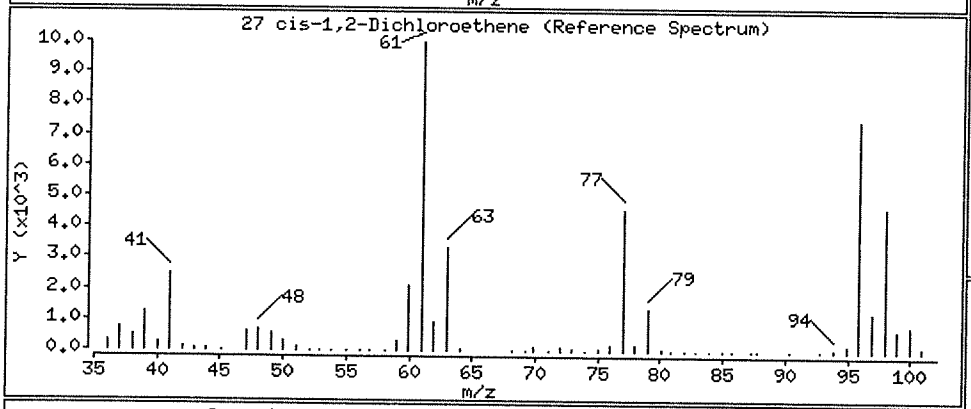
Concentration: 29.85 ug/l

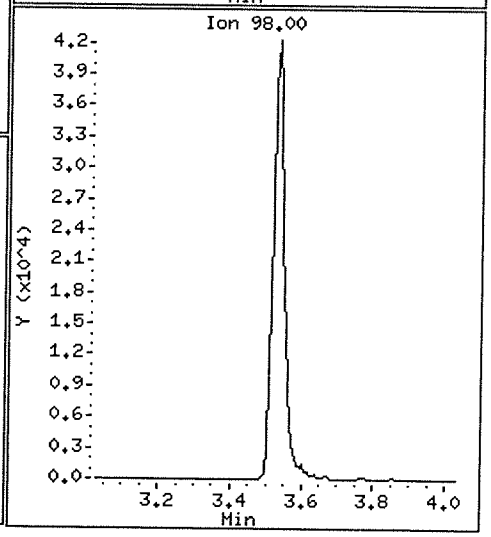


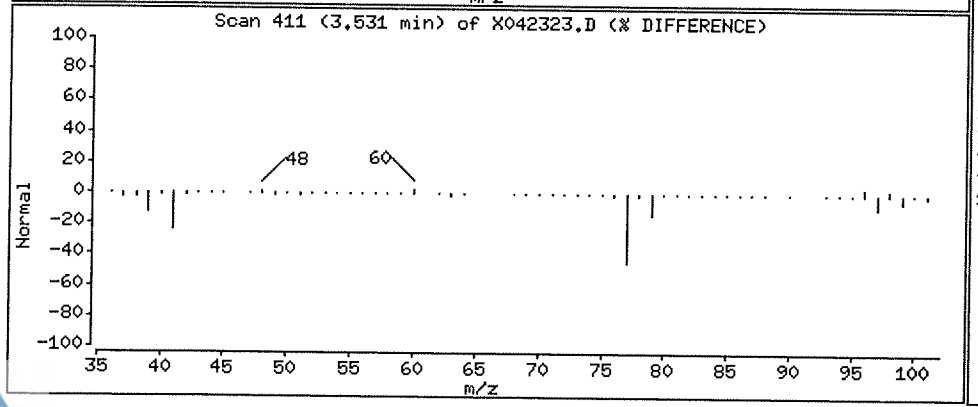












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042323.D

Date : 23-APR-2021 18:31

Client ID: HS21041169-06

Instrument: voa6.i

Sample Info: HS21041169-06;HS21041169-06;;;

Purge Volume: 5.0

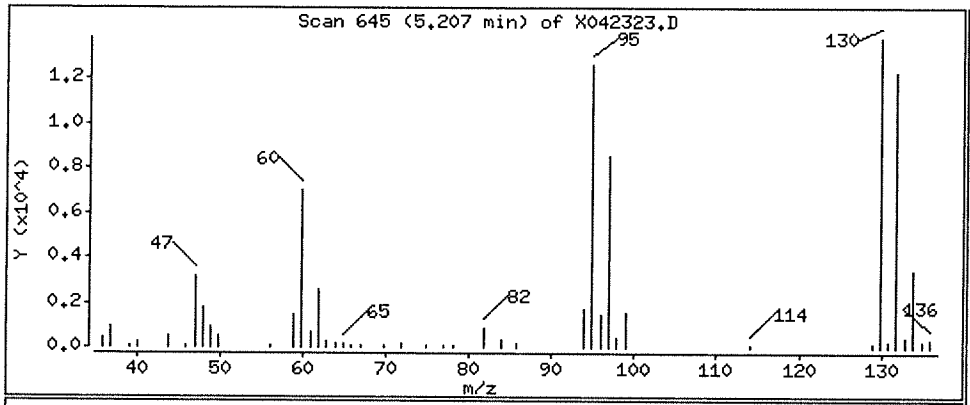
Operator: PC

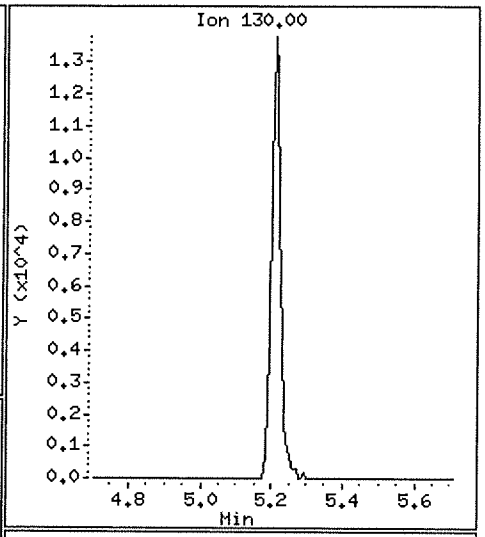
Column phase: DB624

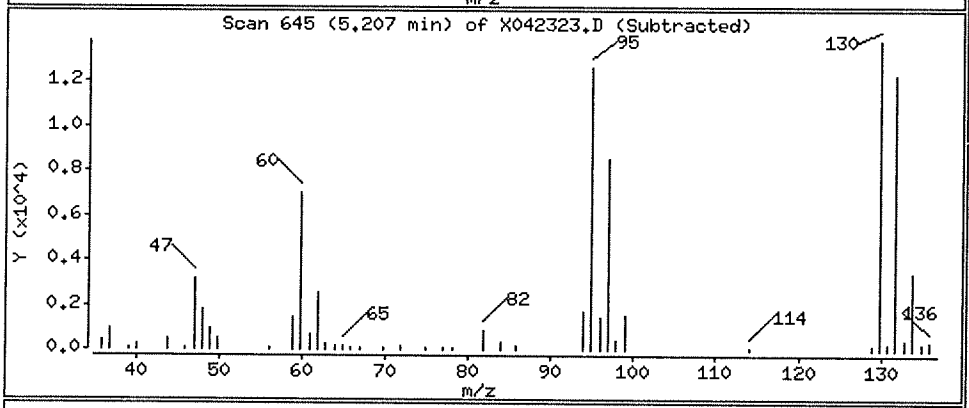
Column diameter: 0.18

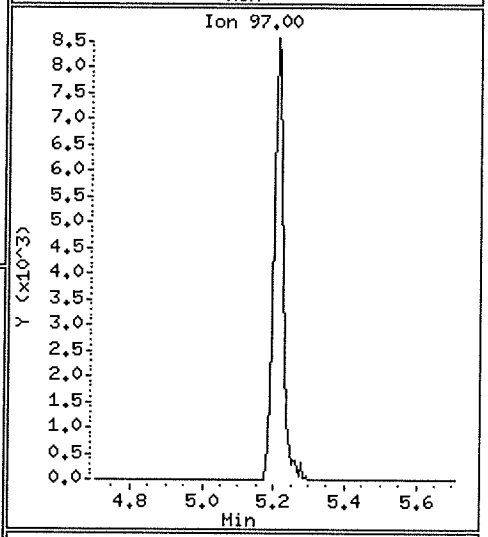
38 Trichloroethene

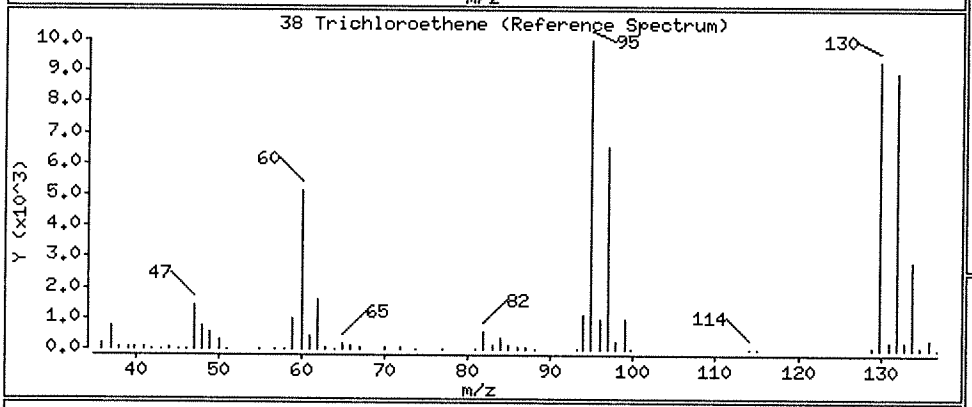
Concentration: 5.68 ug/l

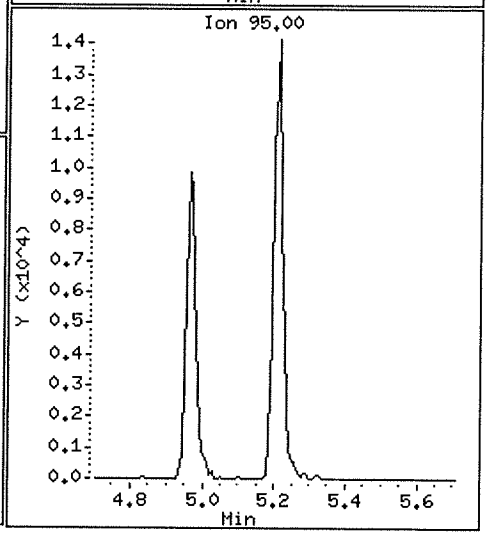


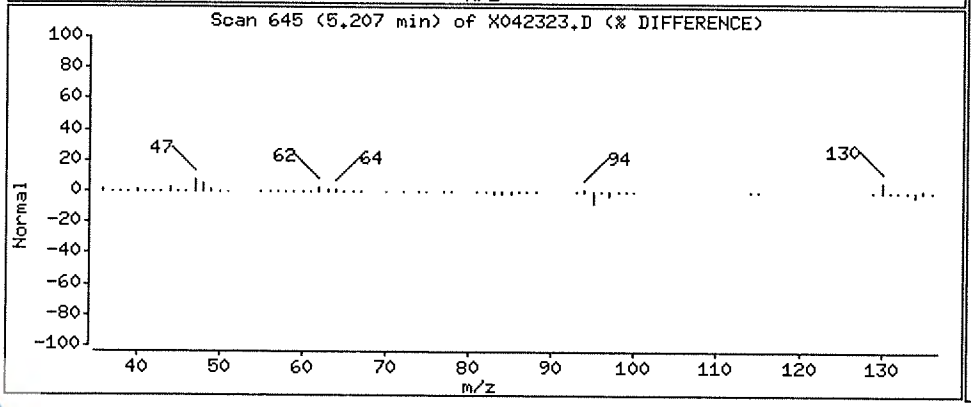












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042323.D

Date : 23-APR-2021 18:31

Client ID: HS21041169-06

Instrument: voa6.i

Sample Info: HS21041169-06;HS21041169-06;;;

Purge Volume: 5.0

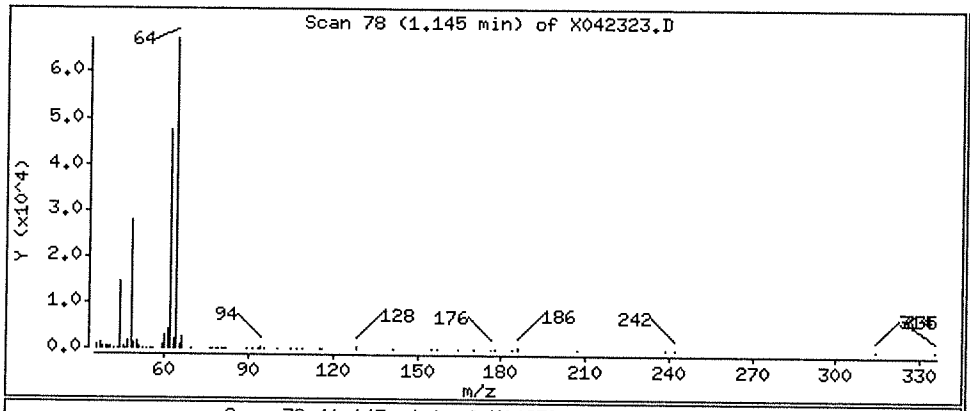
Operator: PC

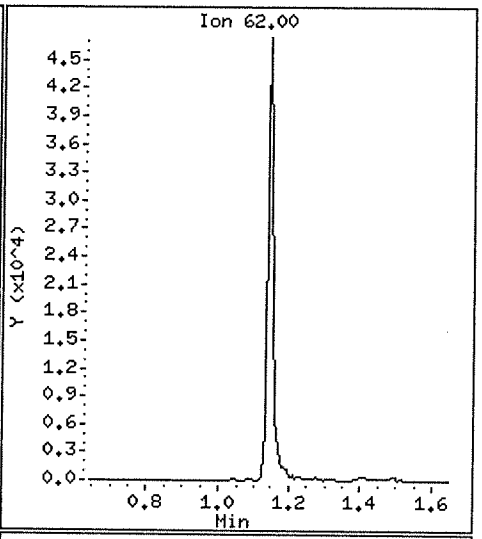
Column phase: DB624

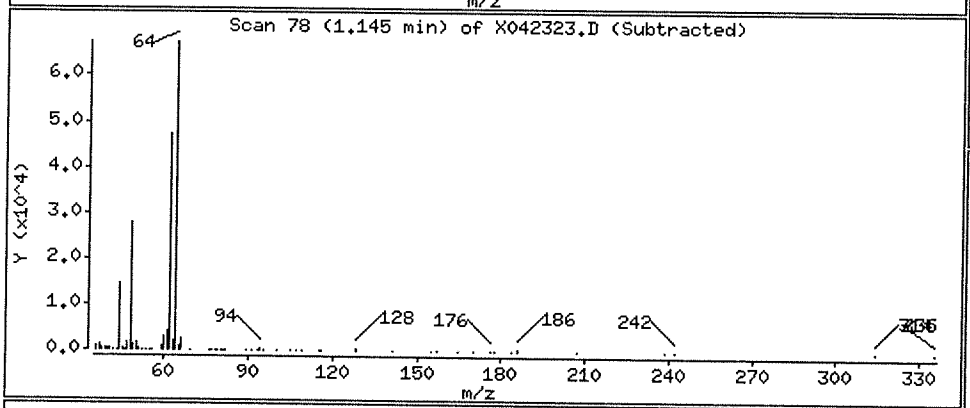
Column diameter: 0.18

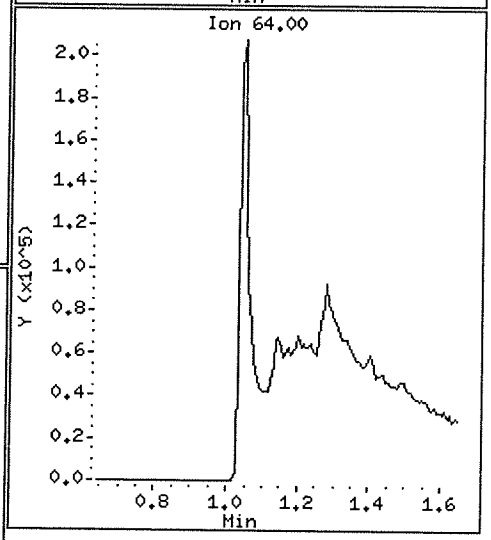
5 Vinyl Chloride

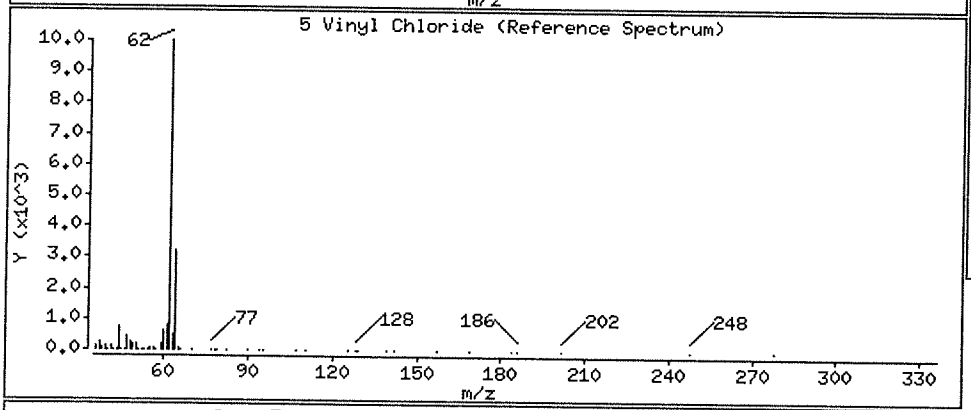
Concentration: 9.08 ug/l

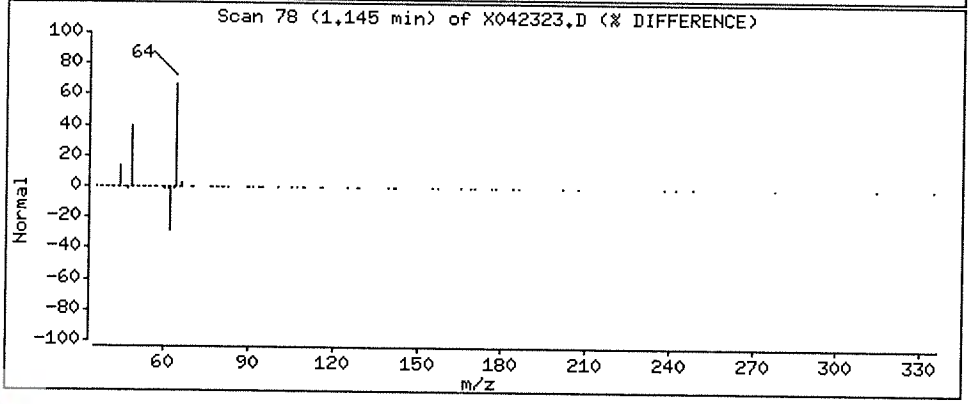












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D Page 1
Report Date: 19-May-2021 10:58

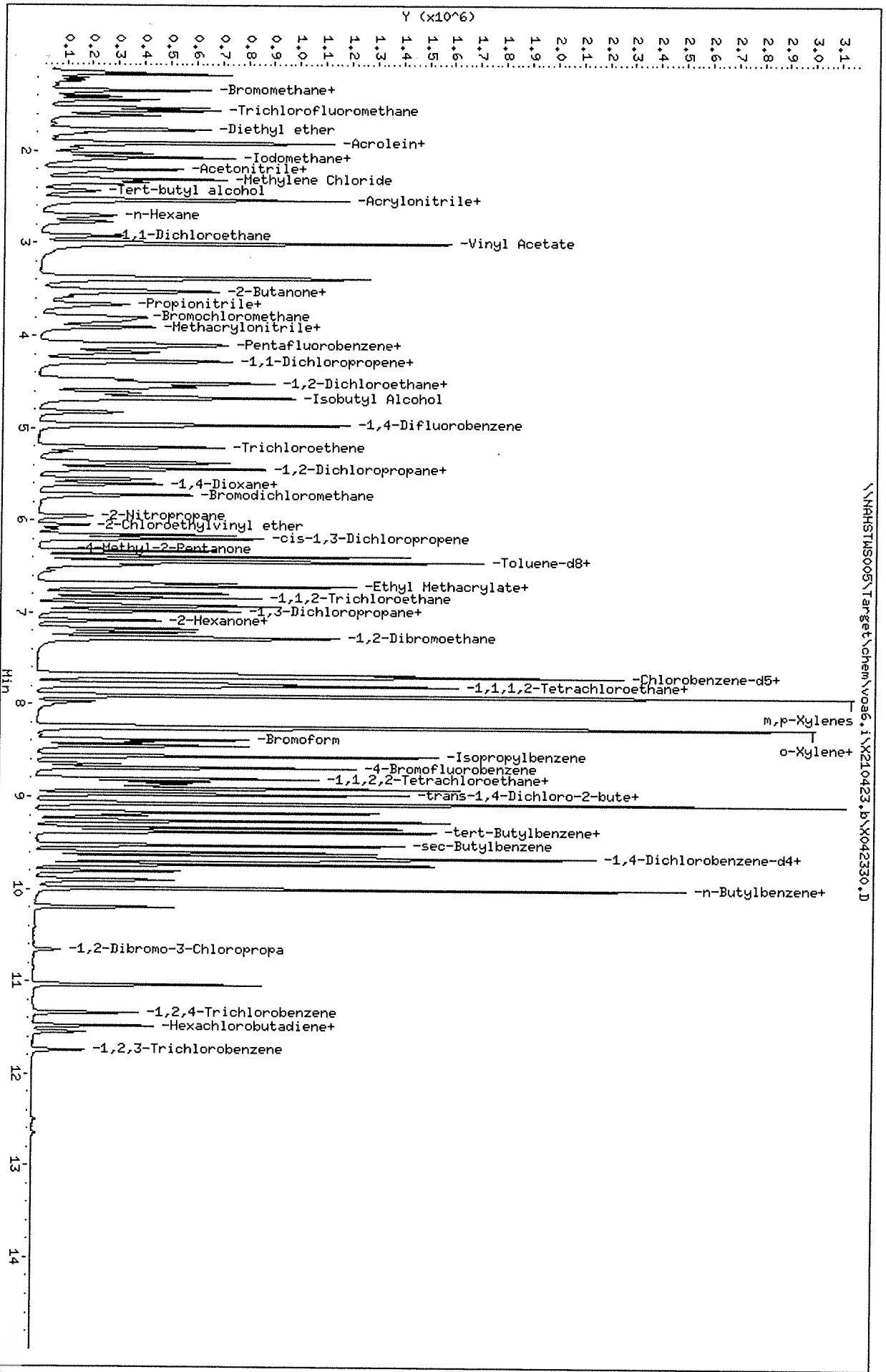
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 23-APR-2021 20:59
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\X210423.b\8260W.m
Meth Date : 19-May-2021 10:58 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 29 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	323158	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	607966	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	579020	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	290005	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	226974	50.0000	59.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	272253	50.0000	59.62
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	814891	50.0000	54.57
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	313129	50.0000	56.17
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	184146	50.0000	54.74
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	230377	50.0000	50.06
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	332213	50.0000	51.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	210117	50.0000	53.18
17 Methylene Chloride	84	2.305	2.305	(0.551)	185752	50.0000	52.87
38 Trichloroethene	130	5.206	5.206	(1.049)	206805	50.0000	49.68
5 Vinyl Chloride	62	1.145	1.145	(0.274)	264056	50.0000	54.50



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210423.b\X042330.D
Date : 23-APR-2021 20:59
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 44545 **Analyst:** Presenta Cabascango

Date: 04-25-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-25-2021 11:39 am	1.00	50 mL	50 mL	X042501.D	Liquid	Y	NA
2	CCV	CCV	04-25-2021 12:00 pm	1.00	50 mL	50 mL	X042502a.D	Liquid	Y	NA
3	CCV	CCV	04-25-2021 12:21 pm	1.00	50 mL	50 mL	X042503.D	Liquid	Y	NA
4	CCB	SAMP	04-25-2021 12:42 pm	1.00	50 mL	50 mL	X042504.D	Liquid	Y	NA
5	VLCSW-210425	LCS	04-25-2021 01:03 pm	1.00	50 mL	50 mL	X042505.D	Liquid	Y	NA
6	BLANK	SAMP	04-25-2021 01:24 pm	1.00	50 mL	50 mL	X042506.D	Liquid	Y	NA
7	VBLKW-210425	MBLK	04-25-2021 01:45 pm	1.00	50 mL	50 mL	X042507.D	Liquid	Y	NA
8	HS21041197-03	SAMP	04-25-2021 02:06 pm	1.00	50 mL	50 mL	X042508.D	Liquid	Y	NA
9	HS21041255-09	SAMP	04-25-2021 02:27 pm	1.00	50 mL	50 mL	X042509.D	Liquid	Y	NA
10	HS21041169-03	SAMP	04-25-2021 02:48 pm	1.00	50 mL	50 mL	X042510.D	Liquid	Y	NA
11	HS21041169-03MS	MS	04-25-2021 03:09 pm	1.00	50 mL	50 mL	X042511.D	Liquid	Y	NA
12	HS21041169-03MSD	MSD	04-25-2021 03:30 pm	1.00	50 mL	50 mL	X042512.D	Liquid	Y	NA
13	BLANK	SAMP	04-25-2021 03:51 pm	1.00	50 mL	50 mL	X042513.D	Liquid	Y	NA
14	HS21041169-04	SAMP	04-25-2021 04:12 pm	1.00	50 mL	50 mL	X042514.D	Liquid	Y	NA
15	HS21041169-05	SAMP	04-25-2021 04:33 pm	1.00	50 mL	50 mL	X042515.D	Liquid	Y	NA
16	HS21041255-01	SAMP	04-25-2021 04:54 pm	1.00	50 mL	50 mL	X042516.D	Liquid	Y	NA
17	HS21041255-02	SAMP	04-25-2021 05:16 pm	1.00	50 mL	50 mL	X042517.D	Liquid	Y	NA
18	HS21041255-03	SAMP	04-25-2021 05:37 pm	1.00	50 mL	50 mL	X042518.D	Liquid	Y	NA
19	HS21041255-04	SAMP	04-25-2021 05:58 pm	1.00	50 mL	50 mL	X042519.D	Liquid	Y	NA
20	HS21041255-05	SAMP	04-25-2021 06:19 pm	1.00	50 mL	50 mL	X042520.D	Liquid	Y	NA
21	HS21041255-06	SAMP	04-25-2021 06:40 pm	1.00	50 mL	50 mL	X042521.D	Liquid	Y	NA
22	HS21041197-01	SAMP	04-25-2021 07:01 pm	5.00	10 mL	50 mL	X042522.D	Liquid	Y	NA
23	HS21041197-01n/r	SAMP	04-25-2021 07:22 pm	25.00	2 mL	50 mL	X042523.D	Liquid	Y	NA
24	HS21041169-02	SAMP	04-25-2021 07:43 pm	5.00	10 mL	50 mL	X042524.D	Liquid	Y	NA
25	HS21041169-02	SAMP	04-25-2021 08:04 pm	50.00	1 mL	50 mL	X042525.D	Liquid	Y	NA
26	HS21041197-02	SAMP	04-25-2021 08:25 pm	10.00	5 mL	50 mL	X042526.D	Liquid	Y	NA
27	HS21041197-02	SAMP	04-25-2021 08:46 pm	100.0(	500 µL	50 mL	X042527.D	Liquid	Y	NA
28	HS21041169-01	SAMP	04-25-2021 09:07 pm	25.00	2 mL	50 mL	X042528.D	Liquid	Y	NA
29	HS21041169-01	SAMP	04-25-2021 09:28 pm	250.0(	200 µL	50 mL	X042529.D	Liquid	Y	NA
30	HS21041255-07	SAMP	04-25-2021 09:49 pm	25.00	2 mL	50 mL	X042530.D	Liquid	Y	NA
31	CCV-END	CCV	04-25-2021 10:10 pm	1.00	50 mL	50 mL	X042531.D	Liquid	Y	NA
32	BLANK	SAMP	04-25-2021 10:31 pm	1.00	50 mL	50 mL	X042540.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-210425	101	108	102	101	0
02	VBLKW-210425	92	95	107	93	0
03	HS21041169-03	91	94	107	98	0
04	HS21041169-03MS	96	97	104	98	0
05	HS21041169-03MSD	94	97	105	96	0
06	HS21041169-04	90	95	107	99	0
07	HS21041169-05	92	95	106	98	0
08	HS21041169-02	92	101	106	95	0
09	HS21041169-02	93	97	107	95	0
10	HS21041169-01	96	102	107	94	0
11	HS21041169-01	91	99	106	94	0
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(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-210425

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID: X042507 Lab Sample ID: VBLKW-210425

Date Analyzed: 04/25/21 Time Analyzed: 1345

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-210425	VLCSW-210425	X042505	1303
02	HS21041169-03	HS21041169-03	X042510	1448
03	HS21041169-03MS	HS21041169-03MS	X042511	1509
04	HS21041169-03MSD	HS21041169-03MSD	X042512	1530
05	HS21041169-04	HS21041169-04	X042514	1612
06	HS21041169-05	HS21041169-05	X042515	1633
07	HS21041169-02	HS21041169-02	X042524	1943
08	HS21041169-02	HS21041169-02	X042525	2004
09	HS21041169-01	HS21041169-01	X042528	2107
10	HS21041169-01	HS21041169-01	X042529	2128
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: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID: X042501 BFB Injection Date: 04/25/21

Instrument ID: VOA6 BFB Injection Time: 1139

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	22.3
75	30.0 - 60.0% of mass 95	56.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	1.0 (1.2)1
174	Greater than 50.0% of mass 95	81.8
175	5.0 - 9.0% of mass 174	5.9 (7.2)1
176	95.0 - 101.0% of mass 174	78.1 (95.4)1
177	5.0 - 9.0% of mass 176	4.9 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X042503	04/25/21	1221
02	VLCSW-210425	VLCSW-210425	X042505	04/25/21	1303
03	VBLKW-210425	VBLKW-210425	X042507	04/25/21	1345
04	HS21041169-03	HS21041169-03	X042510	04/25/21	1448
05	HS21041169-03MS	HS21041169-03MS	X042511	04/25/21	1509
06	HS21041169-03MSD	HS21041169-03MSD	X042512	04/25/21	1530
07	HS21041169-04	HS21041169-04	X042514	04/25/21	1612
08	HS21041169-05	HS21041169-05	X042515	04/25/21	1633
09	HS21041169-02	HS21041169-02	X042524	04/25/21	1943
10	HS21041169-02	HS21041169-02	X042525	04/25/21	2004
11	HS21041169-01	HS21041169-01	X042528	04/25/21	2107
12	HS21041169-01	HS21041169-01	X042529	04/25/21	2128
13	CCV-END	CCV-END	X042531	04/25/21	2210
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: VOA6 Calibration Date: 04/25/21 Time: 1221

Lab File ID: X042503 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.8280354	0.8280354	0.1	-10.40	20.00	AVRG
Methylene Chloride	57.297245	50.000000	0.6242575	0.1	-14.59	20.00	LINR
1,1-Dichloroethene	0.7120000	0.7147956	0.7147956	0.1	-0.39	20.00	AVRG
1,2-Dichloroethane	0.5290000	0.5508112	0.5508112	0.1	-4.12	20.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6825380	0.6825380	0.1	-11.71	20.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3171430	0.3171430	0.1	-9.36	20.00	AVRG
Trichloroethene	0.3420000	0.3679817	0.3679817	0.2	-7.60	20.00	AVRG
Dibromofluoromethane	53.640148	50.000000	0.6318893	0.1	-7.28	20.00	LINR
1,2-Dichloroethane-d4	55.879879	50.000000	0.7890655	0.1	-11.76	20.00	LINR
Toluene-d8	53.815176	50.000000	1.3870398	0.1	-7.63	20.00	LINR
4-Bromofluorobenzene	52.501946	50.000000	0.5043215	0.1	-5.00	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: VOA6 Calibration Date: 04/25/21 Time: 2210

Lab File ID: X042531 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.7031073	0.7031073	0.1	6.25	50.00	AVRG
Methylene Chloride	51.955790	50.000000	0.5645157	0.1	-3.91	50.00	LINR
1,1-Dichloroethene	0.7120000	0.5911592	0.5911592	0.1	16.97	50.00	AVRG
1,2-Dichloroethane	0.5290000	0.5414416	0.5414416	0.1	-2.35	50.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6681950	0.6681950	0.1	-9.36	50.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3131566	0.3131566	0.1	-7.98	50.00	AVRG
Trichloroethene	0.3420000	0.3303263	0.3303263	0.2	3.41	50.00	AVRG
Dibromofluoromethane	56.042985	50.000000	0.6604253	0.1	-12.08	50.00	LINR
1,2-Dichloroethane-d4	56.857934	50.000000	0.8029968	0.1	-13.72	50.00	LINR
Toluene-d8	53.141034	50.000000	1.3690442	0.1	-6.28	50.00	LINR
4-Bromofluorobenzene	52.754391	50.000000	0.5068252	0.1	-5.51	50.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID (Standard): X042503 Date Analyzed: 04/25/21

Instrument ID: VOA6 Time Analyzed: 1221

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	387196	4.18	659117	4.96	647569	7.67
	UPPER LIMIT	774392	4.68	1318234	5.46	1295138	8.17
	LOWER LIMIT	193598	3.68	329559	4.46	323785	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-210425	370971	4.18	630750	4.96	560862	7.67
02	VBLKW-210425	437353	4.18	701141	4.96	633260	7.67
03	HS21041169-03	413339	4.18	668454	4.97	627266	7.67
04	HS21041169-03MS	469498	4.18	782500	4.96	704947	7.67
05	HS21041169-03MSD	473565	4.18	775320	4.96	690187	7.67
06	HS21041169-04	418094	4.18	665512	4.96	627725	7.67
07	HS21041169-05	409391	4.18	653378	4.96	610410	7.67
08	HS21041169-02	398113	4.18	634682	4.97	552615	7.67
09	HS21041169-02	400574	4.18	630086	4.96	553522	7.67
10	HS21041169-01	380812	4.18	616800	4.97	526228	7.67
11	HS21041169-01	389224	4.18	614911	4.96	540790	7.67
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

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

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Lab File ID (Standard): X042503 Date Analyzed: 04/25/21

Instrument ID: VOA6 Time Analyzed: 1221

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	312518	9.66				
	UPPER LIMIT	625036	10.16				
	LOWER LIMIT	156259	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-210425	271891	9.66				
02	VBLKW-210425	267239	9.66				
03	HS21041169-03	283565	9.66				
04	HS21041169-03MS	338538	9.66				
05	HS21041169-03MSD	321970	9.66				
06	HS21041169-04	285003	9.66				
07	HS21041169-05	264102	9.66				
08	HS21041169-02	237379	9.66				
09	HS21041169-02	244585	9.66				
10	HS21041169-01	226858	9.66				
11	HS21041169-01	233780	9.66				
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

Client ID: BFB

Instrument: voa6.i

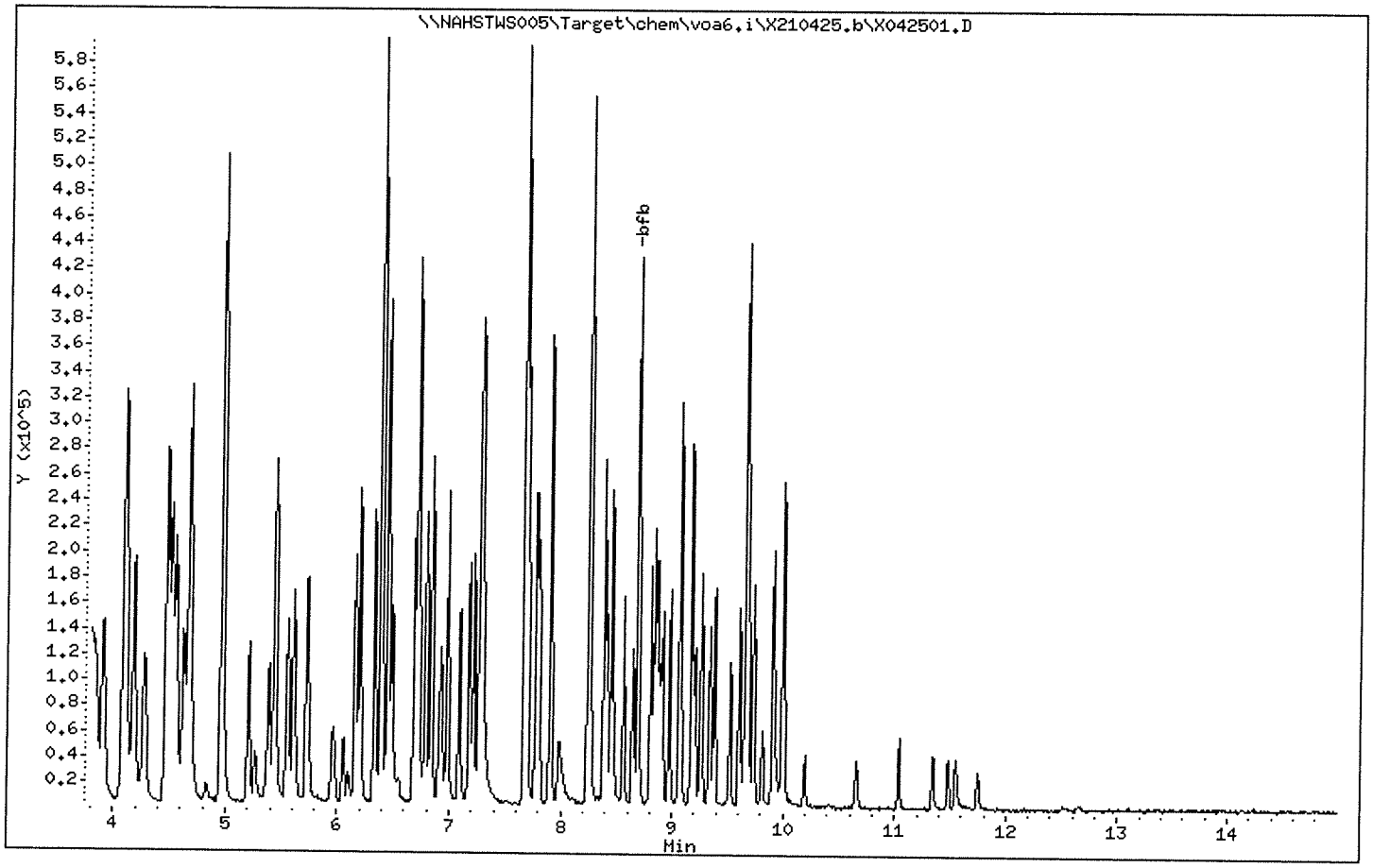
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

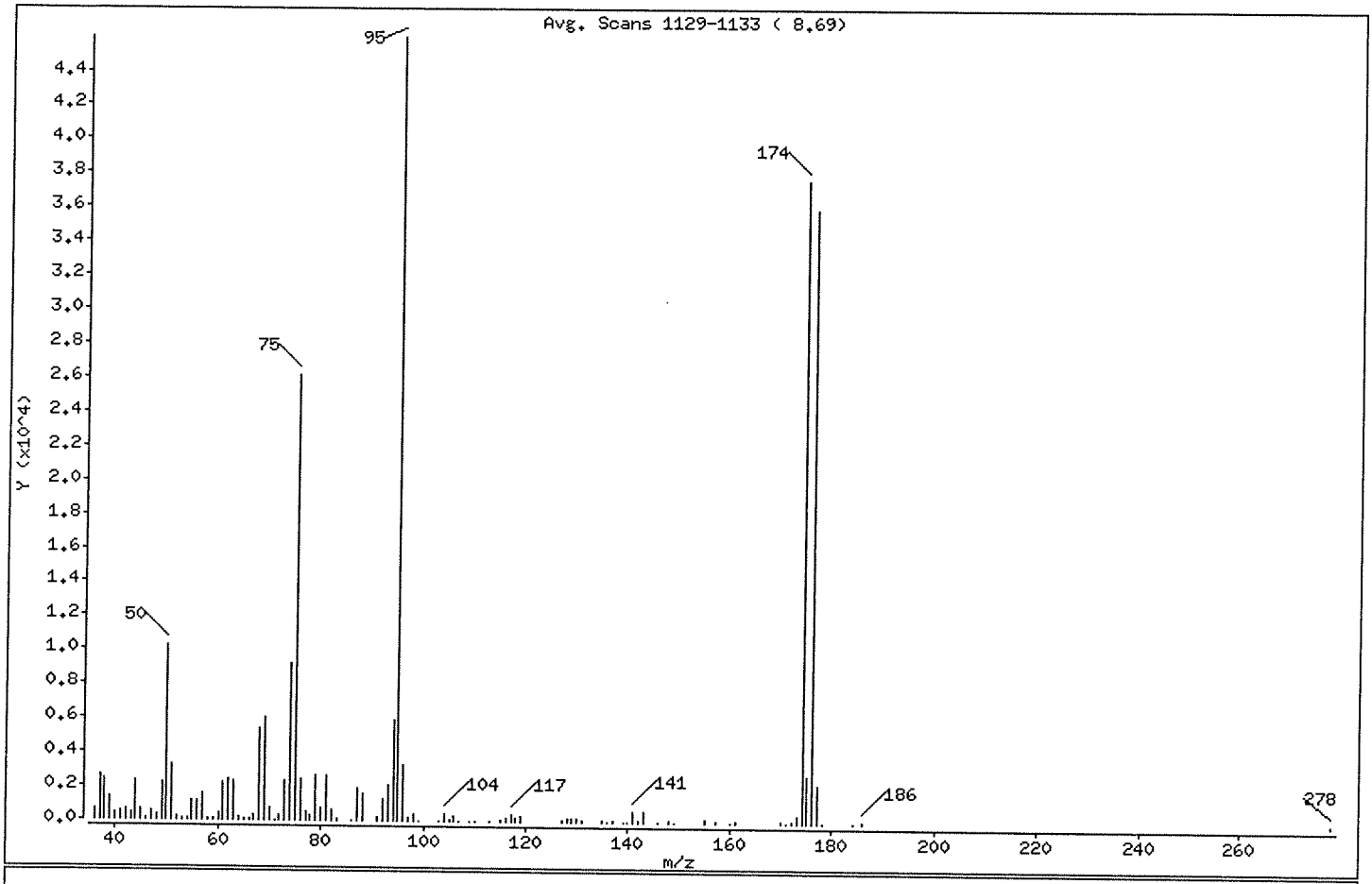
Volume Injected (uL): 2.0

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	22.33
75	30.00 - 60.00% of mass 95	56.74
96	5.00 - 9.00% of mass 95	7.11
173	Less than 2.00% of mass 174	0.99 (1.22)
174	Greater than 50.00% of mass 95	81.83
175	5.00 - 9.00% of mass 174	5.90 (7.21)
176	95.00 - 101.00% of mass 174	78.10 (95.45)
177	5.00 - 9.00% of mass 176	4.91 (6.29)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

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: X042501.D
Spectrum: Avg. Scans 1129-1133 (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	609	63.00	2316	94.00	5951	139.00	16
37.00	2672	64.00	209	95.00	45960	140.00	16
38.00	2443	65.00	136	96.00	3267	141.00	679
39.00	1363	66.00	81	97.00	238	142.00	70
40.00	429	67.00	272	98.00	372	143.00	672
41.00	526	68.00	5430	99.00	32	146.00	14
42.00	652	69.00	6073	103.00	37	148.00	89
43.00	453	70.00	748	104.00	379	149.00	42
44.00	2296	71.00	39	105.00	110	155.00	164
45.00	619	72.00	352	106.00	315	157.00	72
46.00	82	73.00	2300	107.00	14	160.00	10
47.00	521	74.00	9185	109.00	17	161.00	94
48.00	333	75.00	26080	110.00	45	170.00	97
49.00	2209	76.00	2385	113.00	34	171.00	44
50.00	10265	77.00	498	115.00	88	172.00	87
51.00	3313	78.00	349	116.00	222	173.00	457
52.00	207	79.00	2620	117.00	457	174.00	37608
53.00	100	80.00	741	118.00	182	175.00	2712
54.00	101	81.00	2642	119.00	297	176.00	35896
55.00	1161	82.00	644	127.00	117	177.00	2257
56.00	1123	83.00	132	128.00	195	178.00	37
57.00	1554	86.00	11	129.00	167	184.00	12
58.00	112	87.00	1909	130.00	198	186.00	124
59.00	86	88.00	1587	131.00	82	278.00	94
60.00	409	91.00	255	135.00	155		
61.00	2270	92.00	1229	136.00	11		
62.00	2435	93.00	2125	137.00	102		

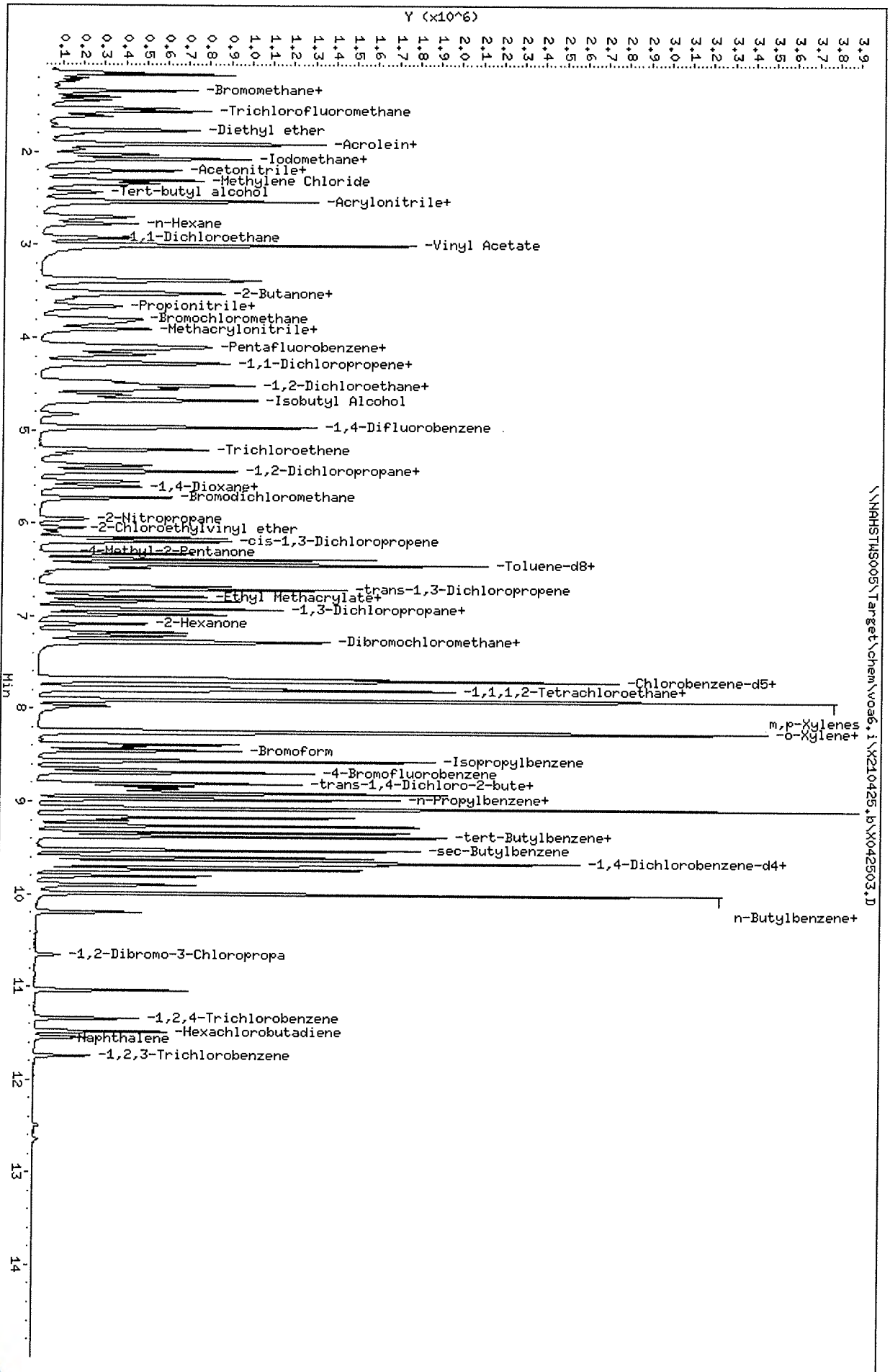
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042503.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 25-APR-2021 12:21
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:43 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	387196	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	659117	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	647569	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	312518	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	244665	50.0000	53.64
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	305523	50.0000	55.87
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	898204	50.0000	53.81
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	326583	50.0000	52.50
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	205372	50.0000	54.59
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	276766	50.0000	50.20
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	363049	50.0000	52.03
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	264276	50.0000	55.83
17 Methylene Chloride	84	2.305	2.305	(0.551)	241710	50.0000	57.29
38 Trichloroethene	130	5.206	5.206	(1.049)	242543	50.0000	53.75
5 Vinyl Chloride	62	1.145	1.145	(0.274)	320612	50.0000	55.23



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210425,b\X042503,D
Date : 25-APR-2021 12:21
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

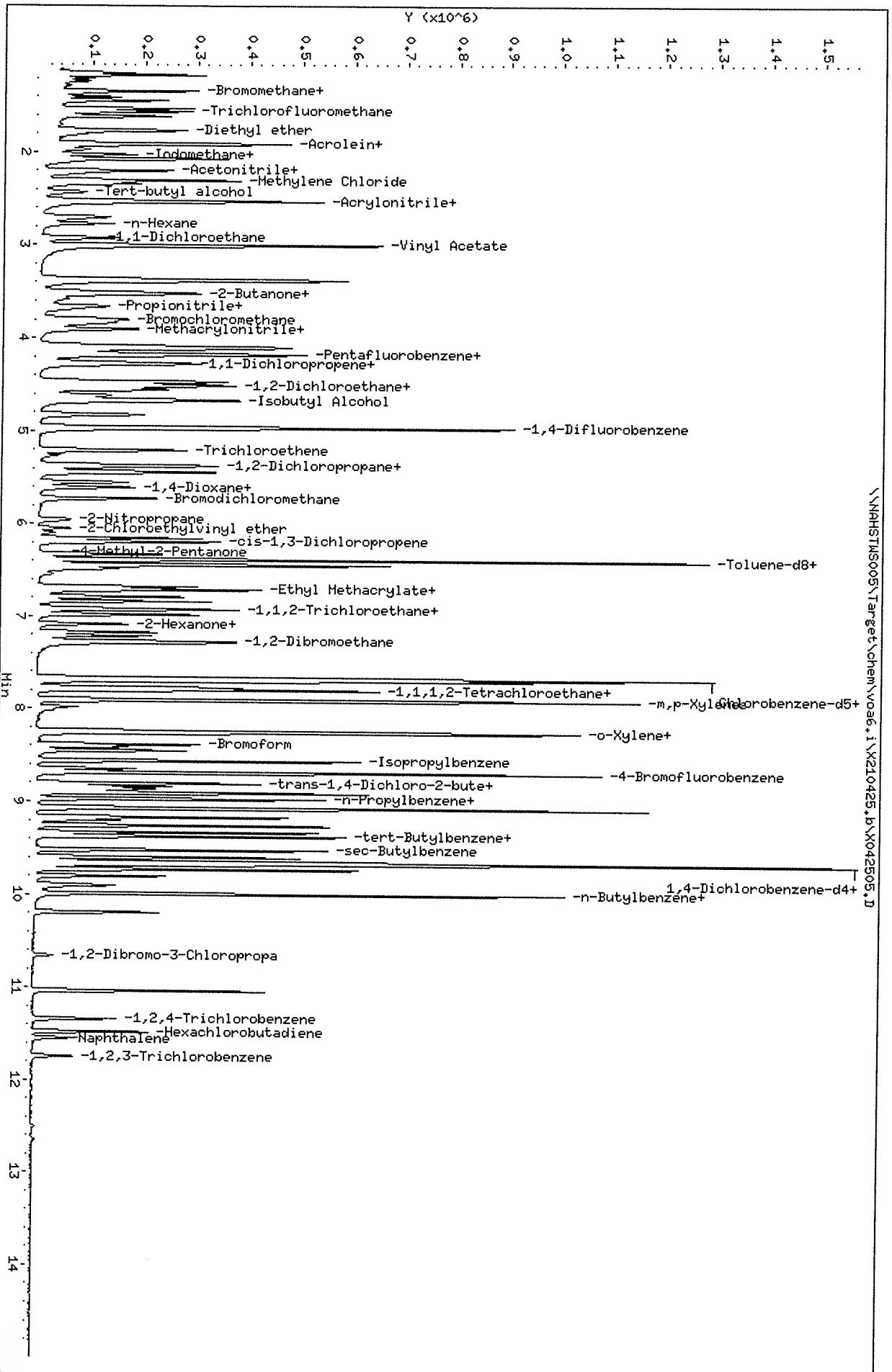
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042505.D
Lab Smp Id: VLCSW-210425 Client Smp ID: VLCSW-210425
Inj Date : 25-APR-2021 13:03
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210425;VLCSW-210425;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:43 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	370971	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	630750	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	560862	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271891	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	220250	50.4255	50.42
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	282300	53.9078	53.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	739757	51.2650	51.26
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	270825	50.3392	50.33
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	71617	21.9816	21.98
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	92480	17.5081	17.50
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	136127	20.3895	20.38
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	95628	21.0876	21.08
17 Methylene Chloride	84	2.306	2.305	(0.551)	81778	21.1926	21.19
38 Trichloroethene	130	5.207	5.206	(1.049)	86023	19.9225	19.92
5 Vinyl Chloride	62	1.145	1.145	(0.274)	104413	18.7739	18.77



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042505.D
Date : 25-APR-2021 13:03
Client ID: VLCSW-210425
Sample Info: VLCSW-210425;VLCSW-210425;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\X210425.b\X042507.D Page 1
Report Date: 19-May-2021 11:43

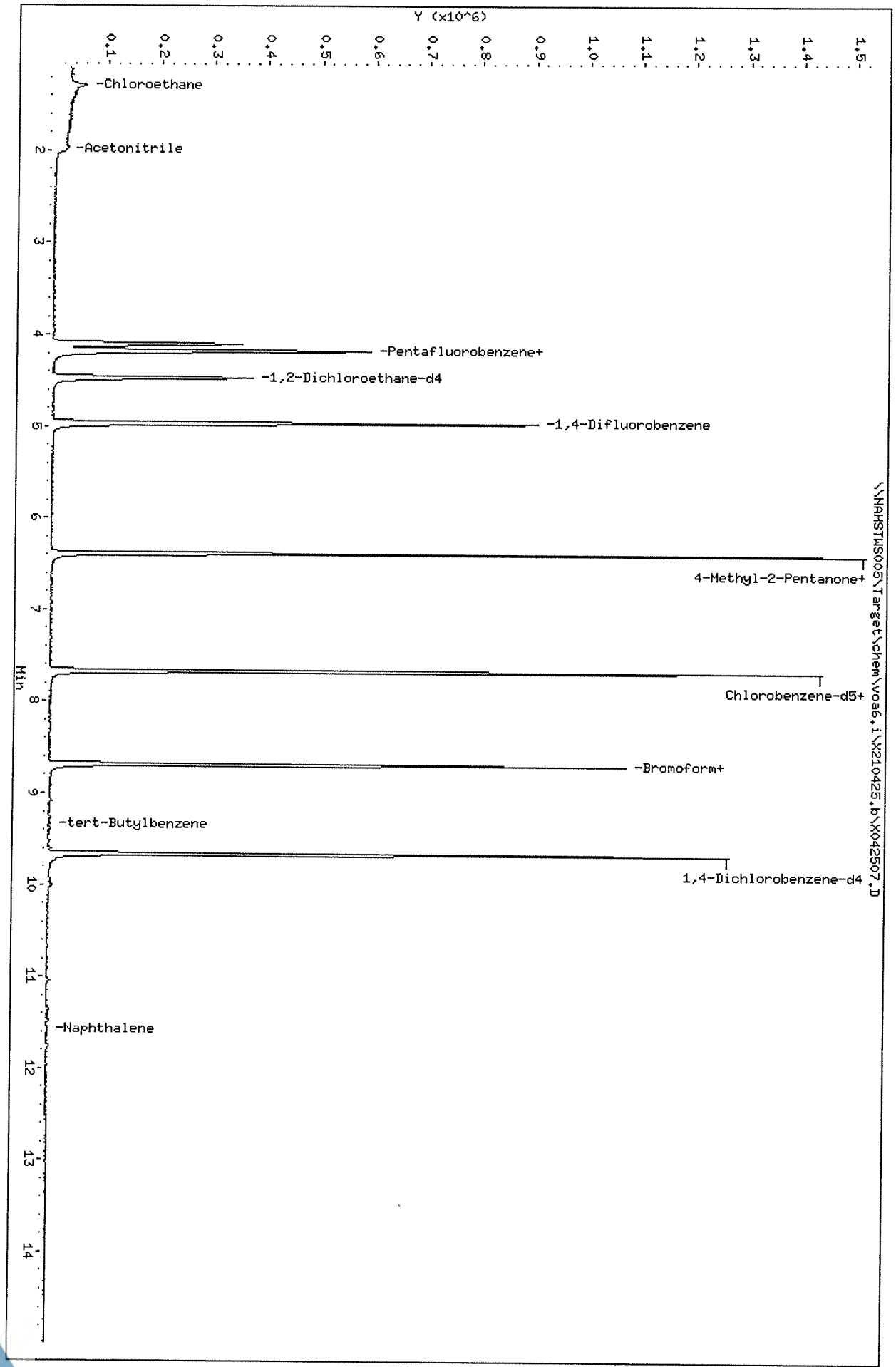
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042507.D
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Inj Date : 25-APR-2021 13:45
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210425;VBLKW-210425;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:43 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	437353	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	701141	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	633260	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	267239	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	235635	45.7996	45.79
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	291992	47.3548	47.35
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	875240	53.6308	53.63
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	280643	46.3361	46.33



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042507.D
Date : 25-APR-2021 13:45
Client ID: VBLKW-210425
Sample Info: VBLKW-210425;VBLKW-210425;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\X210425.b\X042510.D Page 1
Report Date: 19-May-2021 11:45

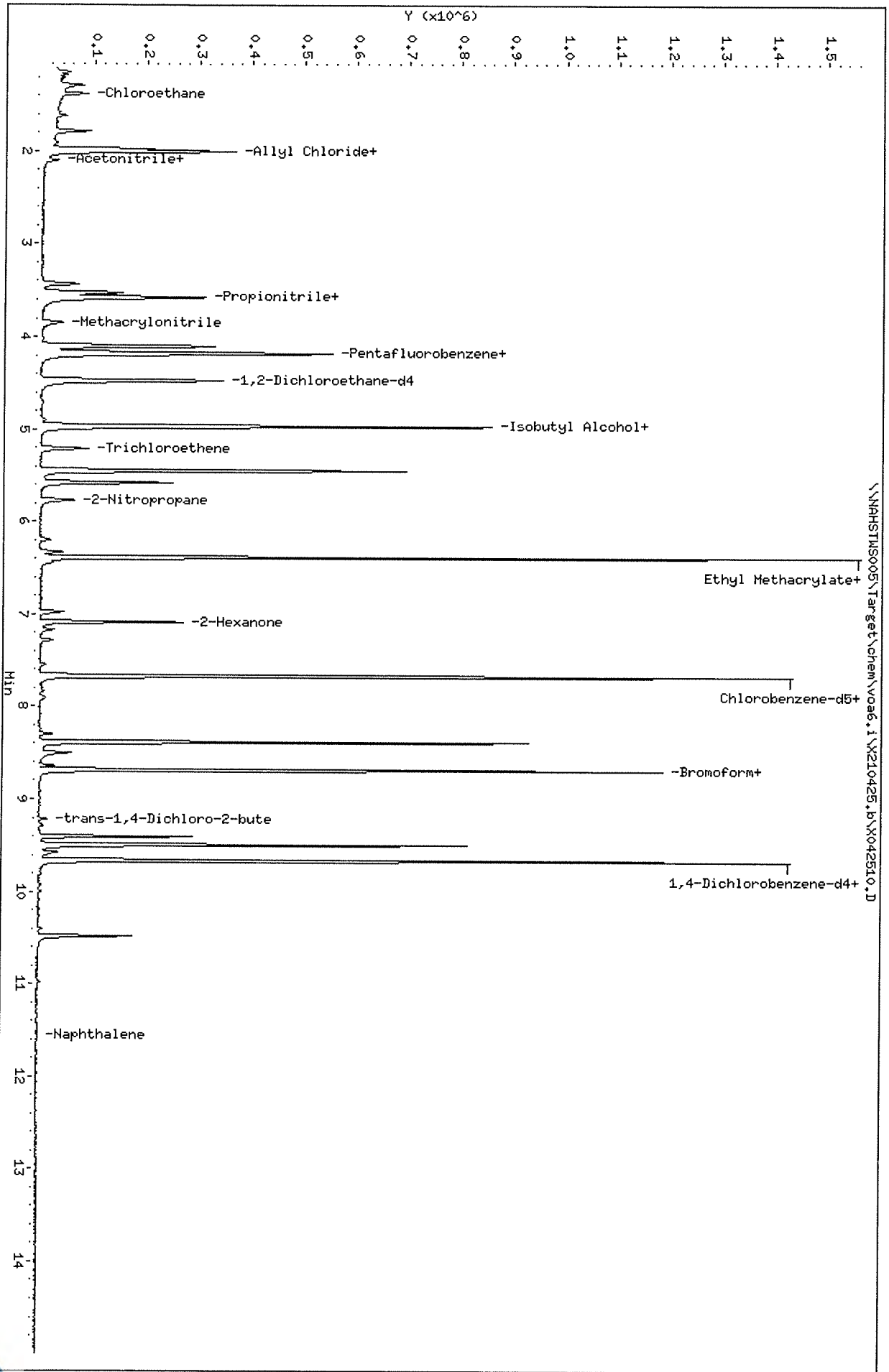
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042510.D
Lab Smp Id: HS21041169-03 Client Smp ID: HS21041169-03
Inj Date : 25-APR-2021 14:48
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-03;HS21041169-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:44 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	413339	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	668454	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	627266	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	283565	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	221906	45.6385	45.63
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	274295	47.0721	47.07
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	863134	53.4026	53.40
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	296236	49.2697	49.26
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	77214	15.2817	15.28
38 Trichloroethene	130	5.206	5.206	(1.048)	24927	5.44735	5.44
5 Vinyl Chloride	62	1.145	1.145	(0.274)	15187	2.45079	2.45



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042510.D
Date : 25-APR-2021 14:48
Client ID: HS21041169-03
Sample Info: HS21041169-03;HS21041169-03;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042510.D

Date : 25-APR-2021 14:48

Client ID: HS21041169-03

Instrument: voa6.i

Sample Info: HS21041169-03;HS21041169-03;;;

Purge Volume: 5.0

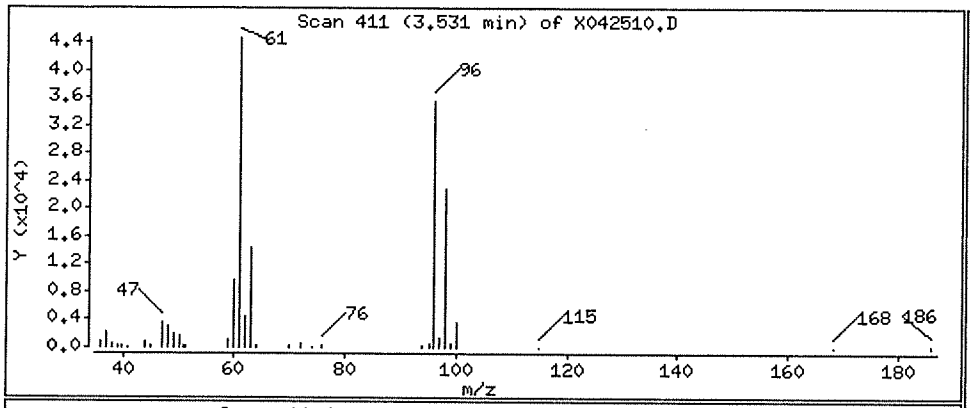
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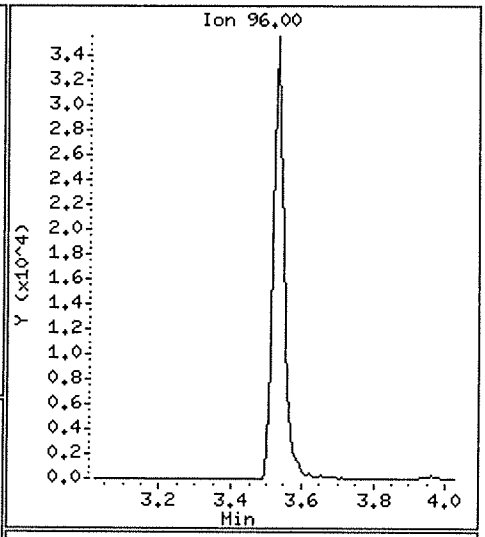
Column phase: DB624

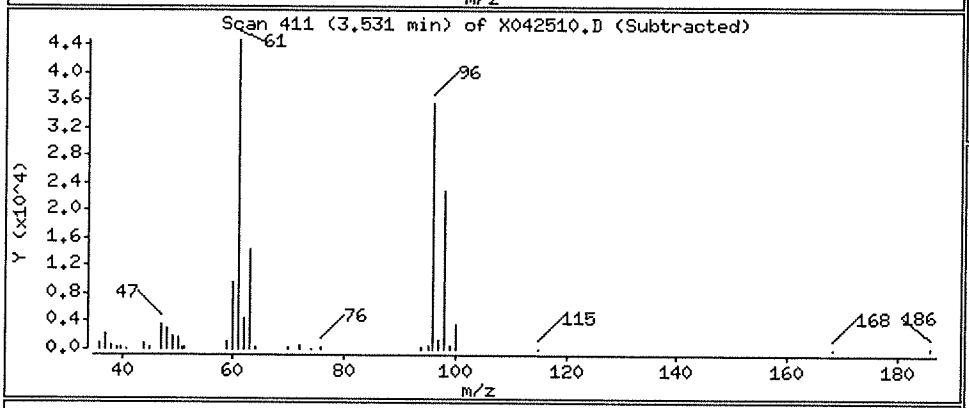
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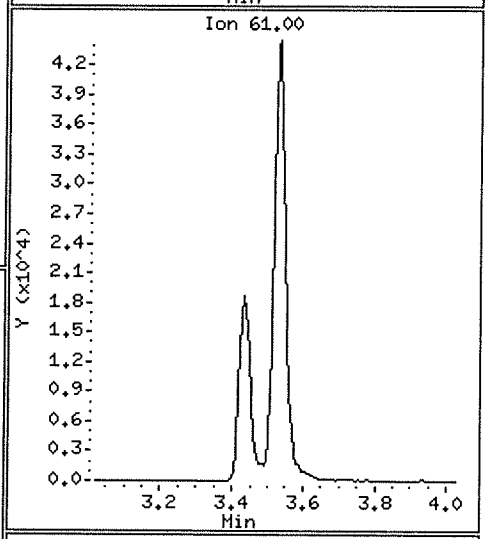
27 cis-1,2-Dichloroethene

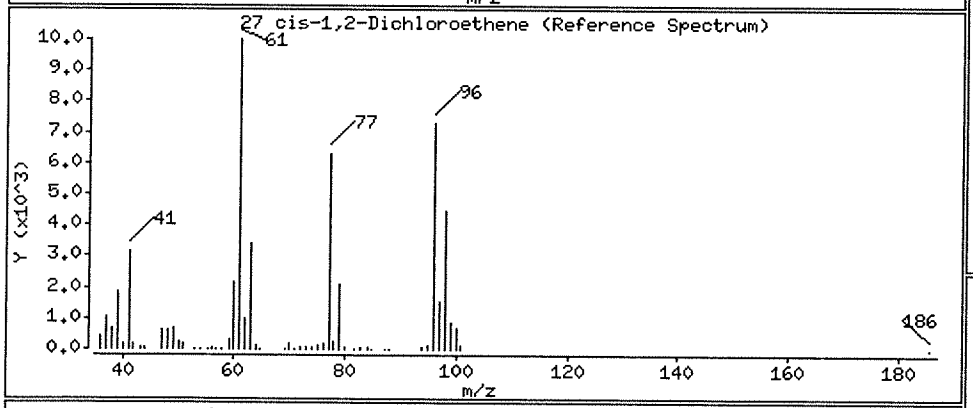
Concentration: 15.28 ug/l

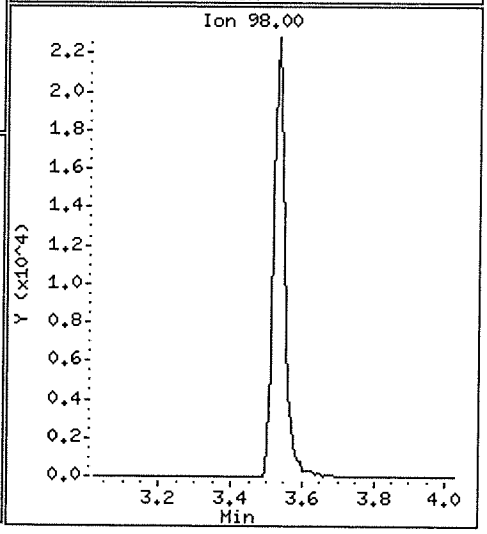


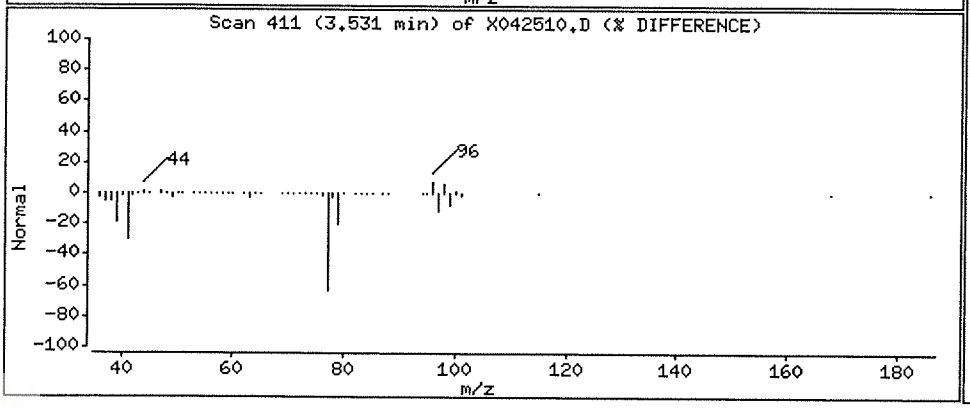












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042510.D

Date : 25-APR-2021 14:48

Client ID: HS21041169-03

Instrument: voa6.i

Sample Info: HS21041169-03;HS21041169-03;;;

Purge Volume: 5.0

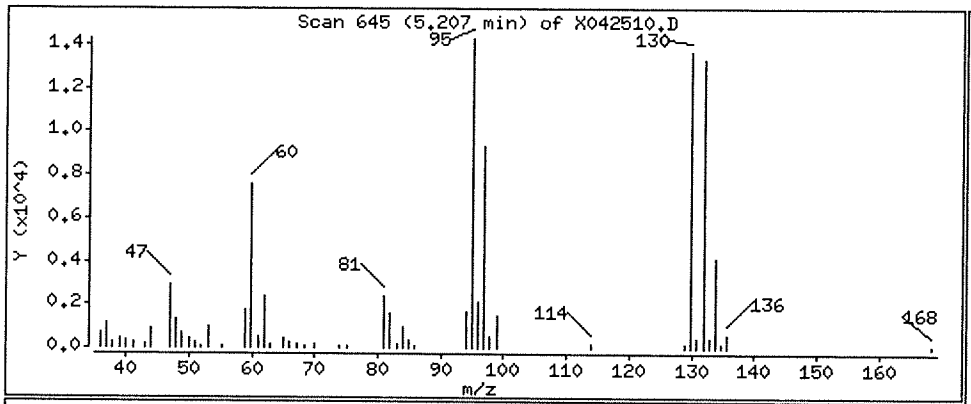
Operator: PC

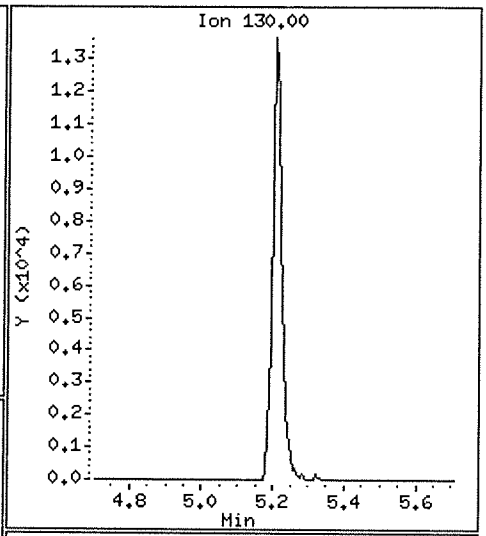
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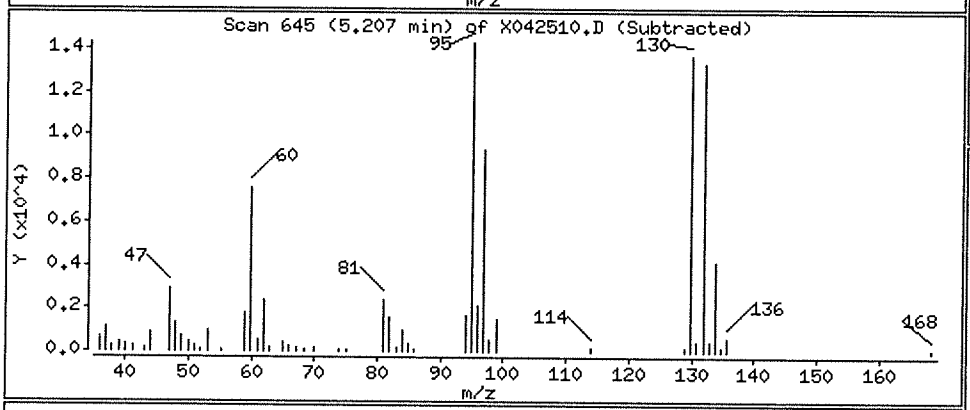
Column diameter: 0.18

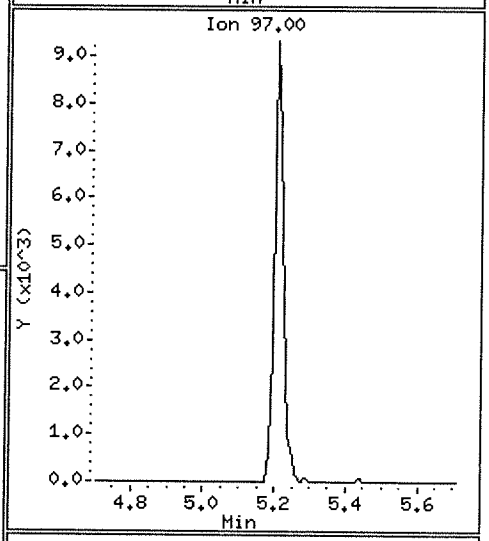
38 Trichloroethene

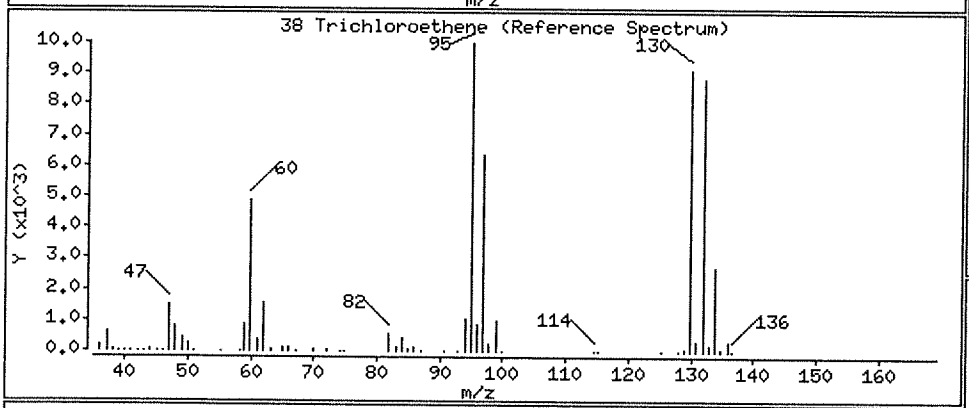
Concentration: 5.44 ug/l

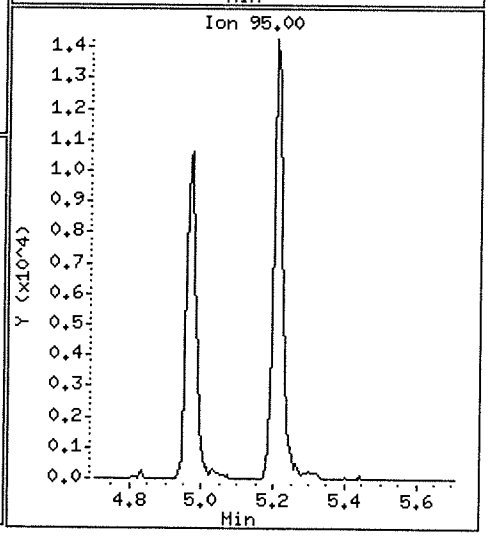


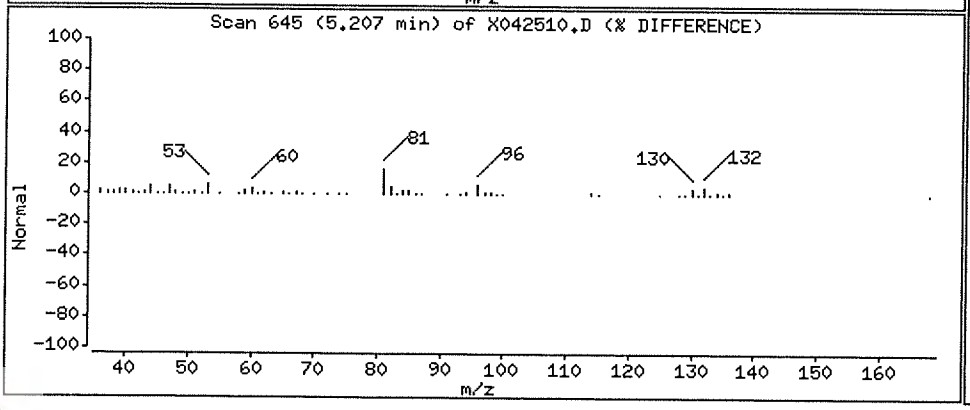












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042510.D

Date : 25-APR-2021 14:48

Client ID: HS21041169-03

Instrument: voa6.i

Sample Info: HS21041169-03;HS21041169-03;;;

Purge Volume: 5.0

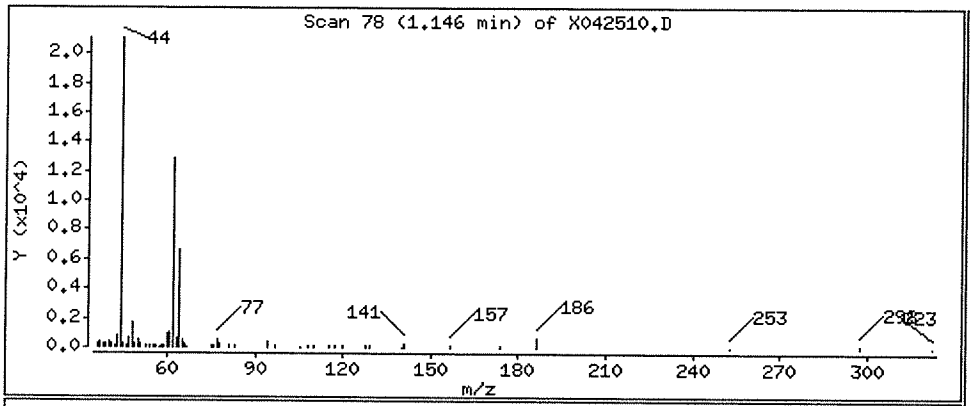
Operator: PC

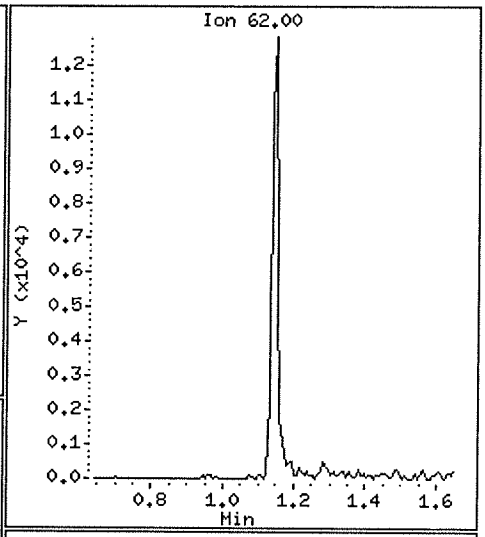
Column phase: DB624

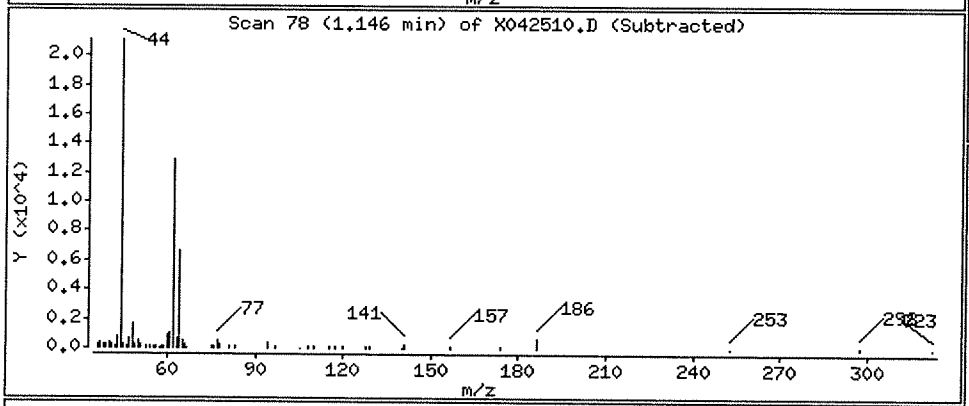
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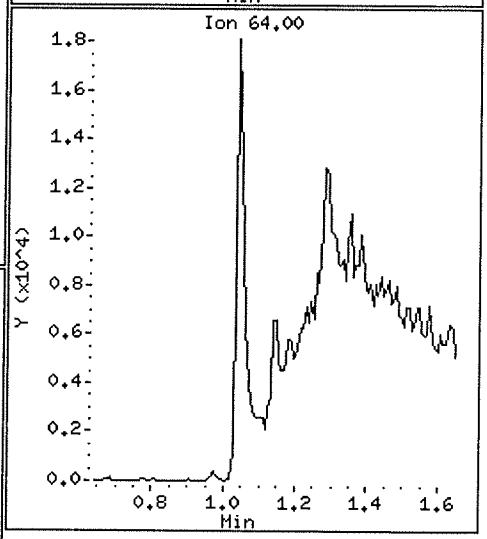
5 Vinyl Chloride

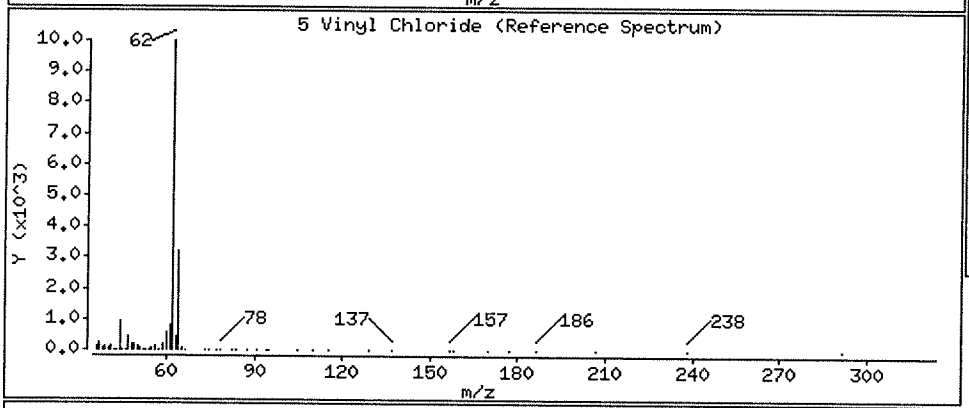
Concentration: 2.45 ug/l

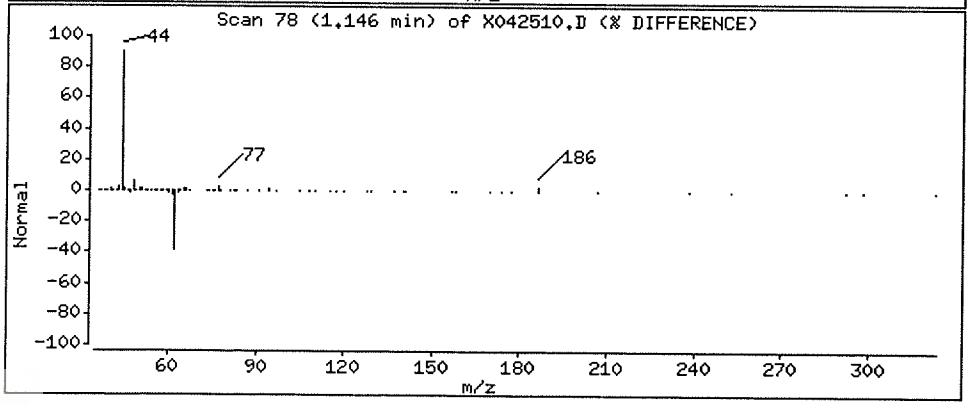












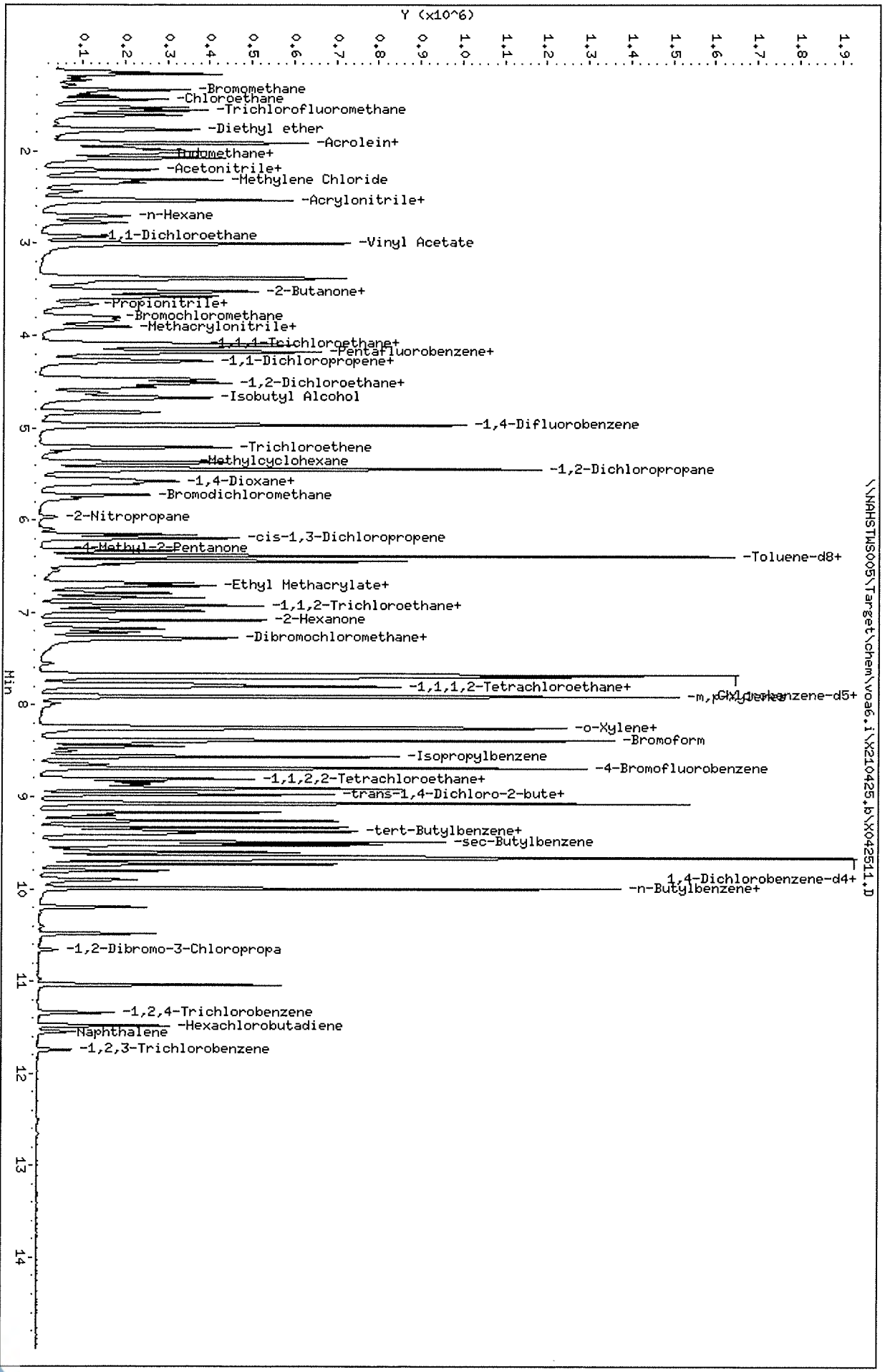
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042511.D
Lab Smp Id: HS21041169-03MS Client Smp ID: HS21041169-03MS
Inj Date : 25-APR-2021 15:09
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-03MS;HS21041169-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:43 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	469498	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	782500	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	704947	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	338538	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	264192	47.8151	47.81
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	320681	48.4356	48.43
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	946083	52.1303	52.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	329390	48.7645	48.76
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	81483	19.8980	19.89
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	120032	17.9554	17.95
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	155418	18.7644	18.76
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	185030	32.2396	32.23
17 Methylene Chloride	84	2.306	2.305	(0.551)	88491	18.3348	18.33
38 Trichloroethene	130	5.207	5.206	(1.049)	130607	24.3820	24.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	159292	22.6309	22.63



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042511.D
Date : 25-APR-2021 15:09
Client ID: HS21041169-03MS
Sample Info: HS21041169-03MS;HS21041169-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D Page 1
Report Date: 19-May-2021 11:43

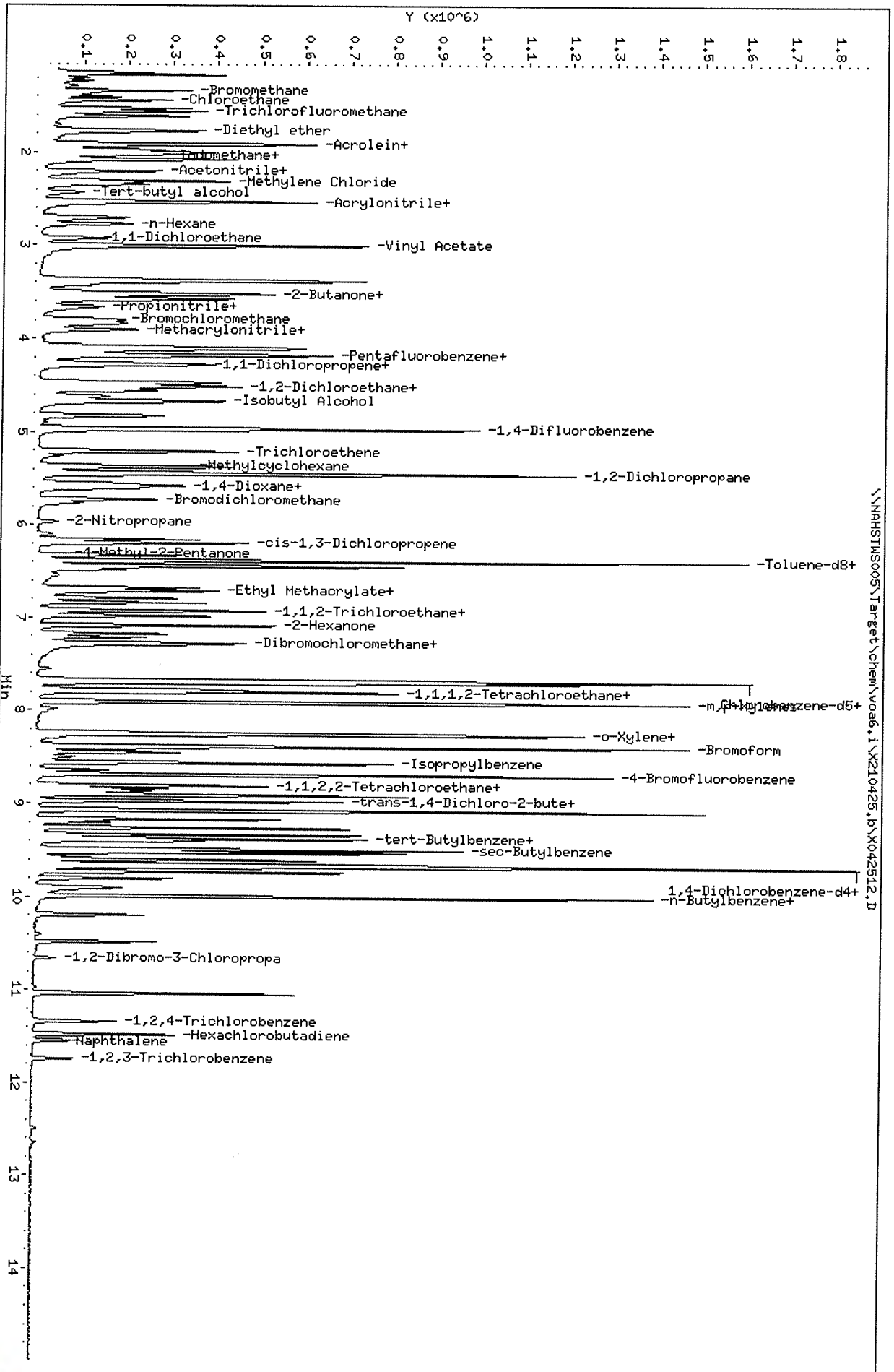
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D
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Inj Date : 25-APR-2021 15:30
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-03MSD;HS21041169-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:43 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	473565	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	775320	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	690187	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	321970	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	261275	46.8896	46.88
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	325472	48.7340	48.73
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	929988	52.3318	52.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	316478	47.8857	47.88
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	81375	20.2966	20.29
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	115466	17.1240	17.12
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	154789	18.8616	18.86
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	189160	32.6762	32.67
17 Methylene Chloride	84	2.305	2.305	(0.551)	90016	18.4780	18.47
38 Trichloroethene	130	5.206	5.206	(1.049)	125104	23.5709	23.57
5 Vinyl Chloride	62	1.145	1.145	(0.274)	155188	21.8585	21.85



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D
Date : 25-APR-2021 15:30
Client ID: HS21041169-03MSD
Sample Info: HS21041169-03MSD;HS21041169-03MSD;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\X210425.b\X042514.D Page 1
Report Date: 19-May-2021 11:45

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042514.D
Lab Smp Id: HS21041169-04 Client Smp ID: HS21041169-04
Inj Date : 25-APR-2021 16:12
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-04;HS21041169-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:44 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

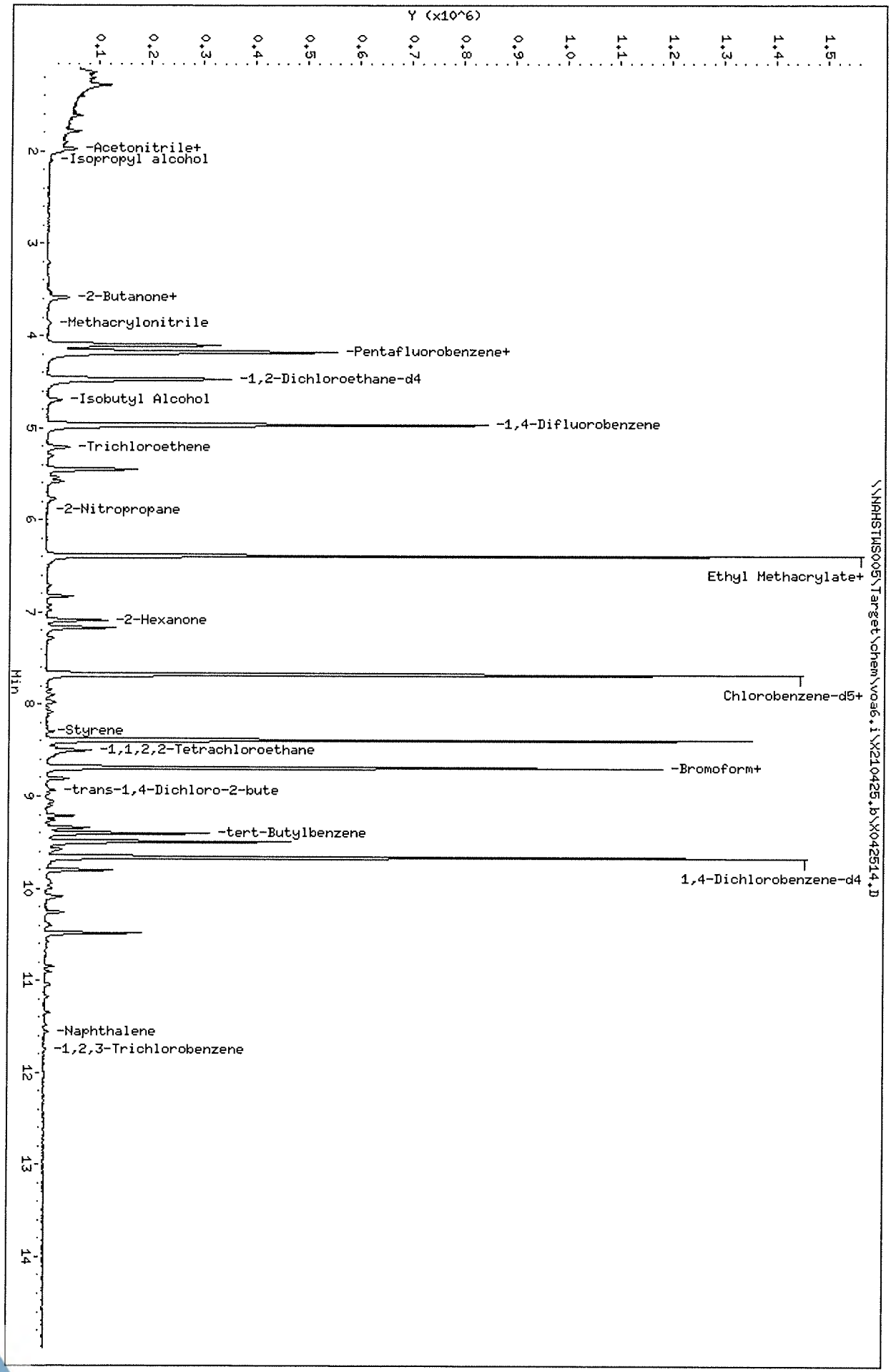
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	418094	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	665512	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	627725	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	285003	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	220470	44.8352	44.83
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	279825	47.4708	47.47
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	865565	53.5099	53.50
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	298285	49.5640	49.56
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	4331	0.84741	0.84
38 Trichloroethene	130	5.199	5.206	(1.048)	8977	1.97043	1.97

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042514.D
Date : 25-APR-2021 16:12
Client ID: HS21041169-04
Sample Info: HS21041169-04;HS21041169-04;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042514.D

Date : 25-APR-2021 16:12

Client ID: HS21041169-04

Instrument: voa6.i

Sample Info: HS21041169-04;HS21041169-04;;;

Purge Volume: 5.0

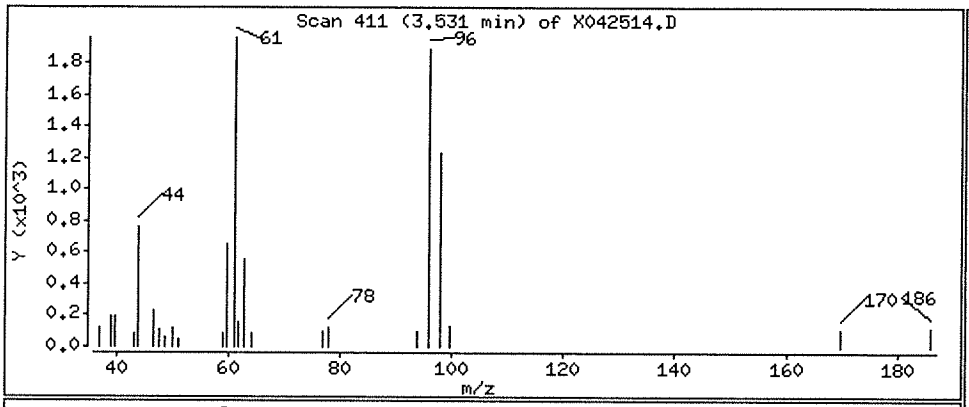
Operator: PC

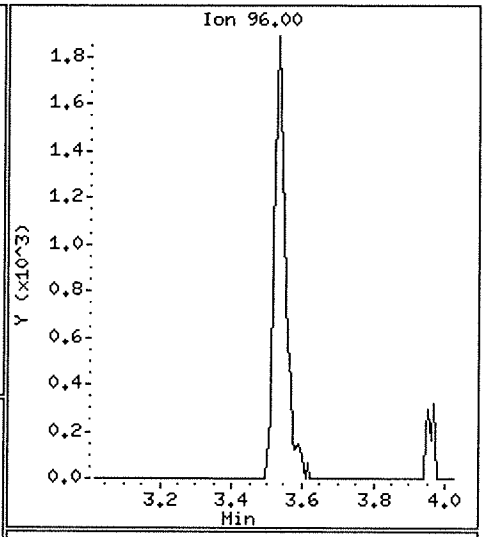
Column phase: DB624

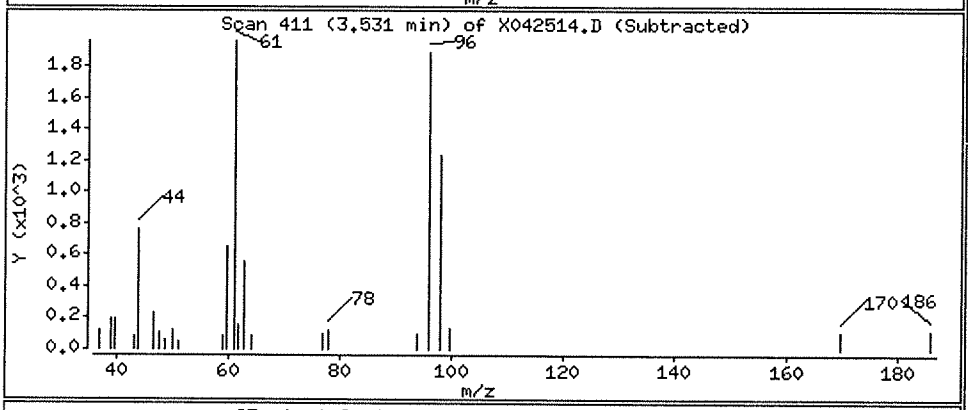
Column diameter: 0.18

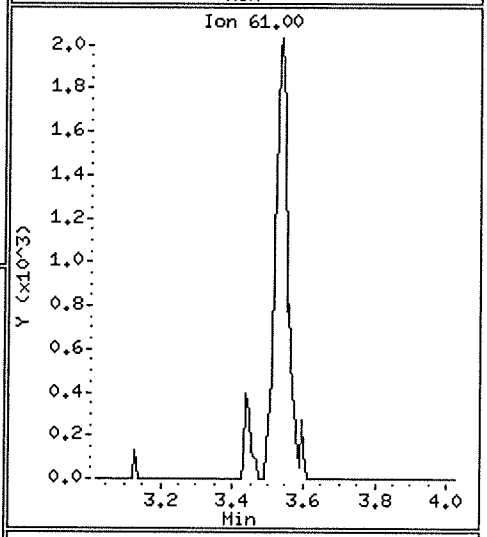
27 cis-1,2-Dichloroethene

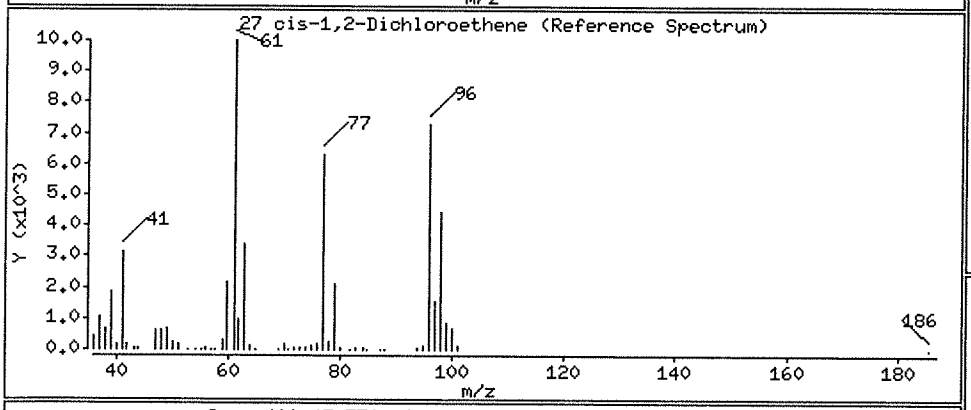
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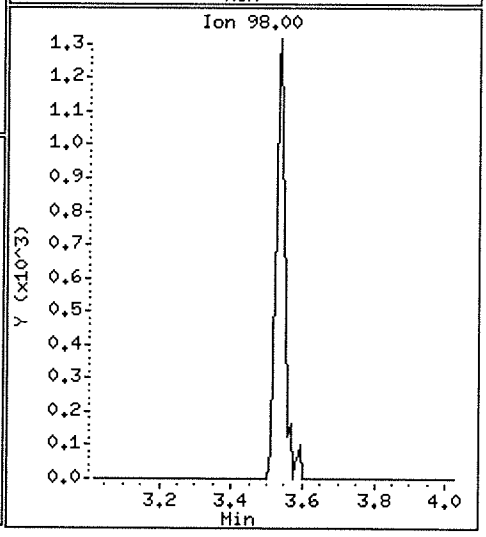


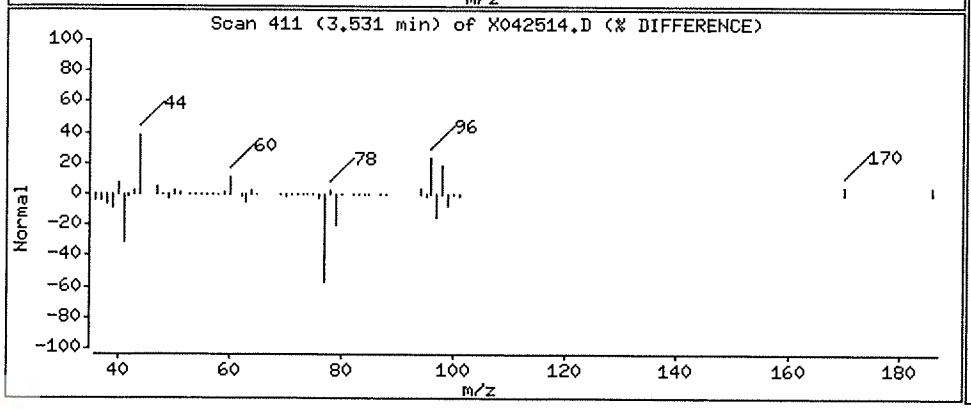












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042514.D

Date : 25-APR-2021 16:12

Client ID: HS21041169-04

Instrument: voa6.i

Sample Info: HS21041169-04;HS21041169-04;;;

Purge Volume: 5.0

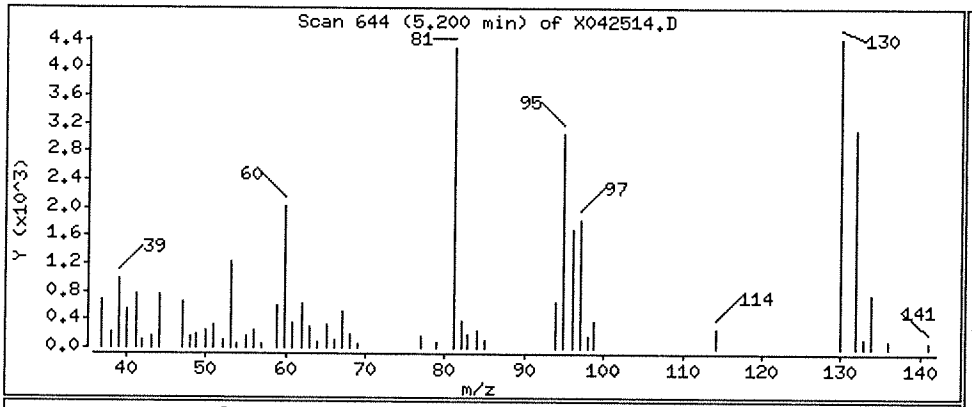
Operator: PC

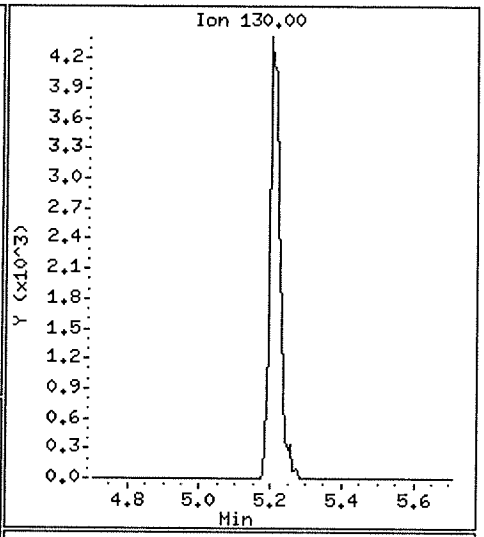
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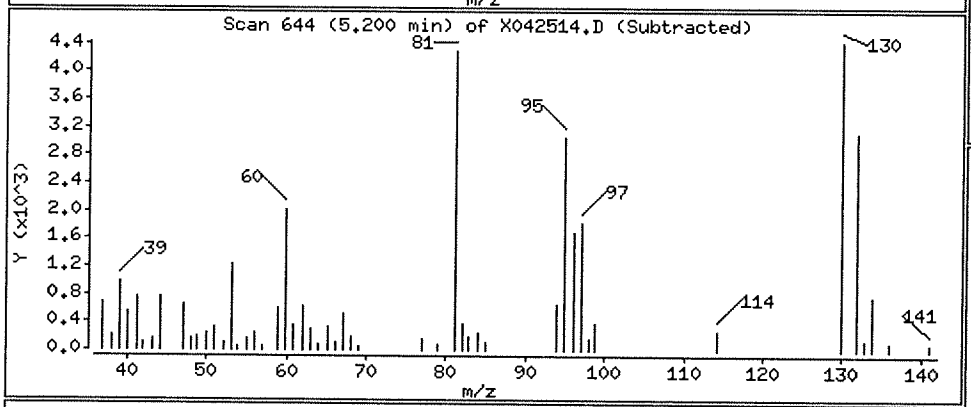
Column diameter: 0.18

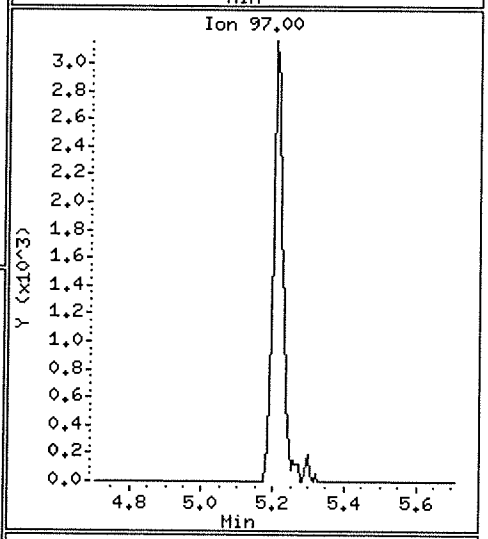
38 Trichloroethene

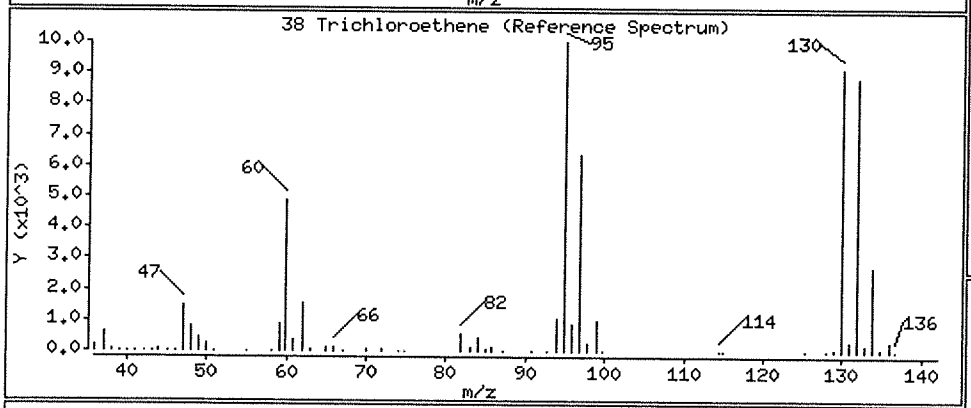
Concentration: 1.97 ug/l

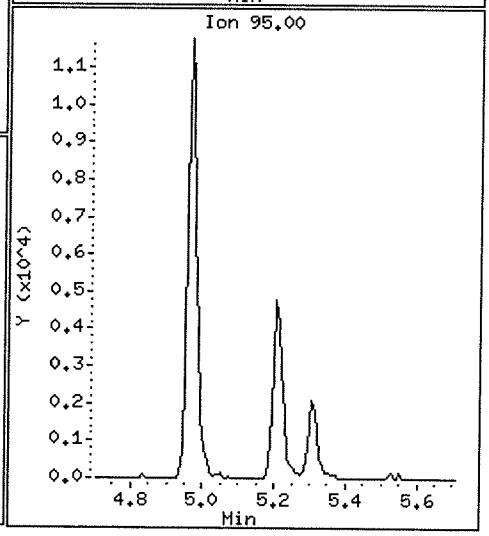


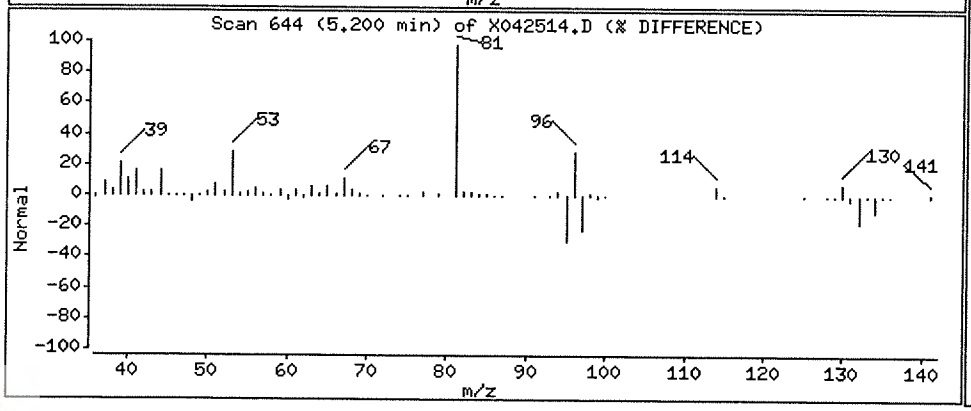












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042515.D Page 1
Report Date: 19-May-2021 11:45

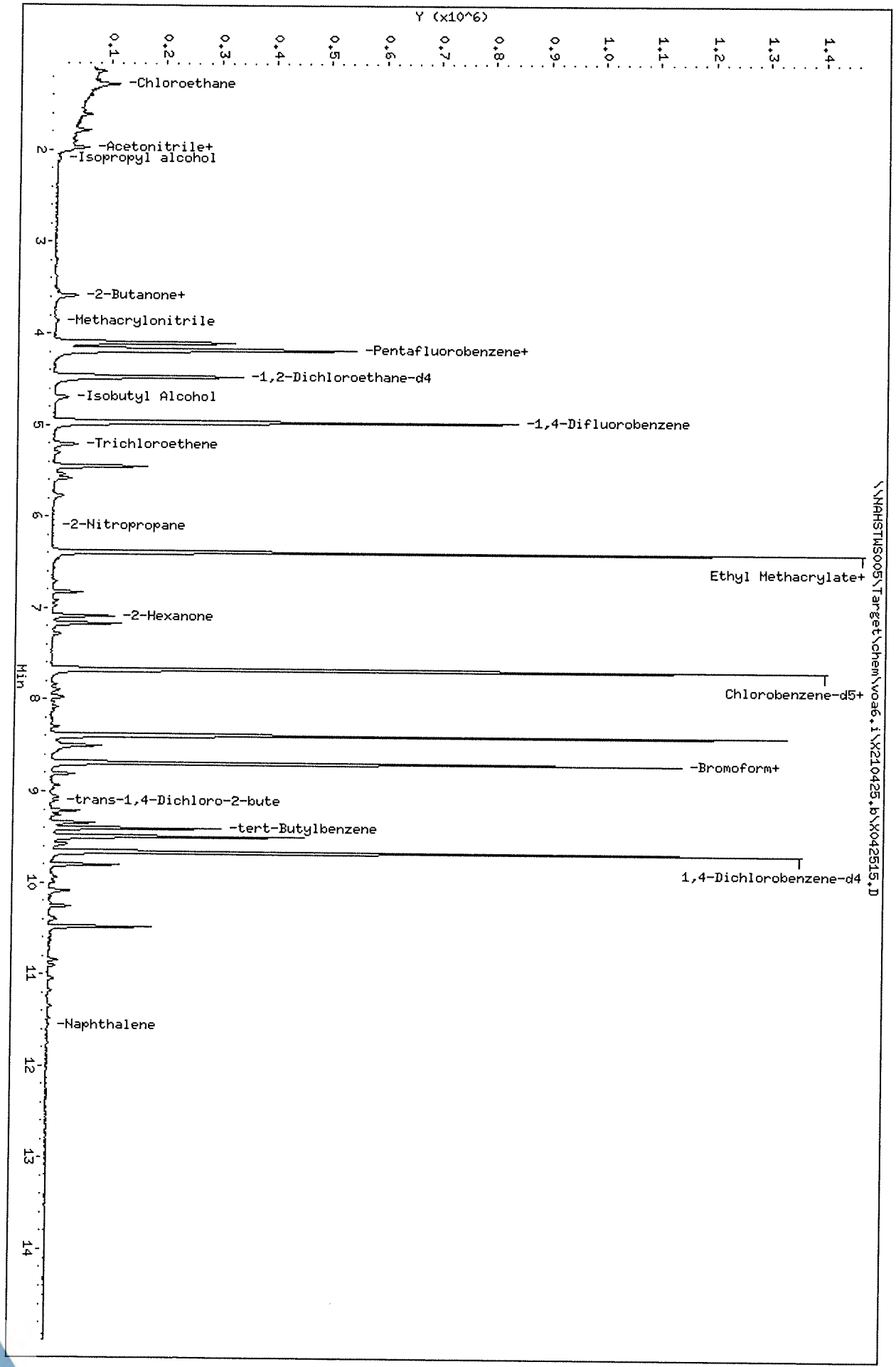
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042515.D
Lab Smp Id: HS21041169-05 Client Smp ID: HS21041169-05
Inj Date : 25-APR-2021 16:33
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-05;HS21041169-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:44 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	409391	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	653378	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	610410	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	264102	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	221928	46.0790	46.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	275103	47.6599	47.65
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	835356	53.1213	53.12
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	285913	48.8794	48.87
27 cis-1,2-Dichloroethene	96	3.538	3.523	(0.846)	3775	0.75433	0.75
38 Trichloroethene	130	5.214	5.206	(1.051)	8585	1.91939	1.91



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042515.D
Date : 25-APR-2021 16:33
Client ID: HS21041169-05
Sample Info: HS21041169-05;HS21041169-05;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042515.D

Date : 25-APR-2021 16:33

Client ID: HS21041169-05

Instrument: voa6.i

Sample Info: HS21041169-05;HS21041169-05;;;

Purge Volume: 5.0

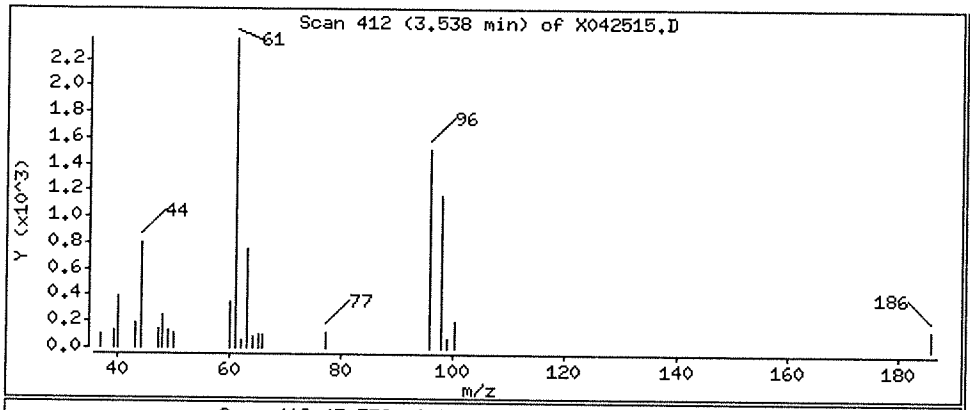
Operator: PC

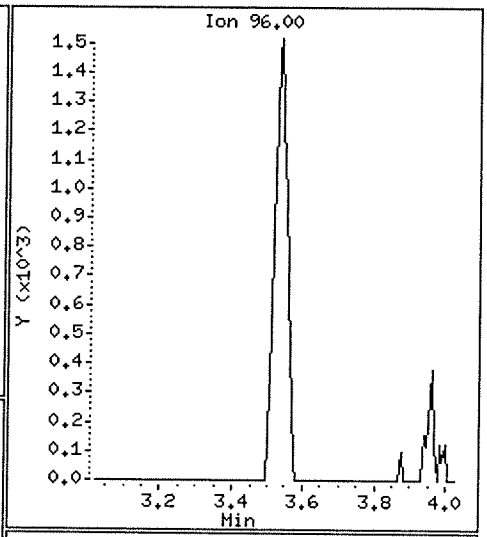
Column phase: DB624

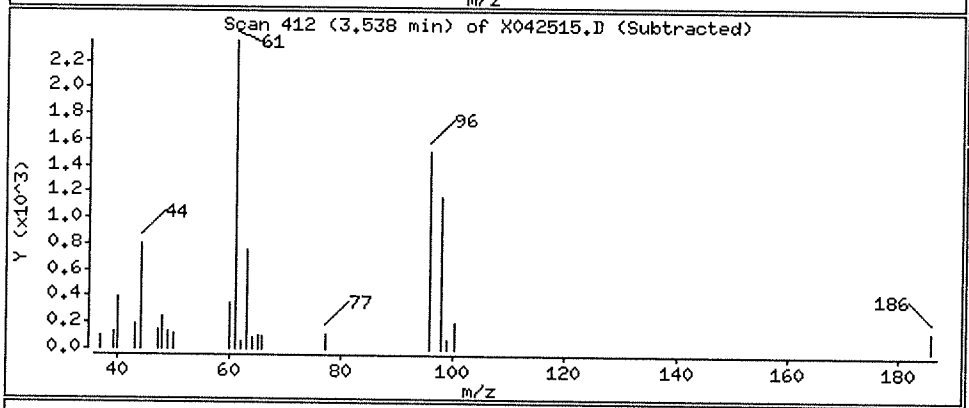
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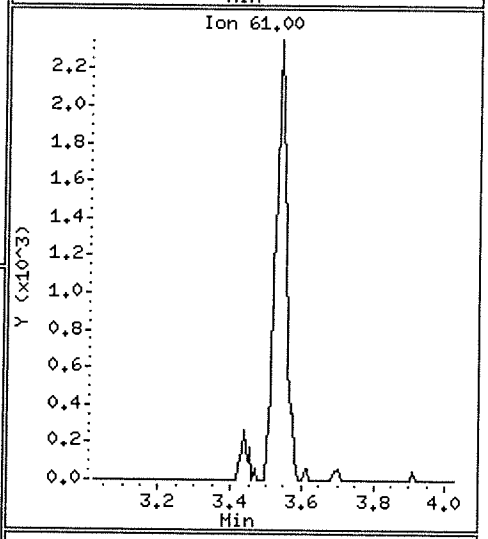
27 cis-1,2-Dichloroethene

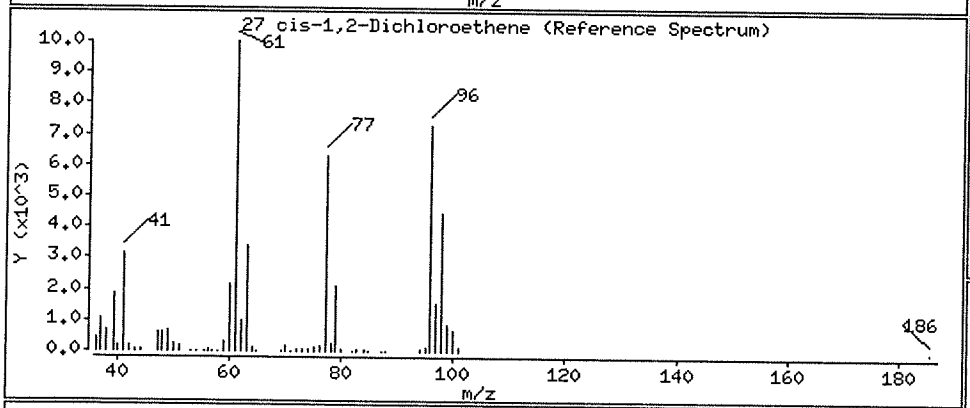
Concentration: 0.75 ug/l

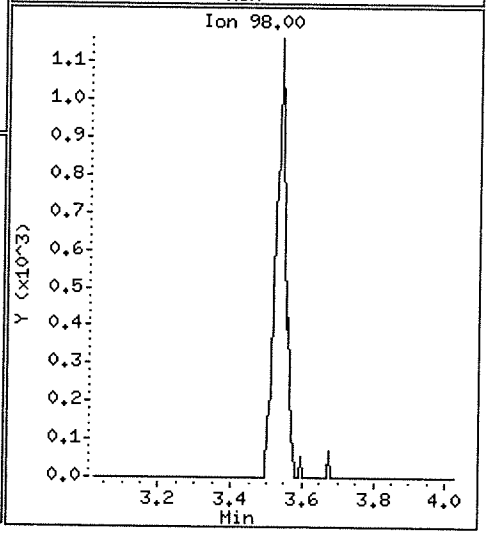


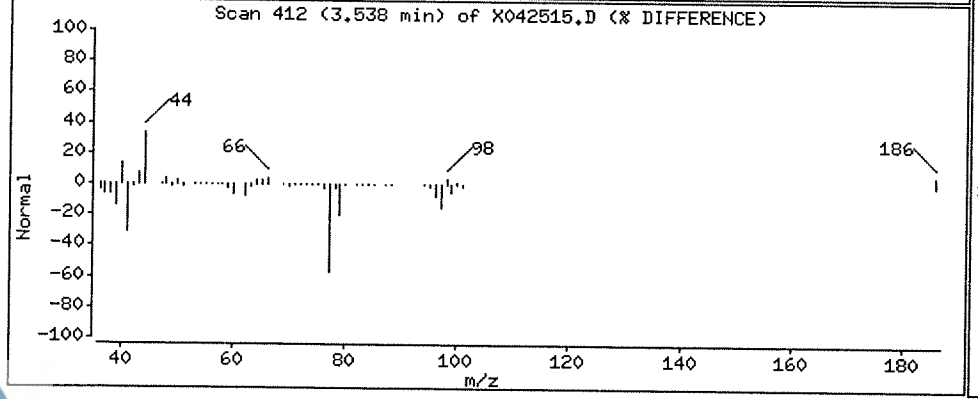












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042515.D

Date : 25-APR-2021 16:33

Client ID: HS21041169-05

Instrument: voa6.i

Sample Info: HS21041169-05;HS21041169-05;;;

Purge Volume: 5.0

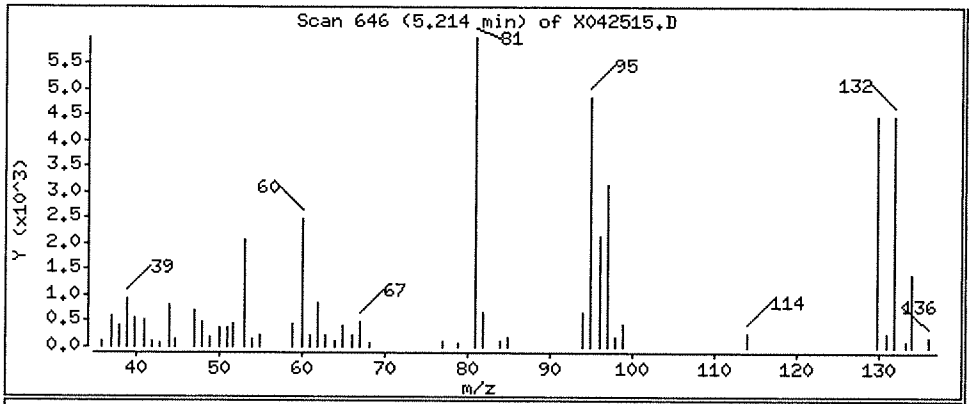
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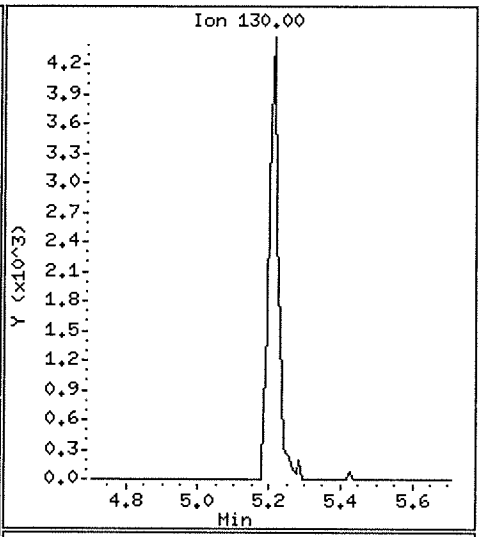
Column phase: DB624

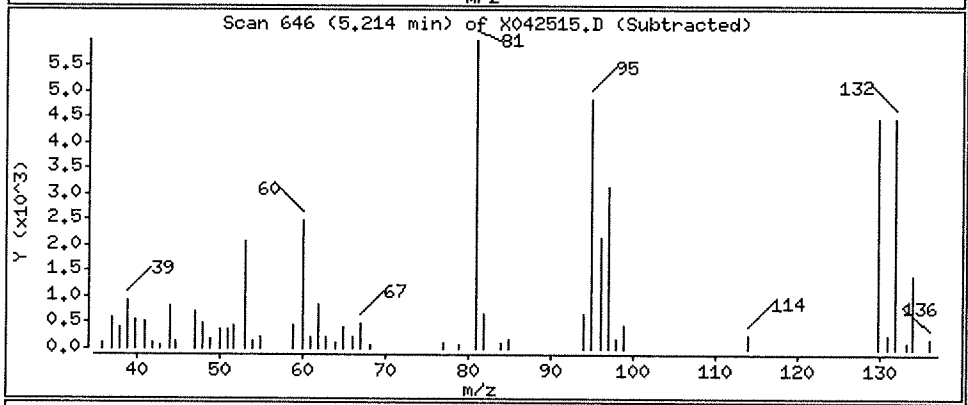
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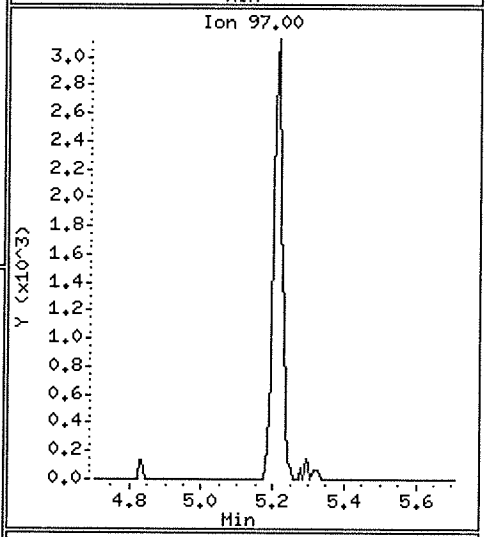
38 Trichloroethene

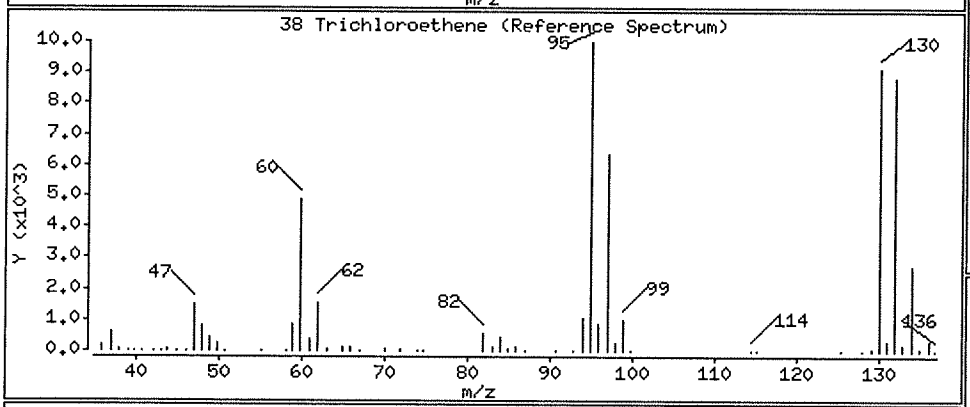
Concentration: 1.91 ug/l

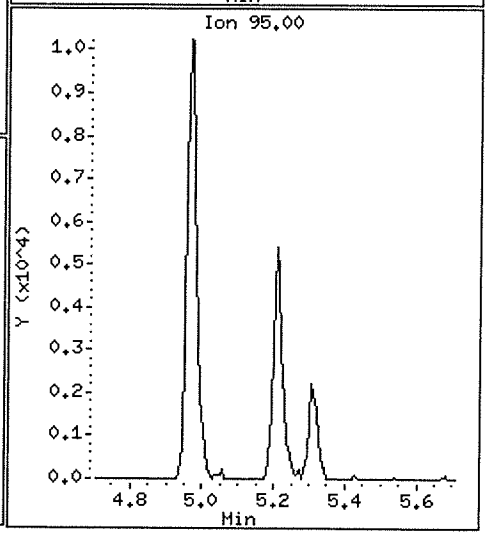


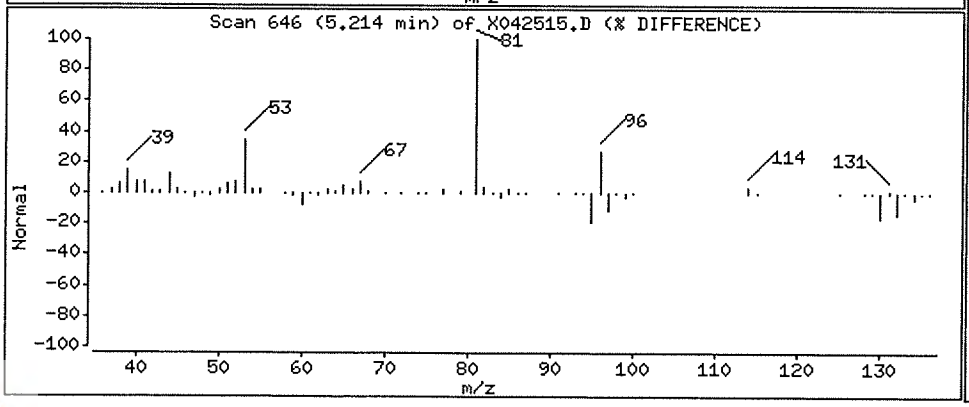












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D Page 1
Report Date: 19-May-2021 11:45

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D
Lab Smp Id: HS21041169-02 Client Smp ID: HS21041169-02
Inj Date : 25-APR-2021 19:43
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-02;HS21041169-02;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:44 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 23
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

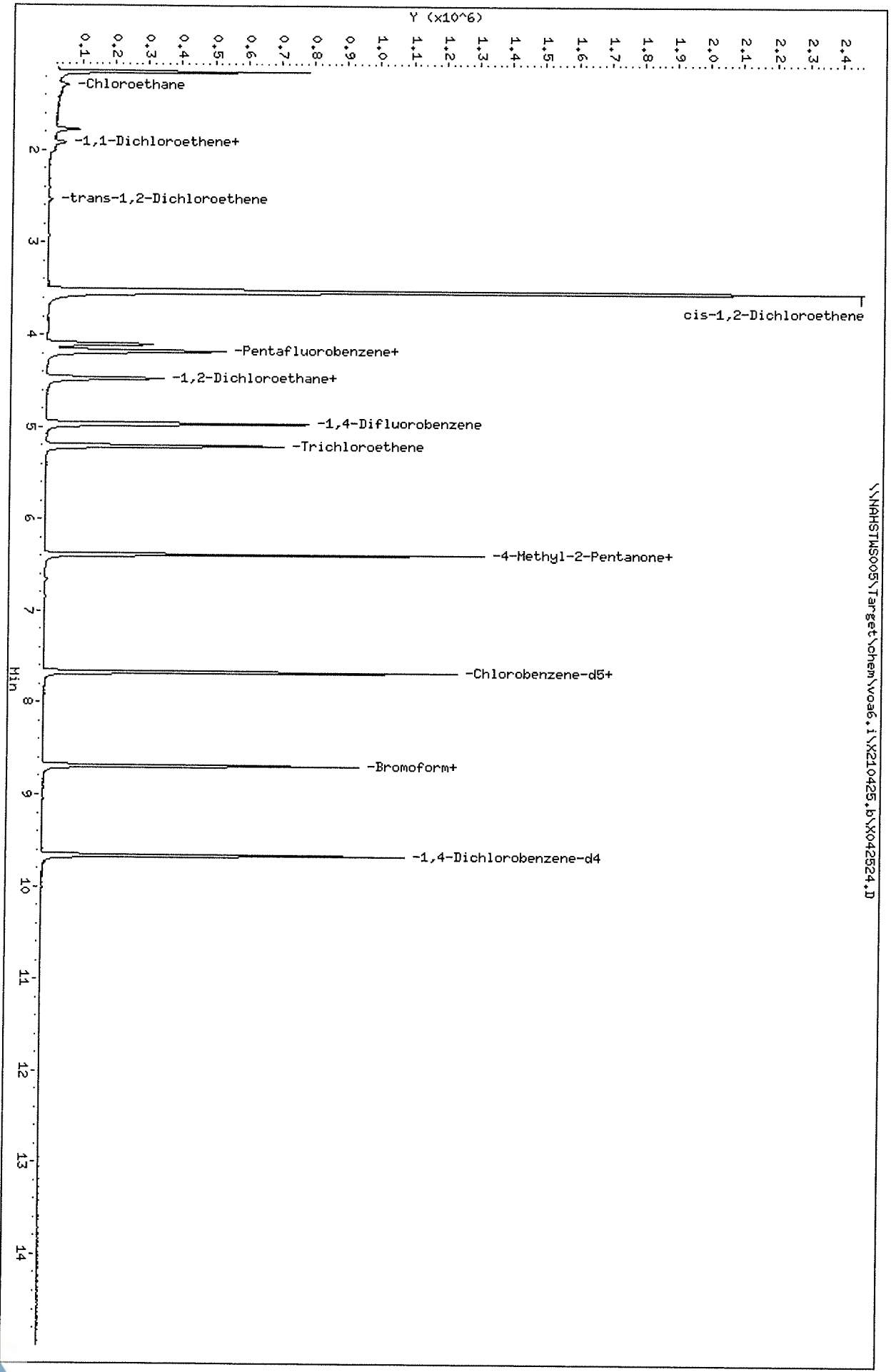
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	398113	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	634682	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	552615	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237379	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	216611	46.2475	46.24
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	284155	50.5927	50.59
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	756982	53.1700	53.17
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	252615	47.7432	47.74
11 1,1-Dichloroethene	96	1.911	1.919	(0.457)	3547	0.62573	3.12(a)
33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	3747	0.55776	2.78(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	1165853	239.563	1197.81(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	216084	49.7339	248.66
5 Vinyl Chloride	62	1.145	1.145	(0.274)	544251	91.1872	455.93

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D
Date : 25-APR-2021 19:43
Client ID: HS21041169-02
Sample Info: HS21041169-02;HS21041169-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D

Date : 25-APR-2021 19:43

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

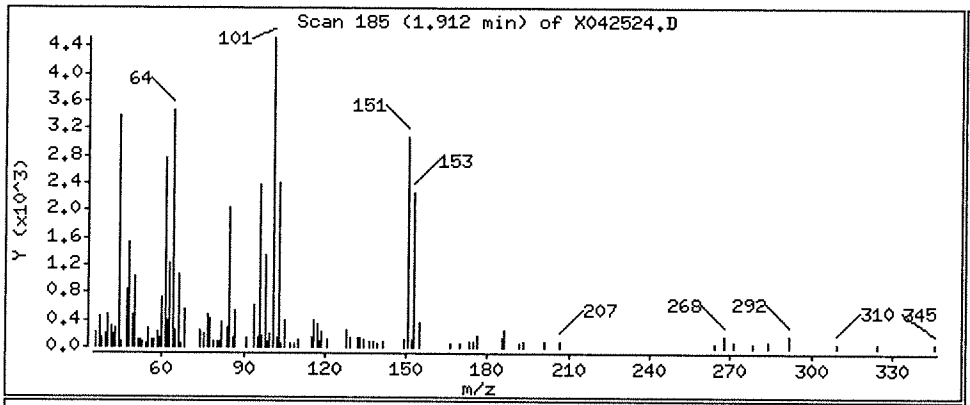
Operator: PC

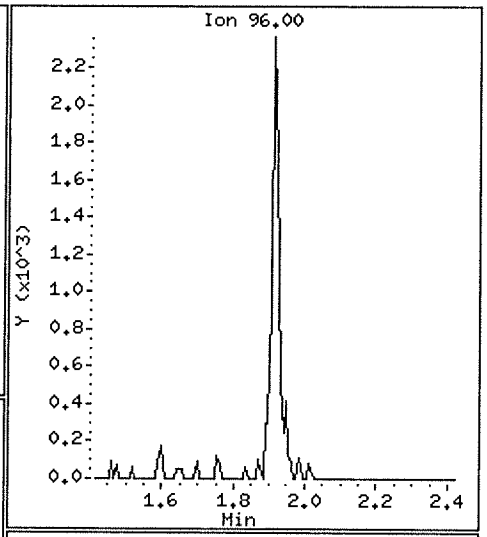
Column phase: DB624

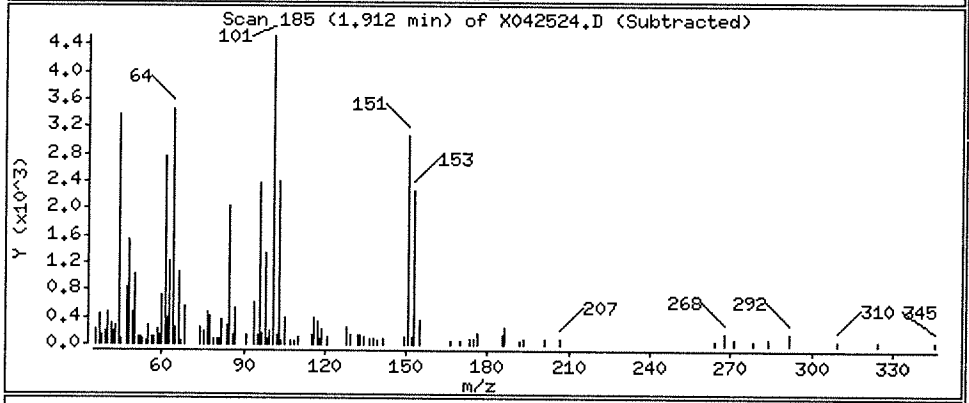
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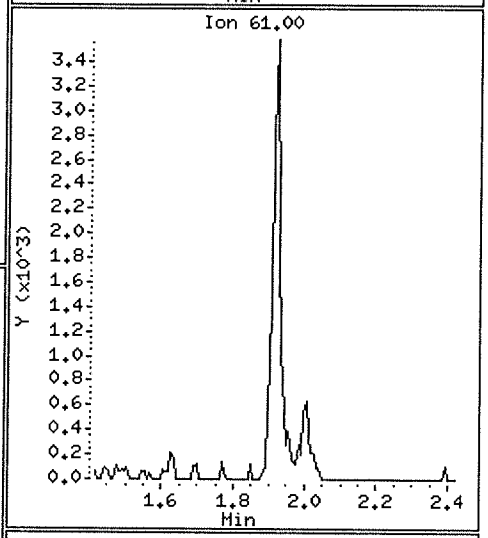
11 1,1-Dichloroethene

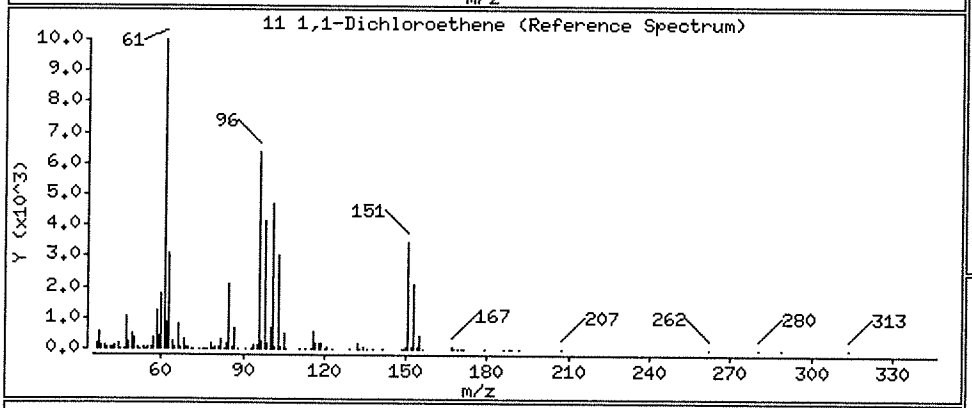
Concentration: 3.12 ug/l

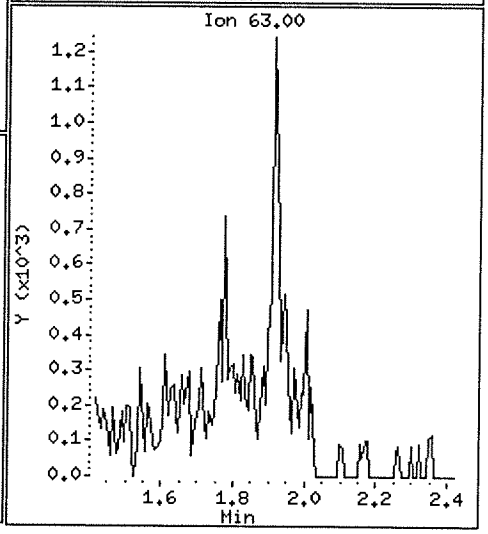


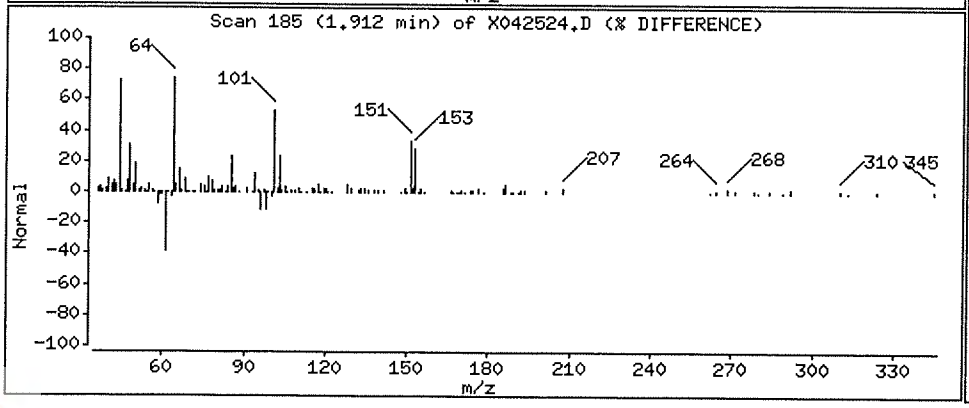












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D

Date : 25-APR-2021 19:43

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

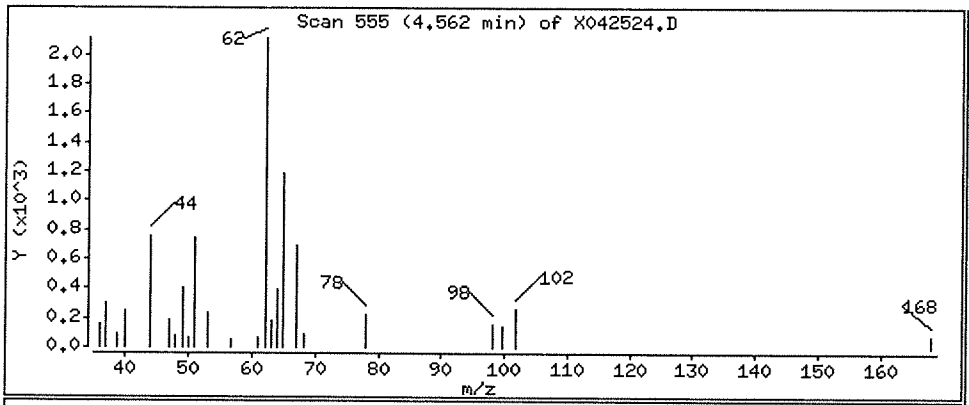
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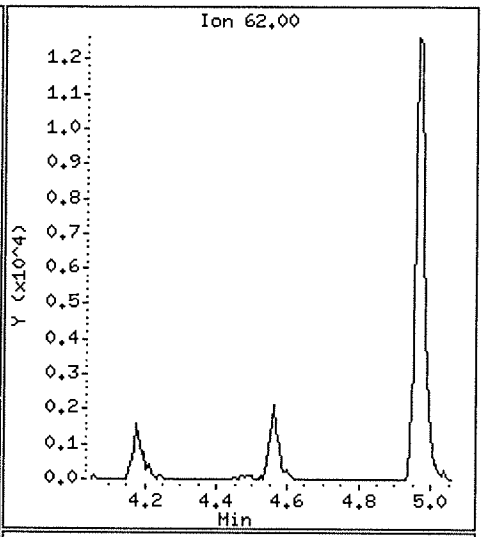
Column phase: DB624

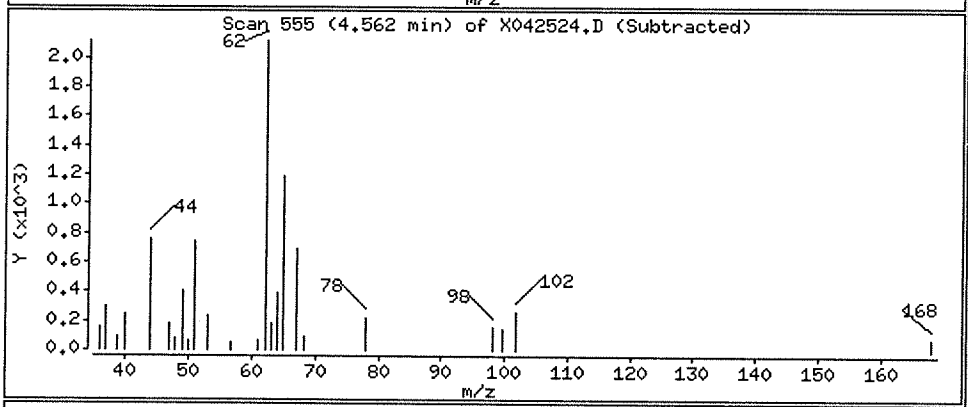
Column diameter: 0.18

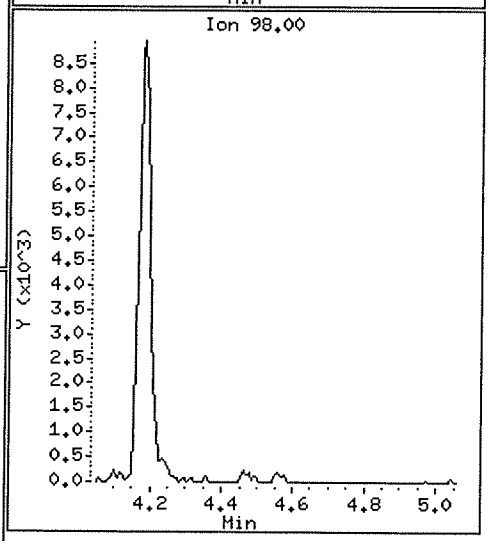
33 1,2-Dichloroethane

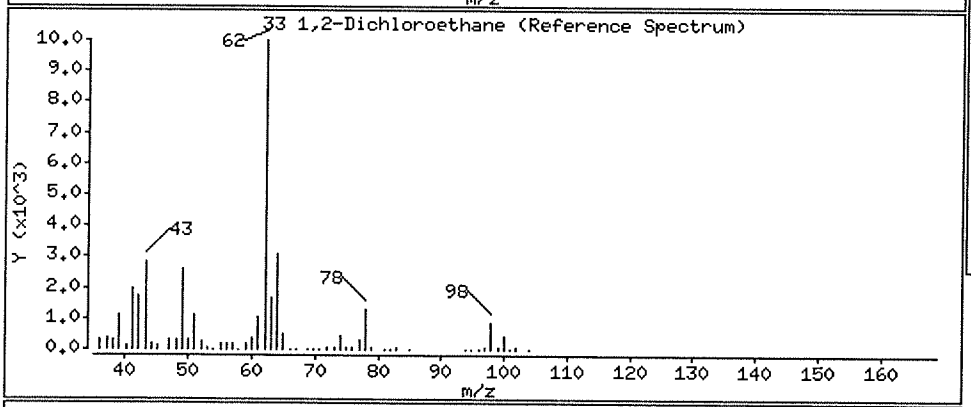
Concentration: 2.78 ug/l

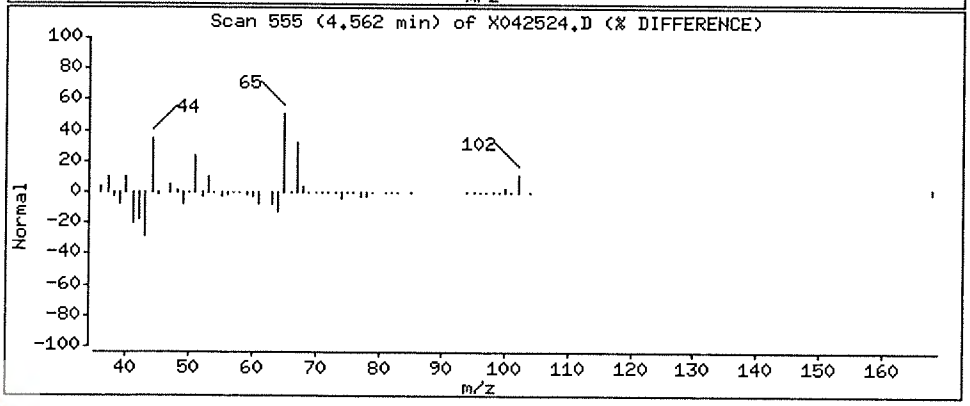












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D

Date : 25-APR-2021 19:43

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

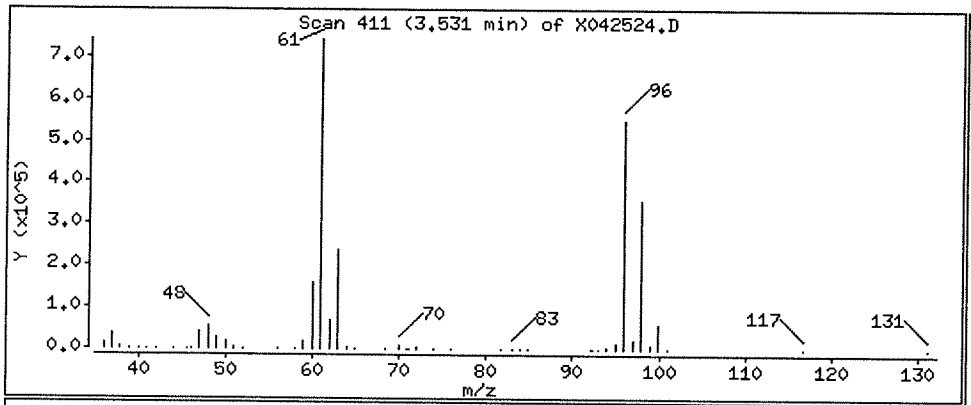
Operator: PC

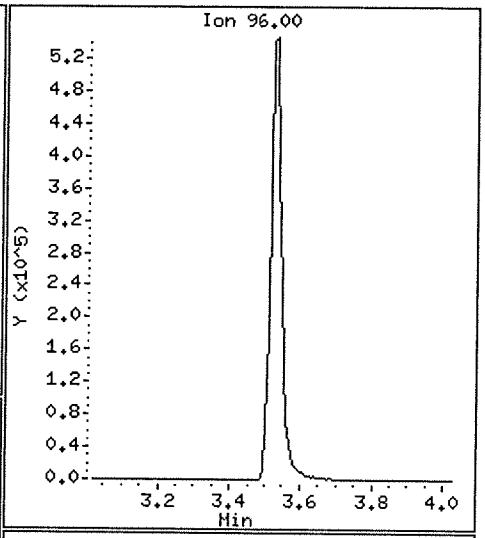
Column phase: DB624

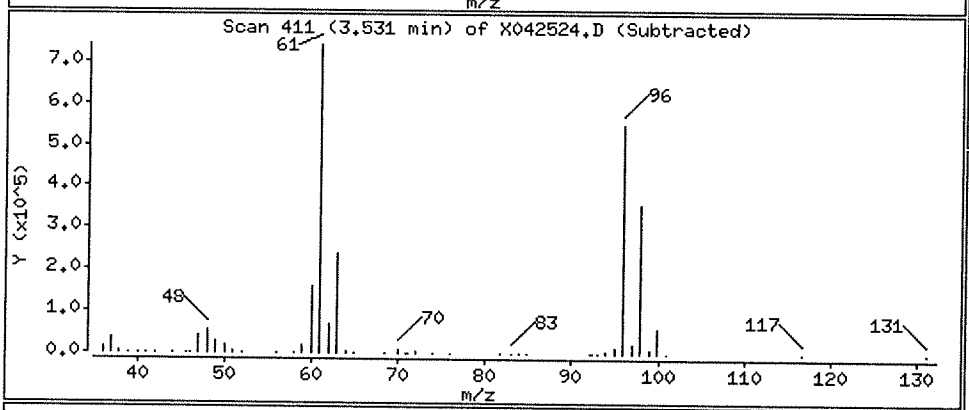
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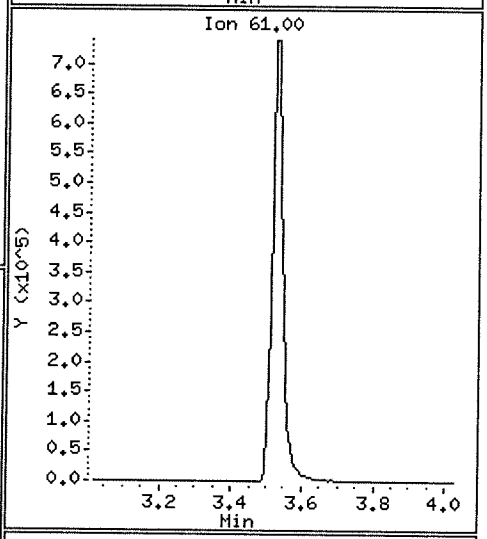
27 cis-1,2-Dichloroethene

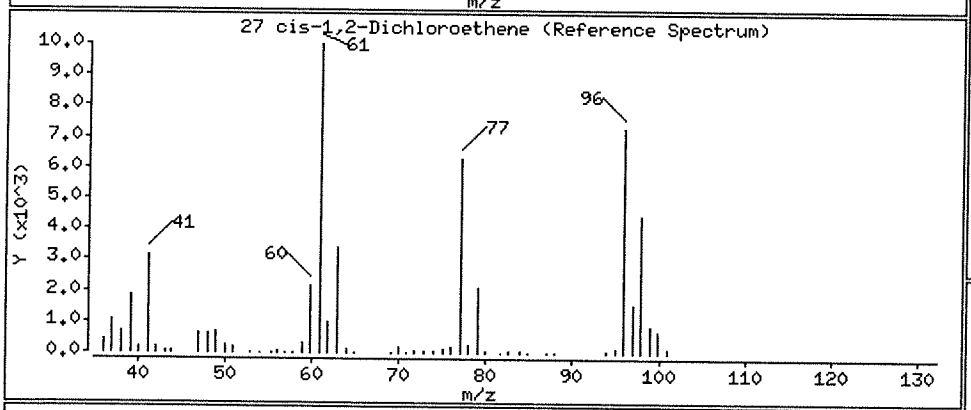
Concentration: 1197.81 ug/l

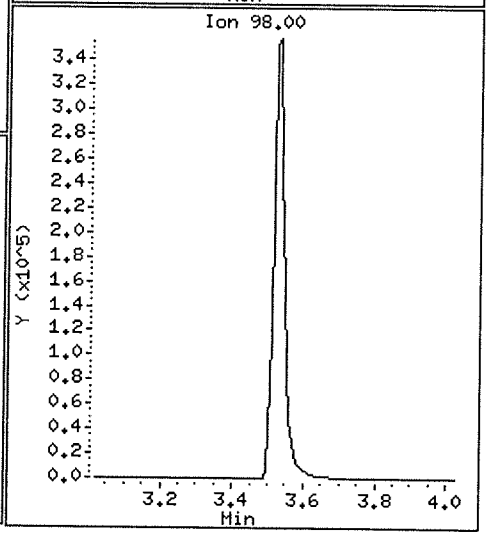


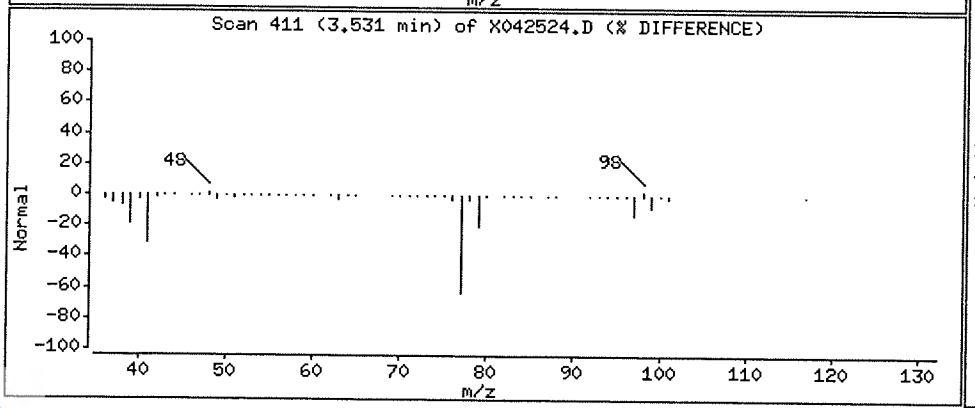












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D

Date : 25-APR-2021 19:43

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

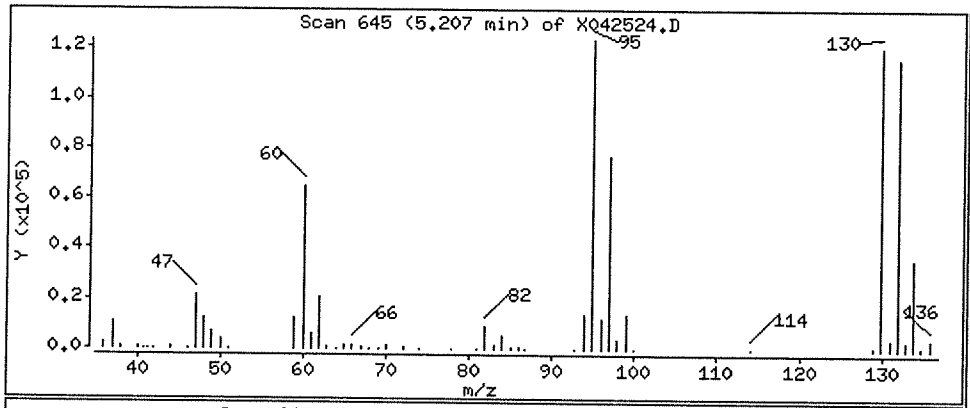
Operator: PC

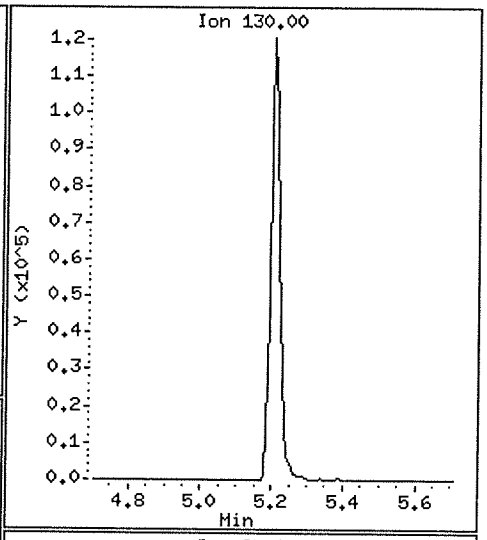
Column phase: DB624

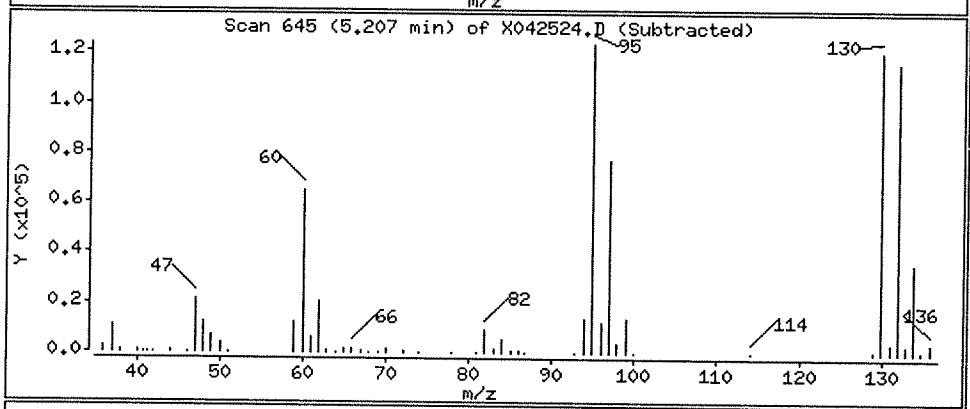
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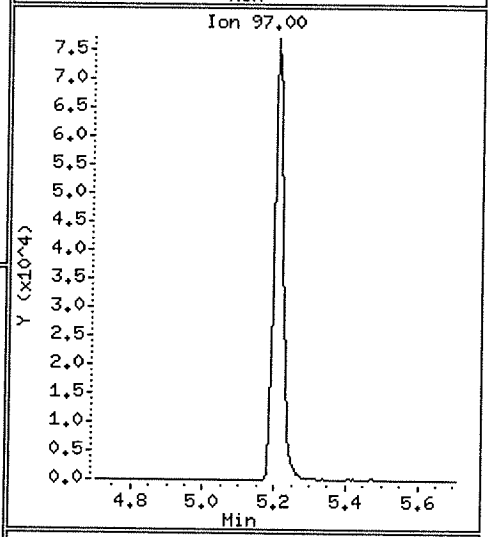
38 Trichloroethene

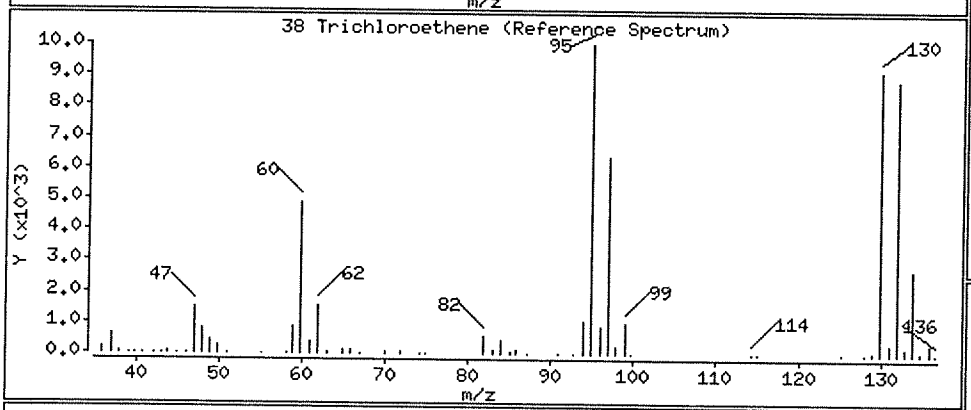
Concentration: 248.66 ug/l

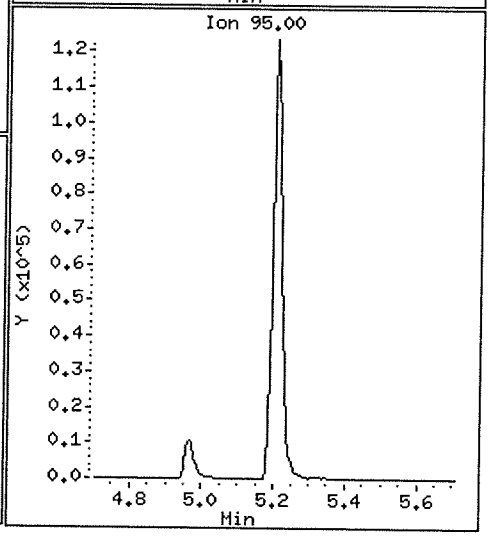


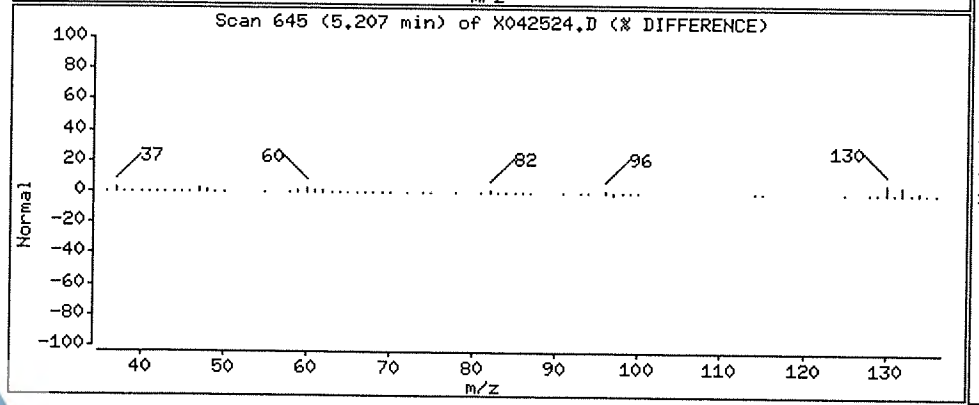












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042524.D

Date : 25-APR-2021 19:43

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

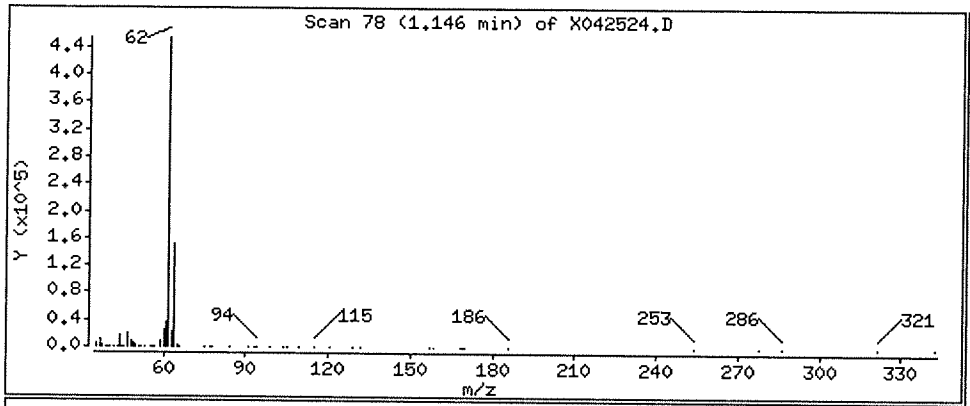
Operator: PC

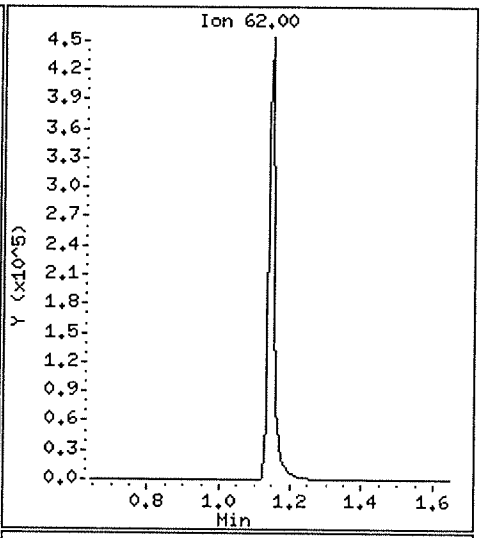
Column phase: DB624

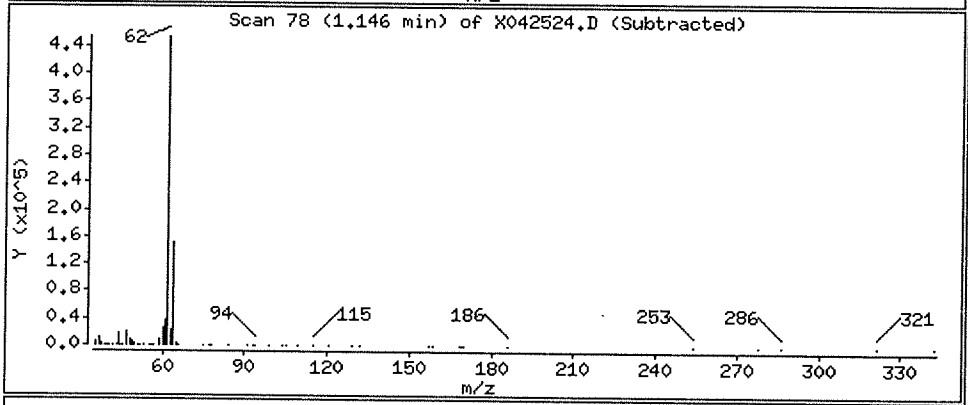
Column diameter: 0.18

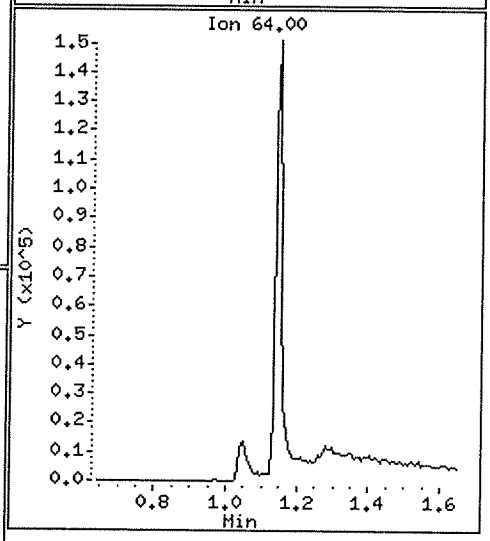
5 Vinyl Chloride

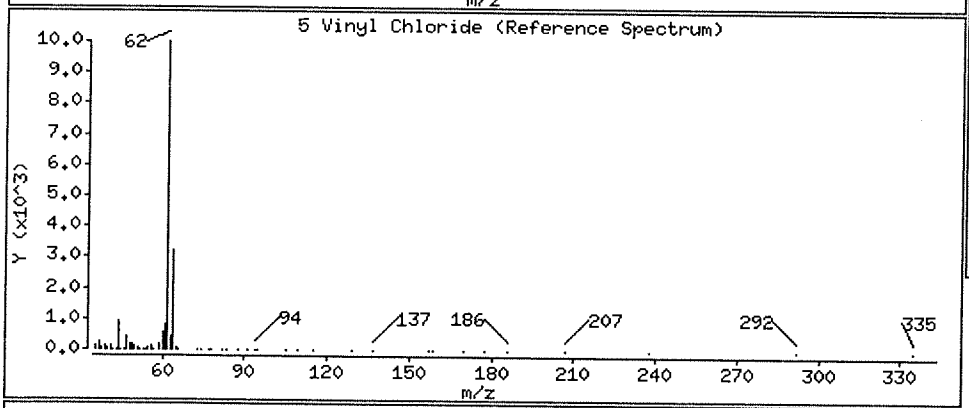
Concentration: 455.93 ug/l

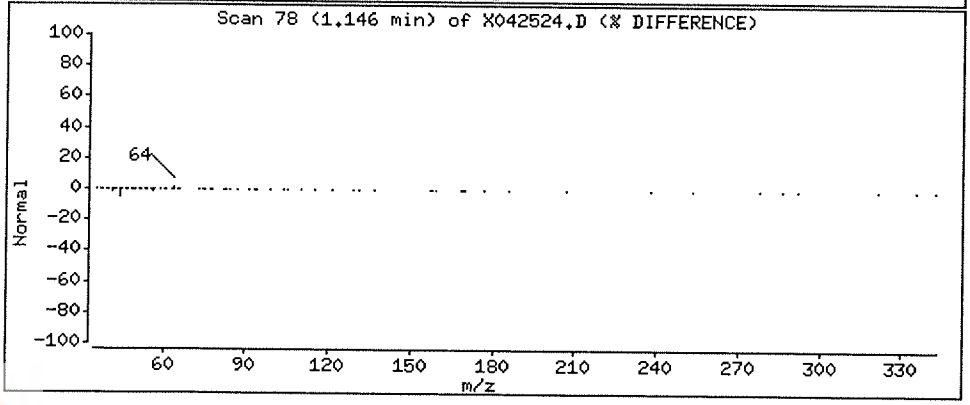












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042525.D Page 1
Report Date: 19-May-2021 11:45

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042525.D
Lab Smp Id: HS21041169-02 Client Smp ID: HS21041169-02
Inj Date : 25-APR-2021 20:04
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-02;HS21041169-02;;;
Misc Info : HS18090001;WATER;0;50;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:44 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 24
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

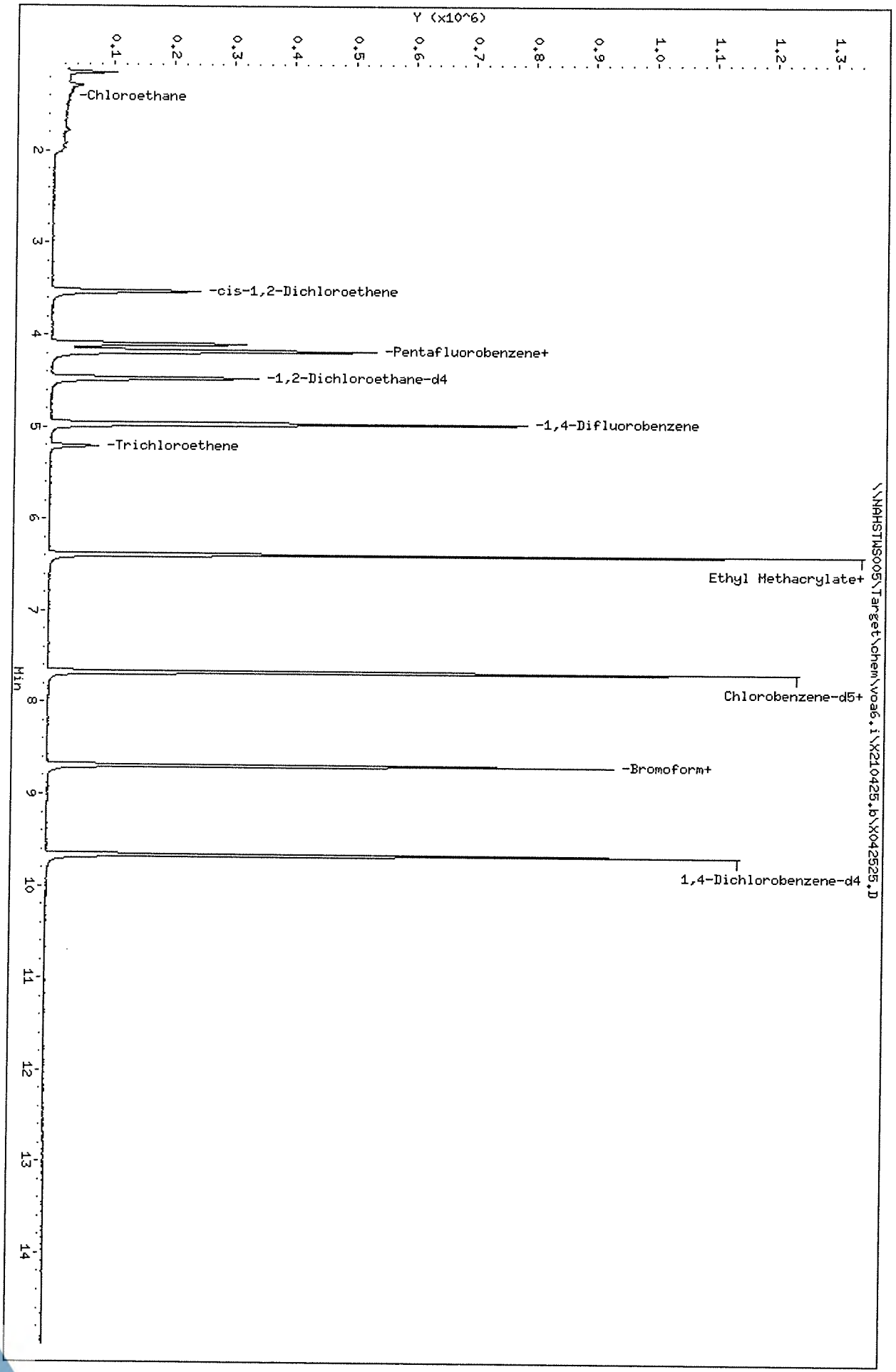
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	400574	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	630086	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	553522	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244585	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	218463	46.3553	46.35
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	274909	48.6643	48.66
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	765955	53.6932	53.69
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	251760	47.5119	47.51
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	121387	24.7897	1239.48
38 Trichloroethene	130	5.206	5.206	(1.049)	23776	5.51221	275.61
5 Vinyl Chloride	62	1.145	1.145	(0.274)	57396	9.55740	477.87

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042525.D
Date : 25-APR-2021 20:04
Client ID: HS21041169-02
Sample Info: HS21041169-02;HS21041169-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042525.D

Date : 25-APR-2021 20:04

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

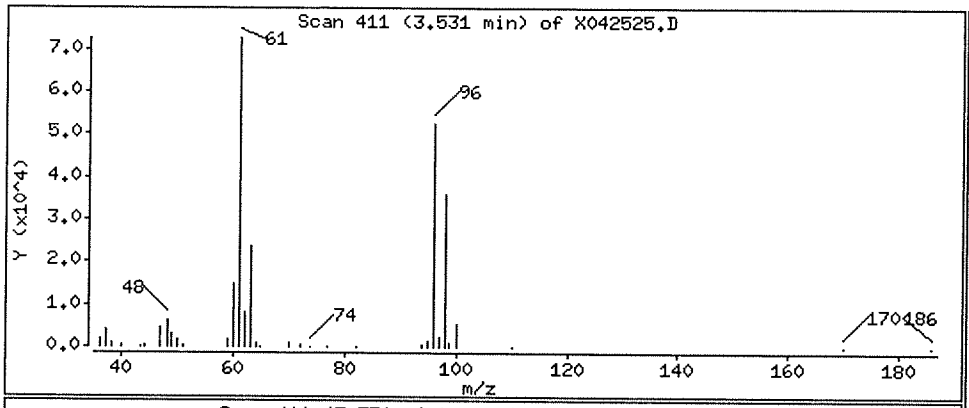
Operator: PC

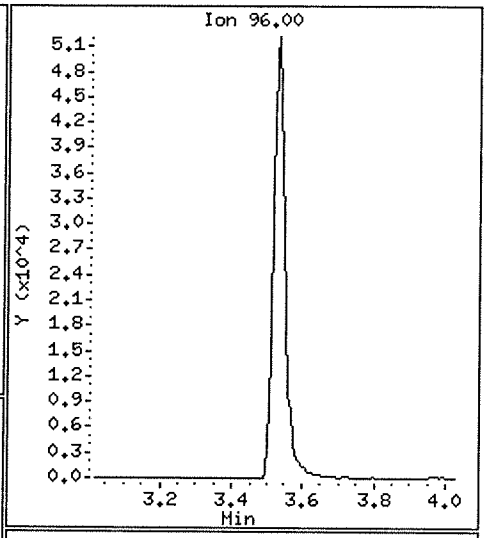
Column phase: DB624

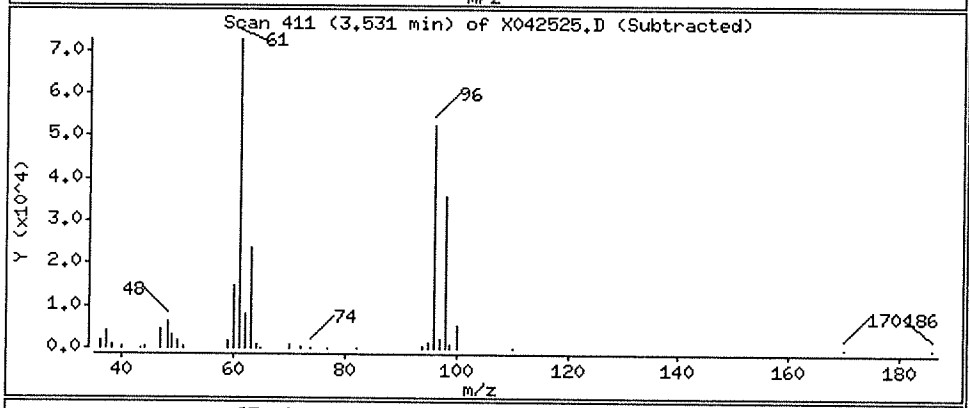
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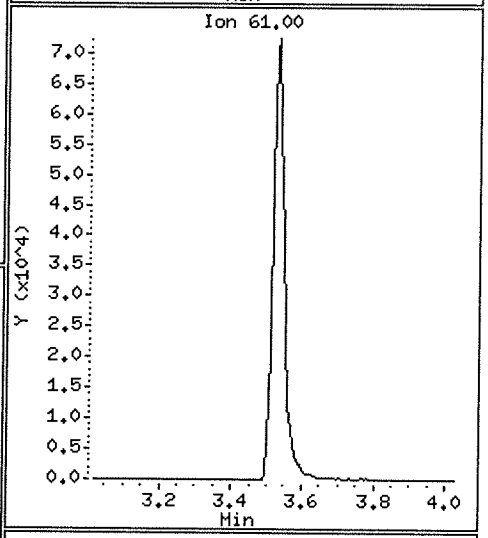
27 cis-1,2-Dichloroethene

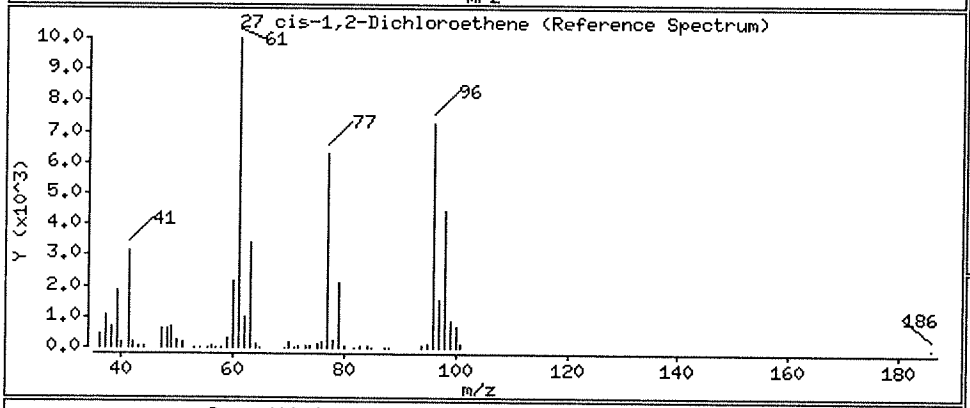
Concentration: 1239.48 ug/l

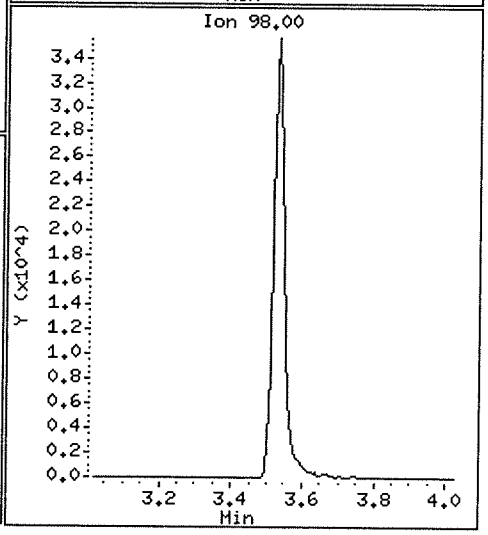


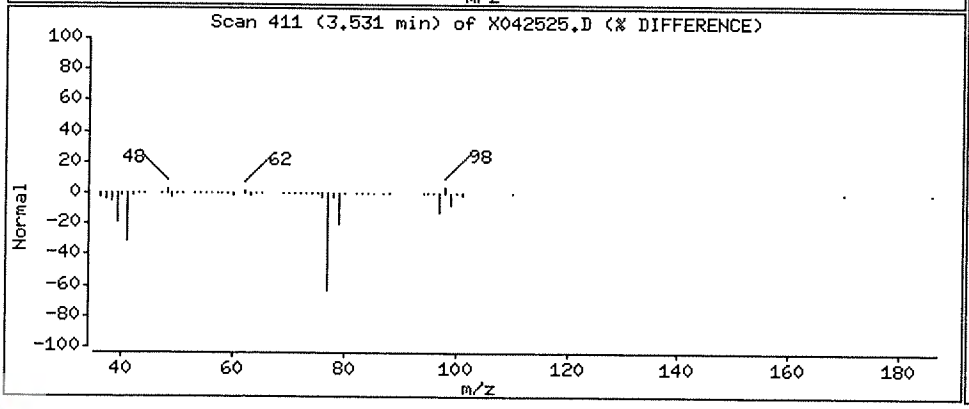












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042525.D

Date : 25-APR-2021 20:04

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

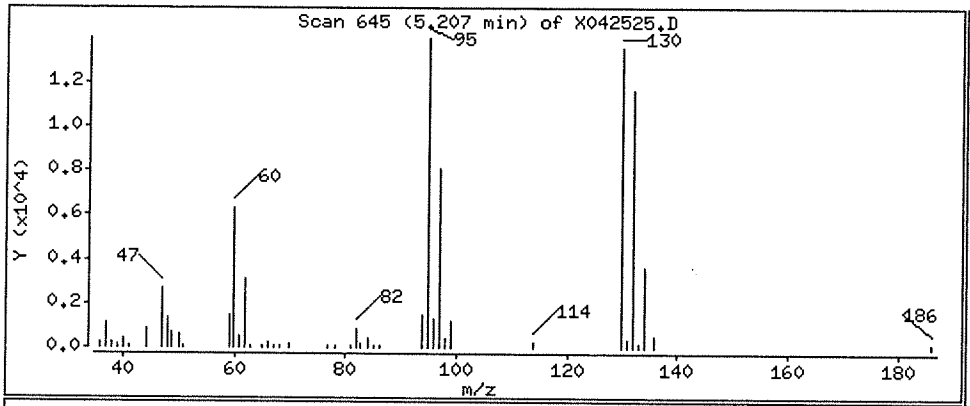
Operator: PC

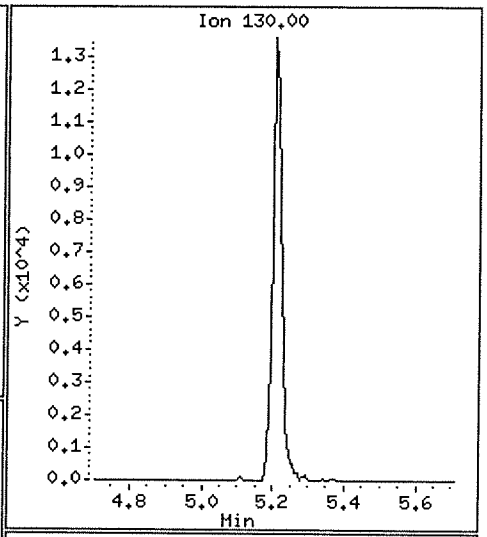
Column phase: DB624

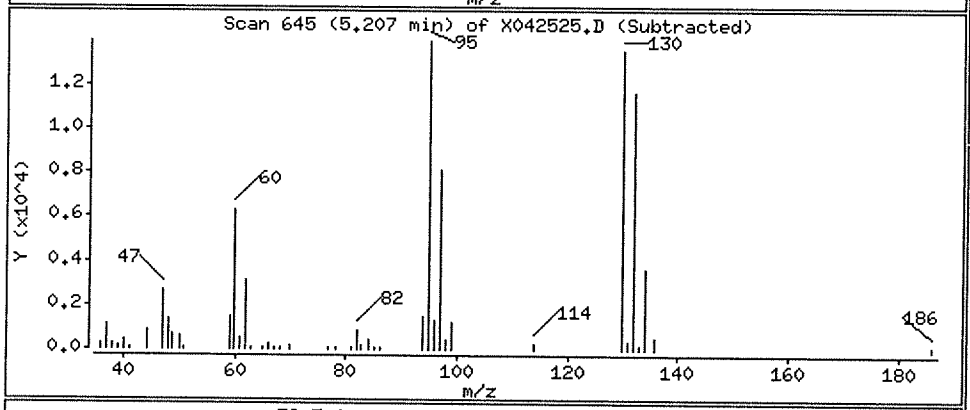
Column diameter: 0.18

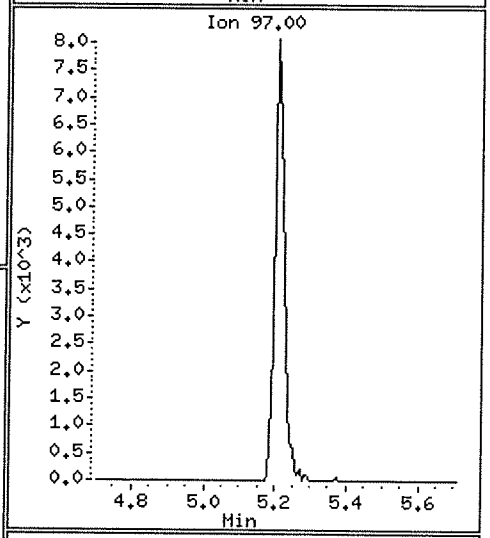
38 Trichloroethene

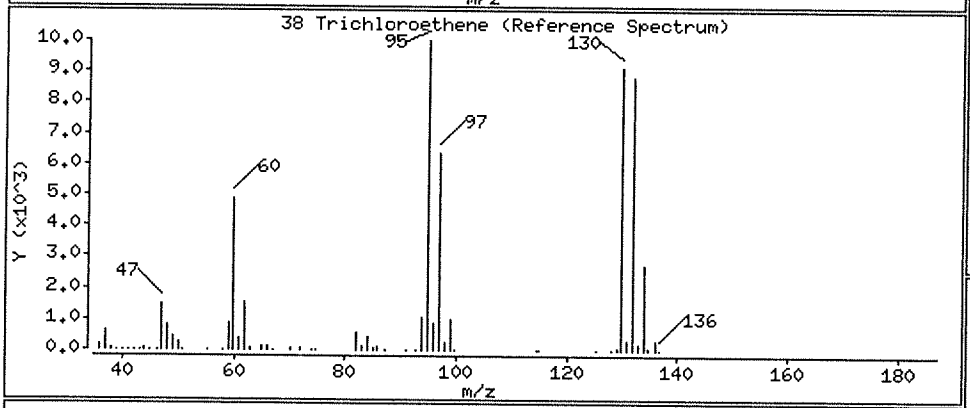
Concentration: 275.61 ug/l

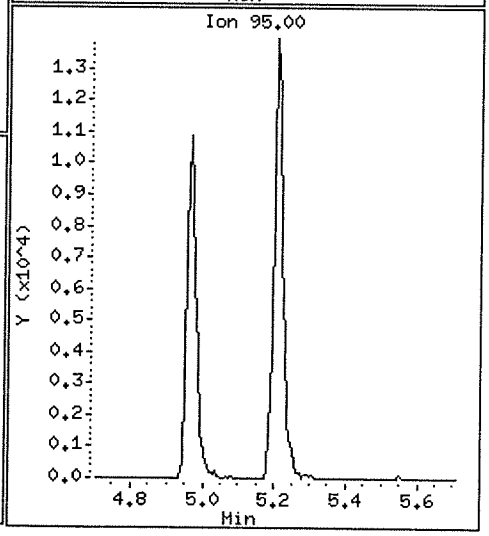


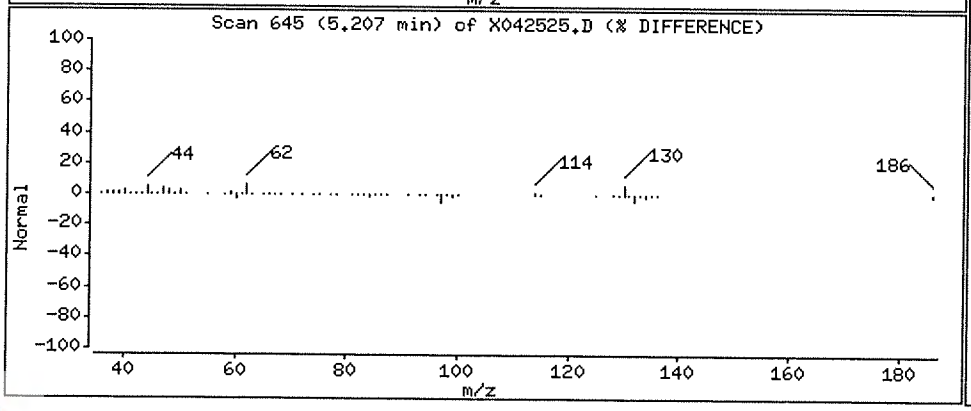












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042525.D

Date : 25-APR-2021 20:04

Client ID: HS21041169-02

Instrument: voa6.i

Sample Info: HS21041169-02;HS21041169-02;;;

Purge Volume: 5.0

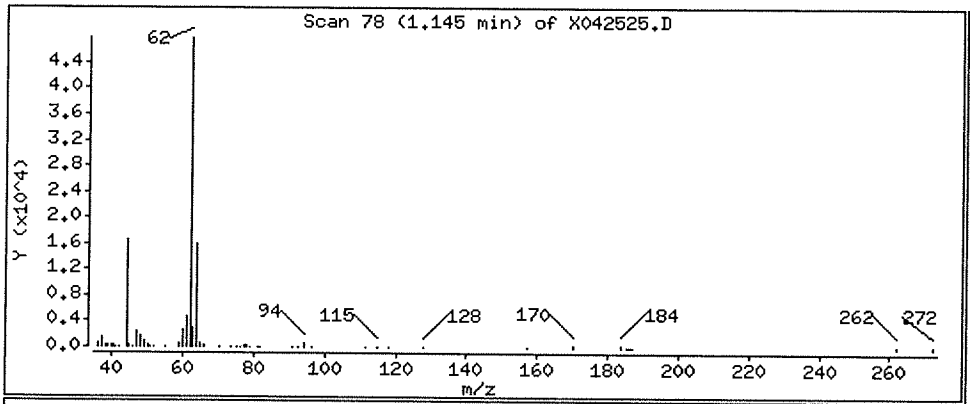
Operator: PC

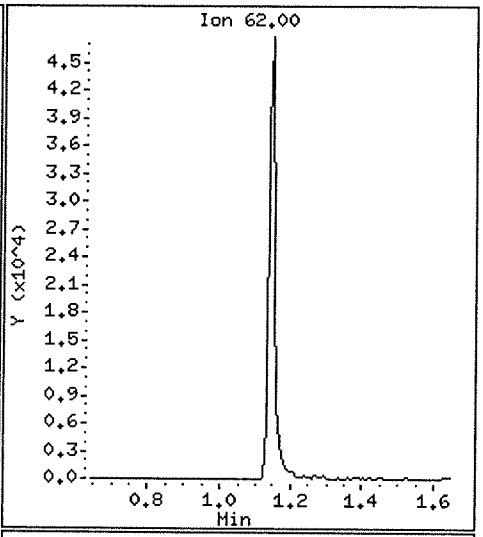
Column phase: DB624

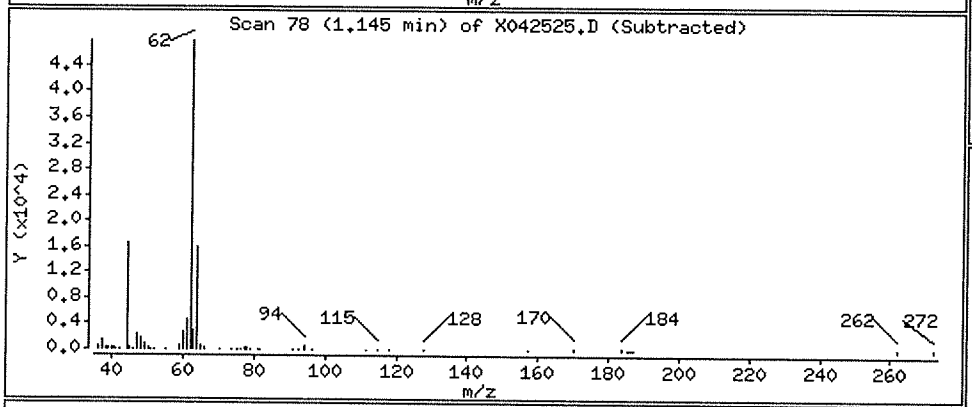
Column diameter: 0.18

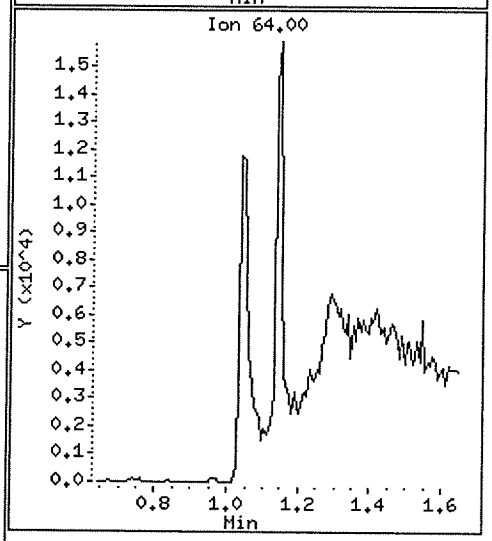
5 Vinyl Chloride

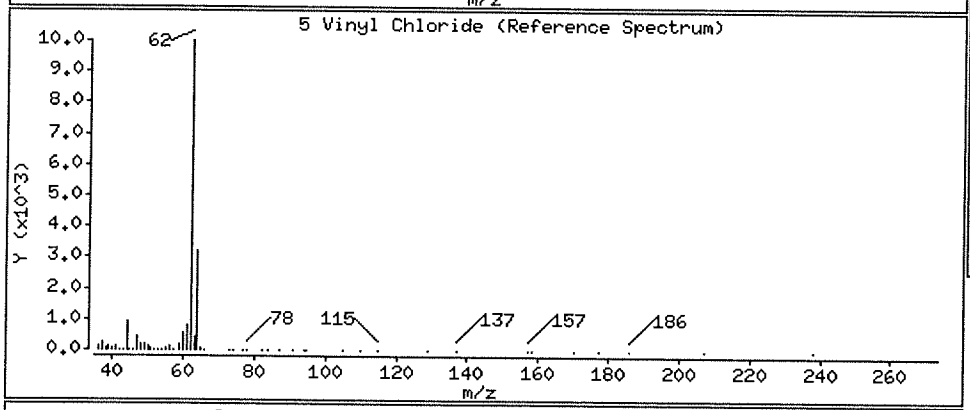
Concentration: 477.87 ug/l

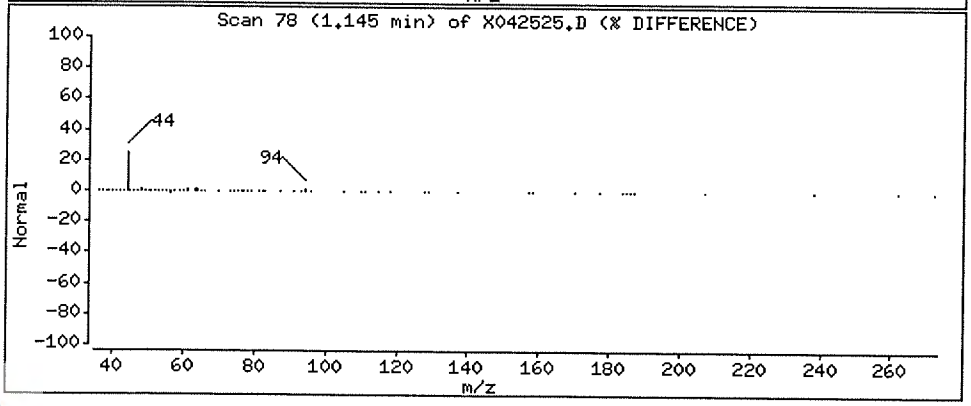












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D Page 1
Report Date: 19-May-2021 11:45

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D
Lab Smp Id: HS21041169-01 Client Smp ID: HS21041169-01
Inj Date : 25-APR-2021 21:07
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-01;HS21041169-01;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:44 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 27
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

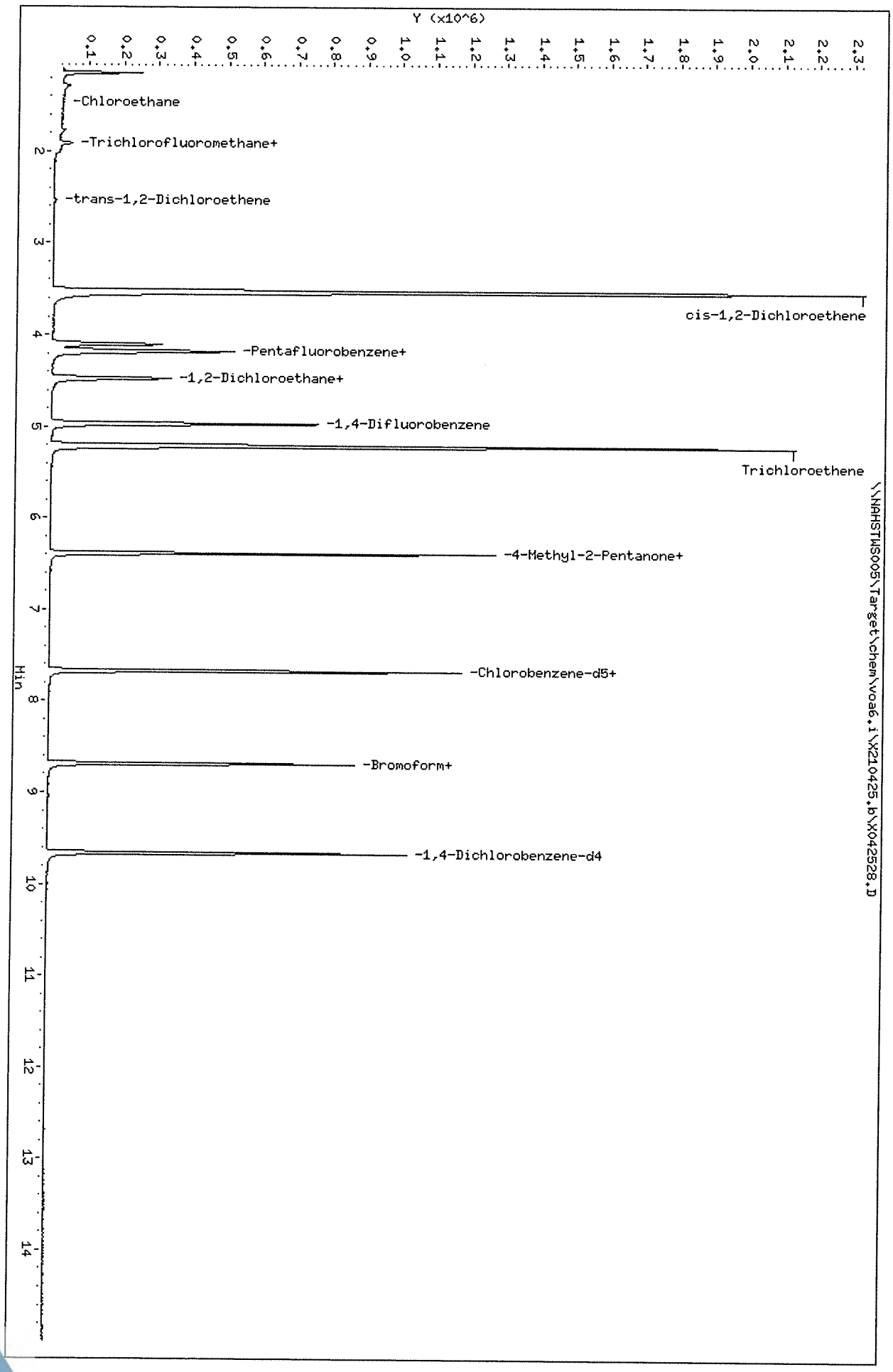
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	25.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	380812	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	616800	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	526228	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	226858	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	214326	47.8237	47.82
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	273247	50.8583	50.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	723663	53.3712	53.37
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	237308	47.1215	47.12
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4849	0.89428	22.35(a)
33 1,2-Dichloroethane	62	4.562	4.555	(0.918)	4799	0.73506	18.37(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	1112799	239.049	5976.23(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	598769	141.808	3545.20
5 Vinyl Chloride	62	1.145	1.145	(0.274)	165344	28.9614	724.03

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D
Date : 25-APR-2021 21:07
Client ID: HS21041169-01
Sample Info: HS21041169-01;HS21041169-01;;;
Purge Volume: 5.0
Column phase: DB624

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

\\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D

Date : 25-APR-2021 21:07

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

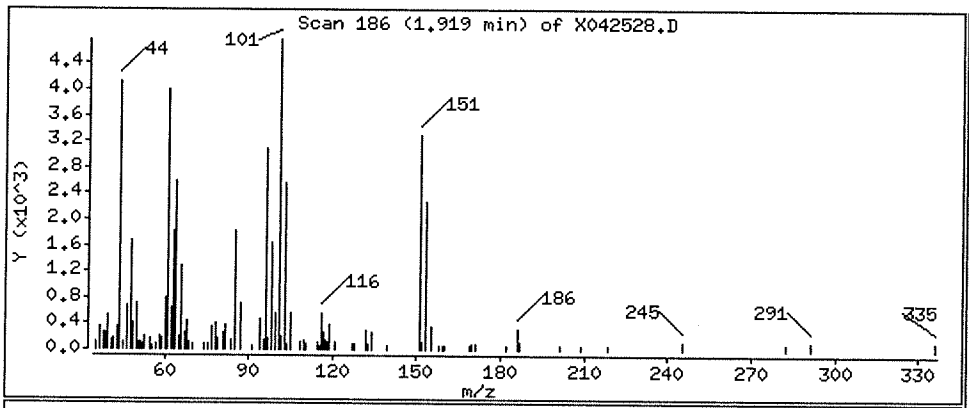
Operator: PC

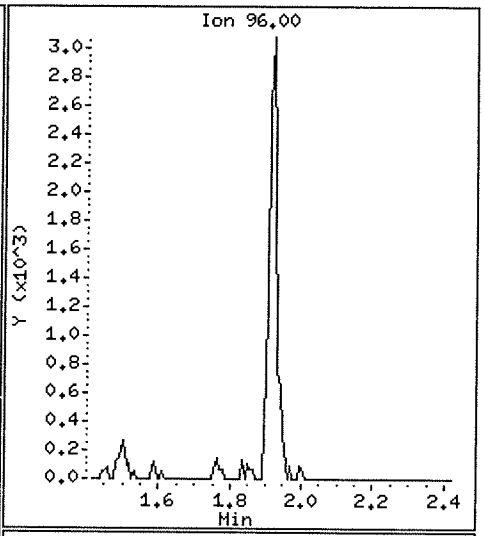
Column phase: DB624

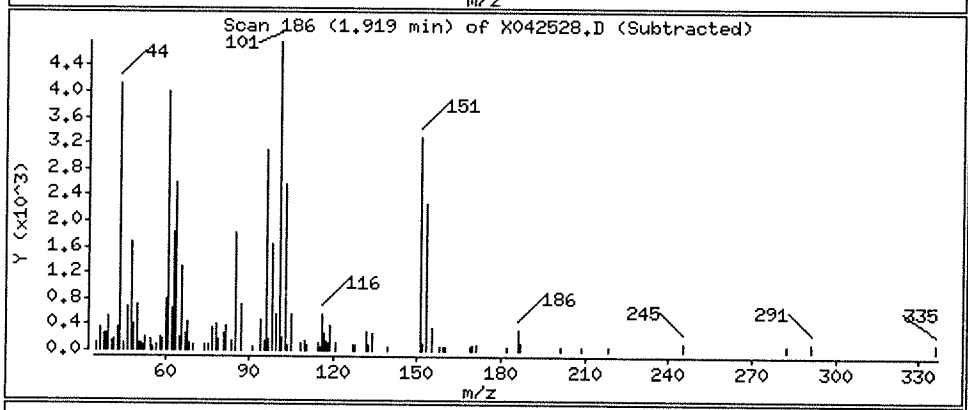
Column diameter: 0.18

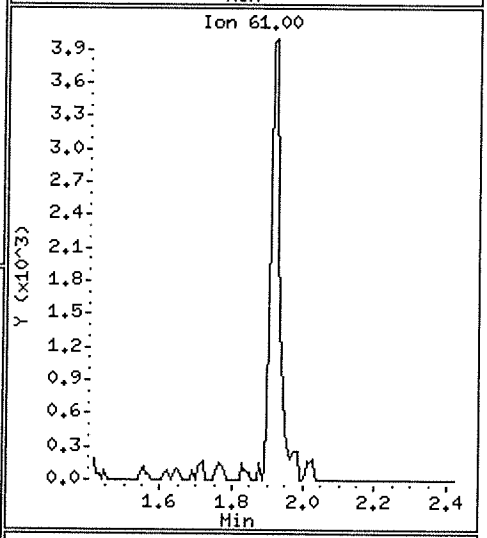
11 1,1-Dichloroethene

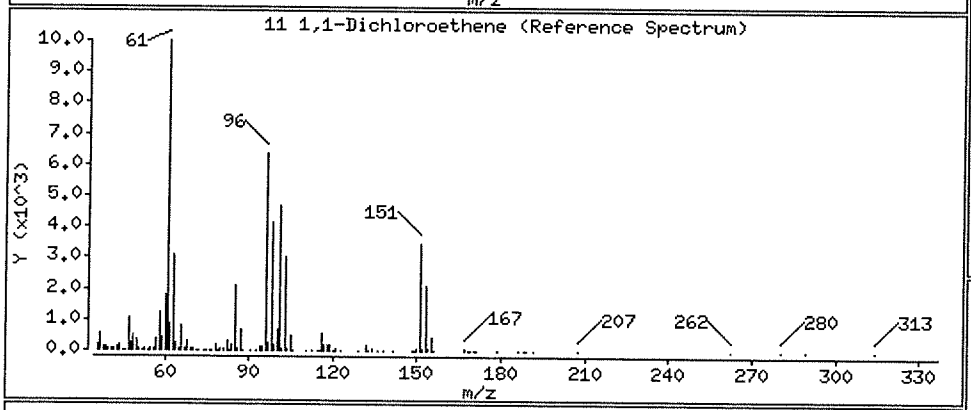
Concentration: 22.35 ug/l

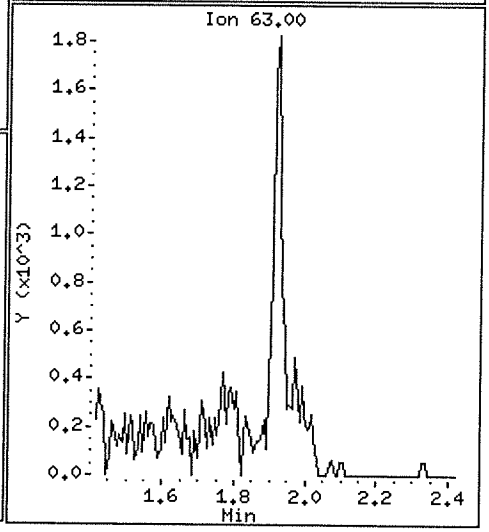


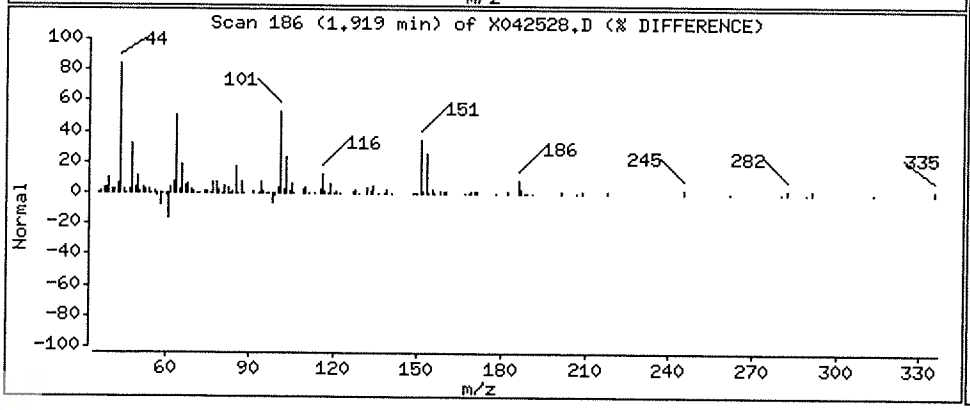












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D

Date : 25-APR-2021 21:07

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

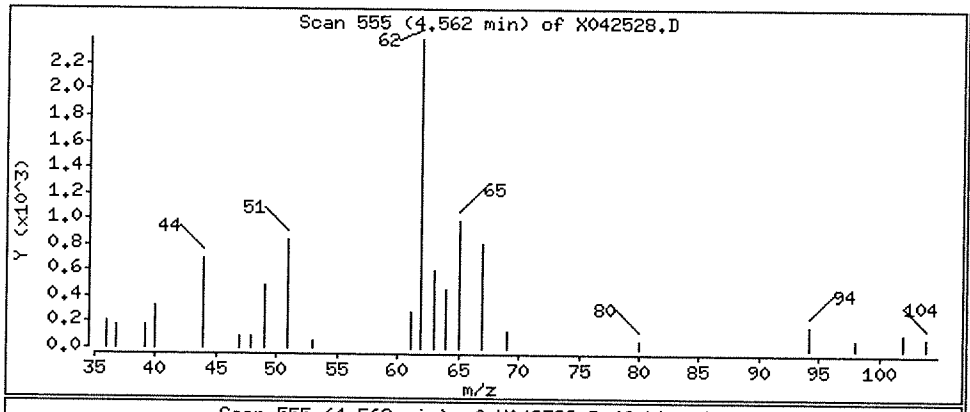
Operator: PC

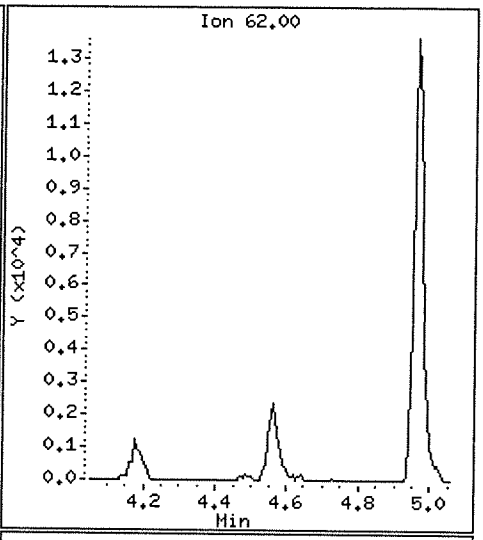
Column phase: DB624

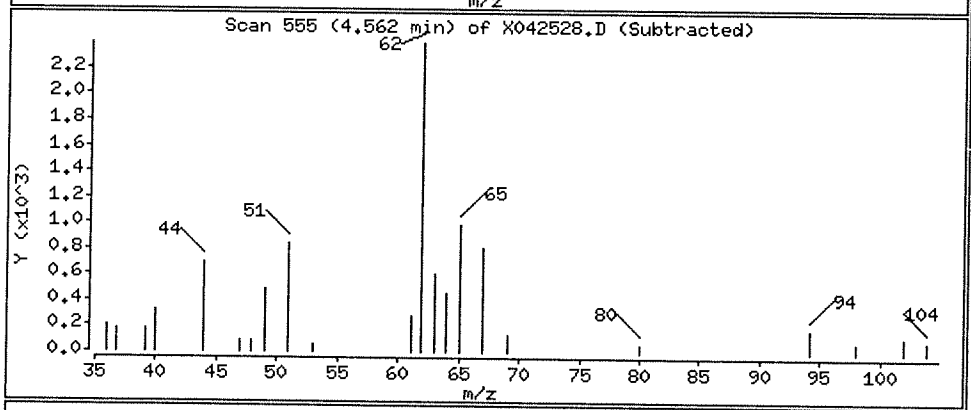
Column diameter: 0.18

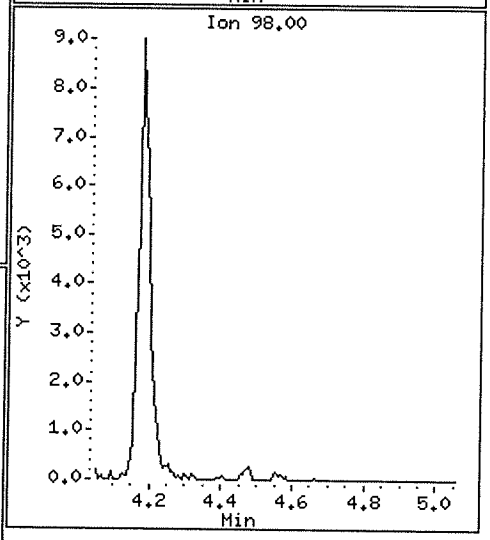
33 1,2-Dichloroethane

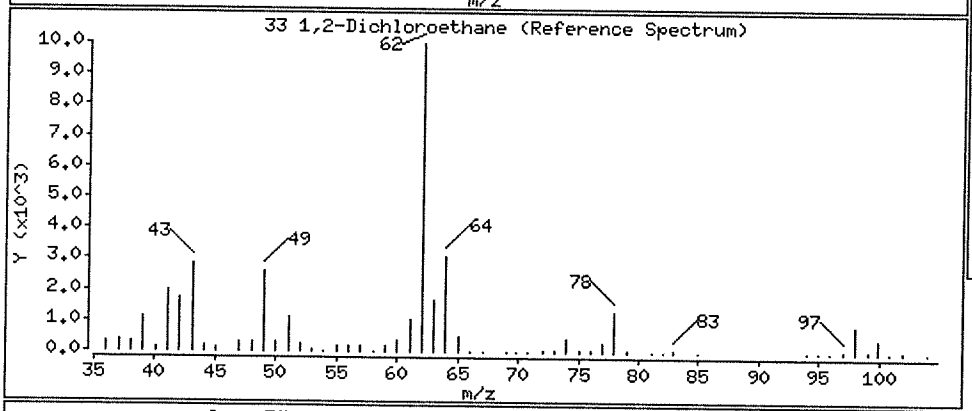
Concentration: 18.37 ug/l

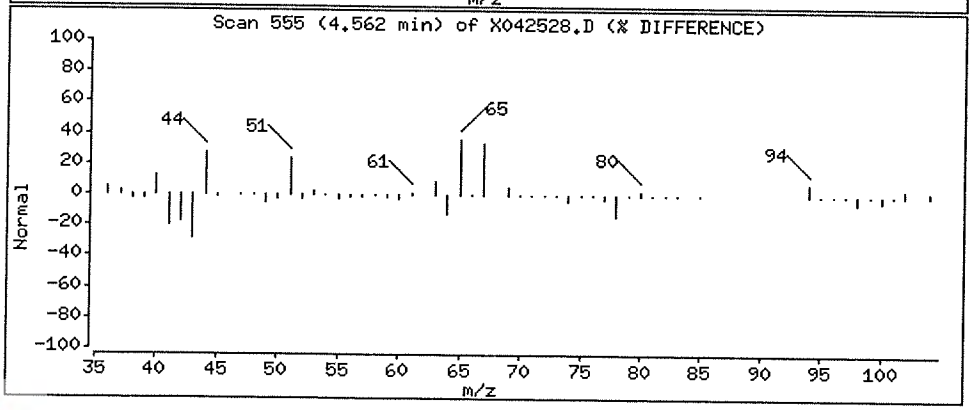












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D

Date : 25-APR-2021 21:07

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

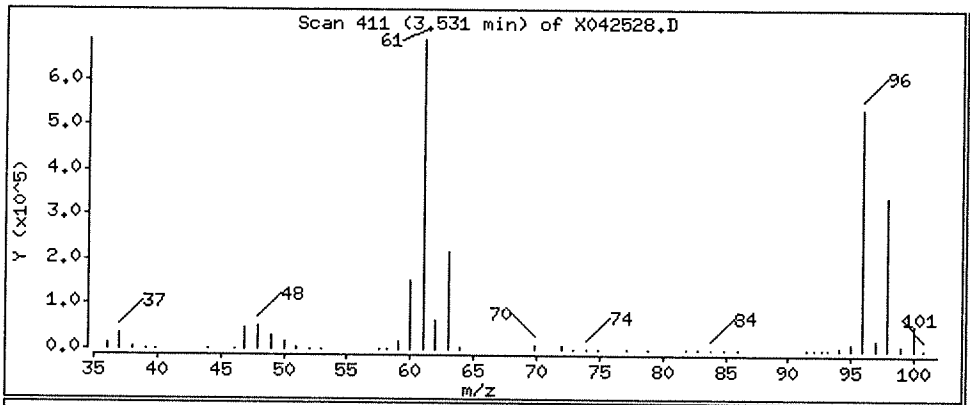
Operator: PC

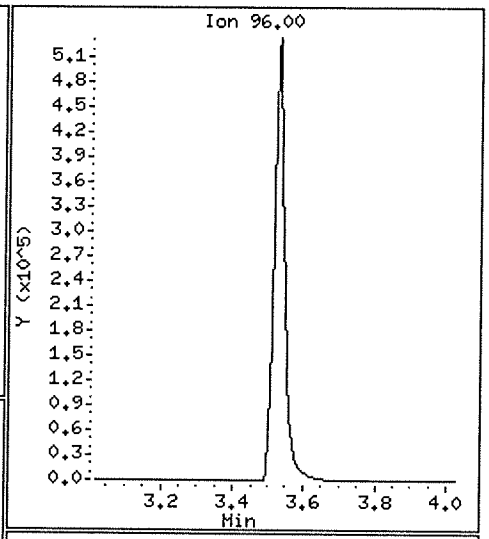
Column phase: DB624

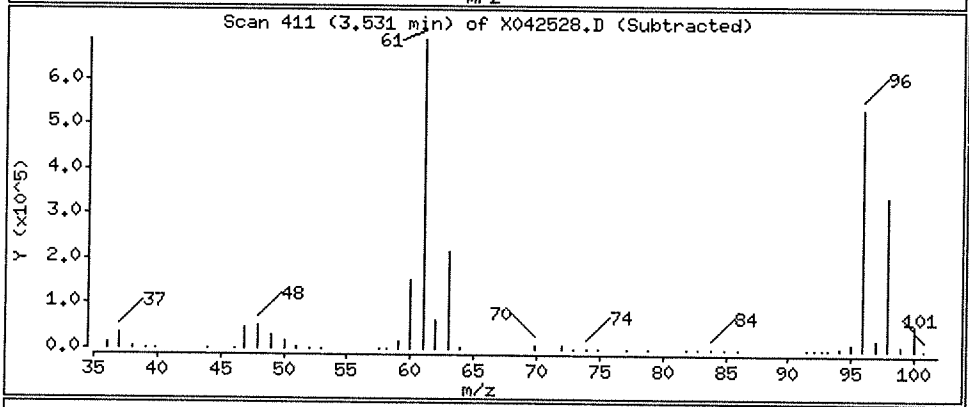
Column diameter: 0.18

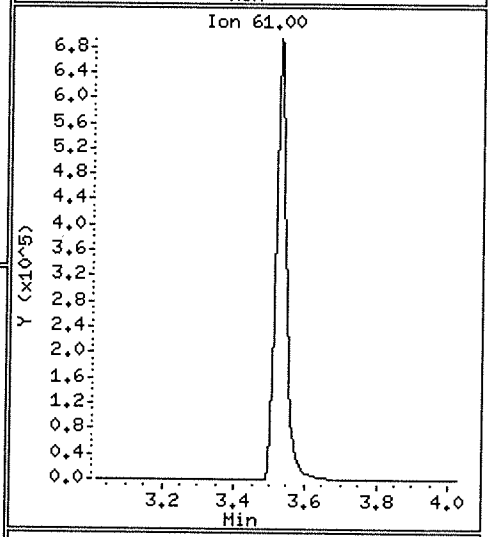
27 cis-1,2-Dichloroethene

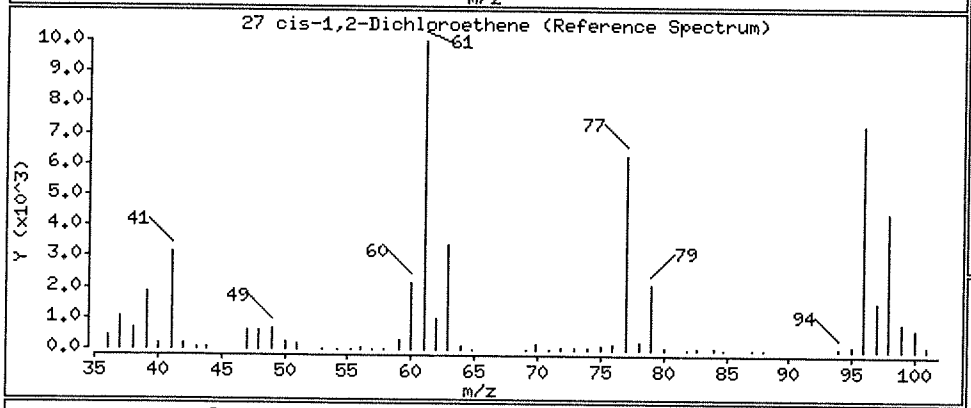
Concentration: 5976.23 ug/l

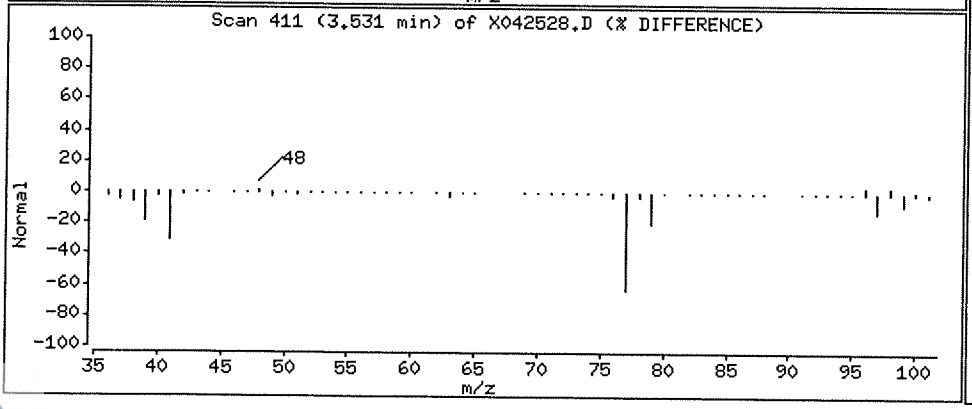


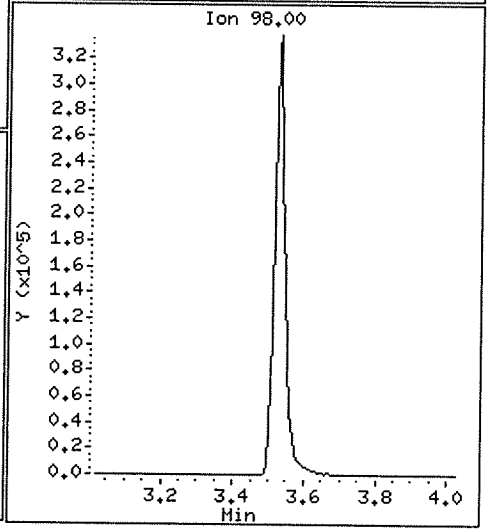












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D

Date : 25-APR-2021 21:07

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

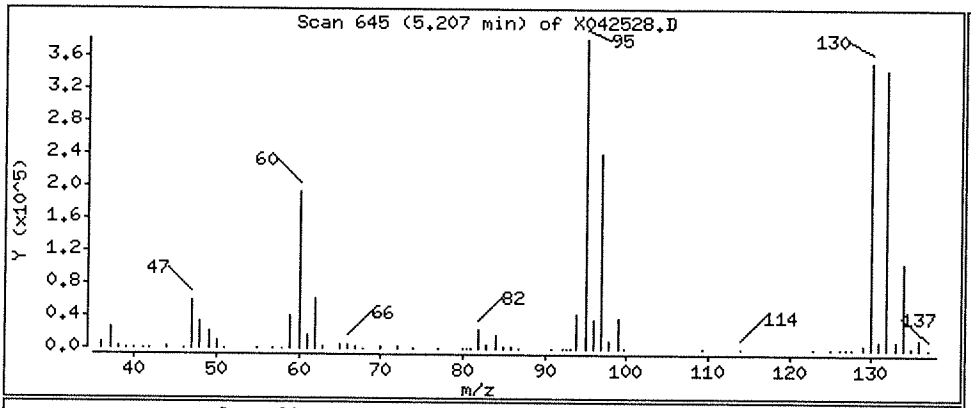
Operator: PC

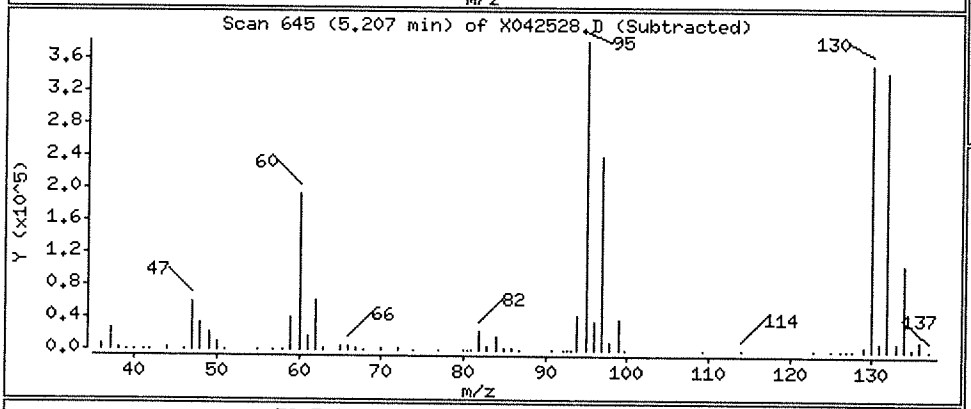
Column phase: DB624

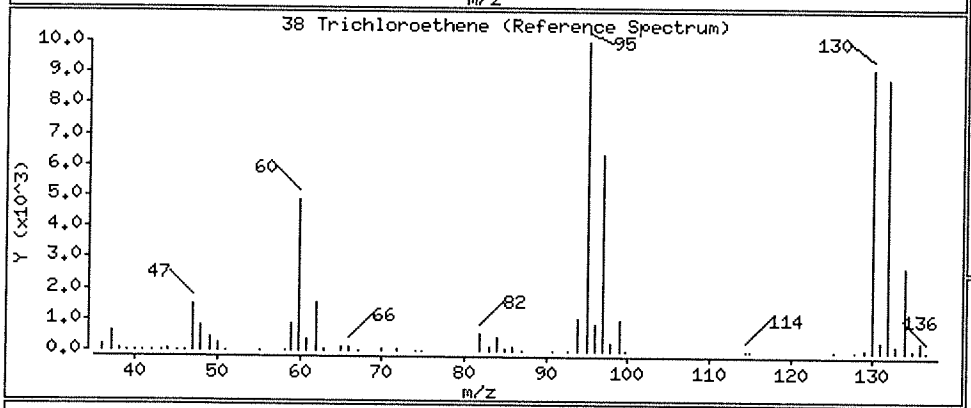
Column diameter: 0.18

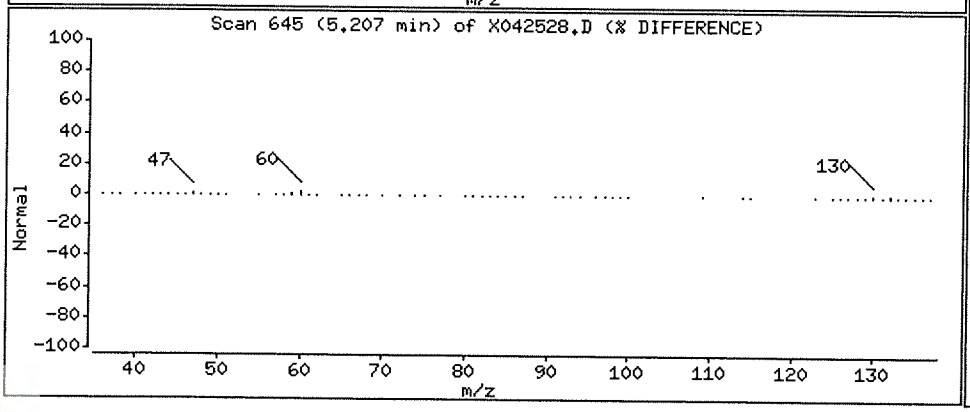
38 Trichloroethene

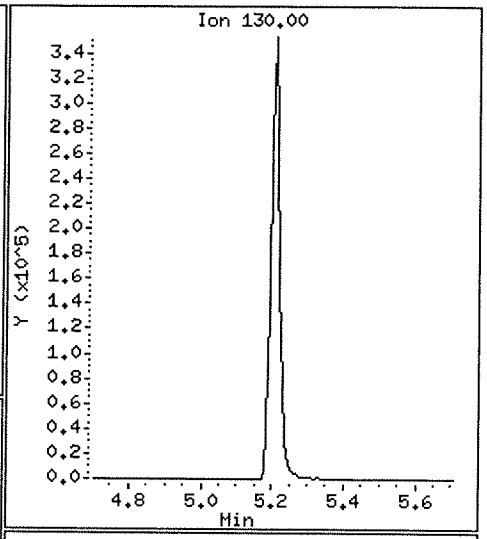
Concentration: 3545.20 ug/l

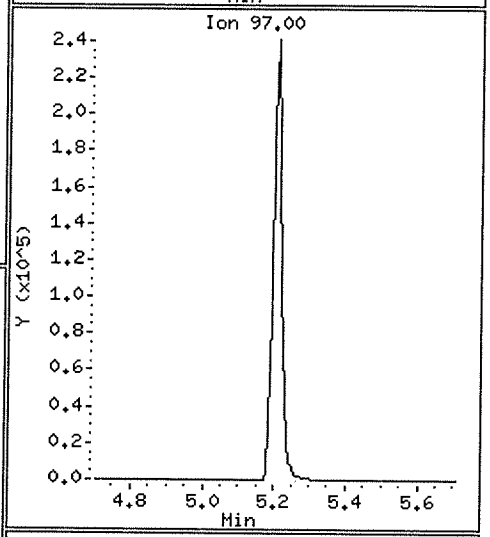


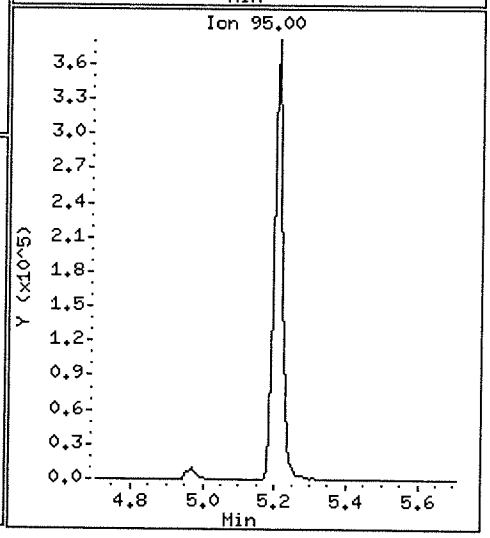












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042528.D

Date : 25-APR-2021 21:07

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

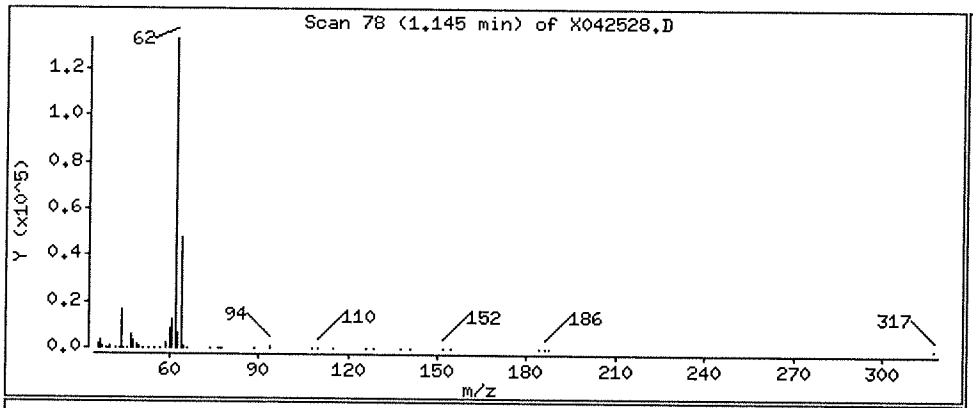
Operator: PC

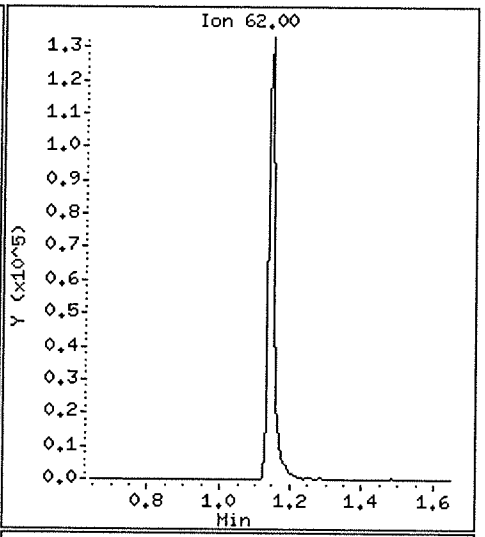
Column phase: DB624

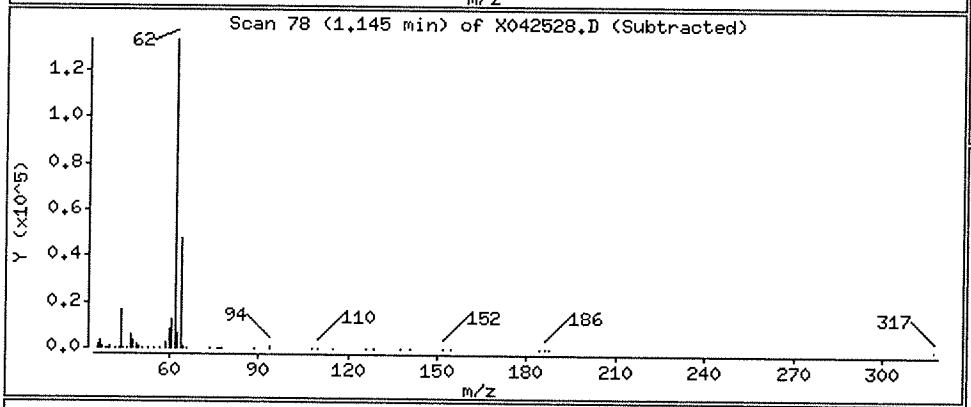
Column diameter: 0.18

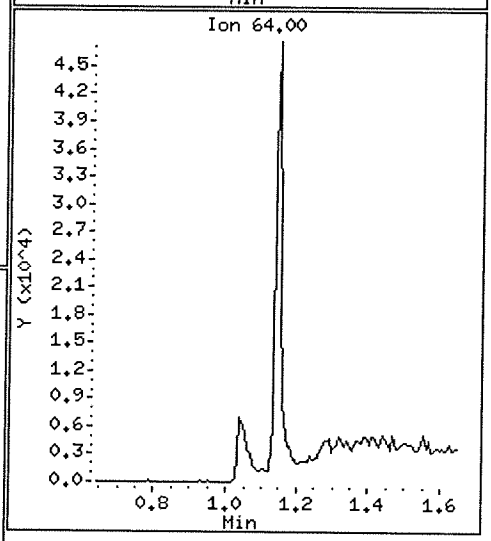
5 Vinyl Chloride

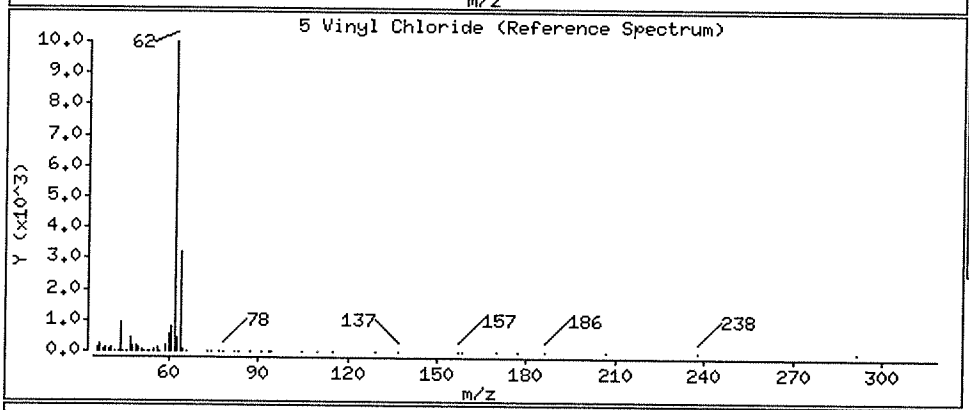
Concentration: 724.03 ug/l

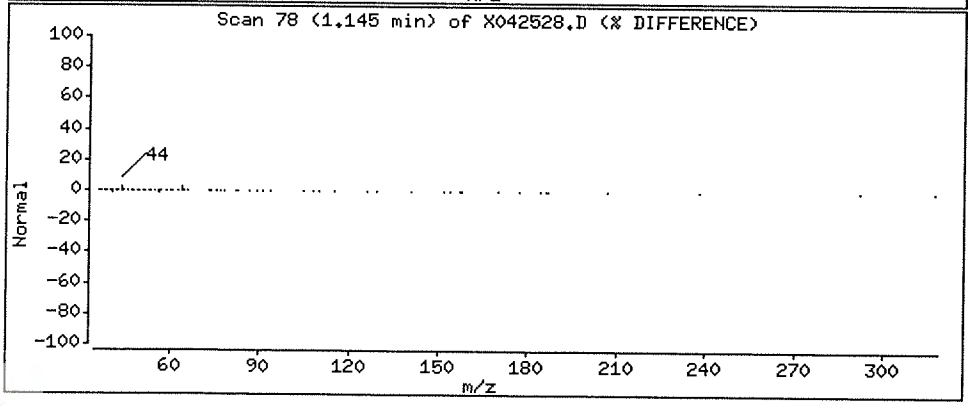












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042529.D Page 1
Report Date: 19-May-2021 11:45

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042529.D
Lab Smp Id: HS21041169-01 Client Smp ID: HS21041169-01
Inj Date : 25-APR-2021 21:28
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-01;HS21041169-01;;;
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 19-May-2021 11:44 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 28
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

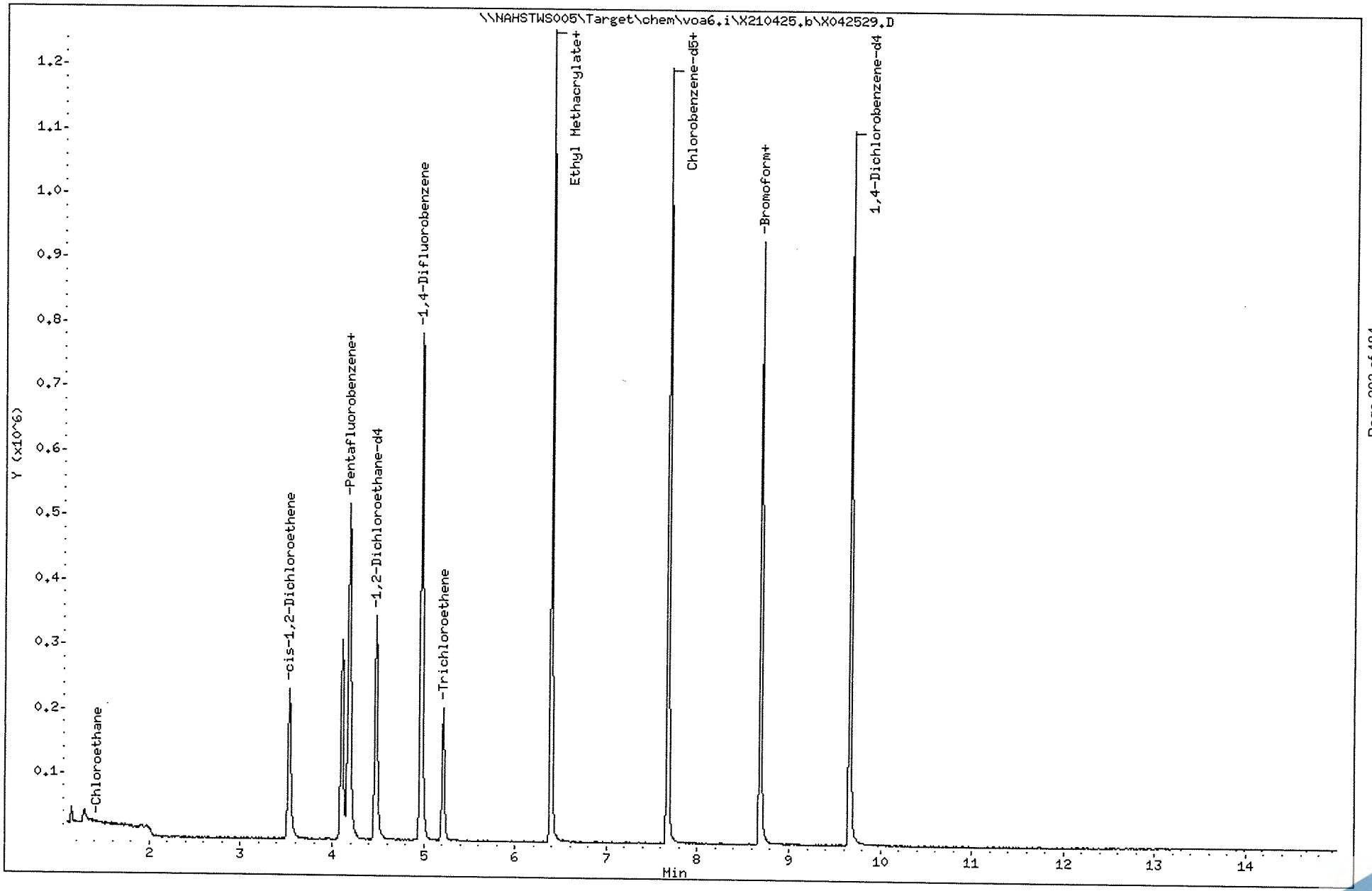
Name	Value	Description
DF	250.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	389224	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	614911	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	540790	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	233780	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	207544	45.3323	45.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	272636	49.6593	49.65
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	741360	53.2099	53.20
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	243618	47.0736	47.07
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	113445	23.8433	5960.83
38 Trichloroethene	130	5.206	5.206	(1.049)	61711	14.6601	3665.02
5 Vinyl Chloride	62	1.138	1.145	(0.272)	17376	2.97777	744.44

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042529.D
Date : 25-APR-2021 21:28
Client ID: HS21041169-01
Sample Info: HS21041169-01;HS21041169-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042529.D

Date : 25-APR-2021 21:28

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

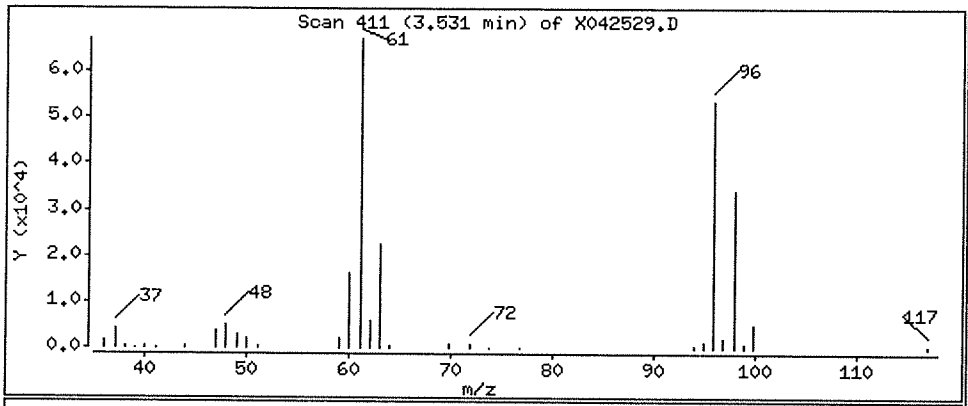
Operator: PC

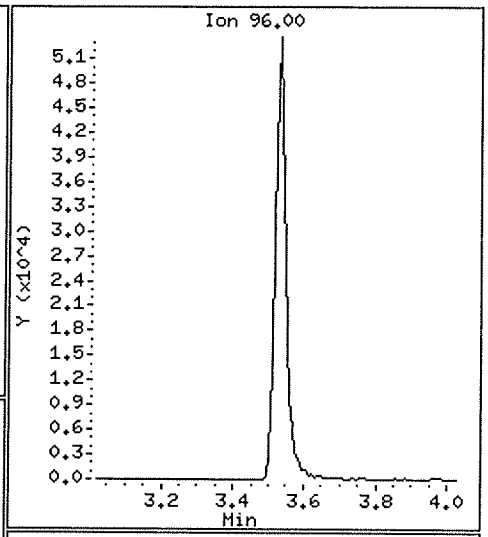
Column phase: DB624

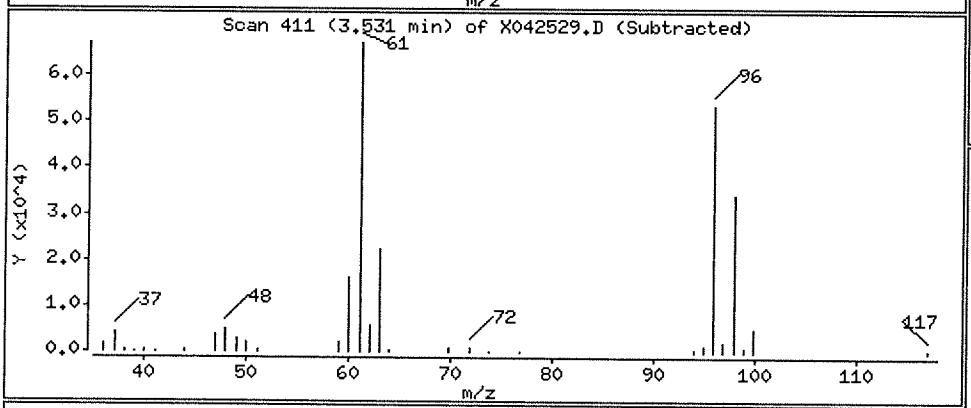
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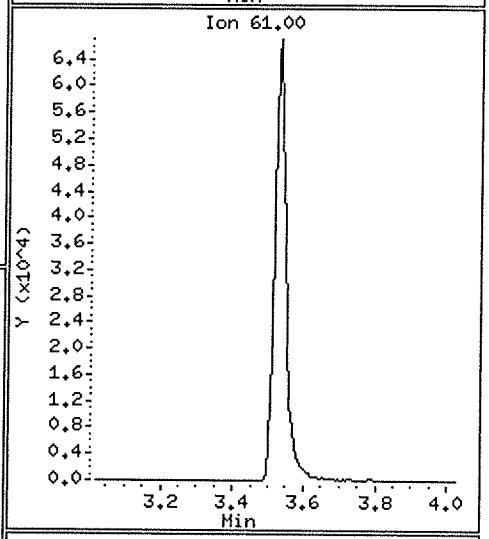
27 cis-1,2-Dichloroethene

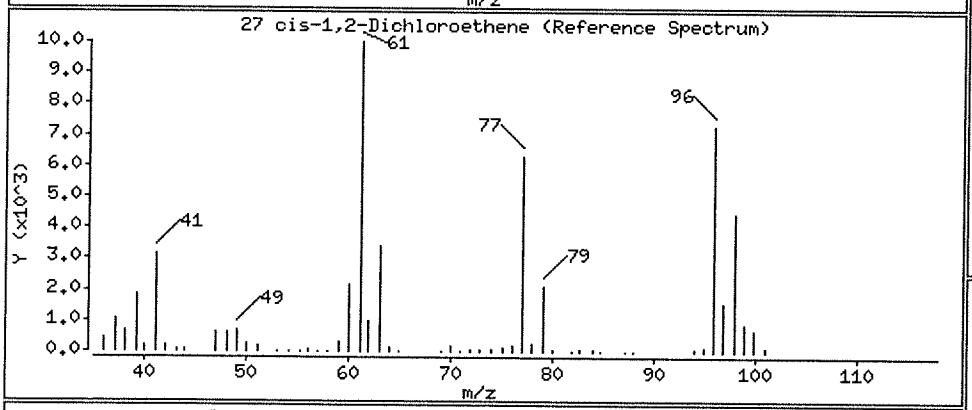
Concentration: 5960.83 ug/l

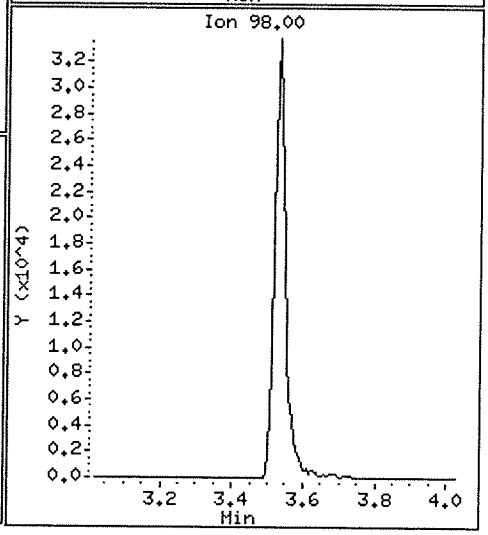


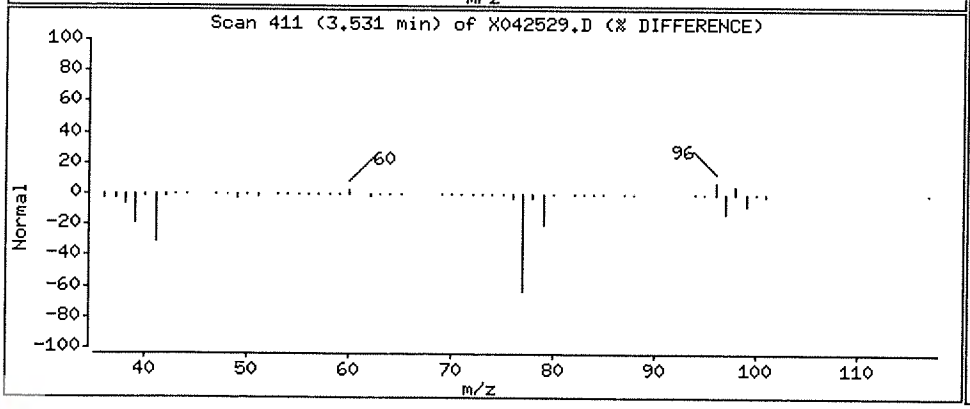












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042529.D

Date : 25-APR-2021 21:28

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

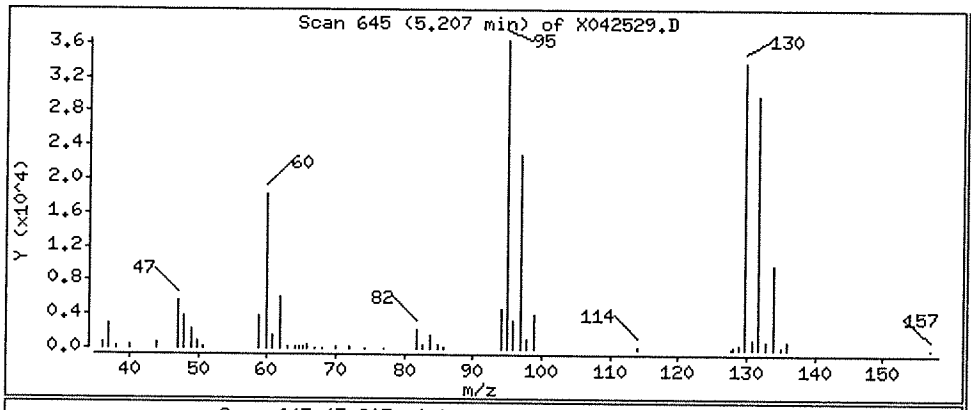
Operator: PC

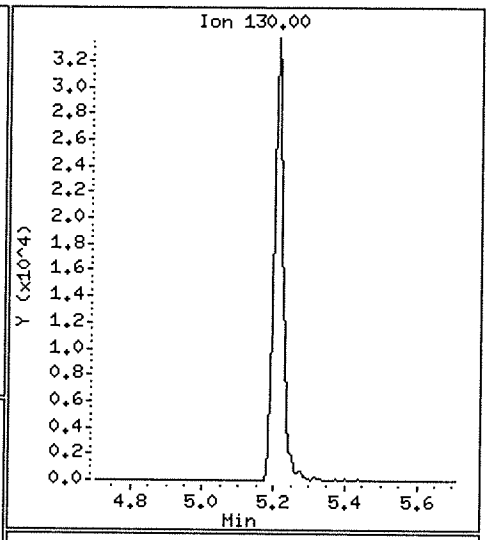
Column phase: DB624

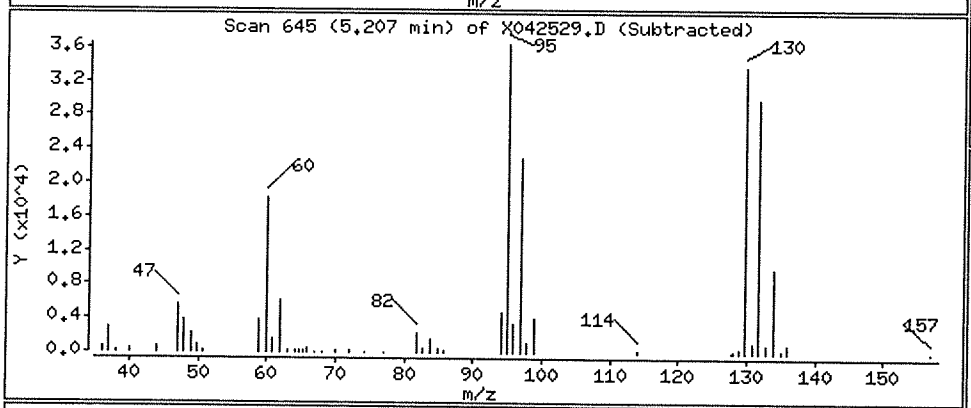
Column diameter: 0.18

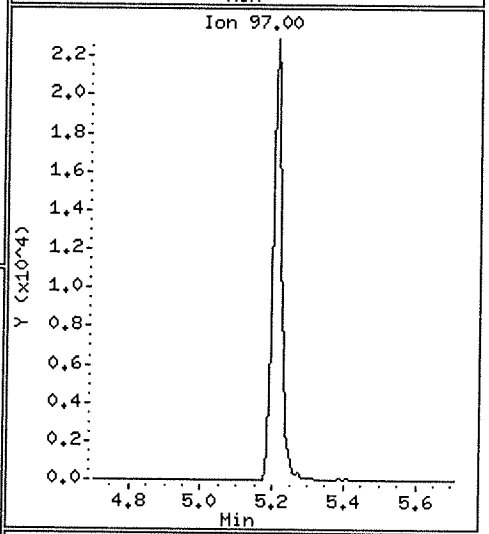
38 Trichloroethene

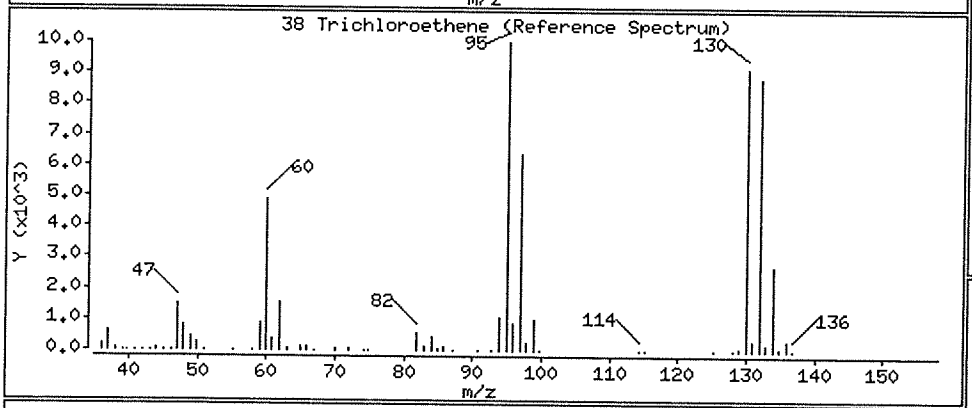
Concentration: 3665.02 ug/l

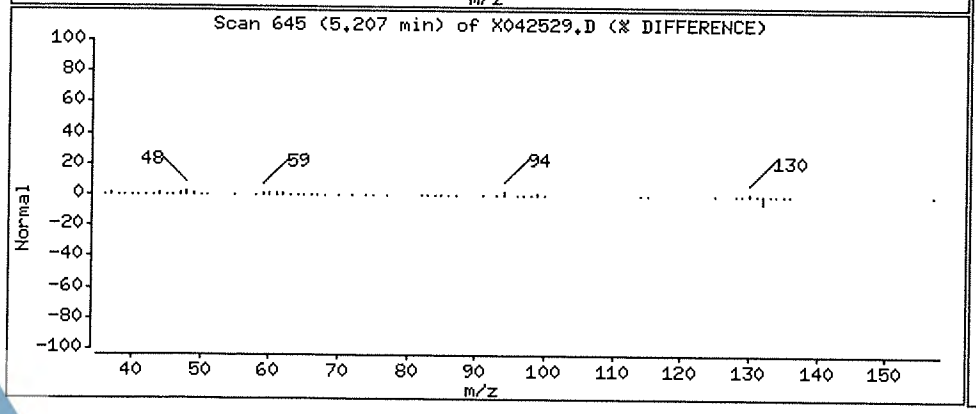


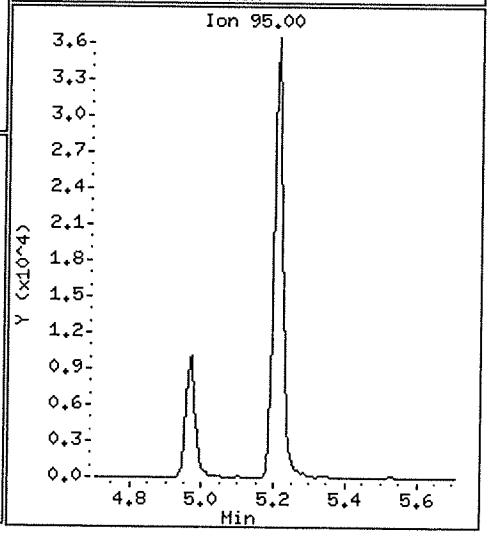












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042529.D

Date : 25-APR-2021 21:28

Client ID: HS21041169-01

Instrument: voa6.i

Sample Info: HS21041169-01;HS21041169-01;;;

Purge Volume: 5.0

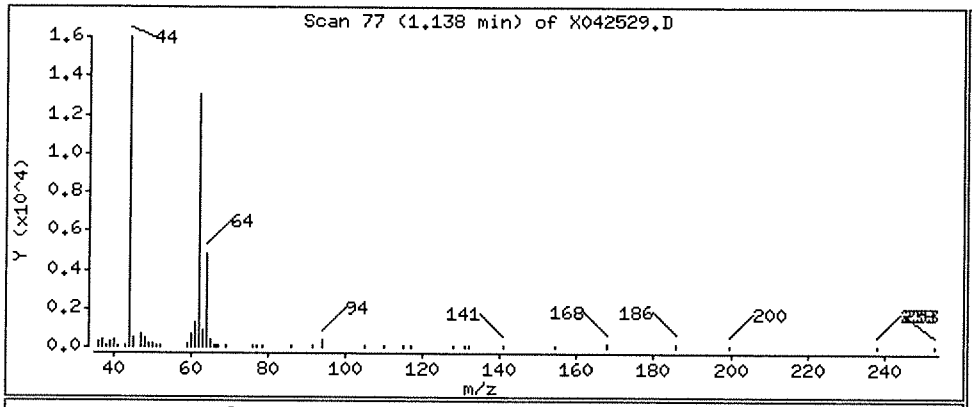
Operator: PC

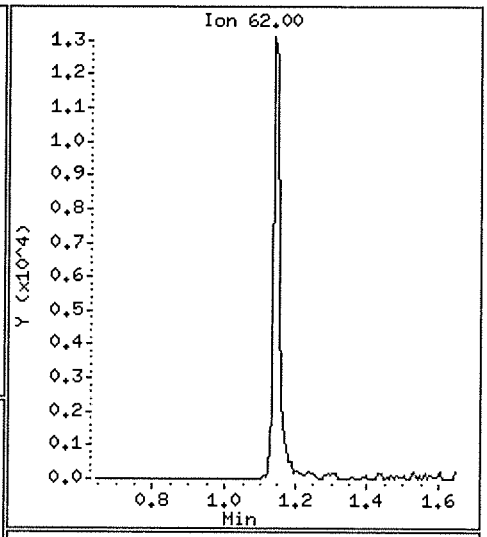
Column phase: DB624

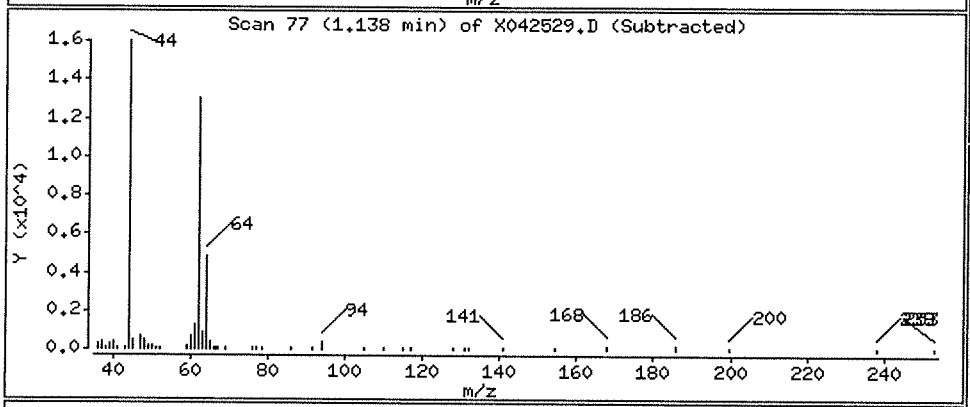
Column diameter: 0.18

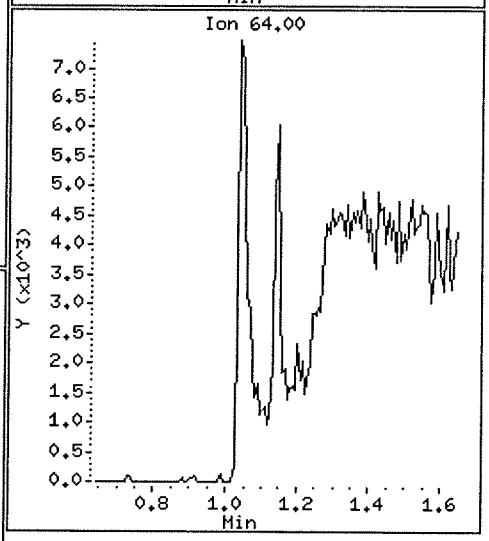
5 Vinyl Chloride

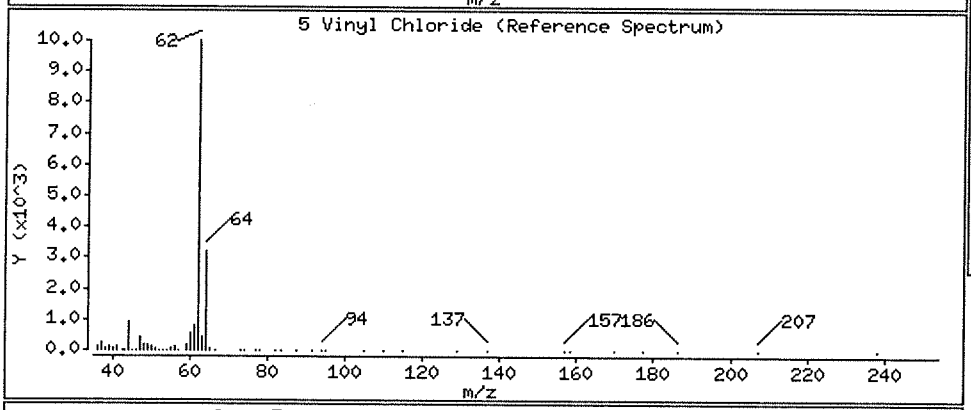
Concentration: 744.44 ug/l

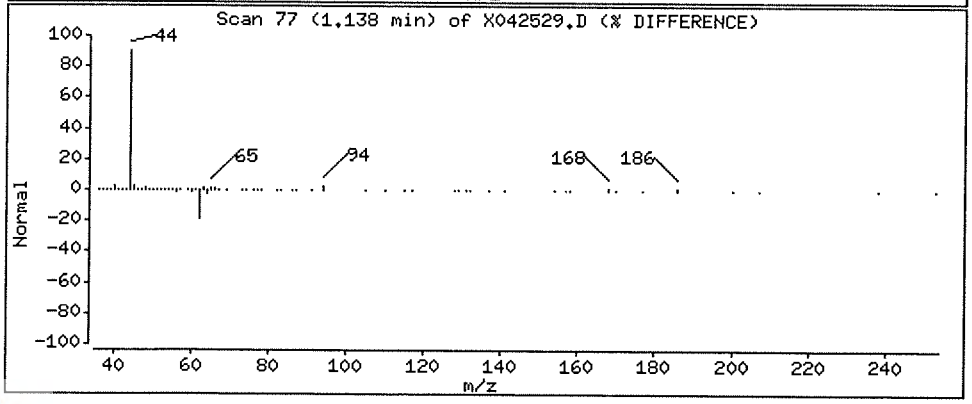












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D Page 1
Report Date: 19-May-2021 11:43

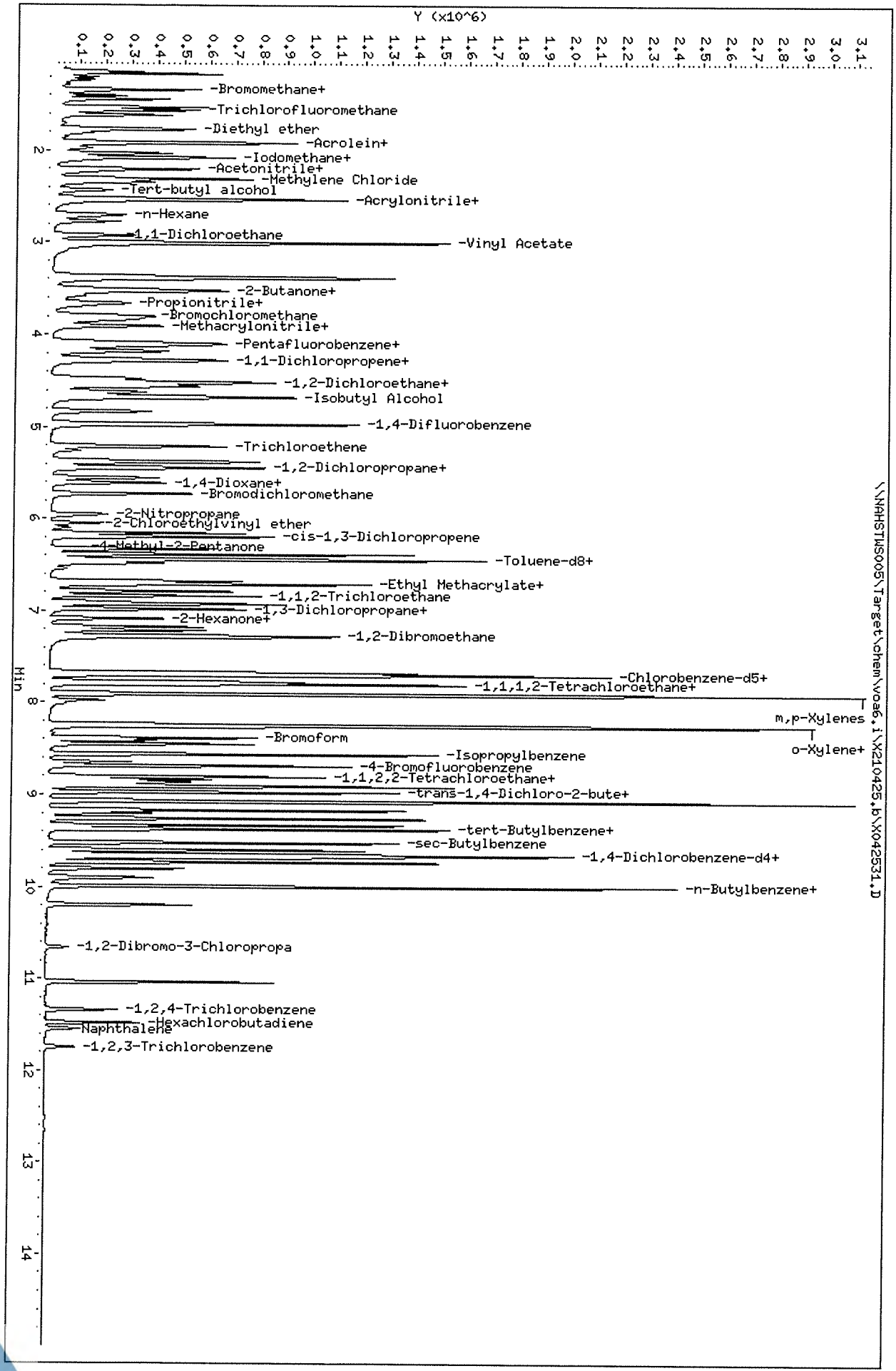
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 25-APR-2021 22:10
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\X210425.b\8260W.m
Meth Date : 19-May-2021 11:43 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	320604	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	588285	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	569948	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271739	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	211735	50.0000	56.04
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	257444	50.0000	56.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	780284	50.0000	53.14
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	288864	50.0000	52.75
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178483	50.0000	53.90
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	189528	50.0000	41.51
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	318522	50.0000	51.15
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	214226	50.0000	54.66
17 Methylene Chloride	84	2.305	2.305	(0.551)	180986	50.0000	51.95
38 Trichloroethene	130	5.206	5.206	(1.049)	194326	50.0000	48.25
5 Vinyl Chloride	62	1.145	1.145	(0.274)	225419	50.0000	46.89



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D
Date : 25-APR-2021 22:10
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

HS21041169 RSK175 Raw Data

ALS WO# HS21041169

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.090	114	75-125
Methane	9.647	9.597	99	75-125
Ethane	18.043	19.657	109	75-125
Propane	26.463	27.238	103	75-125
N-Butane	34.955	36.010	103	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	535.608	567.359	564.985	516.024	665.282	425.678
Methane	968.912	978.238	1019.699	880.798	960.713	930.704
Ethane	602.493	670.177	658.908	597.201	808.513	817.630
Propane	500	1279	2602	4785	18294	38286
N-Butane	438	936	2034	3864	18446	42817

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104116

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	828.858	AVRG		586.256273		21.932	
Methane	1081.580	AVRG		974.377787		6.550	
Ethane	999.335	AVRG		736.322546		19.885	
Propane	96509	2ORDR	0.97987006	1.529e-003	-4.58e-009	0.9991365	0
N-Butane	114164	2ORDR	2.46870151	1.834e-003	-5.54e-009	0.9980766	0

FORM VI GASES

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

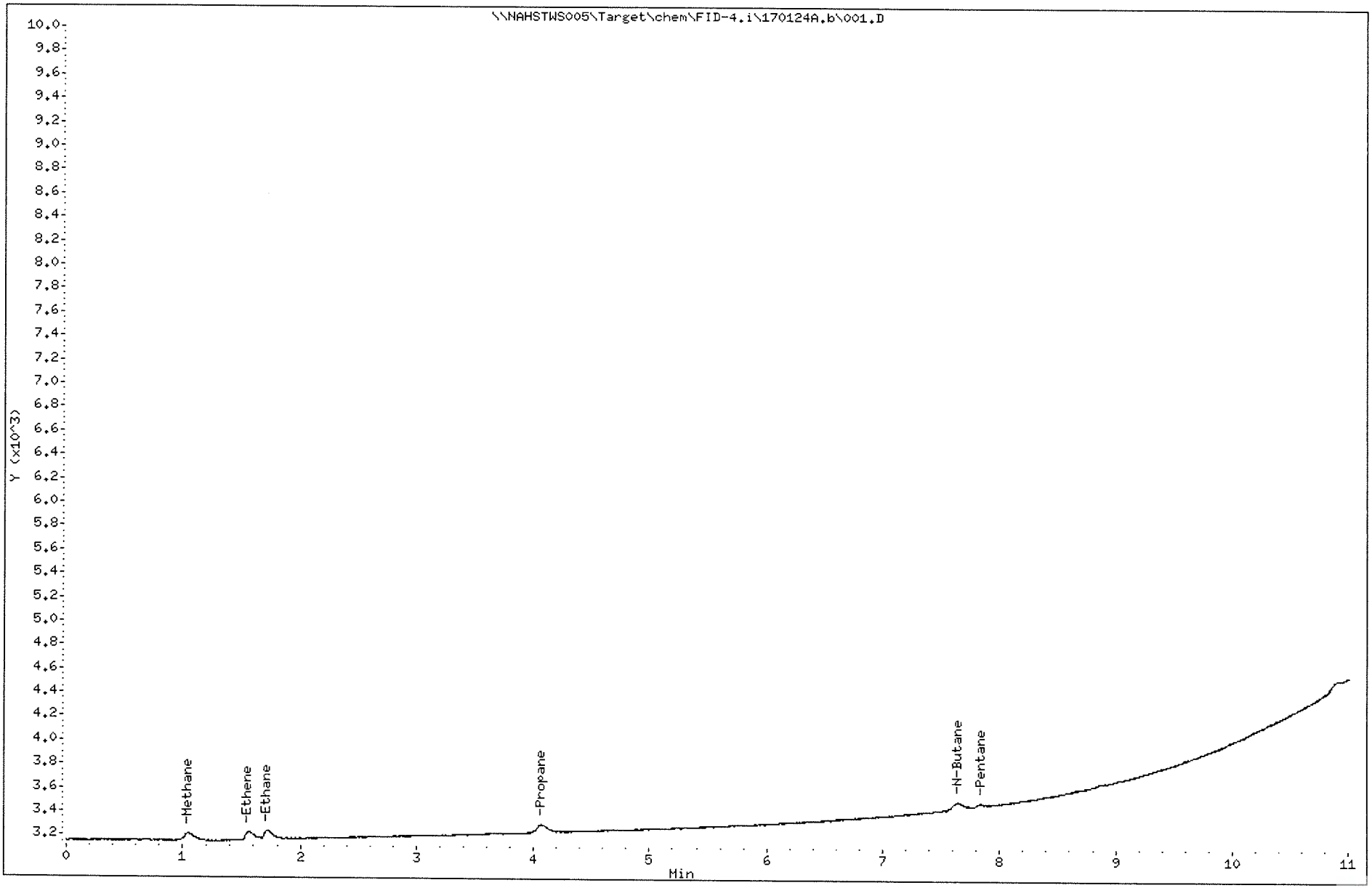
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

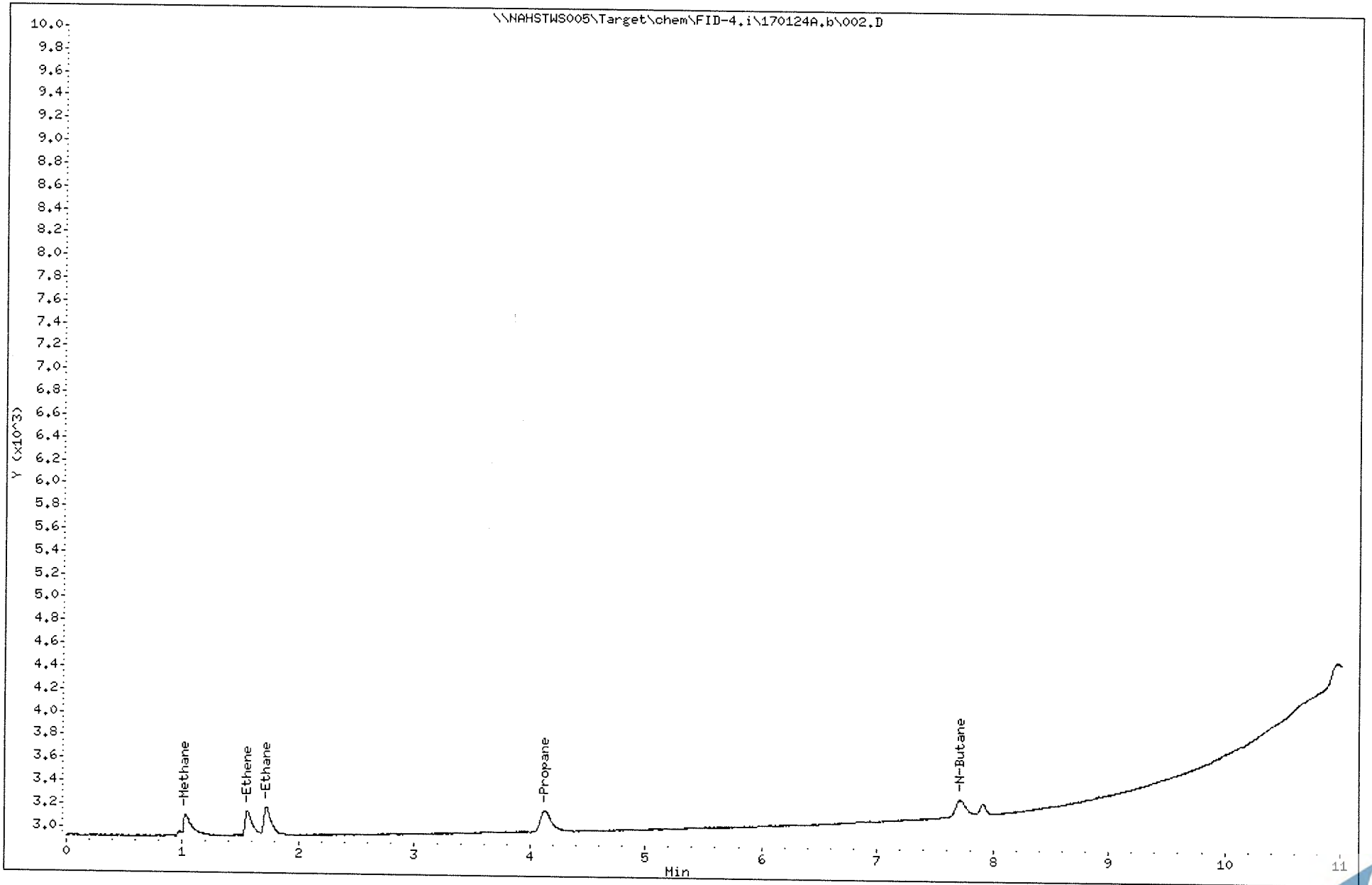
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

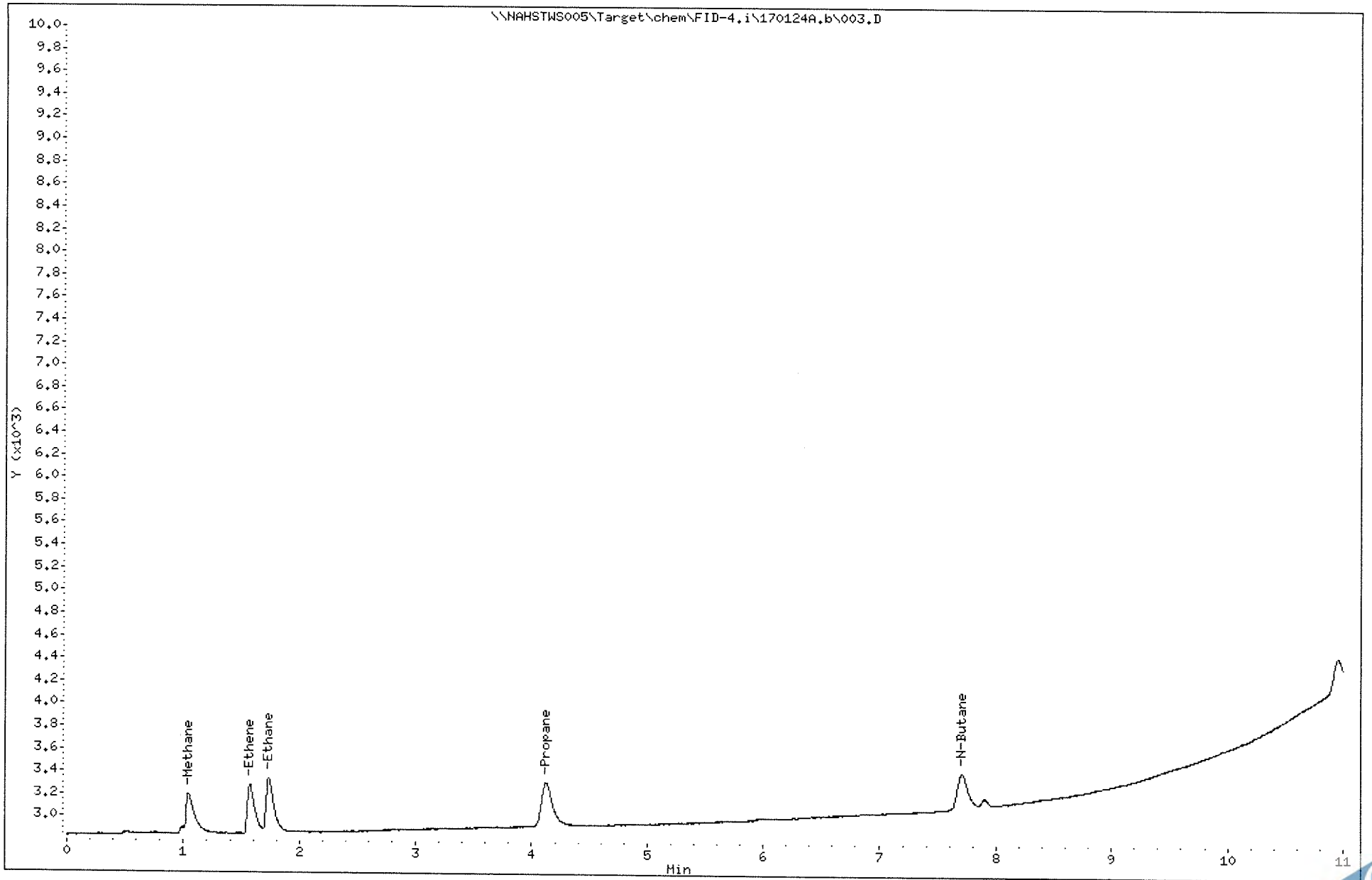
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864	13.9820	9.473(M)

QC Flag Legend

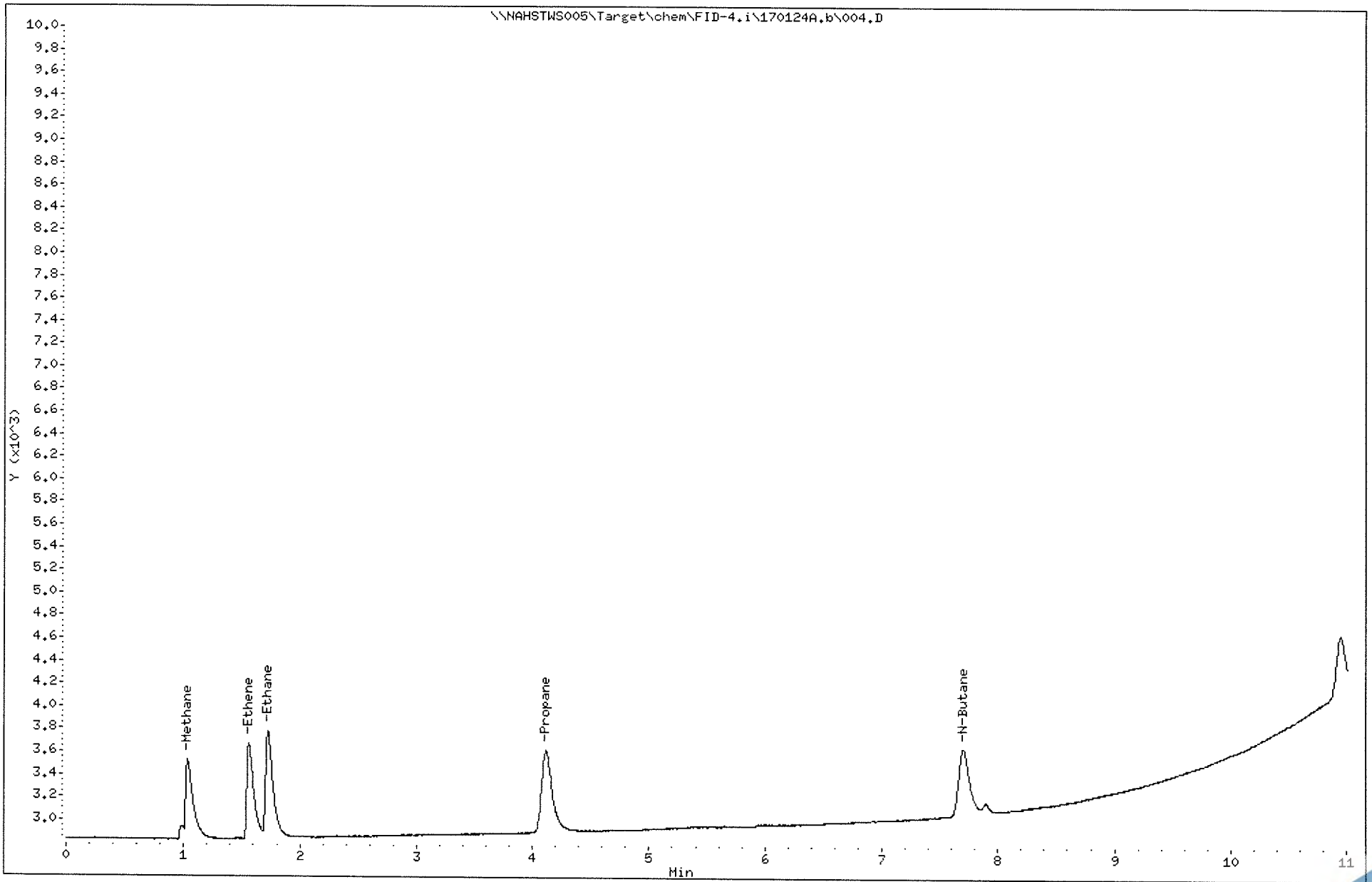
M - Compound response manually integrated.

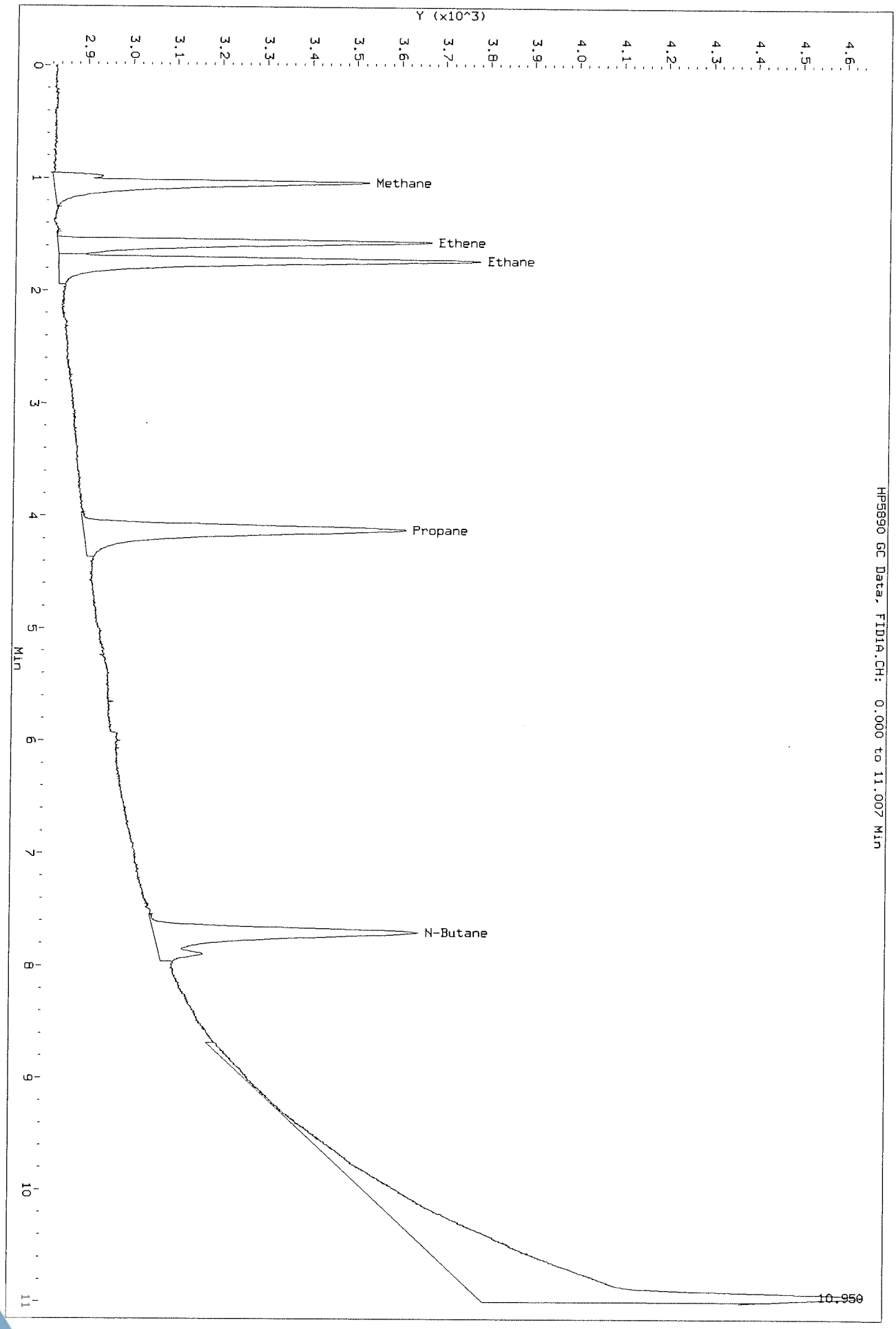
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

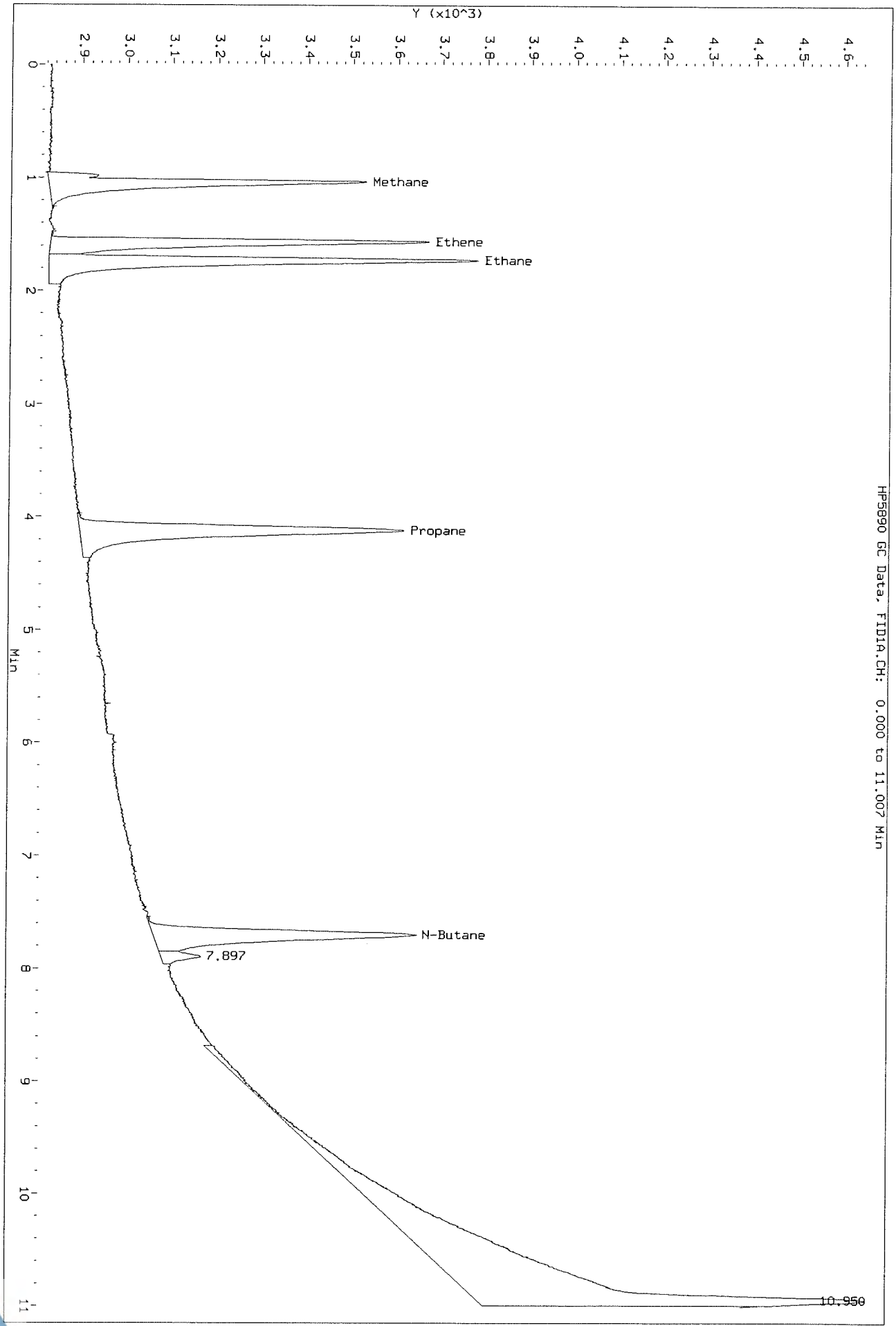
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
10.950


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
7.897
10.950

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

QC Flag Legend

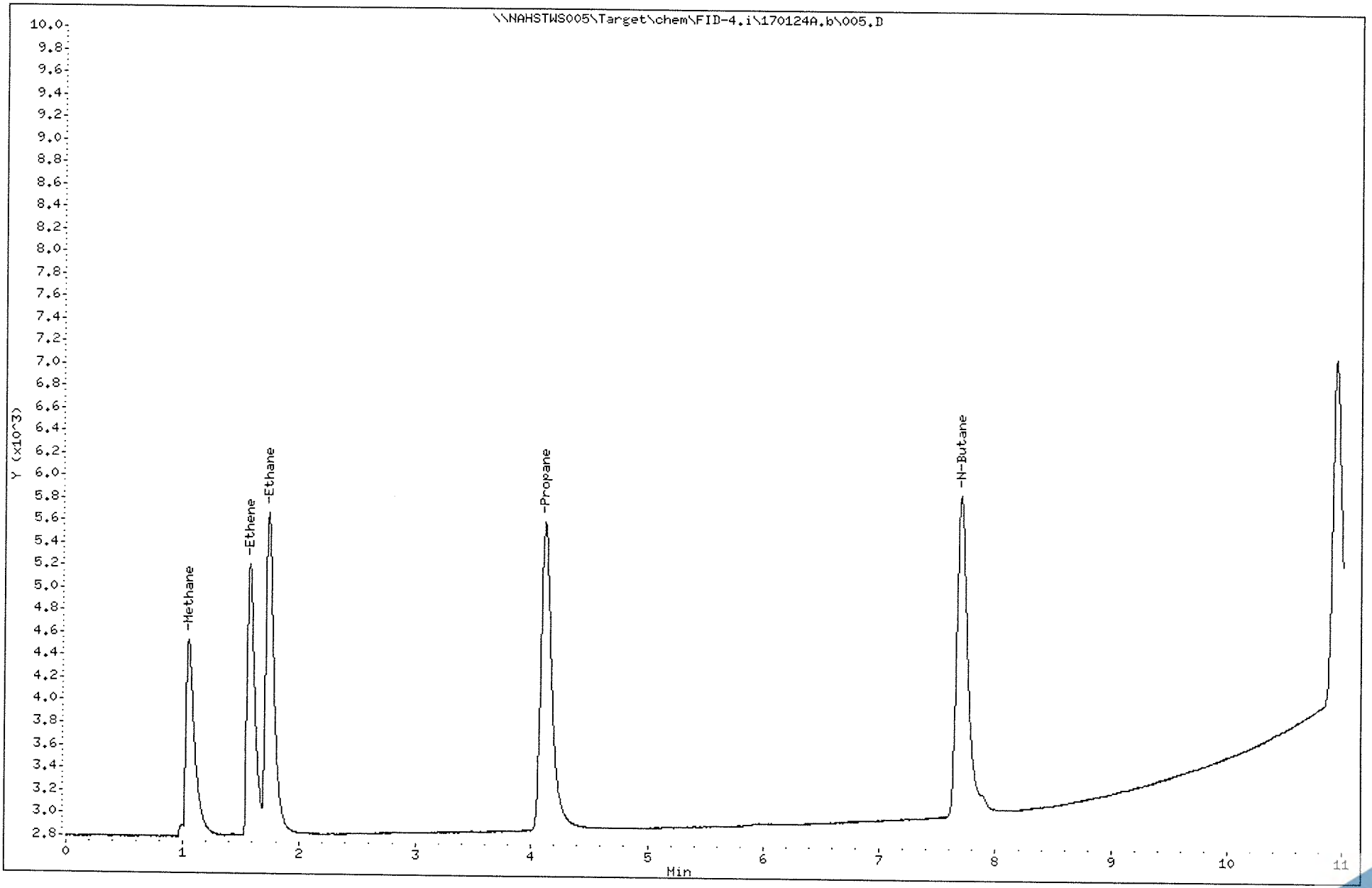
M - Compound response manually integrated.

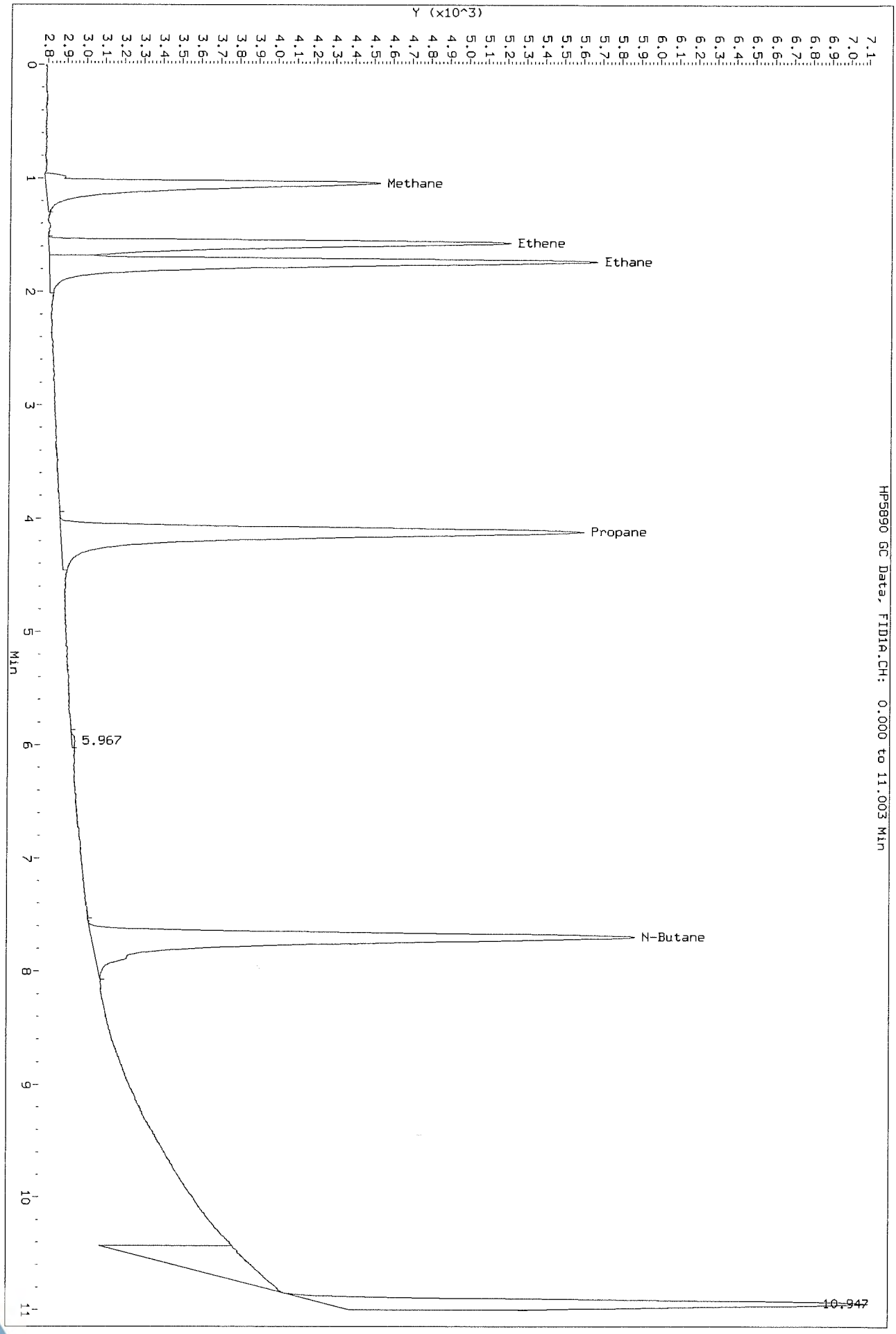
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;

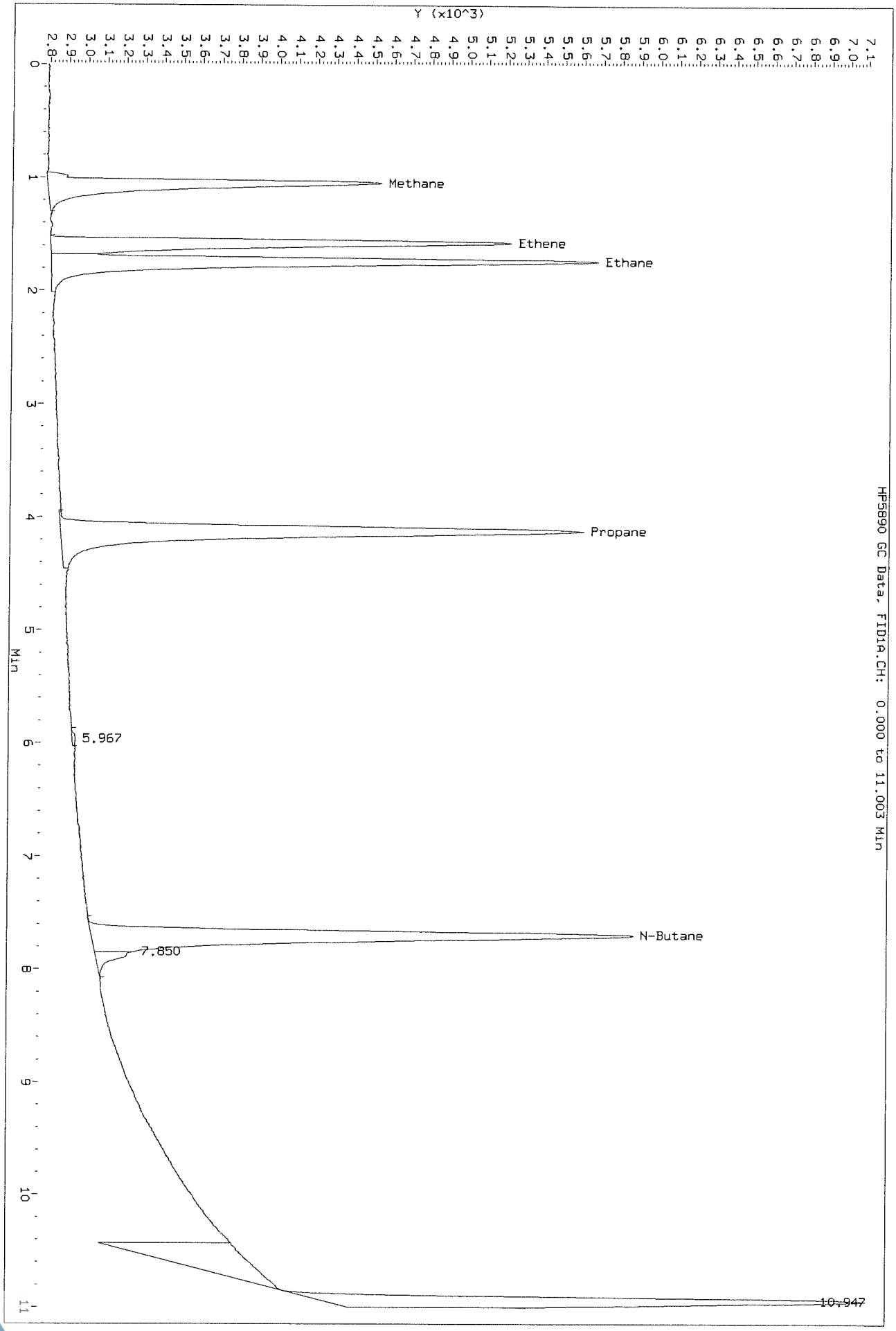
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
10.947


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
7.850
10.947

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

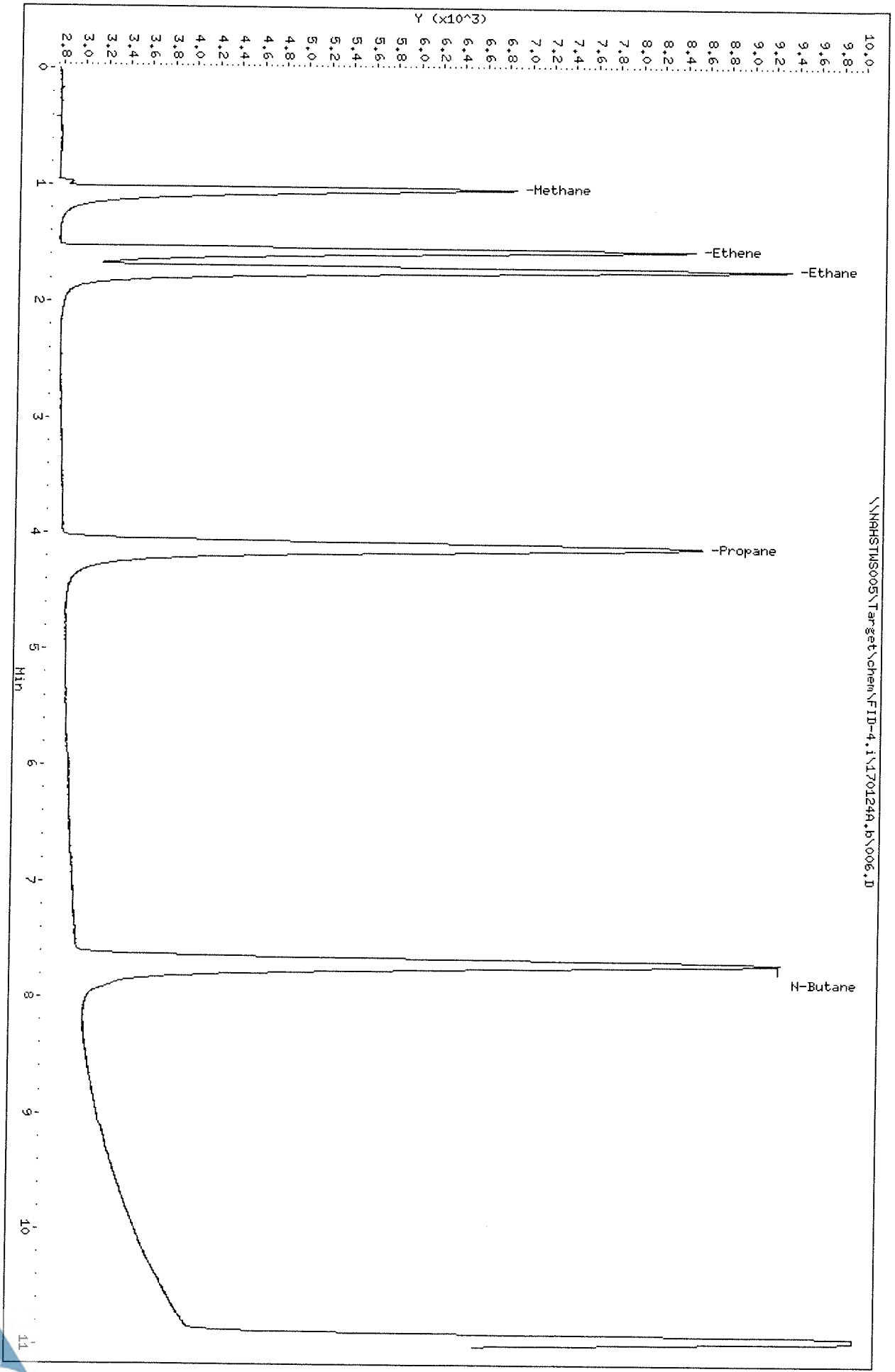
Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Instrument: FID-4.i
Operator: MA
Column diameter: 0.53

Column phase: Rtx-PLOT



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

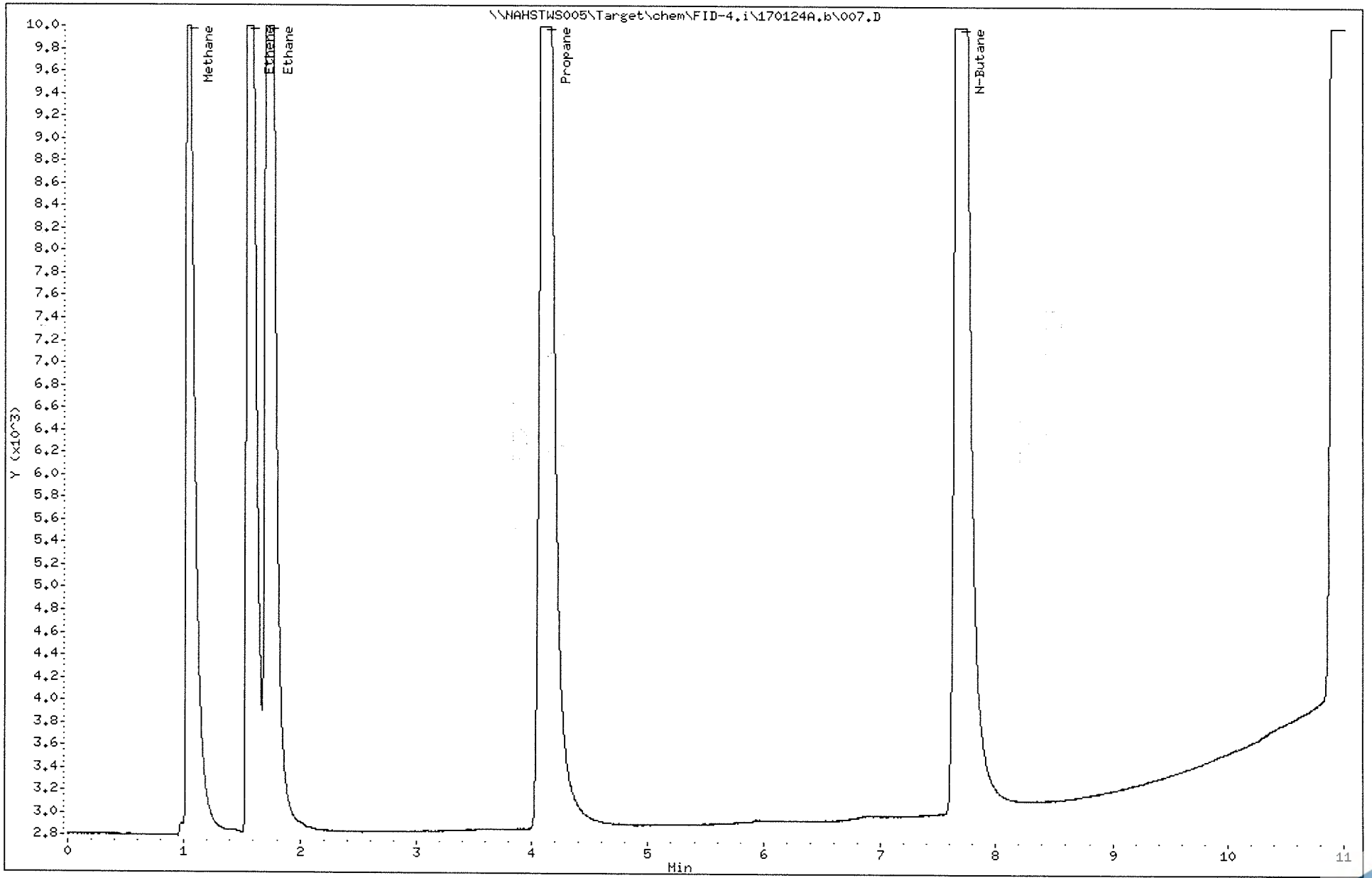
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

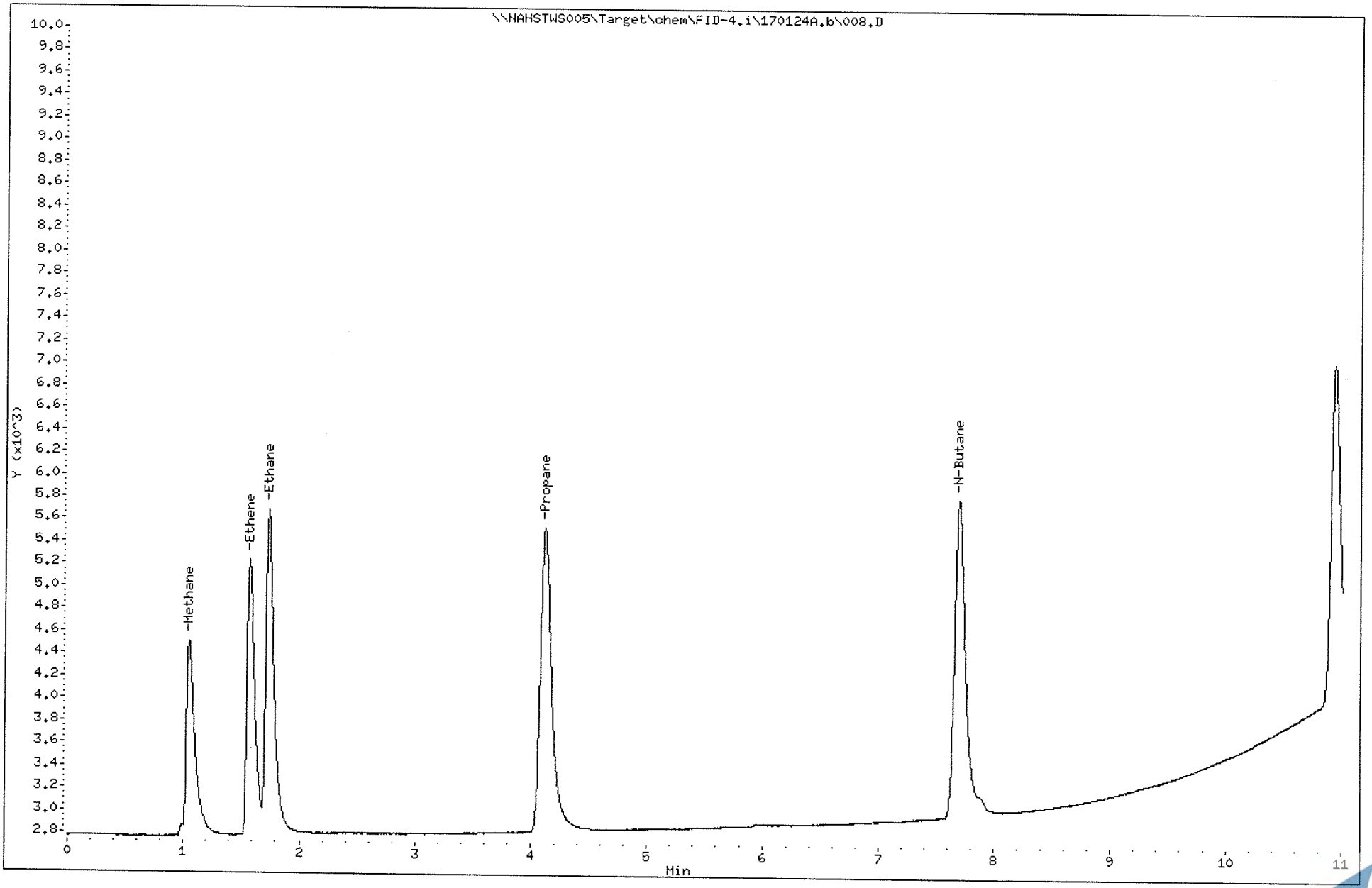
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 44620 **Analyst:** Purvi Lad

Date: 04-26-2021 **Reviewer:**

Method: rsk175 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	04-26-2021 11:52 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-210426	MBLK	04-26-2021 12:07 pm	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-210426	LCS	04-26-2021 12:26 pm	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	HS21041301-02	SAMP	04-26-2021 12:37 pm	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS21041301-03	SAMP	04-26-2021 12:47 pm	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	HS21041301-04	SAMP	04-26-2021 12:58 pm	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	HS21041301-05	SAMP	04-26-2021 01:13 pm	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	HS21041301-06	SAMP	04-26-2021 01:21 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	HS21041301-08	SAMP	04-26-2021 01:33 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	HS21041301-09	SAMP	04-26-2021 01:44 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	RSK-CCV	CCV	04-26-2021 01:54 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS21041301-10	SAMP	04-26-2021 02:33 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS21041301-04	SAMP	04-26-2021 02:41 pm	5.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS21041301-06	SAMP	04-26-2021 02:53 pm	25.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	HS21041301-08	SAMP	04-26-2021 03:02 pm	25.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA
16	HS21041301-10	SAMP	04-26-2021 03:18 pm	10.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS21041169-01	SAMP	04-26-2021 03:28 pm	1.00	0.00 mL	0.00 mL	017.D	Liquid	Y	NA
18	RSK-CCV	CCV	04-26-2021 03:43 pm	1.00	0.00 mL	0.00 mL	018.D	Liquid	Y	NA
19	HS21041169-02	SAMP	04-26-2021 03:53 pm	1.00	0.00 mL	0.00 mL	019.D	Liquid	Y	NA
20	HS21041169-03	SAMP	04-26-2021 04:01 pm	1.00	0.00 mL	0.00 mL	020.D	Liquid	Y	NA
21	HS21041169-03MS	MS	04-26-2021 04:10 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	NA
22	HS21041169-03MSD	MSD	04-26-2021 04:19 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS21041169-06	SAMP	04-26-2021 04:29 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	NA
24	HS21041169-01	SAMP	04-26-2021 04:39 pm	25.00	0.00 mL	0.00 mL	024.D	Liquid	Y	NA
25	HS21041169-02	SAMP	04-26-2021 04:49 pm	50.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA
26	HS21041169-03	SAMP	04-26-2021 04:59 pm	50.00	0.00 mL	0.00 mL	026.D	Liquid	Y	NA
27	HS21041169-06	SAMP	04-26-2021 05:07 pm	200.0(	0.00 mL	0.00 mL	027.D	Liquid	Y	NA
28	RSK-CCV	CCV	04-26-2021 05:28 pm	1.00	0.00 mL	0.00 mL	028.D	Liquid	Y	NA

Chemical	Value
pH Paper	300107057-07
CCV/LC/LSD/MS/MSD	300107043-11

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: FID-4 Calibration Date: 04/26/21 Time: 1152

Lab File ID: 001 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	723.77099	0.01	-0.60	20.00	AVRG
Methane	974.99200	873.74313	0.01	10.38	20.00	AVRG
Ethene	585.76000	509.37685	0.01	13.04	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: FID-4 Calibration Date: 04/26/21 Time: 1354

Lab File ID: 011 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	709.58266	0.01	1.38	20.00	AVRG
Methane	974.99200	868.97481	0.01	10.87	20.00	AVRG
Ethene	585.76000	493.64985	0.01	15.72	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: FID-4 Calibration Date: 04/26/21 Time: 1543

Lab File ID: 018 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	687.46882	0.01	4.45	20.00	AVRG
Methane	974.99200	868.66383	0.01	10.90	20.00	AVRG
Ethene	585.76000	471.15727	0.01	19.56	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041169

Instrument ID: FID-4 Calibration Date: 04/26/21 Time: 1728

Lab File ID: 028 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	685.58444	0.01	4.71	20.00	AVRG
Methane	974.99200	883.38344	0.01	9.40	20.00	AVRG
Ethene	585.76000	471.63205	0.01	19.48	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\001.D Page 1
Report Date: 19-May-2021 13:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 26-APR-2021 11:52
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

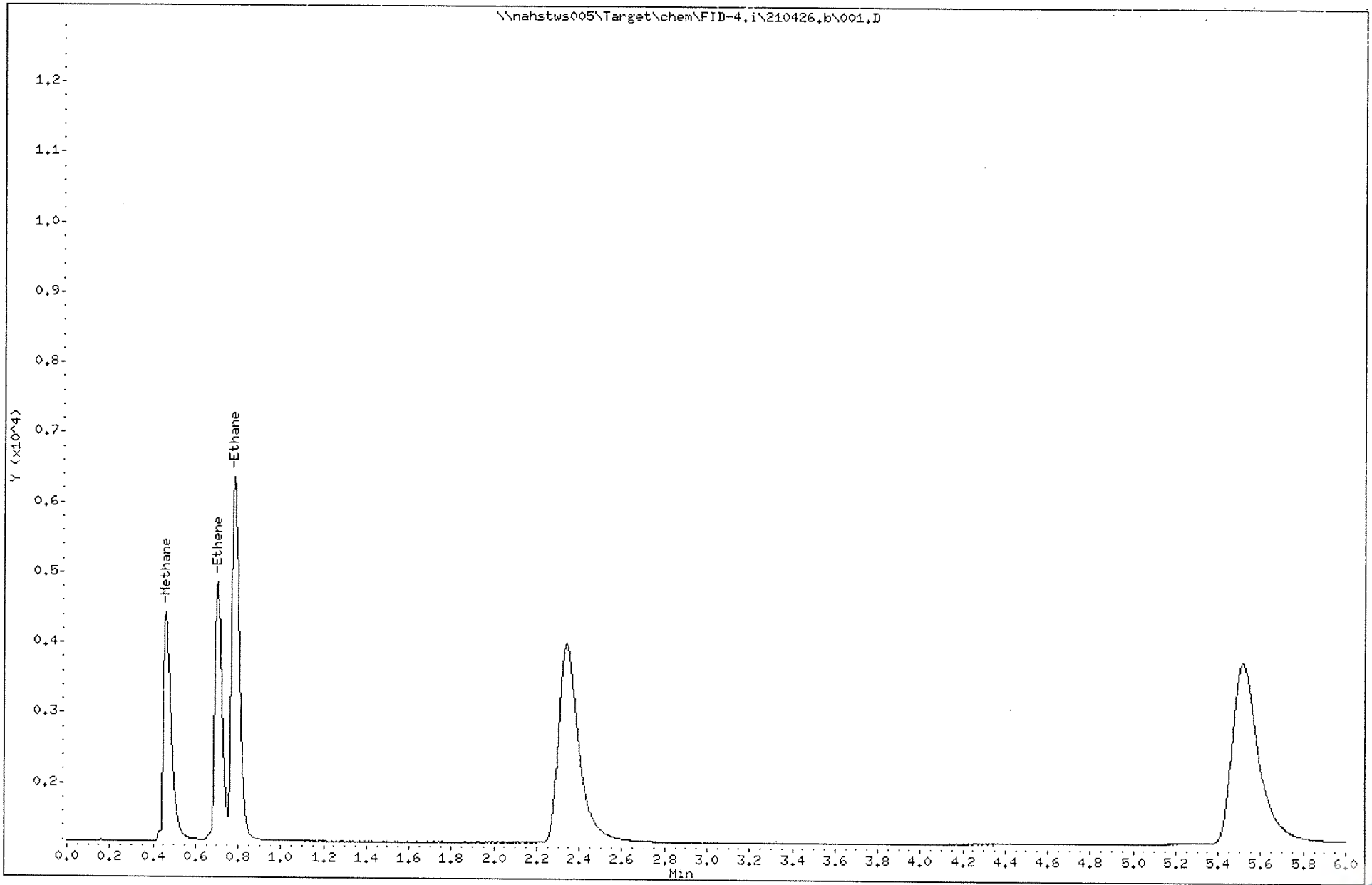
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	0.460	0.460	0.000	8429	9.64700	8.645
2 Ethene	0.703	0.703	0.000	8583	16.8500	14.652
3 Ethane	0.783	0.783	0.000	13059	18.0430	18.150

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\001.D
Date : 26-APR-2021 11:52
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\002.D Page 1
Report Date: 19-May-2021 13:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\002.D
Lab Smp Id: MBLK-210426 Client Smp ID: MBLK-210426
Inj Date : 26-APR-2021 12:07
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-210426;MBLK-210426;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

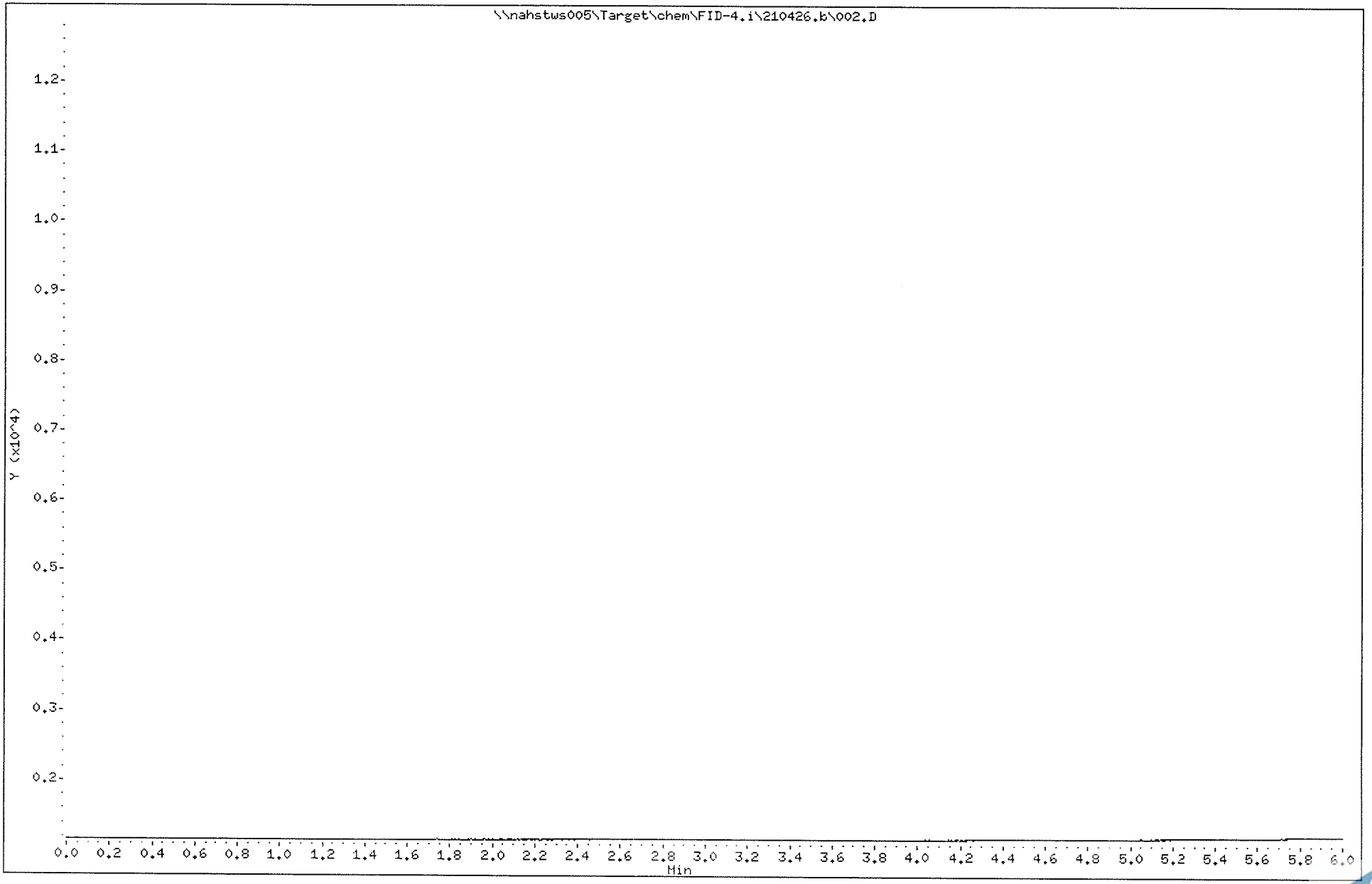
Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\002.D
Date : 26-APR-2021 12:07
Client ID: MBLK-210426
Sample Info: MBLK-210426;MBLK-210426;3;;BLANK

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\003.D
Lab Smp Id: LCS-210426 Client Smp ID: LCS-210426
Inj Date : 26-APR-2021 12:26
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-210426;LCS-210426;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

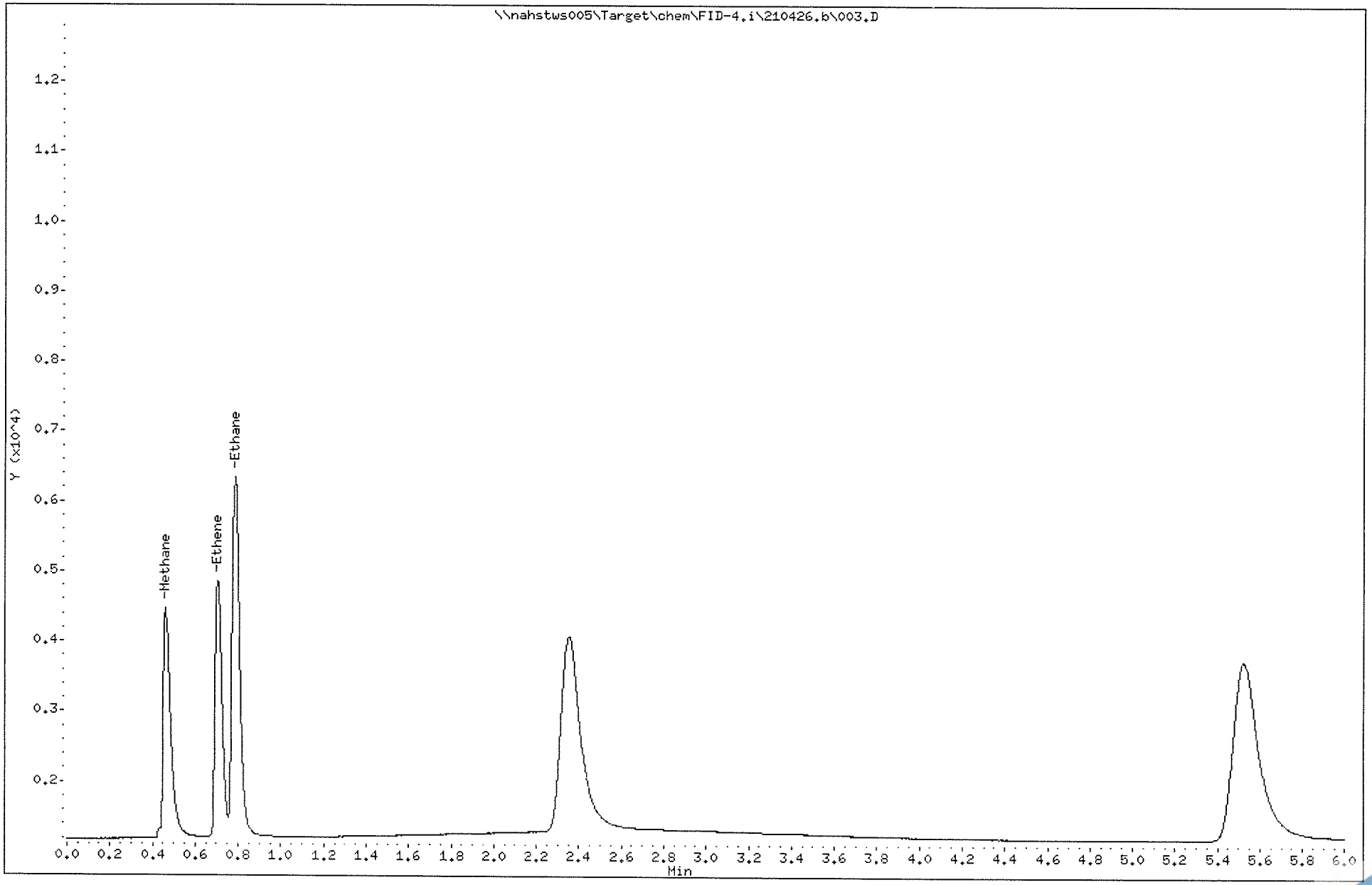
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.460	0.460	0.000	8162	8.37135	8.371
2 Ethene	0.703	0.703	0.000	8092	13.8145	13.814
3 Ethane	0.786	0.783	0.003	12651	17.5833	17.583

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\003.D
Date : 26-APR-2021 12:26
Client ID: LCS-210426
Sample Info: LCS-210426;LCS-210426;3;;LCS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 26-APR-2021 13:54
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

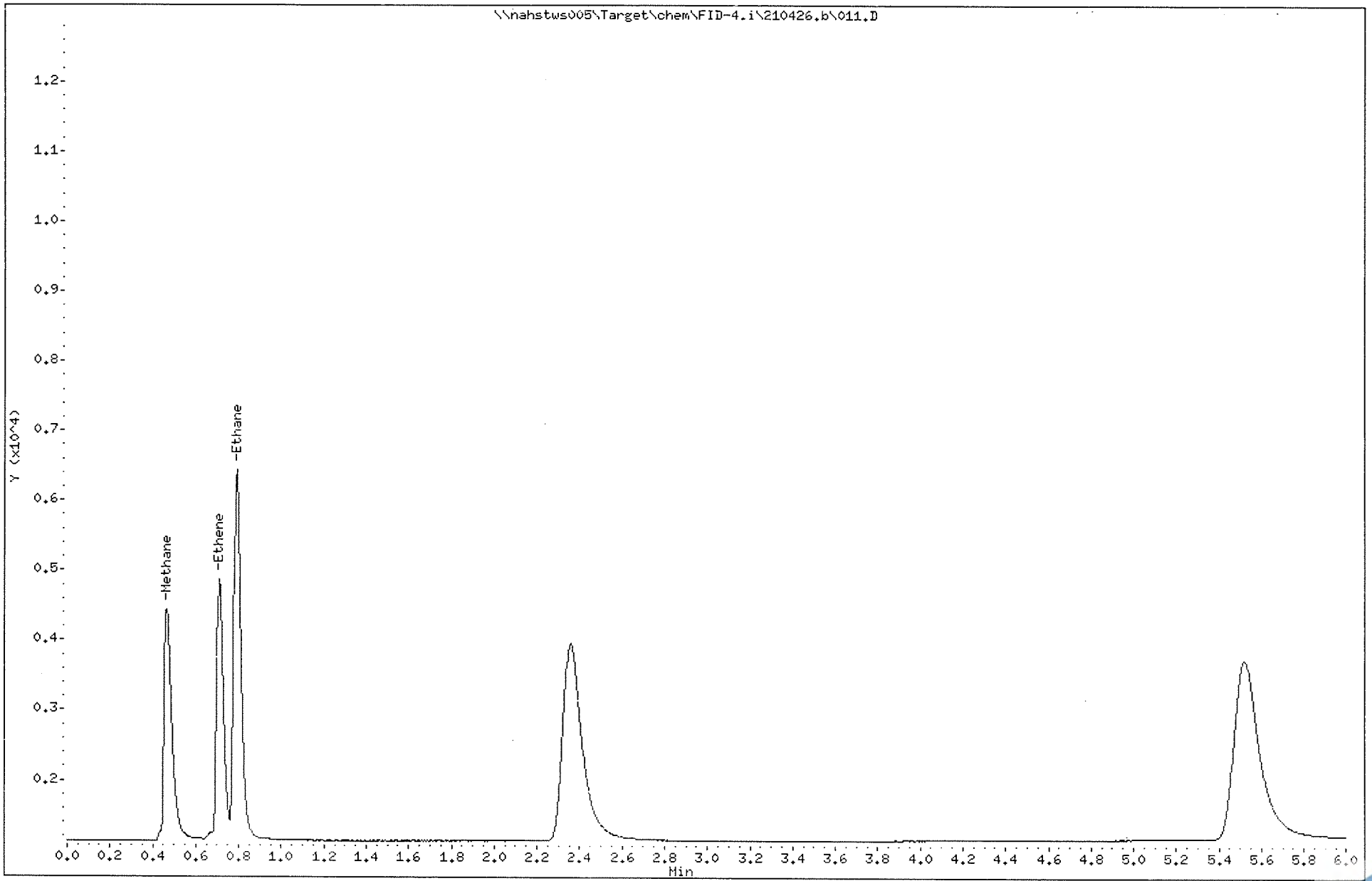
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	8383	9.64700	8.598
2 Ethene	0.710	0.710	0.000	8318	16.8500	14.200
3 Ethane	0.790	0.790	0.000	12803	18.0430	17.794

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\011.D
Date : 26-APR-2021 13:54
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\017.D
Lab Smp Id: HS21041169-01 Client Smp ID: HS21041169-01
Inj Date : 26-APR-2021 15:28
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-01;HS21041169-01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.463	0.466	-0.003	462542	474.406	474.405(A)
2 Ethene	0.700	0.710	-0.010	67109	114.567	114.567(A)

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\017.D

Date : 26-APR-2021 15:28

Client ID: HS21041169-01

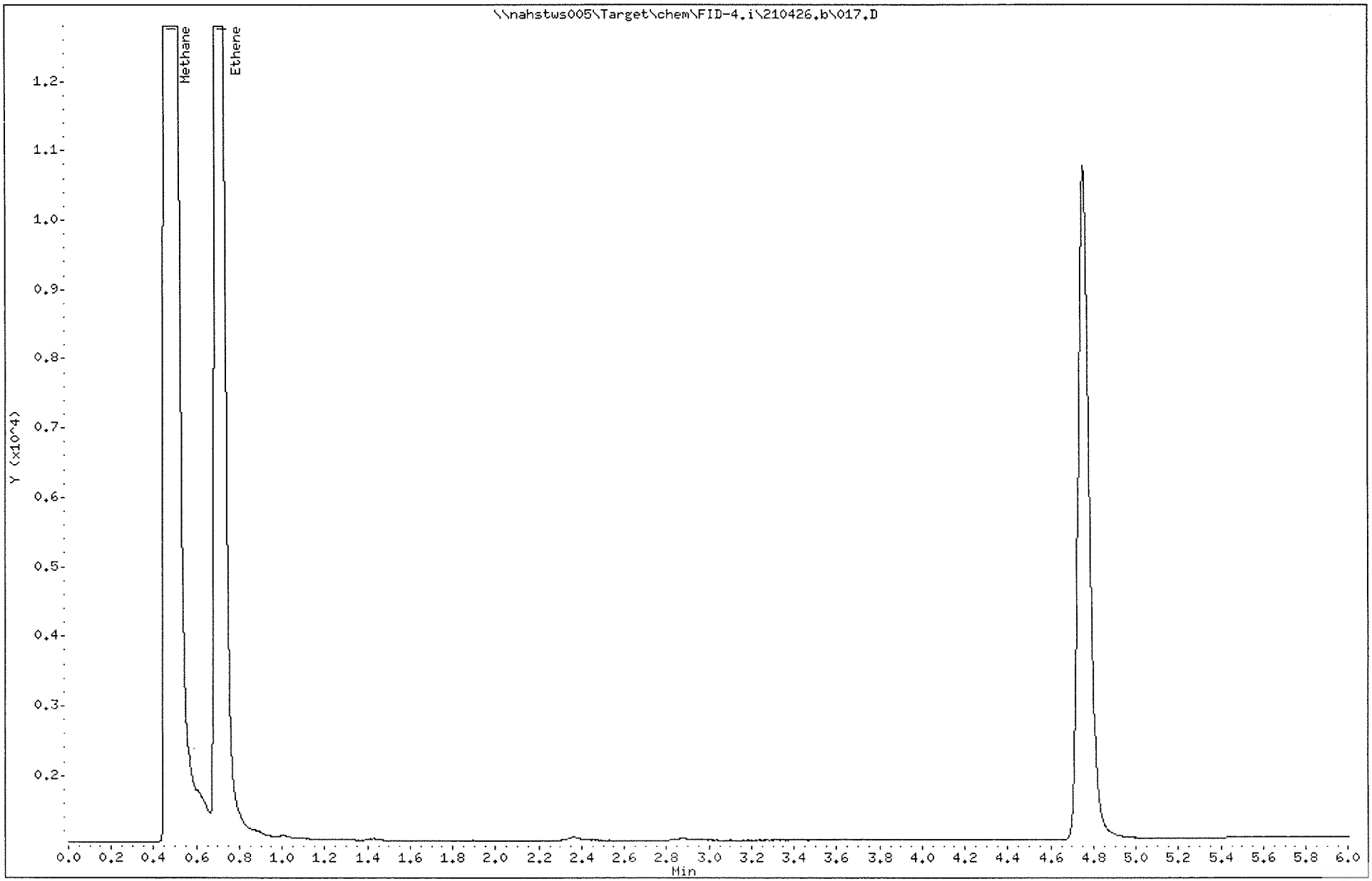
Instrument: FID-4.i

Sample Info: HS21041169-01;HS21041169-01

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\018.D Page 1
Report Date: 19-May-2021 13:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\018.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 26-APR-2021 15:43
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 18 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

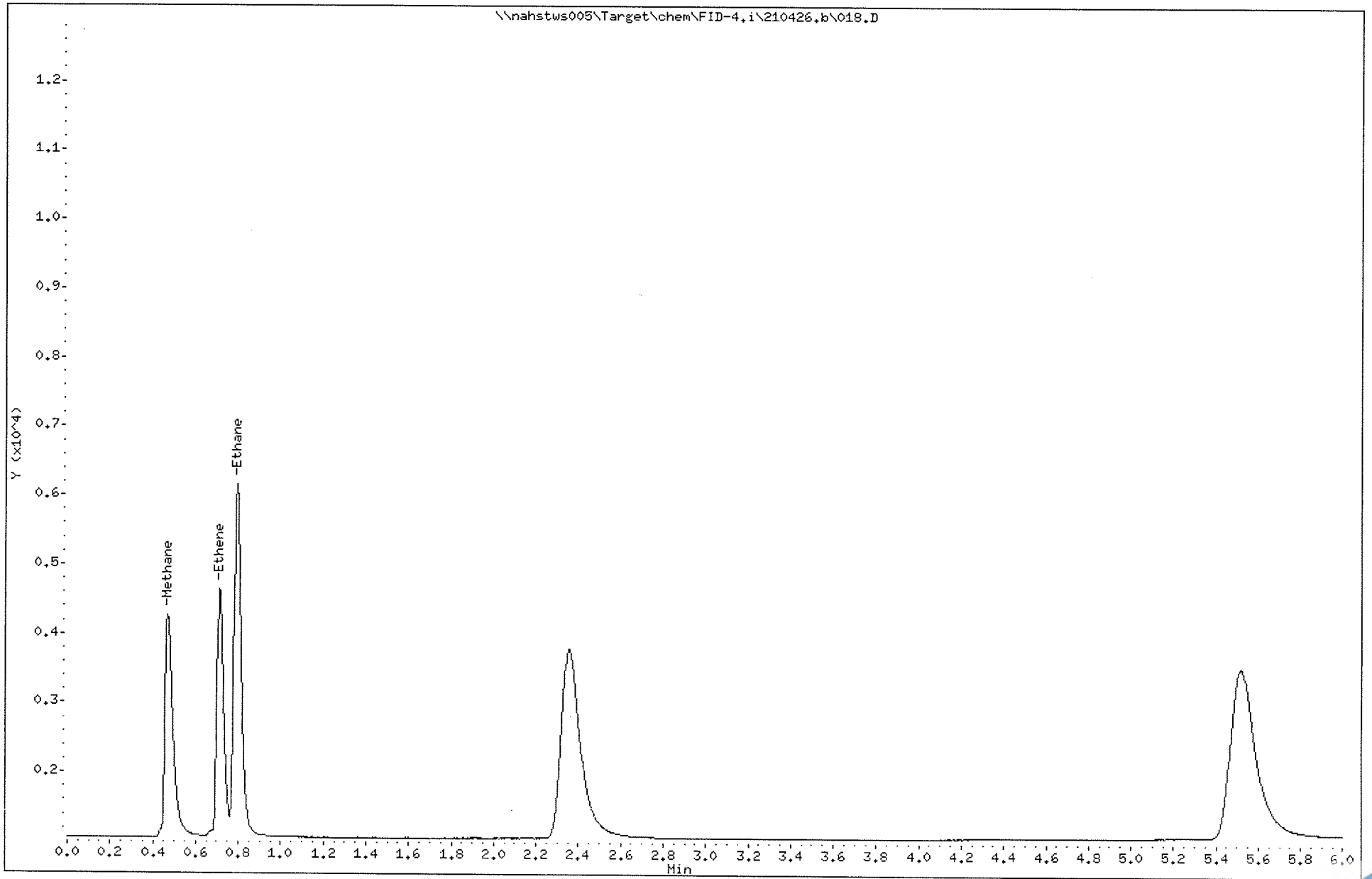
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.466	0.466	0.000	8380	9.64700	8.594
2 Ethene	0.710	0.710	0.000	7939	16.8500	13.553
3 Ethane	0.793	0.793	0.000	12404	18.0430	17.239

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\018.D
Date : 26-APR-2021 15:43
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\019.D
Lab Smp Id: HS21041169-02 Client Smp ID: HS21041169-02
Inj Date : 26-APR-2021 15:53
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-02;HS21041169-02
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.463	0.466	-0.003	548406	562.472	562.472(A)
2 Ethene	0.700	0.710	-0.010	337640	576.413	576.413(A)

QC Flag Legend

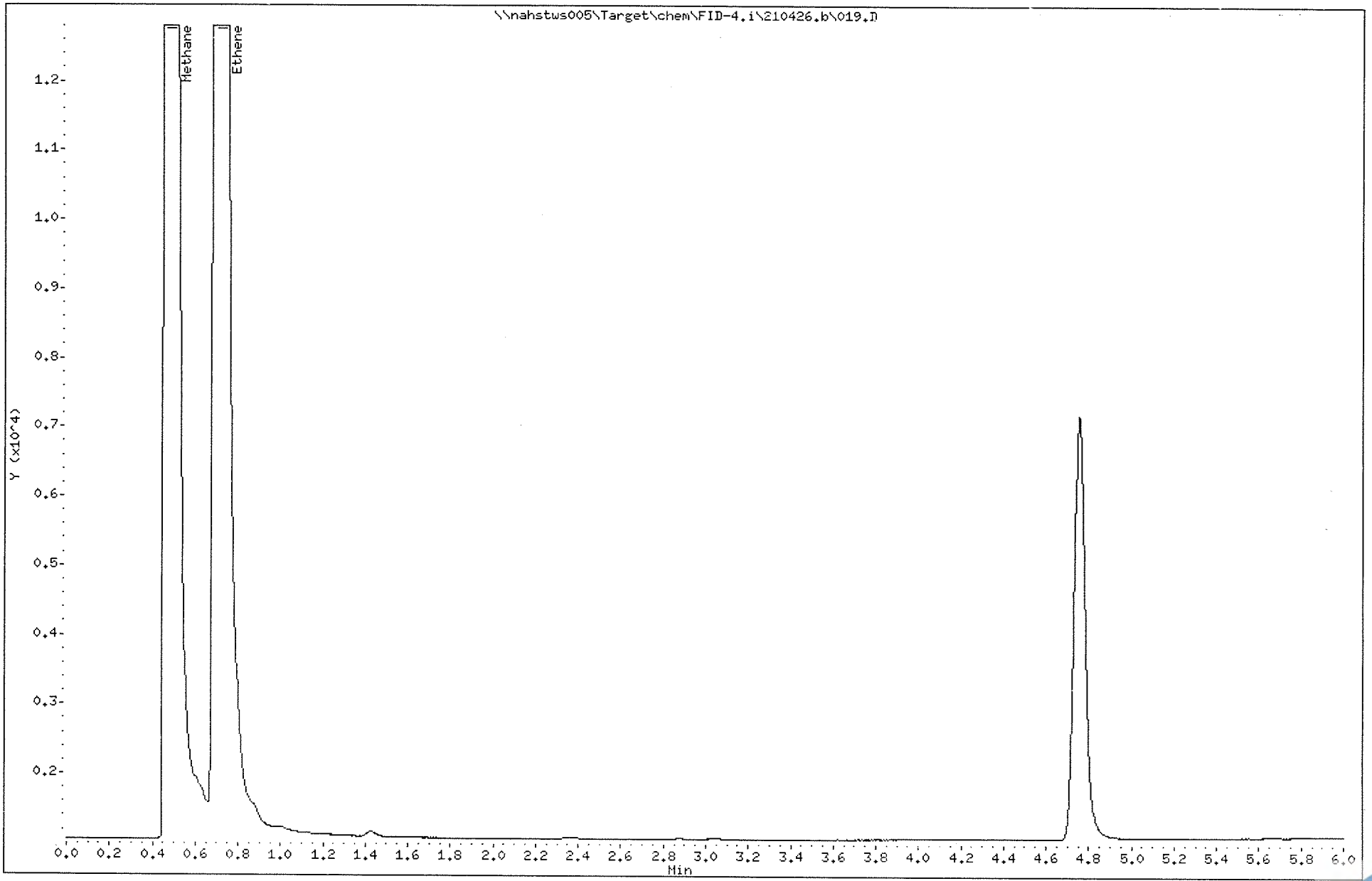
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\019.D
Date : 26-APR-2021 15:53
Client ID: HS21041169-02
Sample Info: HS21041169-02;HS21041169-02

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\020.D
Lab Smp Id: HS21041169-03 Client Smp ID: HS21041169-03
Inj Date : 26-APR-2021 16:01
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-03;HS21041169-03
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.463	0.466	-0.003	702326	720.340	720.340(AM)
2 Ethene	0.700	0.710	-0.010	4003	6.83385	6.833(M)

QC Flag Legend

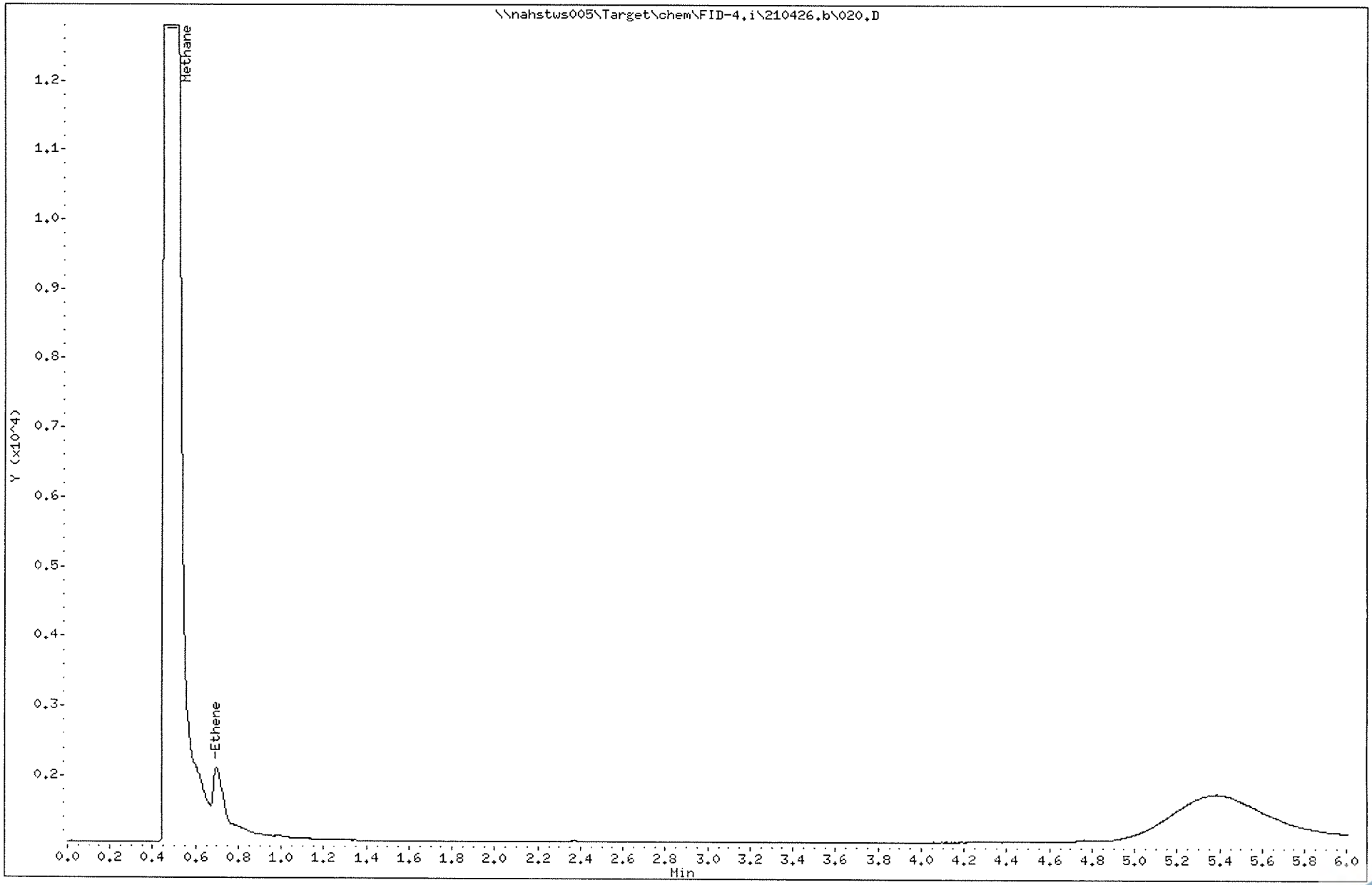
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\020.D
Date : 26-APR-2021 16:01
Client ID: HS21041169-03
Sample Info: HS21041169-03;HS21041169-03

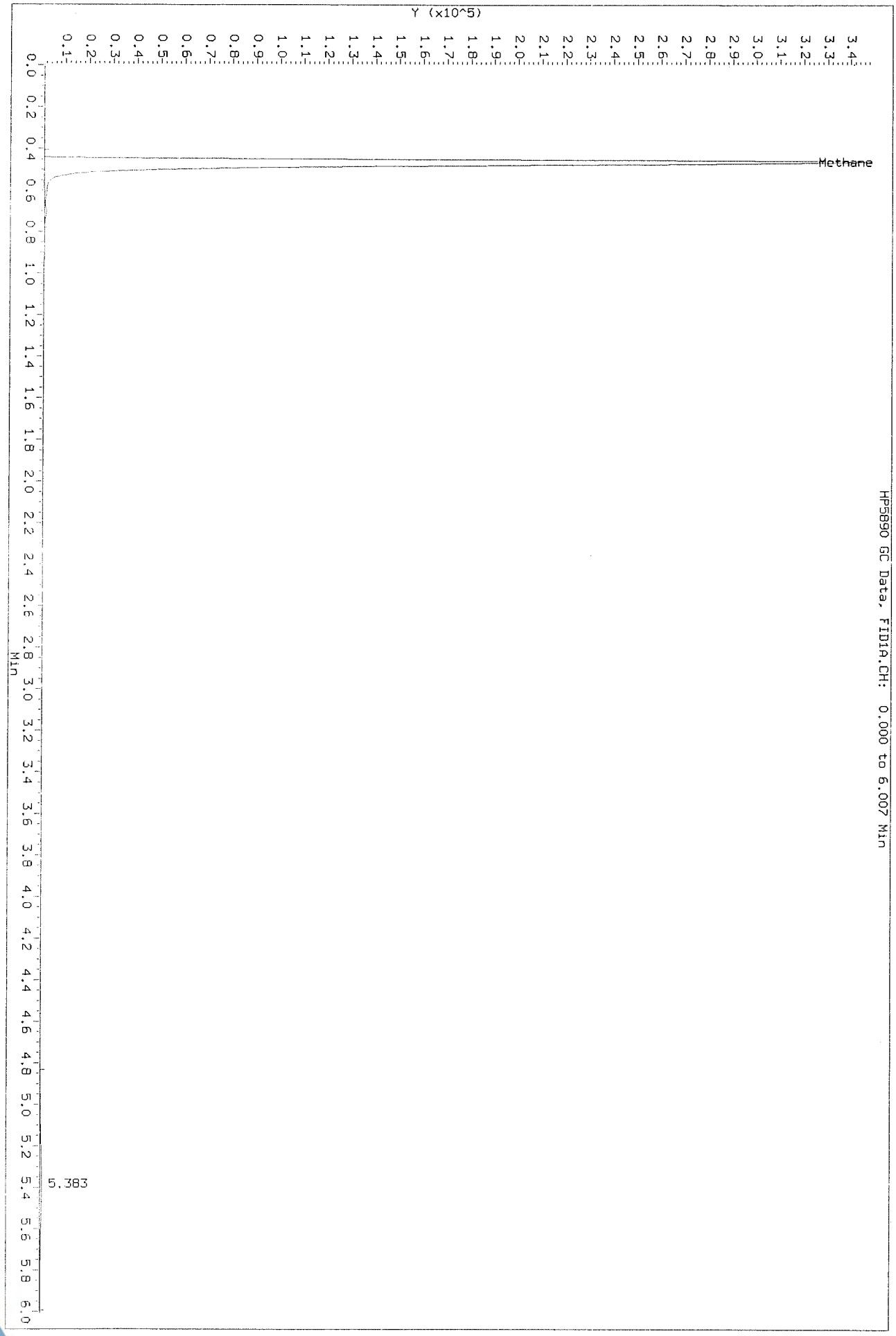
Column phase: Rtx-PLOT

Instrument: FID-4.i

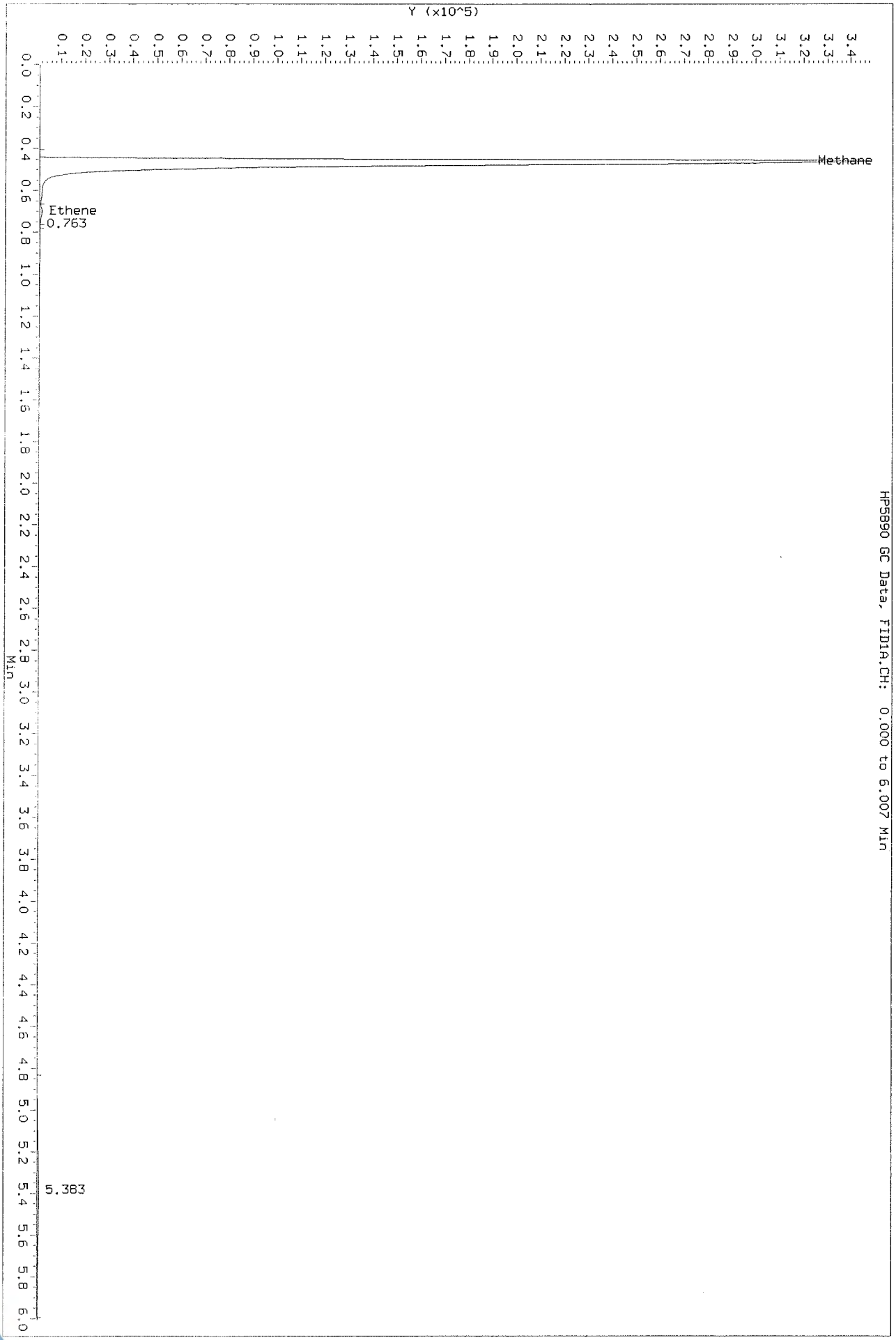
Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\Before\020.D
Injection Date: 26-APR-2021 16:01
Instrument: FID-4.i
Client Sample ID: HS21041169-03



Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\020.D
Injection Date: 26-APR-2021 16:01
Instrument: FID-4.i
Client Sample ID: HS210411169-03



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\021.D
Lab Smp Id: HS21041169-03MS Client Smp ID: HS21041169-03MS
Inj Date : 26-APR-2021 16:10
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-03MS;HS21041169-03MS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 21 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	632758	648.988	648.987(AR)
2 Ethene	0.700	0.710	-0.010	8539	14.5776	14.577
3 Ethane	0.783	0.793	-0.010	6777	9.41918	9.419(RM)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\021.D

Date : 26-APR-2021 16:10

Client ID: HS21041169-03MS

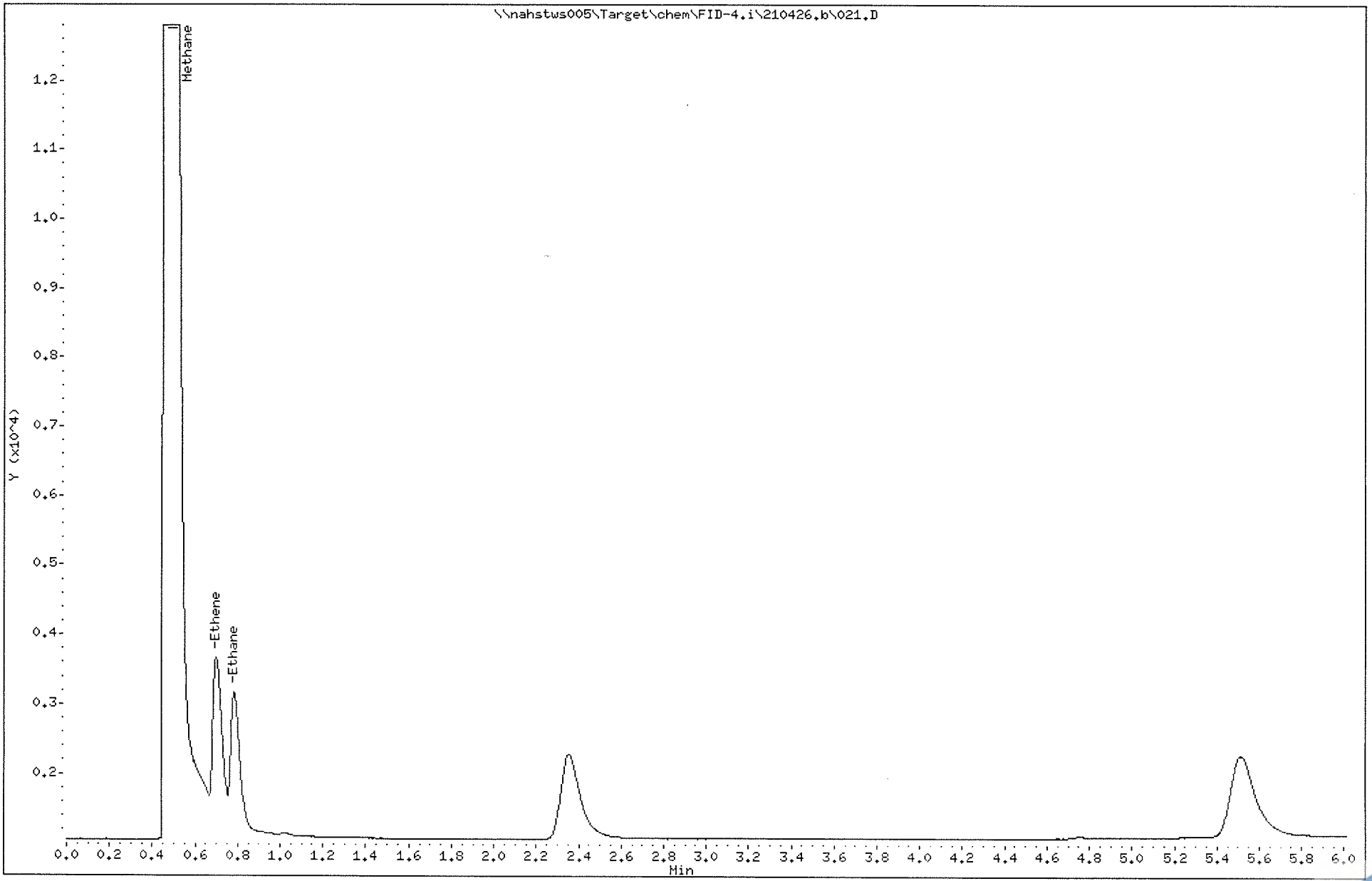
Instrument: FID-4.i

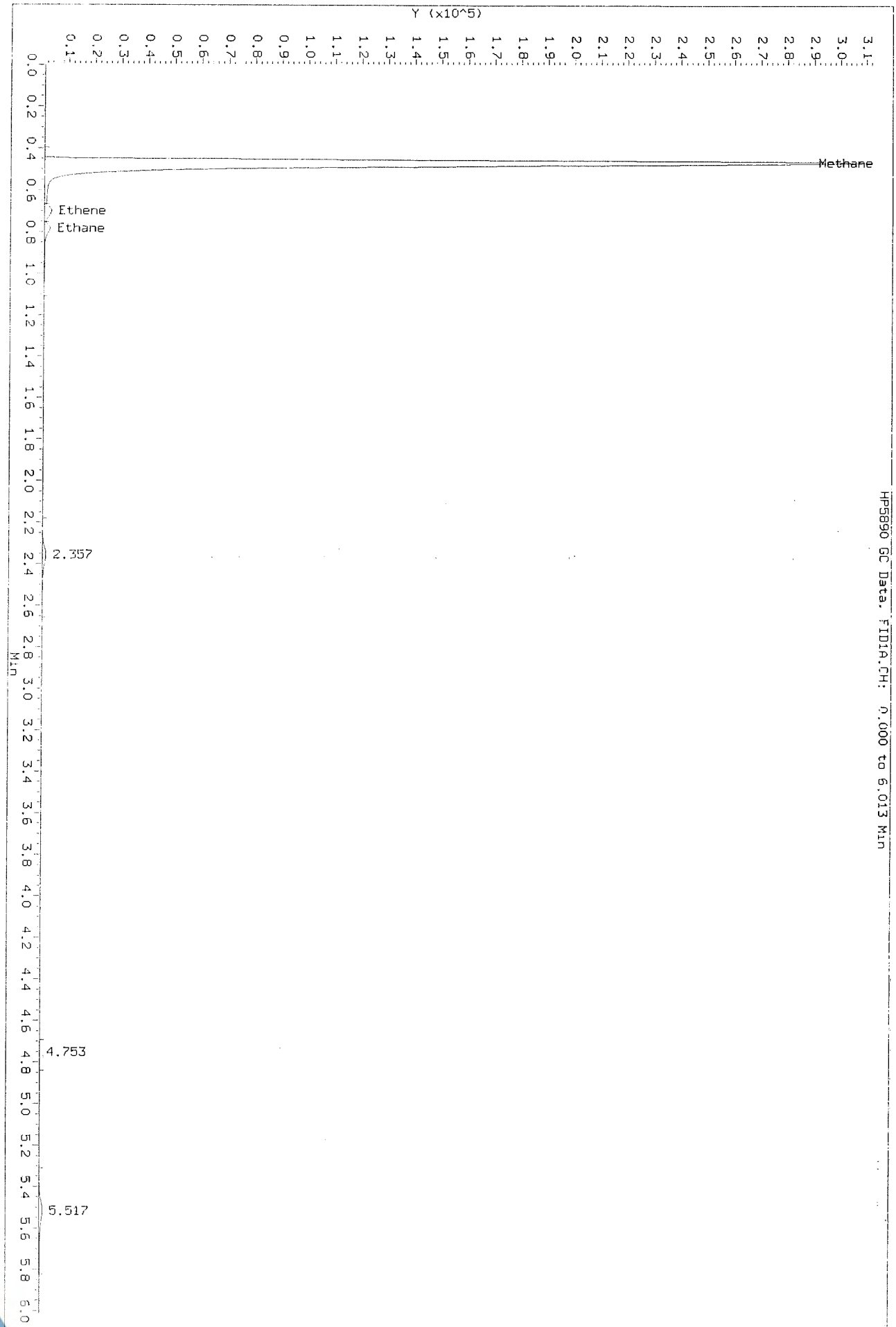
Sample Info: HS21041169-03MS;HS21041169-03MS

Operator: PL

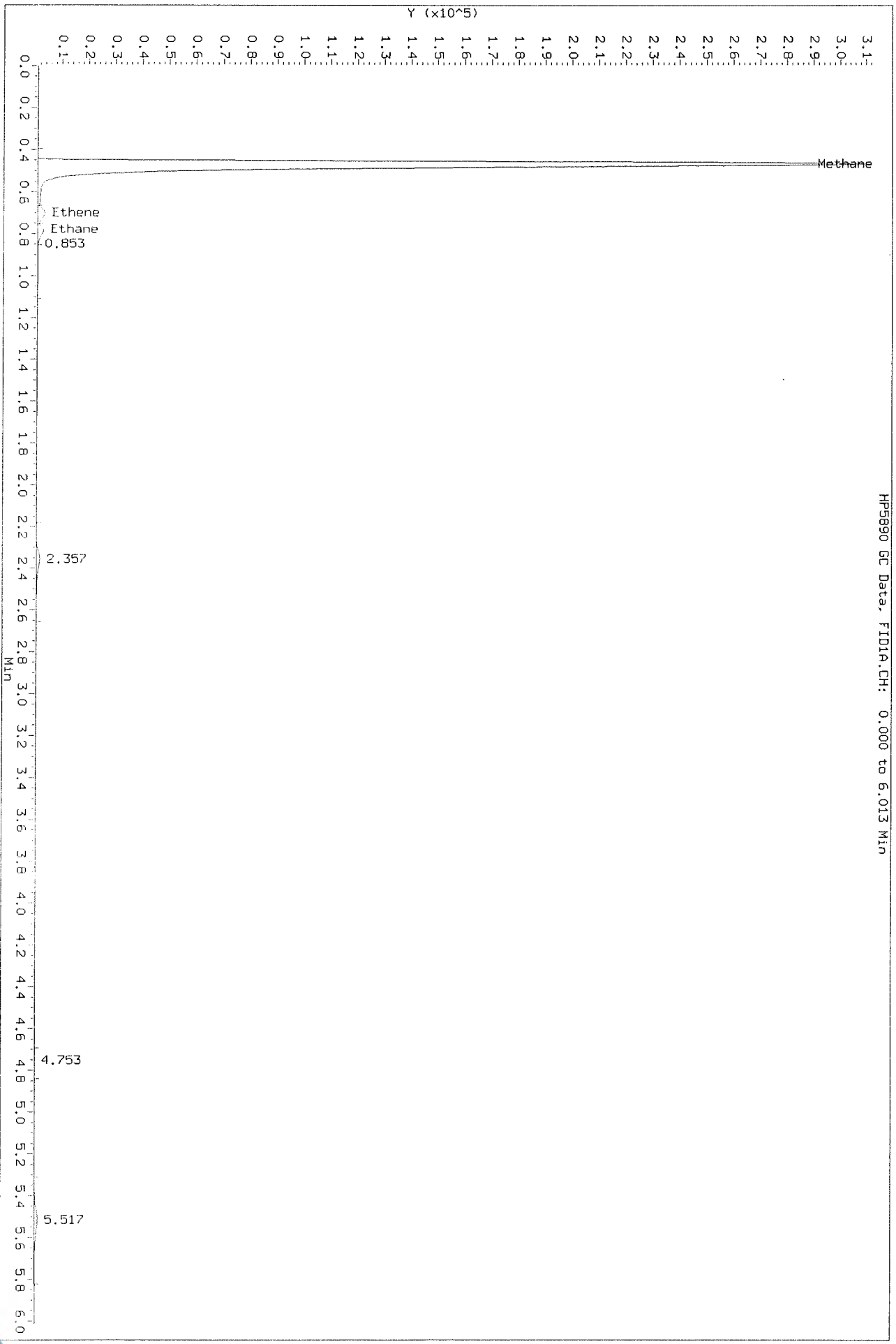
Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\Before\021.D
Injection Date: 26-APR-2021 16:10
Instrument: FID-4.i
Client Sample ID: HS21041169-03MS
HP5890 GC Data. FID1A.CH: 0.000 to 6.013 Min
Y (x10^5)
Min
Methane
Ethene
Ethane
2.357
4.753
5.517

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\021.D
Injection Date: 26-APR-2021 16:10
Instrument: FID-4.i
Client Sample ID: HS21041169-03MS



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\022.D
Lab Smp Id: HS21041169-03MSD Client Smp ID: HS21041169-03MSD
Inj Date : 26-APR-2021 16:19
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-03MSD;HS21041169-03MSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.460	0.466	-0.006	674062	691.351	691.351(AR)
2 Ethene	0.690	0.710	-0.020	8867	15.1376	15.137
3 Ethane	0.776	0.793	-0.017	7440	10.3407	10.340(RM)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\022.D

Date : 26-APR-2021 16:19

Client ID: HS21041169-03MSD

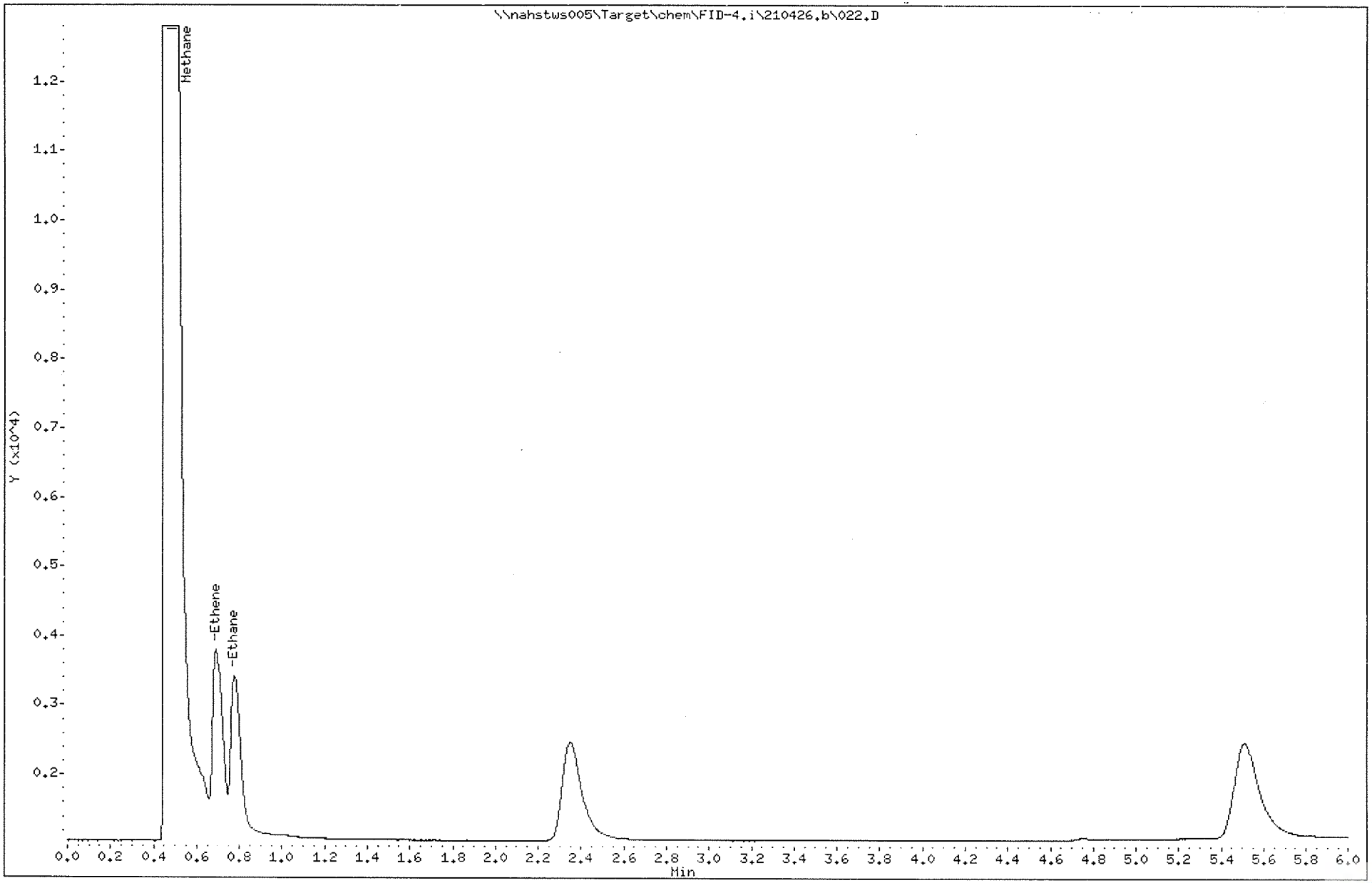
Instrument: FID-4.i

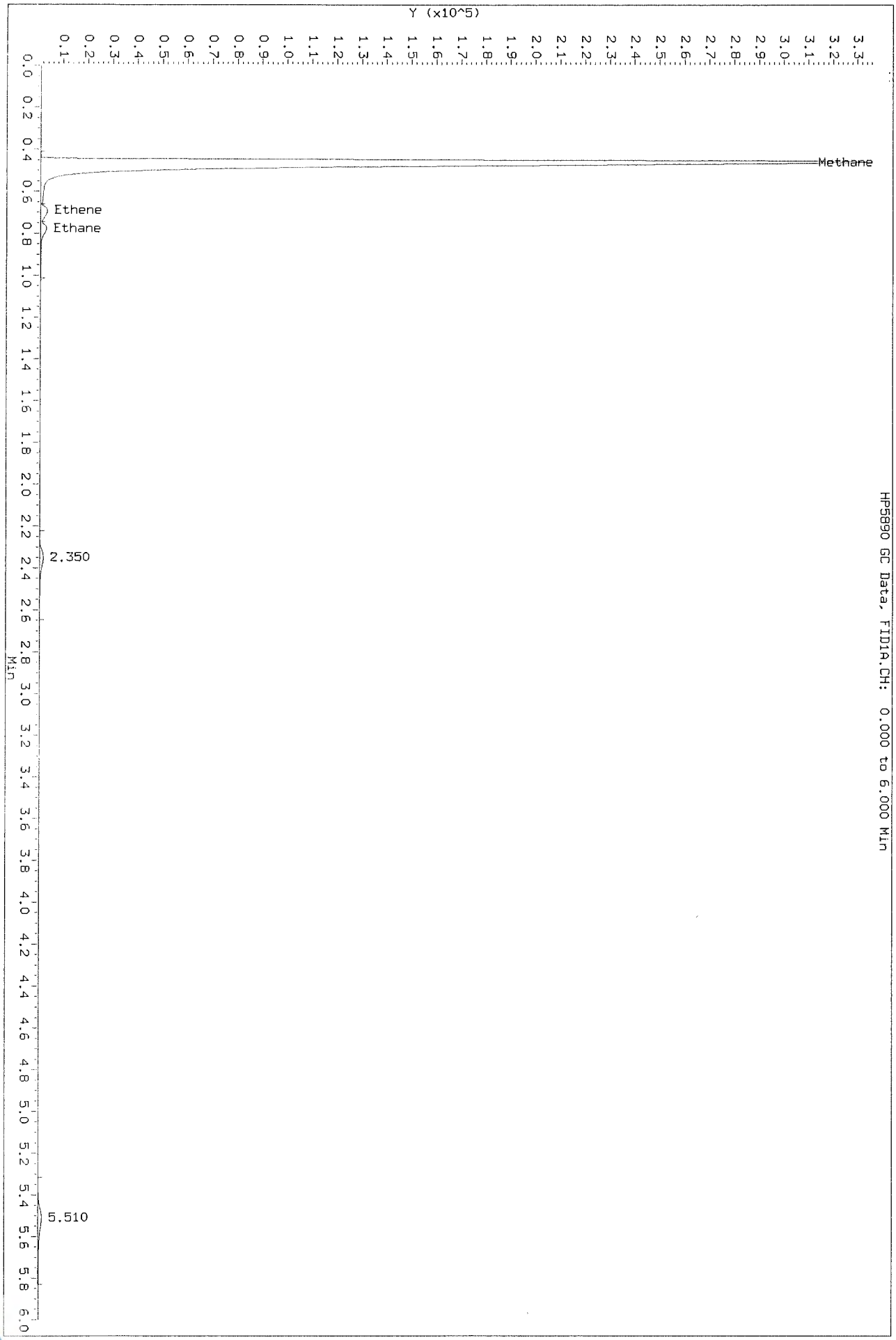
Sample Info: HS21041169-03MSD;HS21041169-03MSD

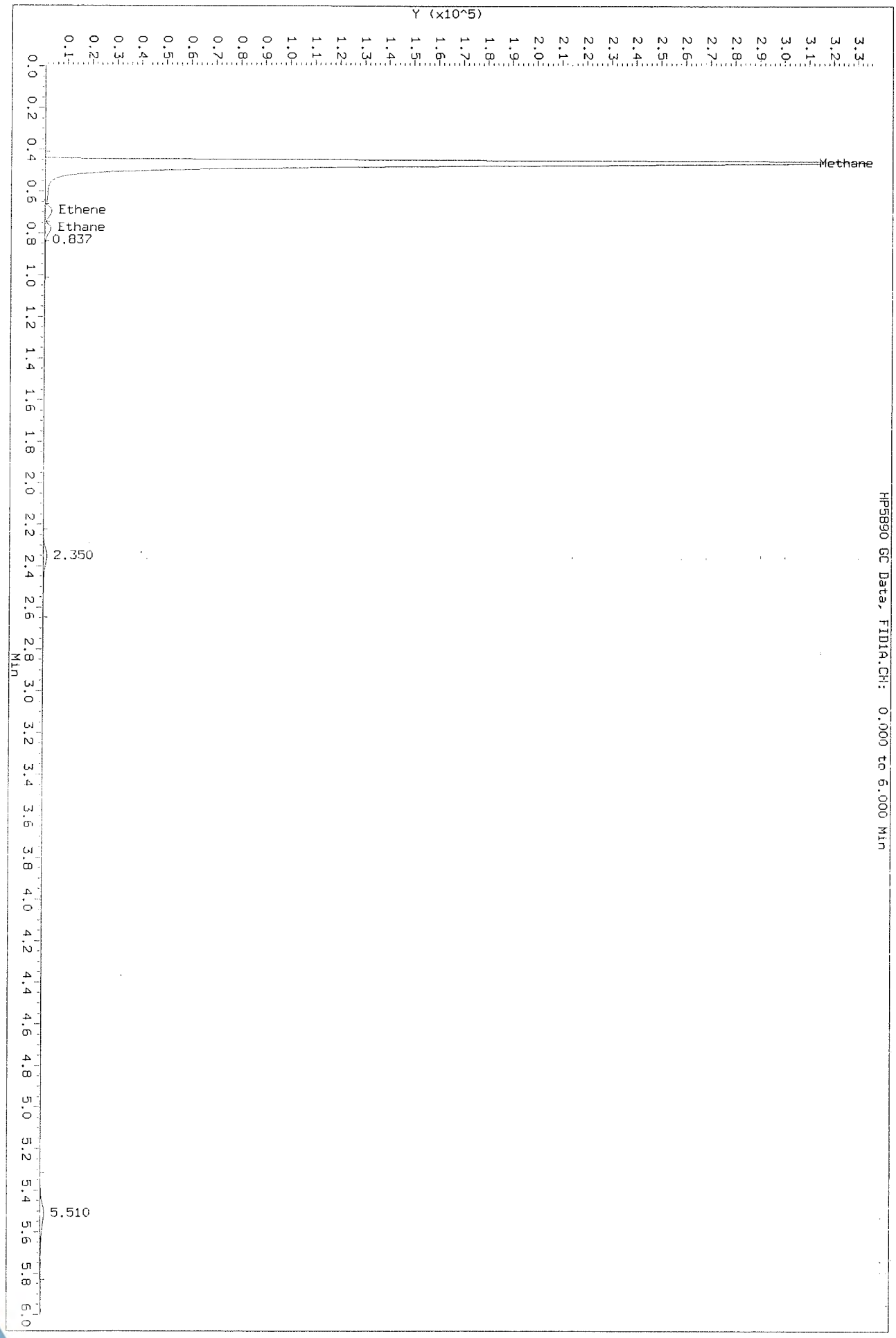
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\Before\022.D
Injection Date: 26-APR-2021 16:19
Instrument: FID-4.i
Client Sample ID: HS21041169-03MSD
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Min
Methane
Ethene
Ethane
2.350
5.510


Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\022.D
Injection Date: 26-APR-2021 16:19
Instrument: FID-4.i
Client Sample ID: HS21041169-03MSD
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Methane
Ethene
Ethane
0.837
2.350
5.510
Min

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\023.D Page 1
Report Date: 19-May-2021 13:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\023.D
Lab Smp Id: HS21041169-06 Client Smp ID: HS21041169-06
Inj Date : 26-APR-2021 16:29
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-06;HS21041169-06
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.466	-0.006	2178431	2234.31	2234.305(A)
2 Ethene	0.696	0.710	-0.014	11847	20.2250	20.224(M)

QC Flag Legend

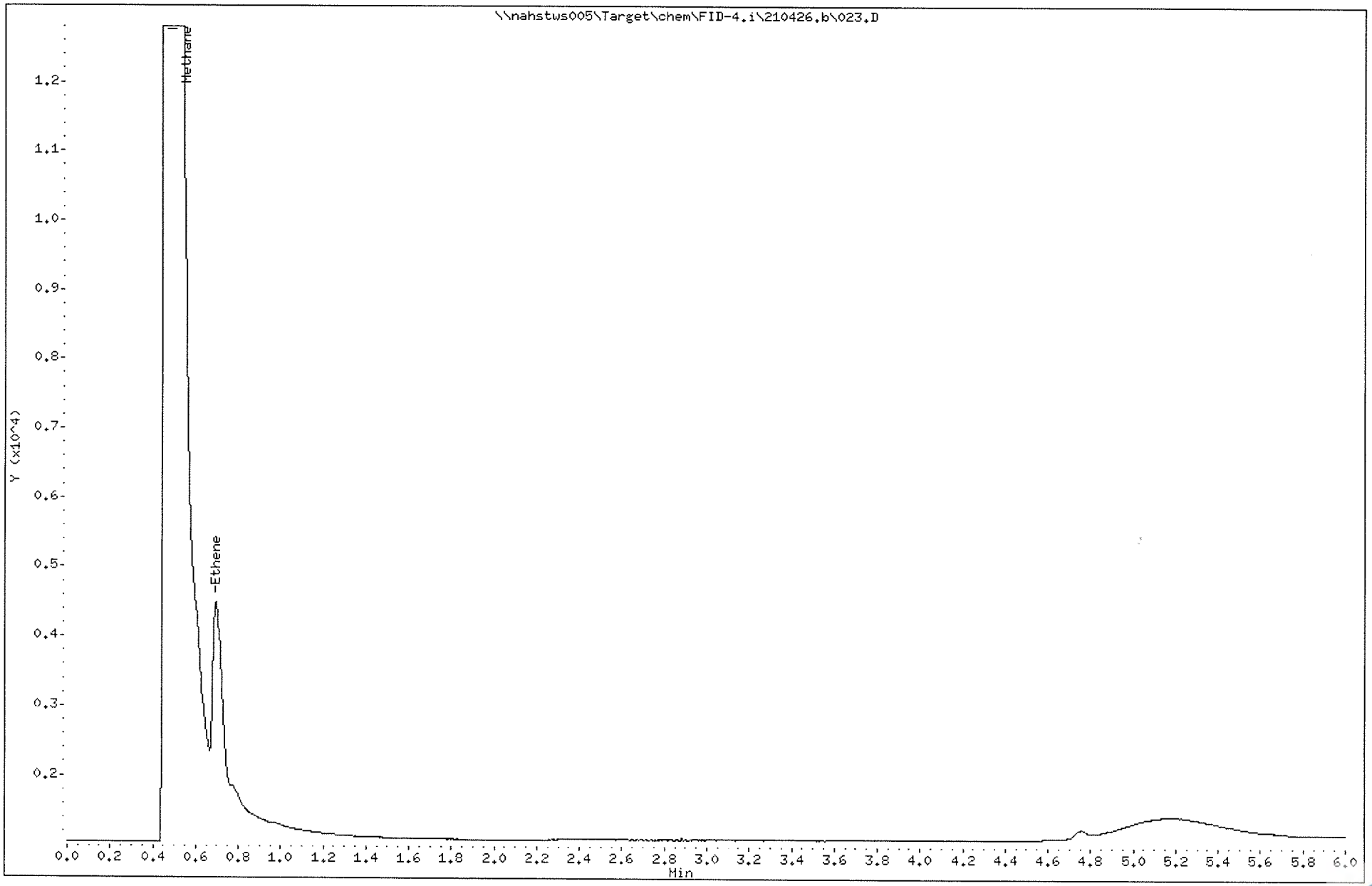
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

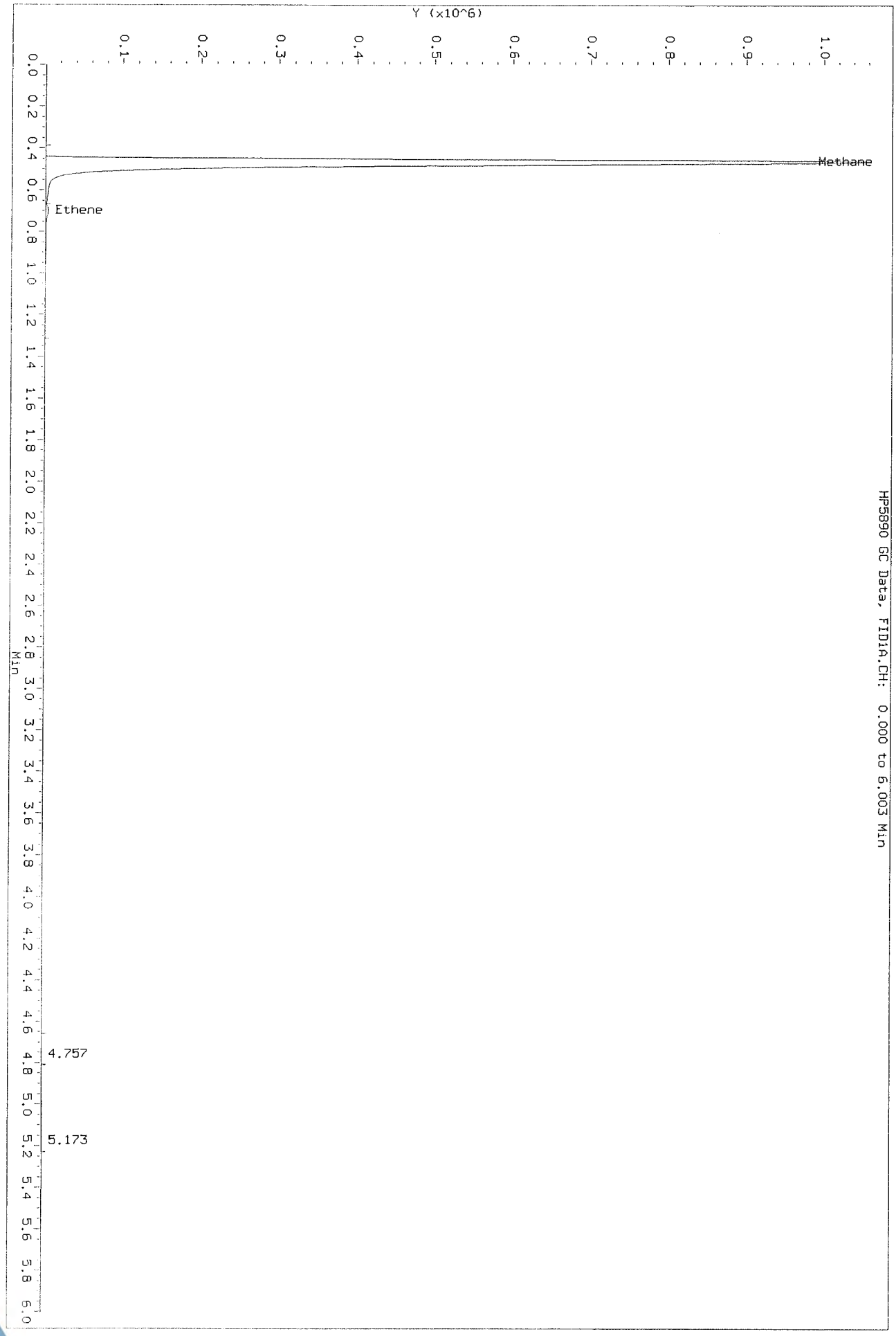
Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\023.D
Date : 26-APR-2021 16:29
Client ID: HS21041169-06
Sample Info: HS21041169-06;HS21041169-06

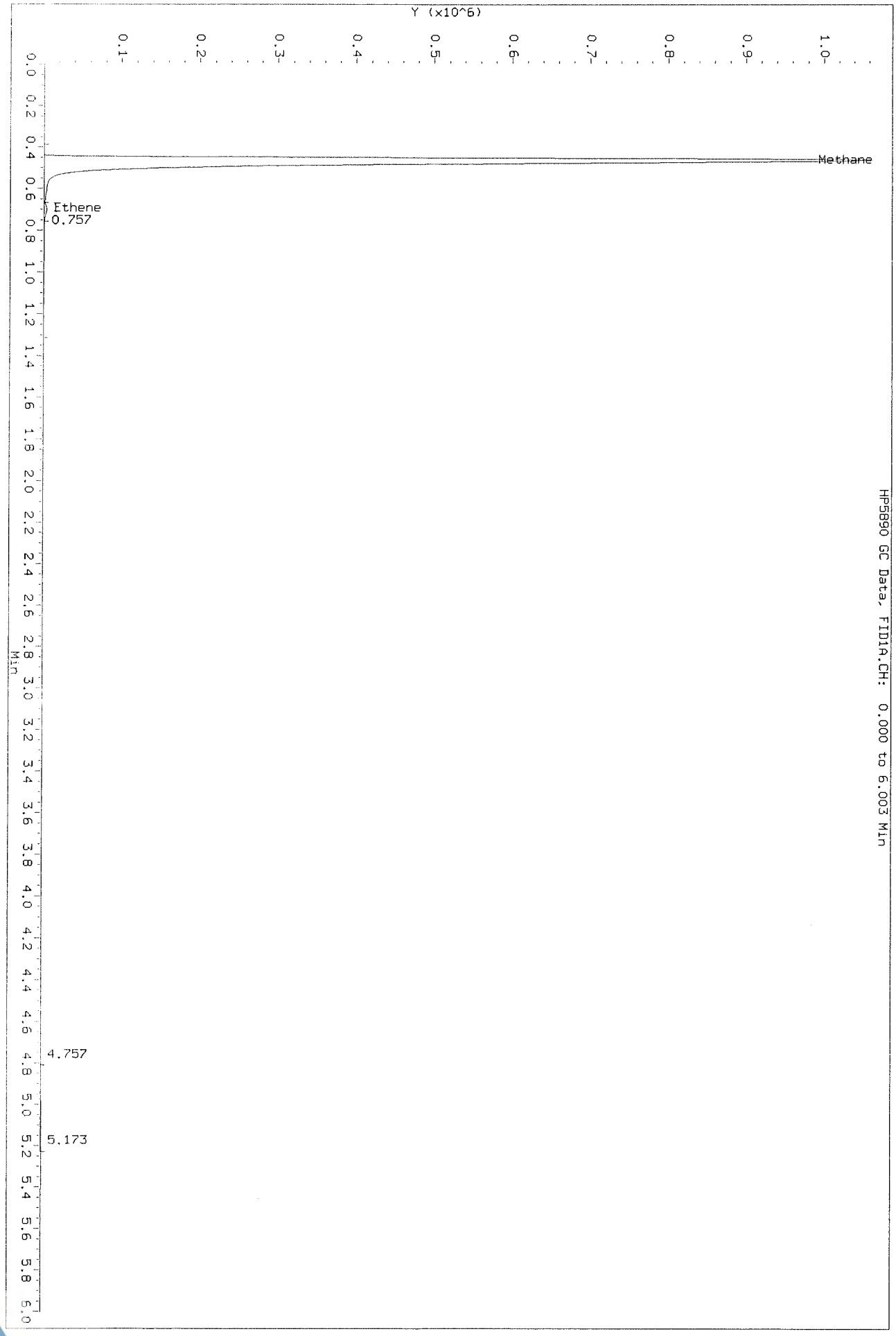
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\Before\023.D
Injection Date: 26-APR-2021 16:29
Instrument: FID-4.i
Client Sample ID: HS21041169-06
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^6)
Methane
Ethene
4.757
5.173
Min


Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\023.D
Injection Date: 26-APR-2021 16:29
Instrument: FID-4.i
Client Sample ID: HS21041169-06
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^6)
Methane
Ethene
0.757
4.757
5.173
Min

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\024.D
Lab Smp Id: HS21041169-01 Client Smp ID: HS21041169-01
Inj Date : 26-APR-2021 16:39
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-01;HS21041169-01
Misc Info : ;1;0;25
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 24
Dil Factor: 25.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

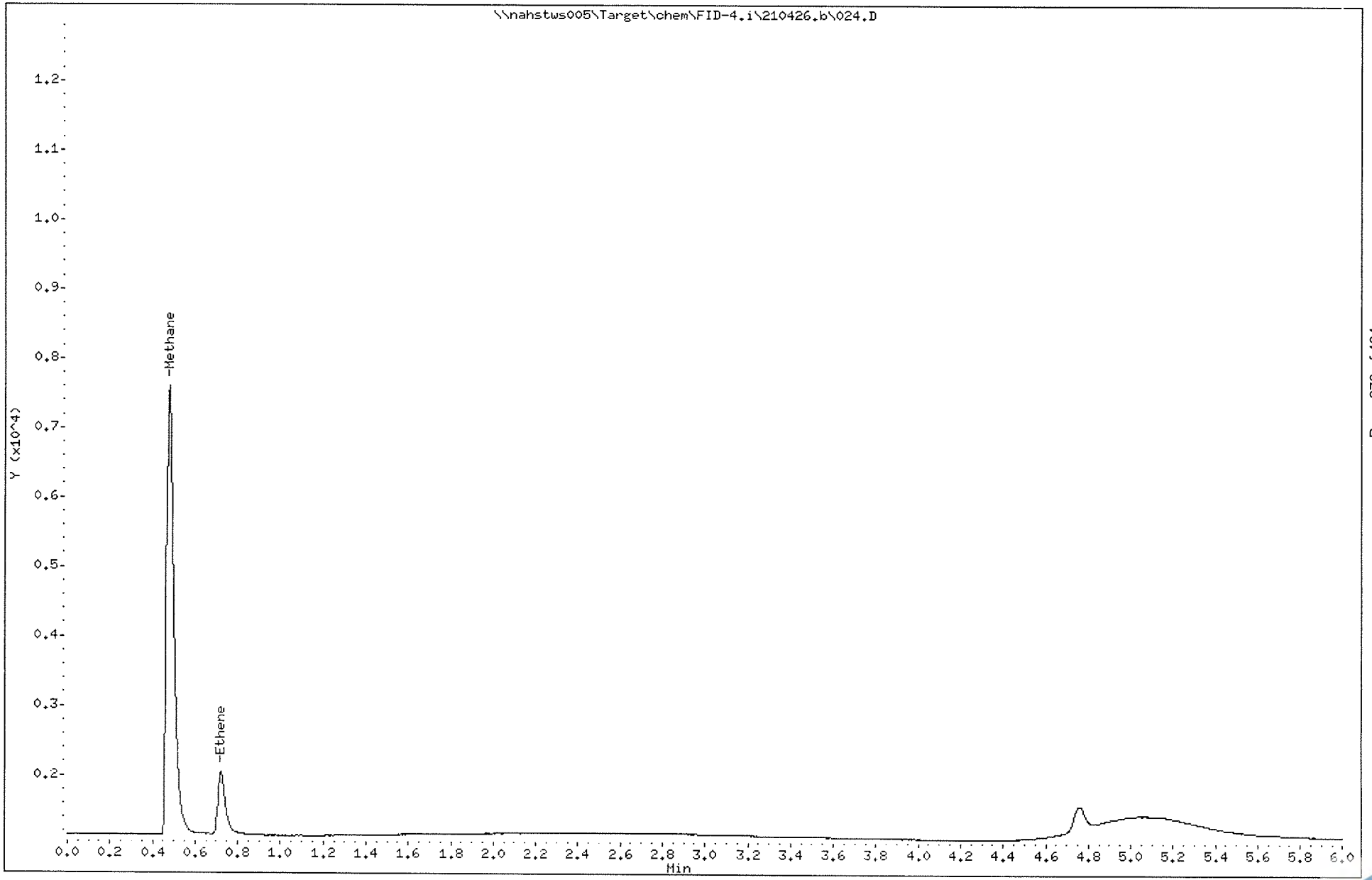
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.476	0.466	0.010	15828	16.2340	405.849
2 Ethene	0.720	0.710	0.010	2398	4.09382	102.345

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\024.D
Date : 26-APR-2021 16:39
Client ID: HS21041169-01
Sample Info: HS21041169-01;HS21041169-01

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\025.D
Lab Smp Id: HS21041169-02 Client Smp ID: HS21041169-02
Inj Date : 26-APR-2021 16:49
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-02;HS21041169-02
Misc Info : ;1;0;50
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 25
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.480	0.466	0.014	10293	10.5570	527.850
2 Ethene	0.723	0.710	0.013	6173	10.5384	526.921(M)

QC Flag Legend

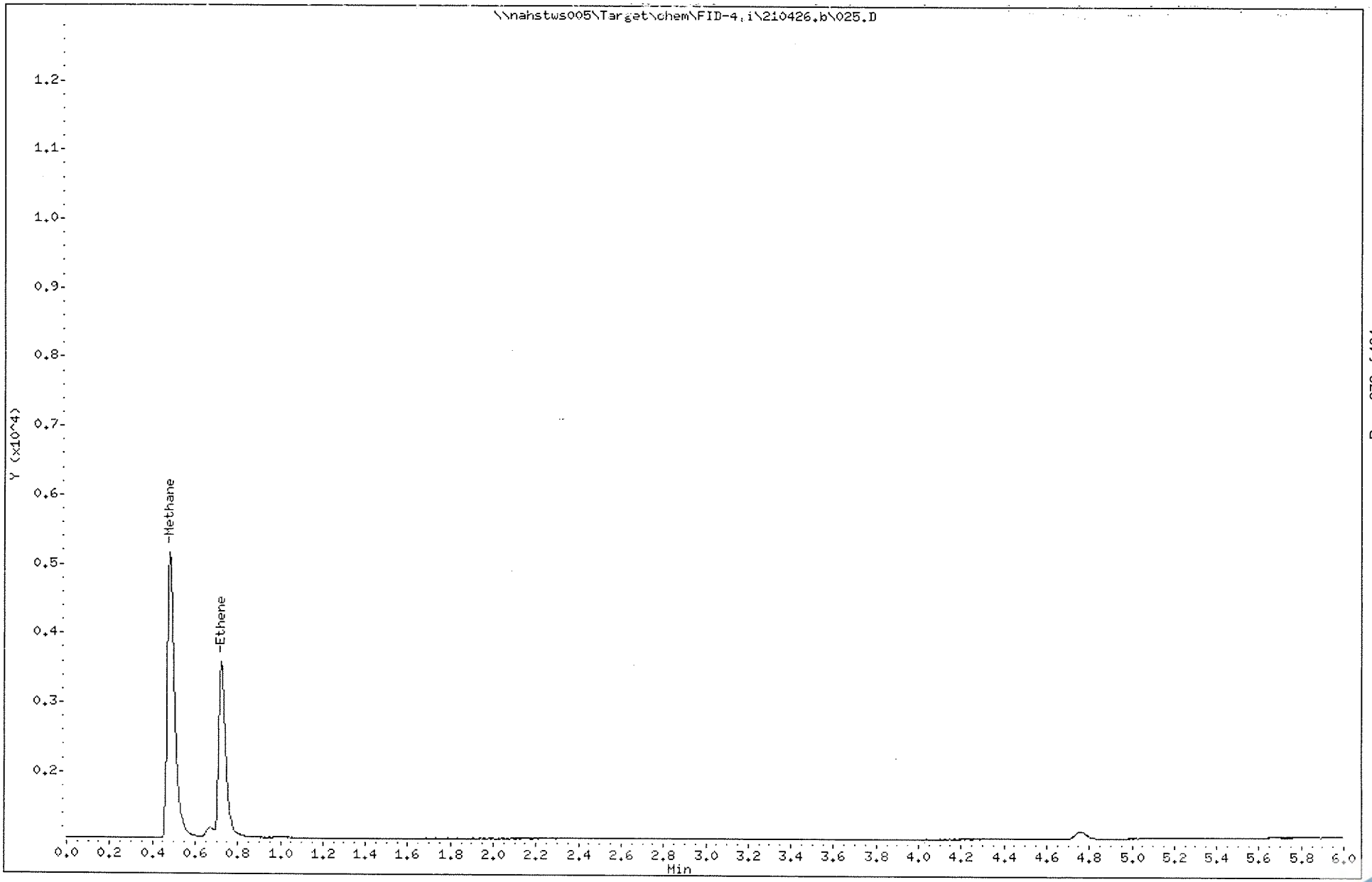
M - Compound response manually integrated.

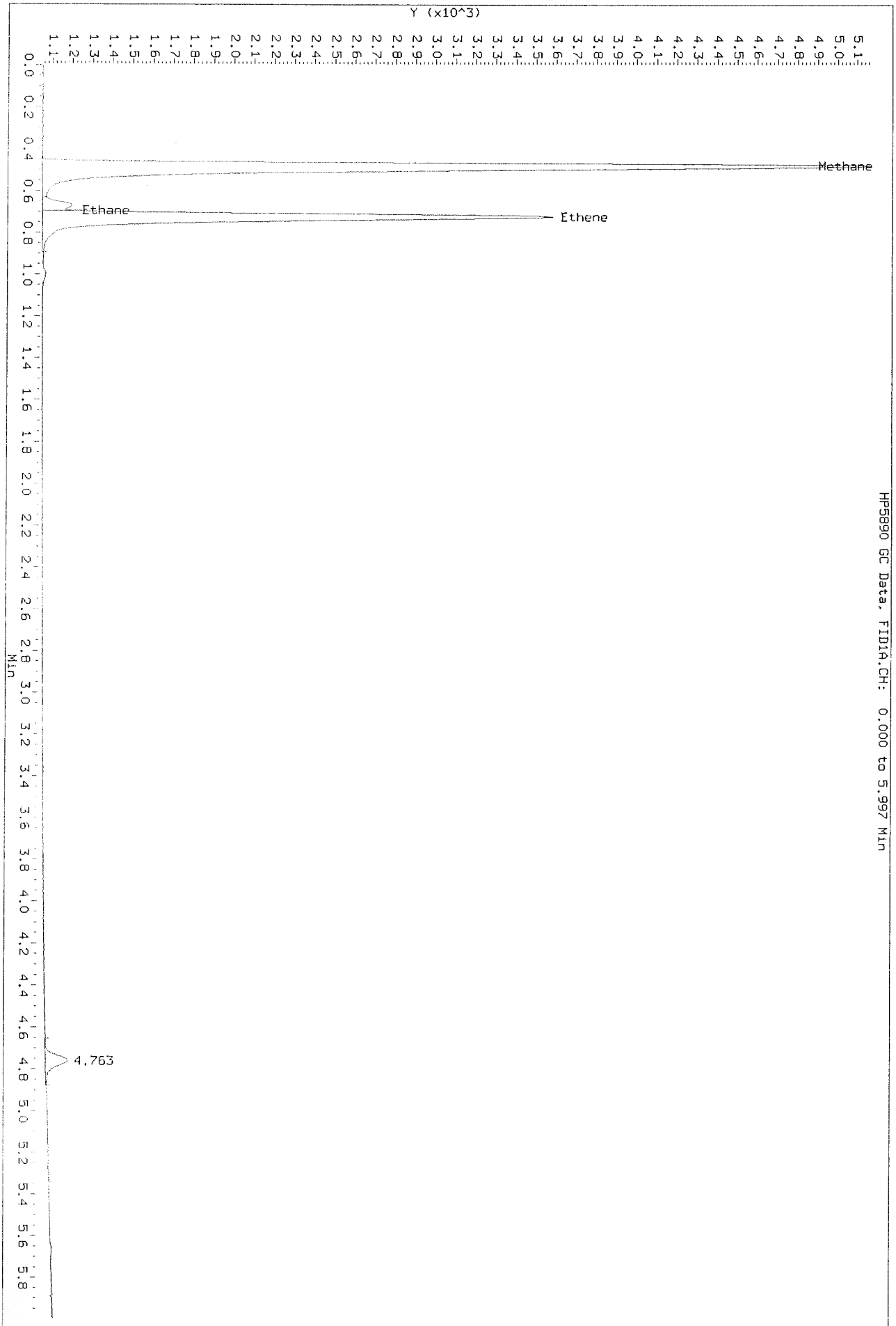
Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\025.D
Date : 26-APR-2021 16:49
Client ID: HS21041169-02
Sample Info: HS21041169-02;HS21041169-02

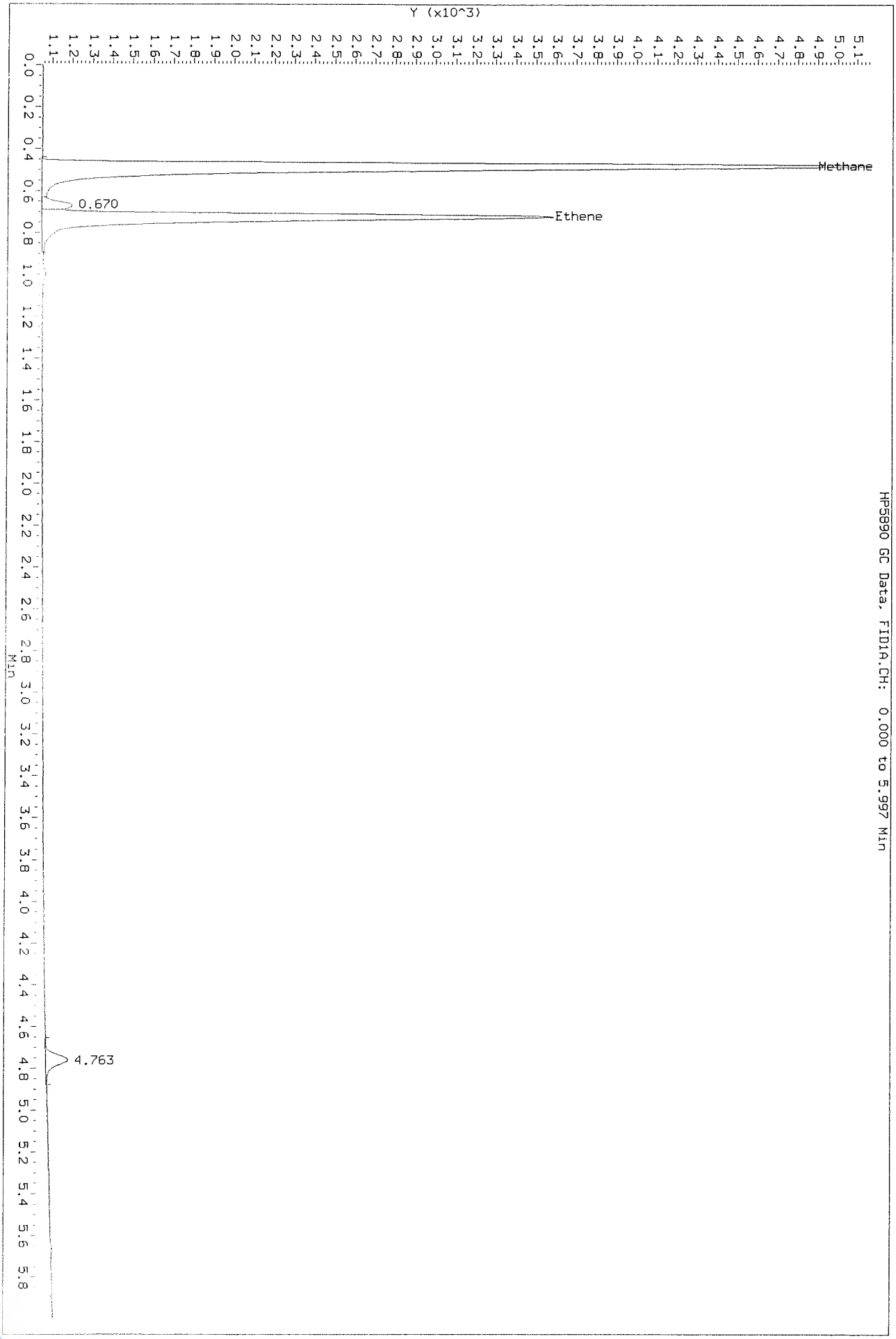
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\Before\025.D
Injection Date: 26-APR-2021 16:49
Instrument: FID-4.i
Client Sample ID: HS21041169-02
HP5890 GC Data, FID1A.CH: 0.000 to 5.997 Min
Y (x10^3)
Min
Methane
Ethane
Ethene
4.763


Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\025.D
Injection Date: 26-APR-2021 16:49
Instrument: FID-4.i
Client Sample ID: HS21041169-02
HP5890 GC Data, FID1A.CH: 0.000 to 5.997 Min
Y (x10^3)
Min
Methane
0.670
Ethene
4.763

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\026.D
Lab Smp Id: HS21041169-03 Client Smp ID: HS21041169-03
Inj Date : 26-APR-2021 16:59
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-03;HS21041169-03
Misc Info : ;1;0;50
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 26
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

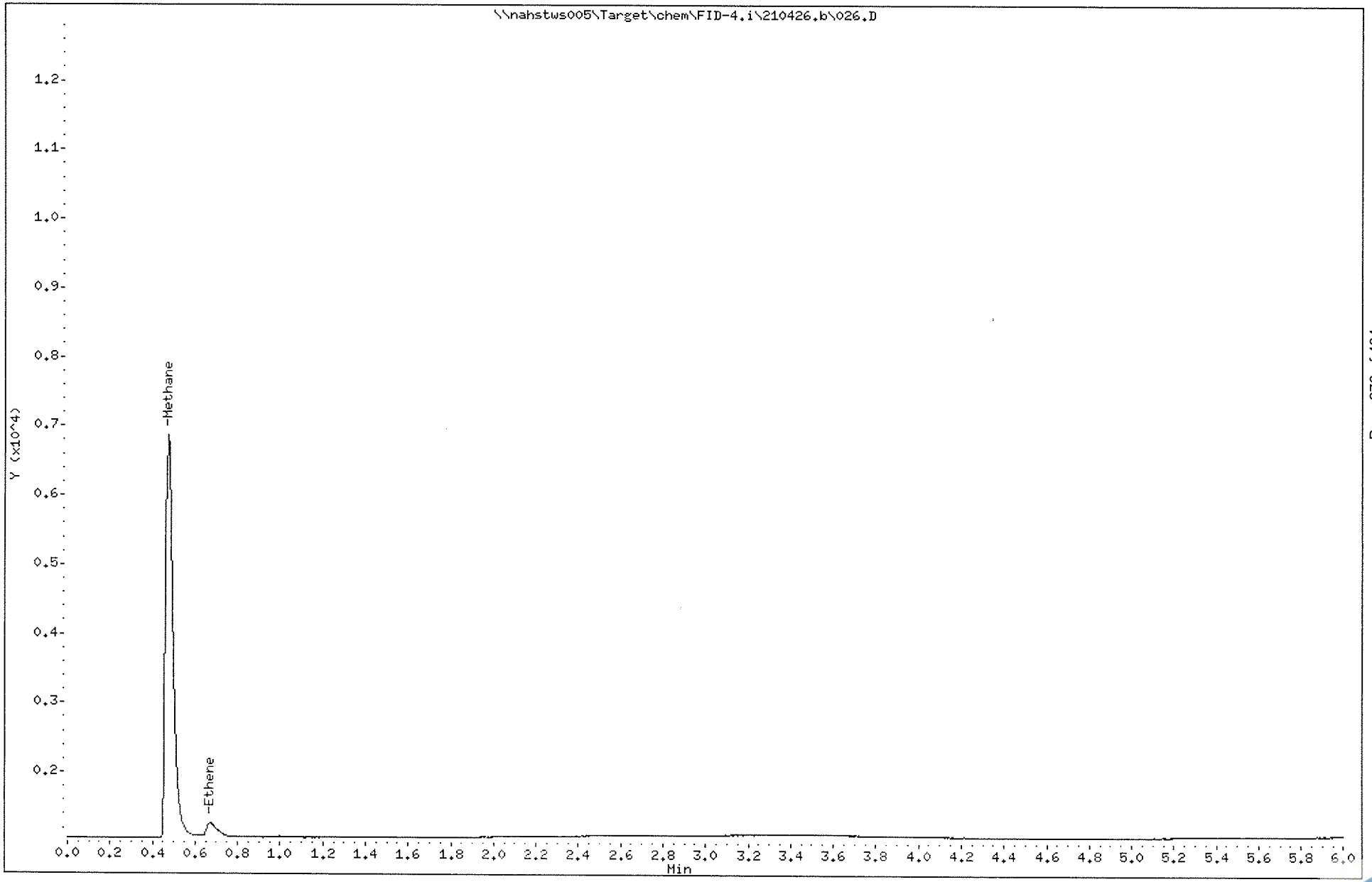
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.473	0.466	0.007	14302	14.6688	733.441
2 Ethene	0.673	0.710	-0.037	809	1.38111	69.055

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\026.D
Date : 26-APR-2021 16:59
Client ID: HS21041169-03
Sample Info: HS21041169-03;HS21041169-03

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\027.D Page 1
Report Date: 19-May-2021 13:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\027.D
Lab Smp Id: HS21041169-06 Client Smp ID: HS21041169-06
Inj Date : 26-APR-2021 17:07
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041169-06;HS21041169-06
Misc Info : ;1;0;200
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27
Dil Factor: 200.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.476	0.466	0.010	10921	11.2011	2240.222(M)

QC Flag Legend

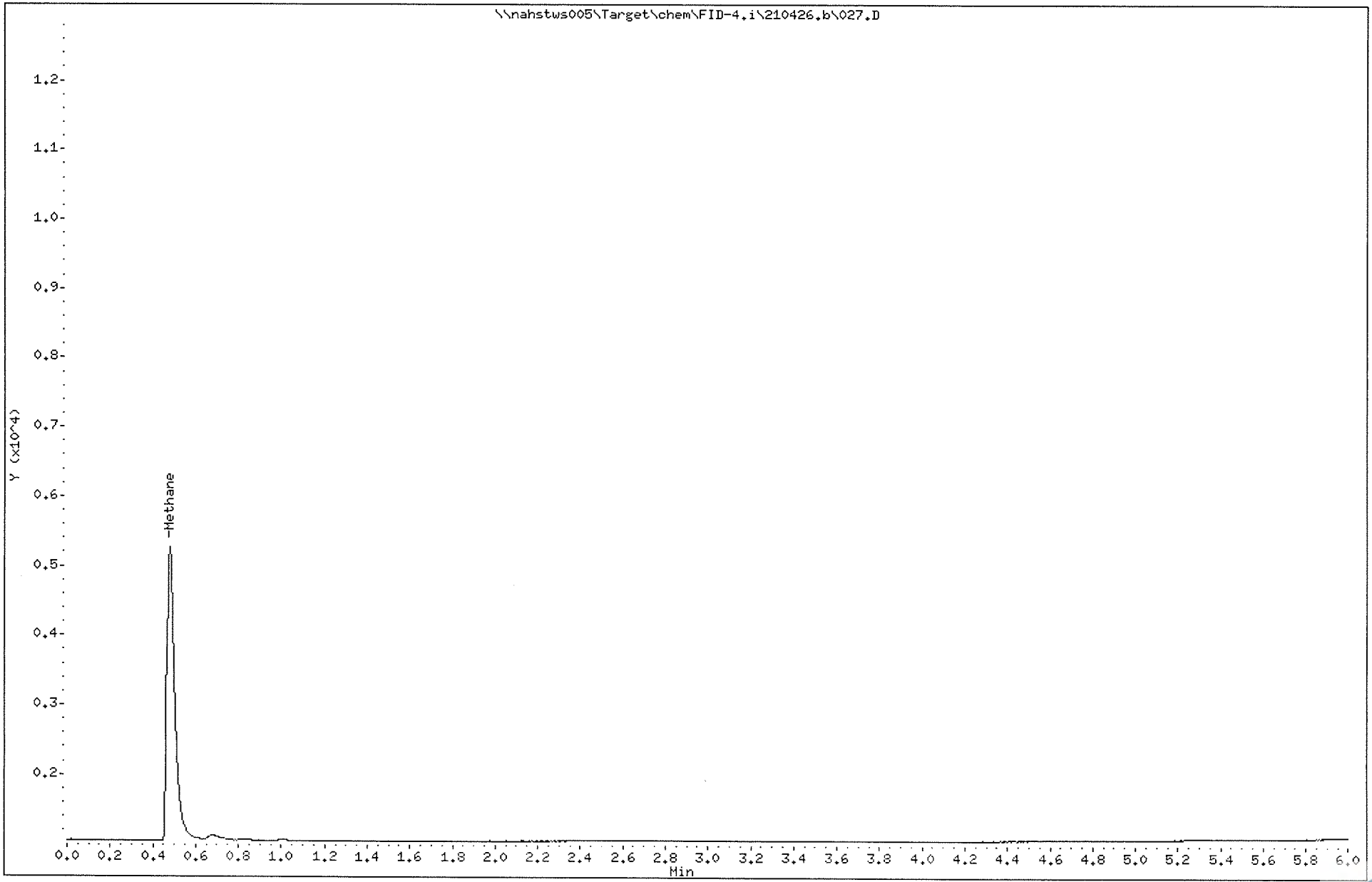
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\027.D
Date : 26-APR-2021 17:07
Client ID: HS21041169-06
Sample Info: HS21041169-06;HS21041169-06

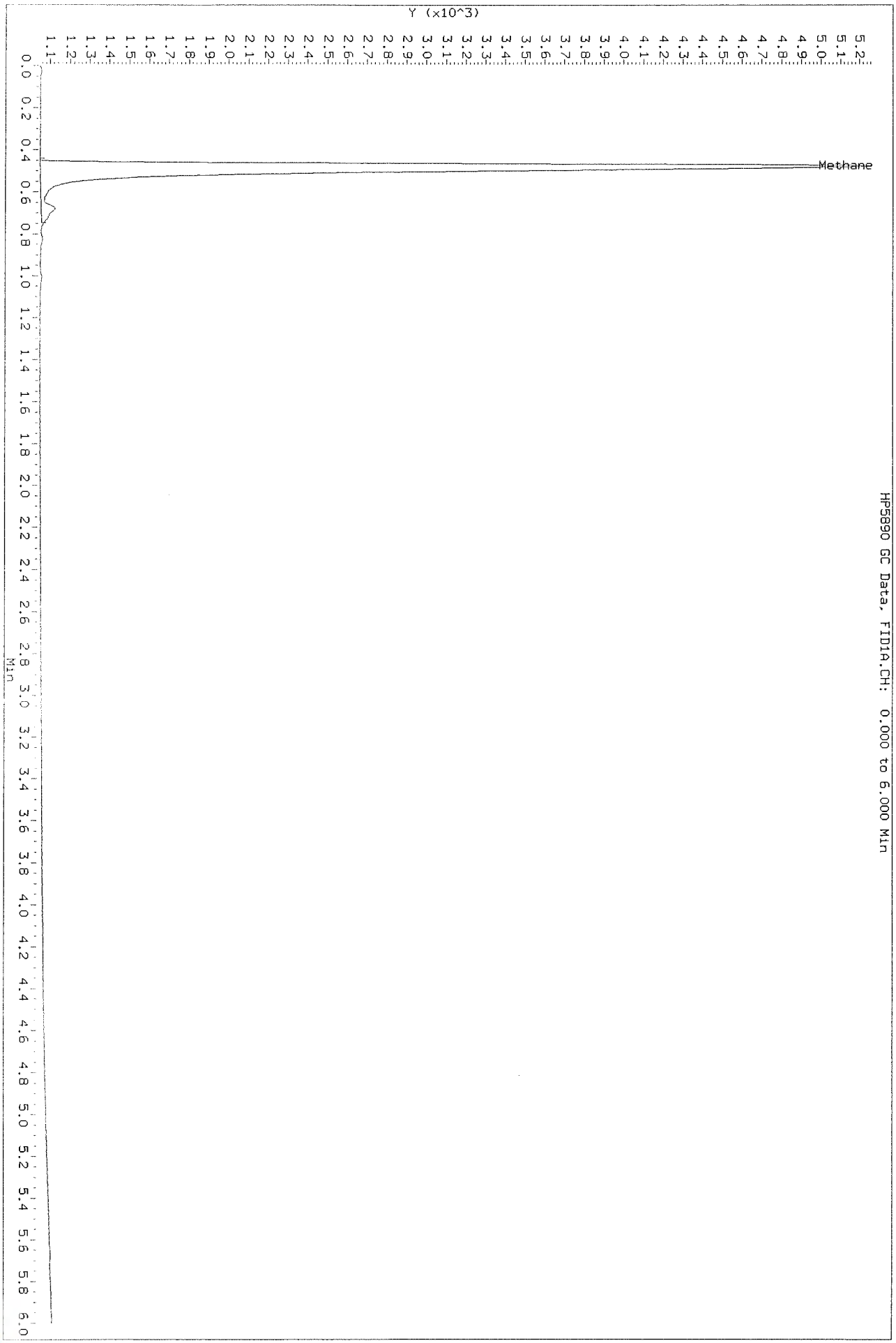
Column phase: Rtx-PLOT

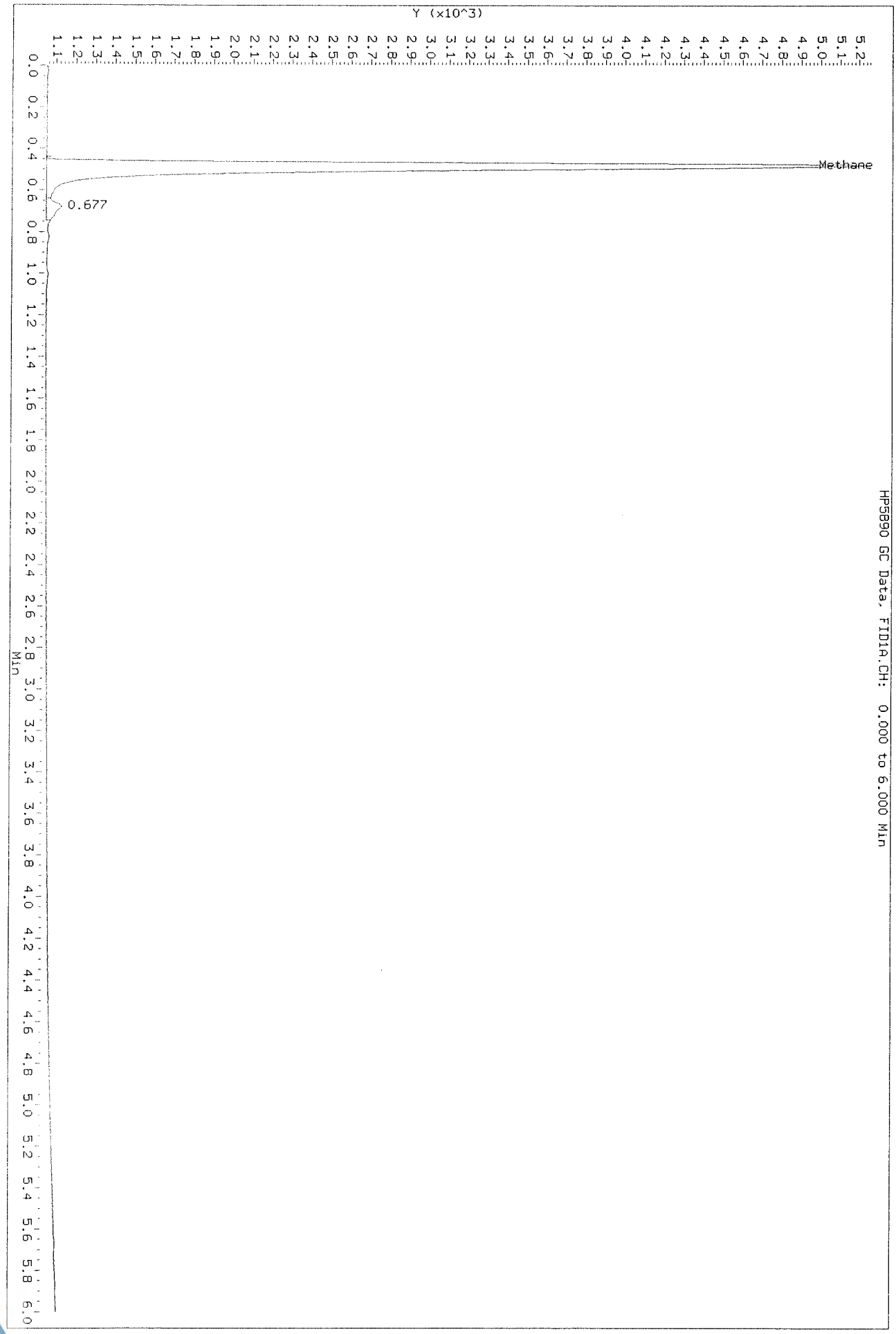
Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\Before\027.D
Injection Date: 26-APR-2021 17:07
Instrument: FID-4.i
Client Sample ID: HS21041169-06




Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\027.D
Injection Date: 26-APR-2021 17:07
Instrument: FID-4.i
Client Sample ID: HS21041169-06
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Methane
0.677
Min

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210426.b\028.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 26-APR-2021 17:28
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210426.b\RSKNI3.m
Meth Date : 19-May-2021 13:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

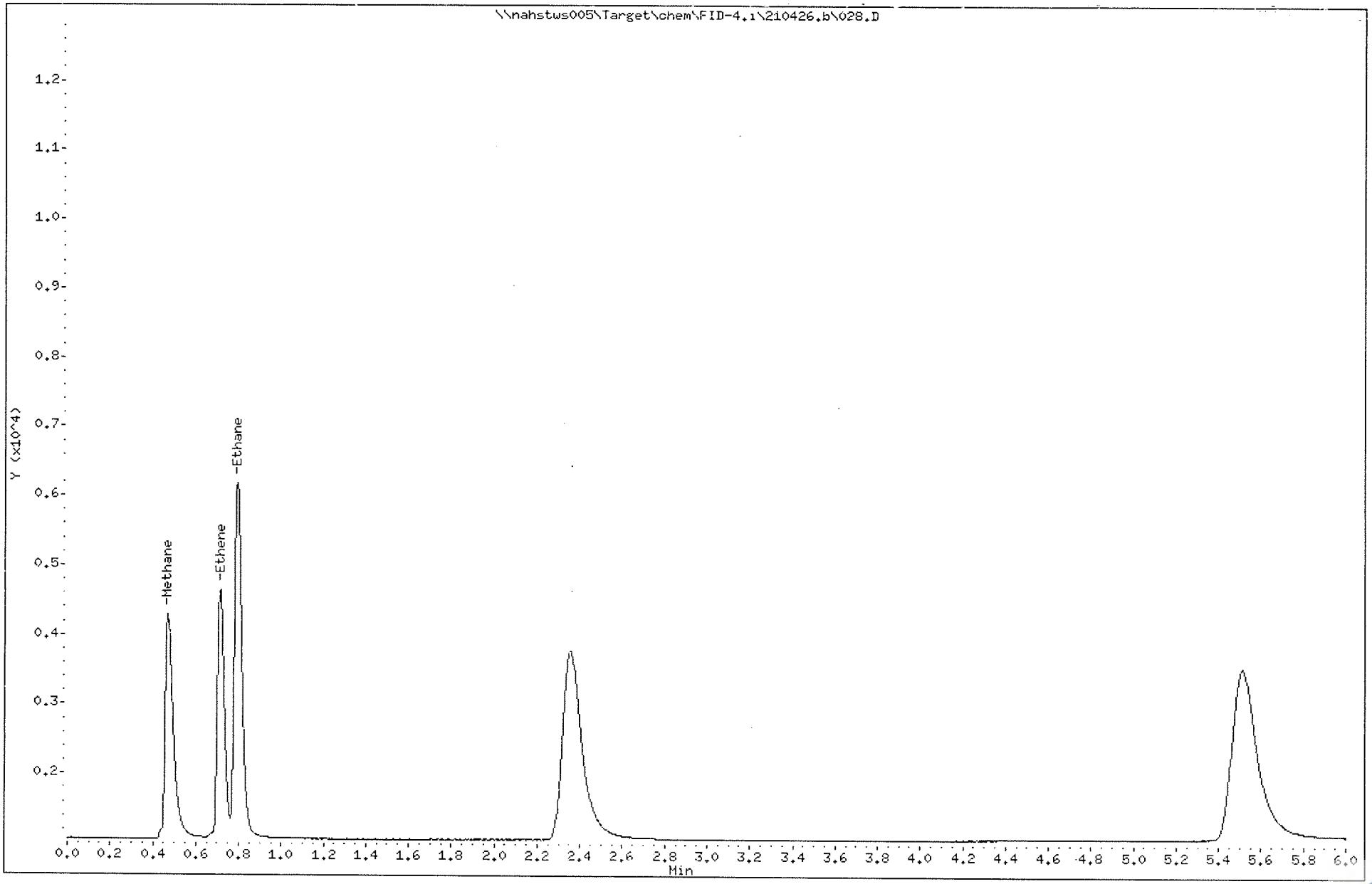
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.470	0.470	0.000	8522	9.64700	8.740
2 Ethene	0.713	0.713	0.000	7947	16.8500	13.566
3 Ethane	0.793	0.793	0.000	12370	18.0430	17.192

Data File: \\nahstws005\Target\chem\FID-4.i\210426.b\028.D
Date : 26-APR-2021 17:28
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



HS21041169 Wet Chem Raw Data (ALK_W 2320B)

ALS WO# HS21041169

Report Date: 4/22/2021 : 6:36 PM

PC-TitratION PLUS
Calibration Report

Calibration Record # 2354

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	4/22/2021
Channel	1	Time	6:36 PM
Probe Type	pH	Temperature	294.55 K 21.40 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.103	CorrCoeff	0.9998
Intercept	-0.243	Equation:	Y = (-58.103) X + (-0.243)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.103	-65.00	-53.00
Intercept	-0.243	-100.00	100.00
Correlation Coefficient	0.9998	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	176.02
	7.00	-4.15
	10.00	-172.60

382228

R.C. 4/23/2021

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Report Date: 4/22/2021 · 8:54 PM

PC-TitratION PLUS
Water Analysis Report

Run Number 4073 **Order Number** 20210422-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	4/22/2021	6:44 PM	21.56	-1.00	6.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	4/22/2021	6:50 PM	21.38	-1.00	7.75	.00	249.15	249.15	.00	.00	.00	2.37	2.37
WBLKW1-210422	4/22/2021	6:55 PM	21.58	-1.00	5.55	.00	.81	.81	.00	.00	.00	.02	.02
LCS1-210422	4/22/2021	7:03 PM	21.87	-1.00	10.90	528.80	1,024.61	.00	991.63	32.98	5.04	9.76	9.76
LCSD1-210422	4/22/2021	7:12 PM	22.11	-1.00	10.90	527.85	1,024.79	.00	993.89	30.90	5.03	9.76	9.76
HS21041166-02	4/22/2021	7:19 PM	22.19	-1.00	7.96	.00	137.71	137.71	.00	.00	.00	1.31	1.31
HS21041166-02DUP	4/22/2021	7:25 PM	22.35	-1.00	7.97	.00	136.97	136.97	.00	.00	.00	1.30	1.30
HS21041166-03	4/22/2021	7:32 PM	22.55	-1.00	7.86	.00	150.52	150.52	.00	.00	.00	1.43	1.43
HS21041169-03	4/22/2021	7:42 PM	22.69	-1.00	6.39	.00	1,186.17	1,186.17	.00	.00	.00	11.30	11.30
HS21041169-03DUP	4/22/2021	7:52 PM	22.72	-1.00	6.33	.00	1,198.80	1,198.80	.00	.00	.00	11.42	11.42
HS21041169-06	4/22/2021	7:58 PM	22.13	-1.00	6.44	.00	549.82	549.82	.00	.00	.00	5.24	5.24
CCV-PH	4/22/2021	8:01 PM	21.79	-1.00	7.09	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/22/2021	8:10 PM	21.48	-1.00	10.85	524.79	1,031.74	.00	1,013.90	17.84	5.00	9.83	9.83
DI RINSE	4/22/2021	8:15 PM	21.30	-1.00	5.82	.00	.82	.82	.00	.00	.00	.03	.03
WBLKW1-210422	4/22/2021	8:20 PM	21.43	-1.00	5.58	.00	.55	.55	.00	.00	.00	.02	.02
HS21041169-01	4/22/2021	8:27 PM	21.60	-1.00	6.88	.00	528.58	528.58	.00	.00	.00	5.03	5.03
HS21041169-02	4/22/2021	8:36 PM	21.73	-1.00	7.09	.00	960.52	960.52	.00	.00	.00	9.15	9.15
CCV-PH	4/22/2021	8:39 PM	21.85	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/22/2021	8:47 PM	21.77	-1.00	10.84	524.37	1,030.20	.00	1,011.65	18.55	4.99	9.81	9.81
DI RINSE	4/22/2021	8:52 PM	22.10	-1.00	5.90	.00	.98	.98	.00	.00	.00	.03	.03

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Batch ID Exception Report

Batch ID: R382228
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte		Qualifier	
HS21041166-02	6057478	SAMP	ALK_W 2320B	22 Apr 2021 7:19 PM	1
	A	Alkalinity, Total (As CaCO3)		*	

HS21041169 Wet Chem Raw Data (TOC_W 5310B)

ALS WO# HS21041169

C:\TOC-L\Data\2021_02_25_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result
1	Standard	NPOC	CAL	3150171(01-07)	02_25_2021_CAL.2021_02_	
2	Unknown	NPOC	ICV	315017108	02_25_2021_CAL.cal	NPOC:10.14mg/L
3	Unknown	NPOC	ICB		02_25_2021_CAL.cal	NPOC:-0.1140mg/L
4	Unknown	NPOC	CCV	315017106	02_25_2021_CAL.cal	NPOC:25.02mg/L
5	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:-0.07587mg/L
6	Unknown	NPOC	MBLK-02252021		02_25_2021_CAL.cal	NPOC:-0.1214mg/L
7	Unknown	NPOC	LCS-02252021		02_25_2021_CAL.cal	NPOC:10.15mg/L
8	Unknown	NPOC	LCSD02252021		02_25_2021_CAL.cal	NPOC:10.16mg/L
9	Unknown	NPOC	HS21020689-01		02_25_2021_CAL.cal	NPOC:22.48mg/L
10	Unknown	NPOC	HS21020689-02		02_25_2021_CAL.cal	NPOC:17.34mg/L
11	Unknown	NPOC	HS21020689-02MS		02_25_2021_CAL.cal	NPOC:28.25mg/L
12	Unknown	NPOC	HS21020689-03		02_25_2021_CAL.cal	NPOC:10.22mg/L
13	Unknown	NPOC	HS21020538-01		02_25_2021_CAL.cal	NPOC:20.36mg/L
14	Unknown	NPOC	HS21020538-02		02_25_2021_CAL.cal	NPOC:4.452mg/L
15	Unknown	NPOC	HS21020793-02DF10		02_25_2021_CAL.cal	NPOC:17.50mg/L
16	Unknown	NPOC	CCV		02_25_2021_CAL.cal	NPOC:25.46mg/L
17	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:0.08018mg/L

	Notes	Status	Date / Time	Vial
1		Completed	2/25/2021 1	1, 2, 3, 4, 5,
2		Completed	2/25/2021 1	8
3		Completed	2/25/2021 1	9
4		Completed	2/25/2021 1	10
5		Completed	2/25/2021 1	11
6		Completed	2/25/2021 1	12
7		Completed	2/25/2021 1	13
8		Completed	2/25/2021 1:	14
9		Completed	2/25/2021 1:	15
10		Completed	2/25/2021 1:	16
11		Completed	2/25/2021 1:	17
12		Completed	2/25/2021 2:	18
13		Completed	2/25/2021 2:	19
14		Completed	2/25/2021 2:	20
15		Completed	2/25/2021 2:	21
16		Completed	2/25/2021 3:	22
17		Completed	2/25/2021 3:	23

TOC-Control L Report

2021_02_25_001.tlx

Instr.Information

Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

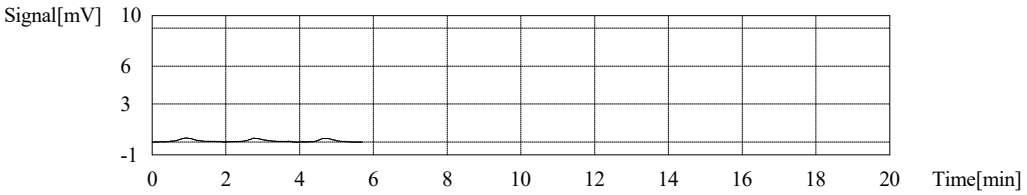
Sample Name:	CAL
Sample ID:	3150171(01-07)
Cal. Curve:	02_25_2021_CAL.2021_02_25_09_13_02.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.7577	50uL	1.000	*******		2/25/2021 9:21:39 AM
2	0.6368	50uL	1.000	*******		2/25/2021 9:23:47 AM
3	0.6500	50uL	1.000	*******		2/25/2021 9:25:55 AM

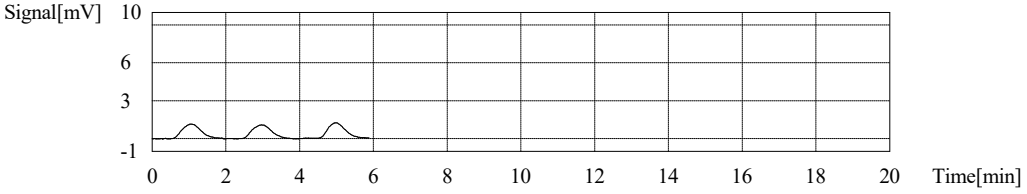
Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	0.6815



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.063	50uL	1.000	*******		2/25/2021 9:34:44 AM
2	3.946	50uL	1.000	*******		2/25/2021 9:37:02 AM
3	3.886	50uL	1.000	*******		2/25/2021 9:39:10 AM

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	3.965

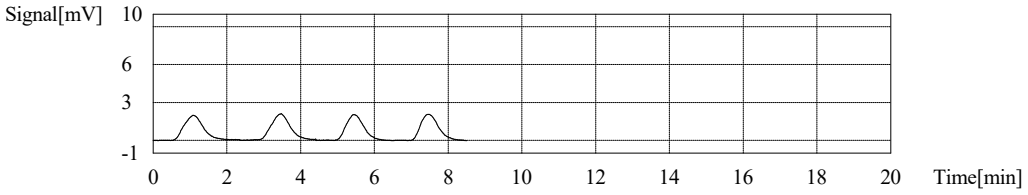


Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.014	50uL	1.000	*******		2/25/2021 9:48:25 AM
2	6.976	50uL	1.000	*******		2/25/2021 9:50:44 AM
3	6.738	50uL	1.000	*******	E	2/25/2021 9:53:02 AM
4	6.989	50uL	1.000	*******		2/25/2021 9:55:18 AM

TOC-Control L Report

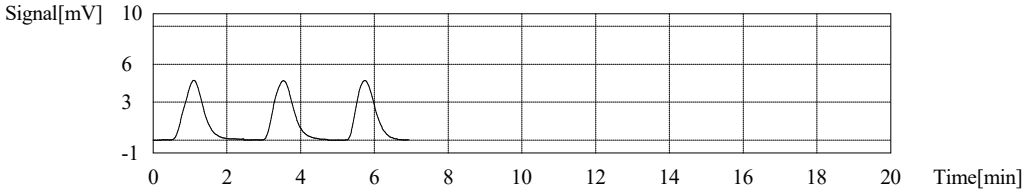
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.70	50uL	1.000	*******		2/25/2021 10:04:35 AM
2	16.99	50uL	1.000	*******		2/25/2021 10:07:06 AM
3	16.40	50uL	1.000	*******		2/25/2021 10:09:32 AM

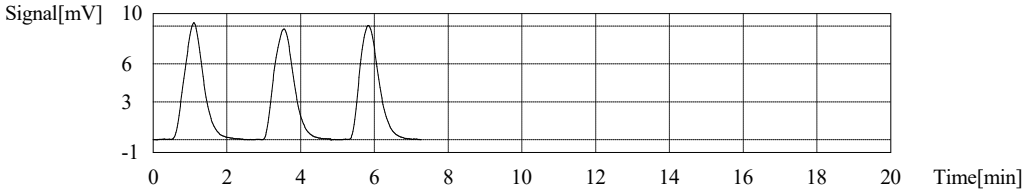
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	32.33	50uL	1.000	*******		2/25/2021 10:18:54 AM
2	32.41	50uL	1.000	*******		2/25/2021 10:21:29 AM
3	32.27	50uL	1.000	*******		2/25/2021 10:24:10 AM

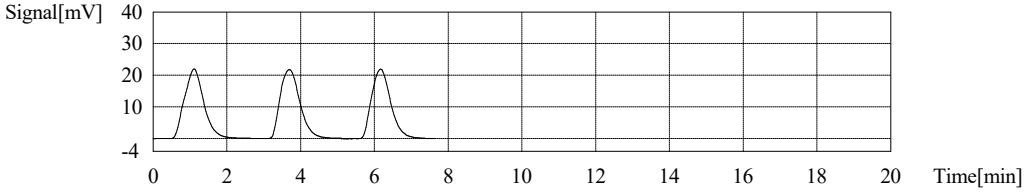
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	79.83	50uL	1.000	*******		2/25/2021 10:33:42 AM
2	80.51	50uL	1.000	*******		2/25/2021 10:36:25 AM
3	79.09	50uL	1.000	*******		2/25/2021 10:39:12 AM

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81



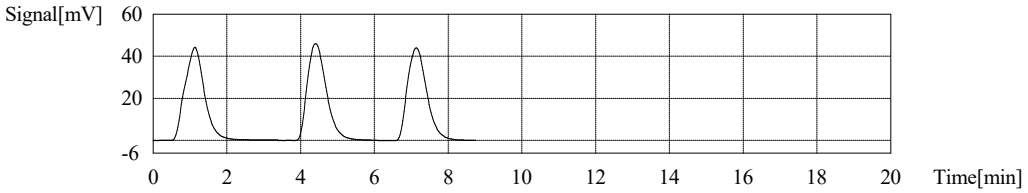
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	162.4	50uL	1.000	*******		2/25/2021 10:49:29 AM
2	163.8	50uL	1.000	*******		2/25/2021 10:52:26 AM
3	159.9	50uL	1.000	*******		2/25/2021 10:55:21 AM

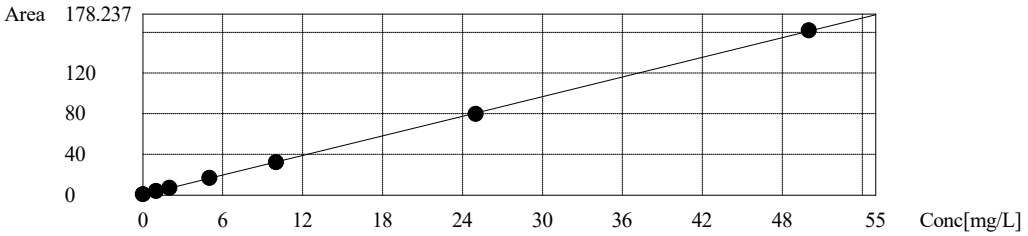
TOC-Control L Report

2021_02_25_001.tlx

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	162.0



Slope:	3.220
Intercept	0.4365
r^2	0.9999
r	1.0000
RSE(%)	N/A
Zero Shift	No



Sample

Sample Name:	ICV
Sample ID:	315017108
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

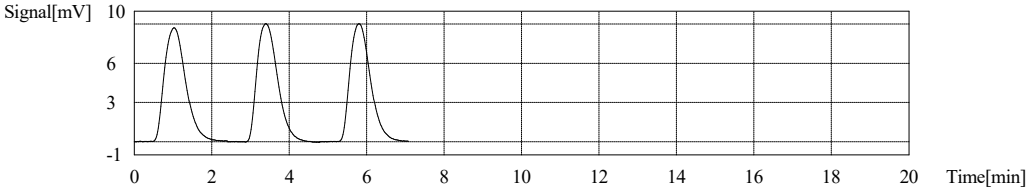
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.14mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.04	10.13mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:32:06 AM
2	33.24	10.19mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:34:44 AM
3	32.98	10.11mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:37:17 AM

Mean Area	33.09
Mean Conc.	10.14mg/L



Sample

Sample Name:	ICB
Sample ID:	
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1140mg/L

1. Det

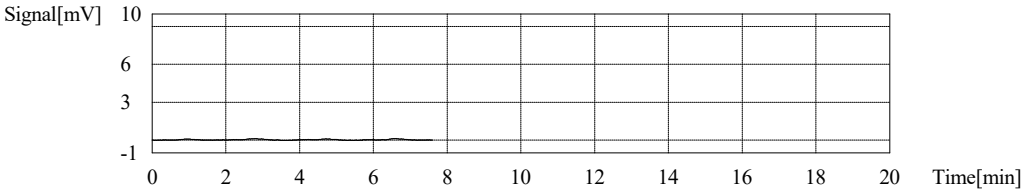
TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:46:05 AM
2	0.2080	-0.07096mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:48:13 AM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:50:20 AM
4	0.2102	-0.07028mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:52:27 AM

Mean Area 0.06933
Mean Conc. -0.1140mg/L



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	Type	Analysis	Sample Name	Sample ID	Origin	Result	Notes	Status
1	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.12mg/L		Completed
2	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02147mg/L		Completed
3	Unknown	NPOC	MBLK-05032021		02_25_2021	NPOC:-0.1356mg/L		Completed
4	Unknown	NPOC	LCS-05032021		02_25_2021	NPOC:10.38mg/L		Completed
5	Unknown	NPOC	LCSD-05032021	TOC_W 531	02_25_2021	NPOC:10.36mg/L		Completed
6	Unknown	NPOC	HS21041102-10DF100		02_25_2021	NPOC:28.55mg/L		Completed
7	Unknown	NPOC	HS21041482-01		02_25_2021	NPOC:14.11mg/L		Completed
8	Unknown	NPOC	HS21041024-01DF100		02_25_2021	NPOC:8.084mg/L		Completed
9	Unknown	NPOC	HS21041485-01		02_25_2021	NPOC:9.790mg/L		Completed
10	Unknown	NPOC	HS21041493-02		02_25_2021	NPOC:0.7184mg/L		Completed
11	Unknown	NPOC	HS21041169-01		02_25_2021	NPOC:16.78mg/L		Completed
12	Unknown	NPOC	HS21041169-02		02_25_2021	NPOC:12.16mg/L		Completed
13	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.33mg/L		Completed
14	Unknown	NPOC	CCB		02_25_2021	NPOC:0.06393mg/L		Completed
15	Unknown	NPOC	HS21041169-03		02_25_2021	NPOC:784.1mg/L		Completed
16	Unknown	NPOC	HS21041169-03MS		02_25_2021	NPOC:780.7mg/L		Completed
17	Unknown	NPOC	HS21041169-06		02_25_2021	NPOC:10.56mg/L		Completed
18	Unknown	NPOC	HS21041197-01		02_25_2021	NPOC:11.31mg/L		Completed
19	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.48mg/L		Completed
20	Unknown	NPOC	CCB		02_25_2021	NPOC:0.1052mg/L		Completed
21	Unknown	NPOC	MBLK2-05032021		02_25_2021	NPOC:-0.03418mg/L		Completed
22	Unknown	NPOC	LCS2-05032021		02_25_2021	NPOC:10.48mg/L		Completed
23	Unknown	NPOC	LCSD2-05032021	TOC_W 531	02_25_2021	NPOC:10.43mg/L		Completed
24	Unknown	NPOC	HS21041255-05		02_25_2021	NPOC:644.8mg/L		Completed
25	Unknown	NPOC	HS21041255-07		02_25_2021	NPOC:13.16mg/L		Completed
26	Unknown	NPOC	HS21041275-01		02_25_2021	NPOC:15.97mg/L		Completed
27	Unknown	NPOC	HS21041275-02		02_25_2021	NPOC:15.70mg/L		Completed
28	Unknown	NPOC	HS21041275-03		02_25_2021	NPOC:15.54mg/L		Completed
29	Unknown	NPOC	HS21041275-03MS		02_25_2021	NPOC:20.34mg/L		Completed
30	Unknown	NPOC	HS21041275-04		02_25_2021	NPOC:10.22mg/L		Completed
31	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.10mg/L		Completed
32	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02555mg/L		Completed
33	Unknown	NPOC	HS21041275-05		02_25_2021	NPOC:10.23mg/L		Completed
34	Unknown	NPOC	HS21041275-06		02_25_2021	NPOC:9.732mg/L		Completed
35	Unknown	NPOC	HS21041275-07		02_25_2021	NPOC:21.67mg/L		Completed
36	Unknown	NPOC	HS21041275-08		02_25_2021	NPOC:21.26mg/L		Completed
37	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.52mg/L		Completed
38	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.07846mg/L		Completed

	Date / Time	Vial
1	5/3/2021 3:5	1
2	5/3/2021 4:1	2
3	5/3/2021 4:2	3
4	5/3/2021 4:4	4
5	5/3/2021 4:5	5
6	5/3/2021 5:1	6
7	5/3/2021 5:2	7
8	5/3/2021 5:4	8
9	5/3/2021 5:5	9
10	5/3/2021 6:0	10
11	5/3/2021 6:2	11
12	5/3/2021 6:4	12
13	5/3/2021 6:5	13
14	5/3/2021 7:1	14
15	5/3/2021 7:3	15
16	5/3/2021 7:5	16
17	5/3/2021 8:0	17
18	5/3/2021 8:2	18
19	5/3/2021 8:4	1
20	5/3/2021 8:5	2
21	5/3/2021 9:1	3
22	5/3/2021 9:2	4
23	5/3/2021 9:4	5
24	5/3/2021 10:	19
25	5/3/2021 10:	20
26	5/3/2021 10:	21
27	5/3/2021 10:	22
28	5/3/2021 11:	23
29	5/3/2021 11:	24
30	5/3/2021 11:	25
31	5/3/2021 11:	13
32	5/4/2021 12:	14
33	5/4/2021 12:	26
34	5/4/2021 12:	27
35	5/4/2021 12:	28
36	5/4/2021 1:0	29
37	5/4/2021 1:1	1
38	5/4/2021 1:3	2

TOC-Control L Report

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result:

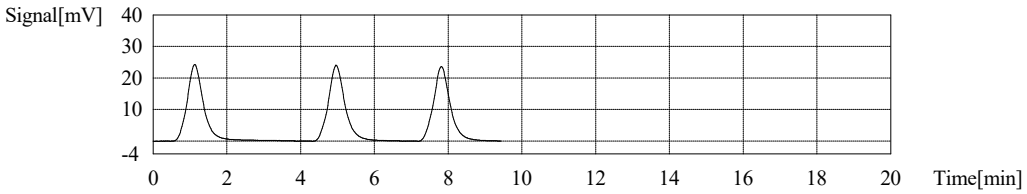
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.12mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	75.54	23.32mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 3:49:28 PM
2	74.81	23.10mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 3:52:34 PM
3	74.31	22.94mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 3:55:36 PM

Mean Area: 74.89
Mean Conc.: 23.12mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.02147mg/L

1. Det

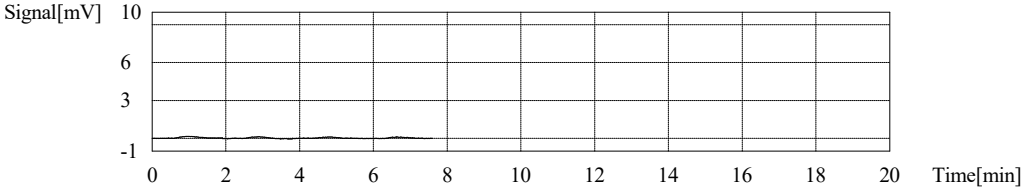
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4322	-0.00134mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:04:23 PM
2	0.3624	-0.02301mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:06:32 PM
3	0.1674	-0.08357mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:08:40 PM
4	0.3075	-0.04006mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:10:48 PM

TOC-Control L Report

2021_05_03_001.tlx

Mean Area 0.3674
Mean Conc. -0.02147mg/L



Sample

Sample Name: MBLK-05032021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

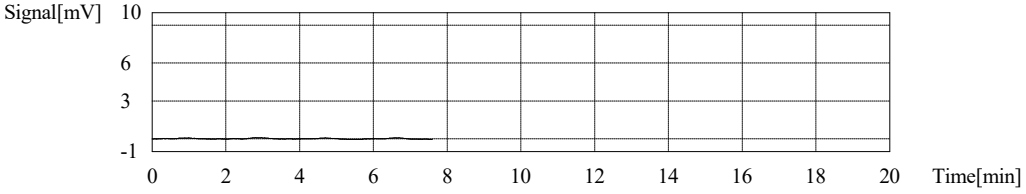
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1356mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:19:31 PM
2	0.1892	-0.07680mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:21:40 PM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:23:48 PM
4	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:25:56 PM

Mean Area 0.000
Mean Conc. -0.1356mg/L



Sample

Sample Name: LCS-05032021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.38mg/L

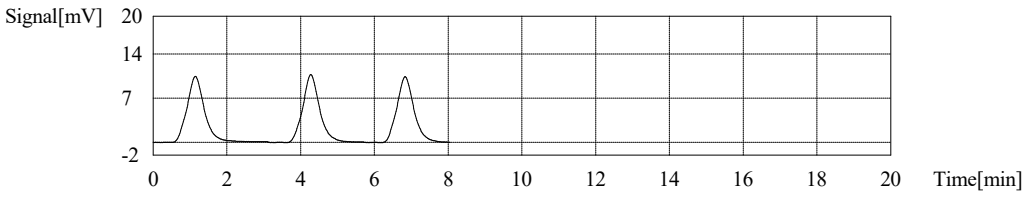
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.11	10.46mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:35:52 PM
2	34.10	10.45mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:38:42 PM
3	33.33	10.22mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:41:19 PM

L Report

Mean Area 33.85
Mean Conc. 10.38mg/L



Sample

Sample Name: LCSD-05032021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

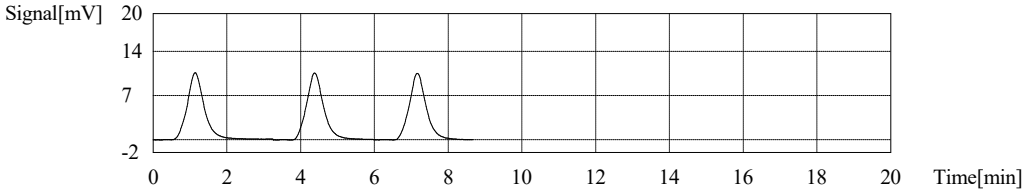
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.36mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.98	10.42mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:51:27 PM
2	34.02	10.43mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:54:28 PM
3	33.41	10.24mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:57:22 PM

Mean Area 33.80
Mean Conc. 10.36mg/L



Sample

Sample Name: HS21041169-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:16.78mg/L

1. Det

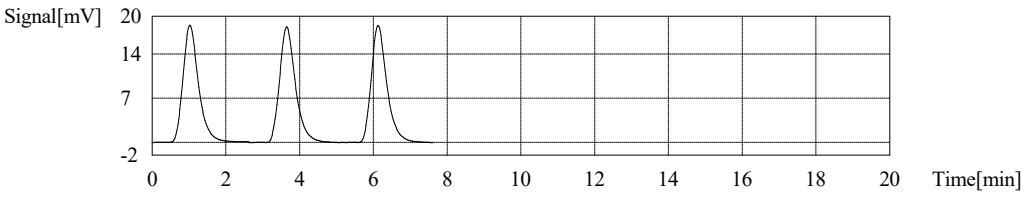
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	53.96	16.62mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:18:56 PM
2	54.91	16.92mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:21:39 PM
3	54.49	16.79mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:24:24 PM

TOC-Control L Report

2021_05_03_001.tlx

Mean Area 54.45
Mean Conc. 16.78mg/L



Sample

Sample Name: HS21041169-02
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

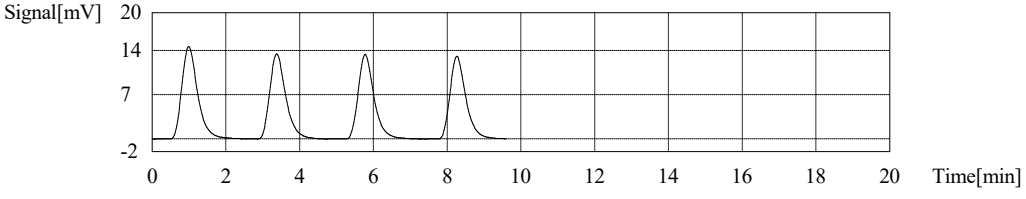
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:12.16mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	43.15	13.27mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:33:41 PM
2	40.61	12.48mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:36:17 PM
3	39.51	12.13mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:39:01 PM
4	38.69	11.88mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:41:34 PM

Mean Area 39.60
Mean Conc. 12.16mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.33mg/L

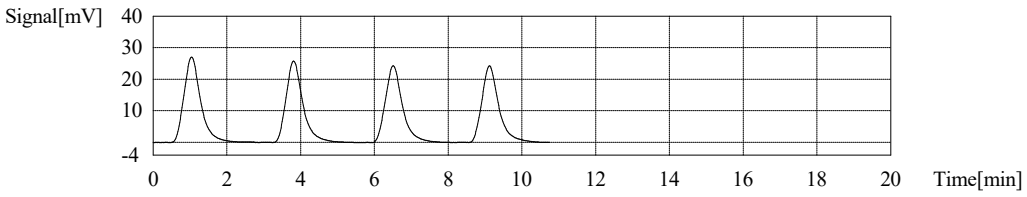
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	84.91	26.23mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:51:09 PM
2	81.29	25.11mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:54:05 PM
3	78.02	24.09mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:56:56 PM
4	77.01	23.78mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:59:51 PM

TOC-Control L Report

Mean Area 78.77
Mean Conc. 24.33mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

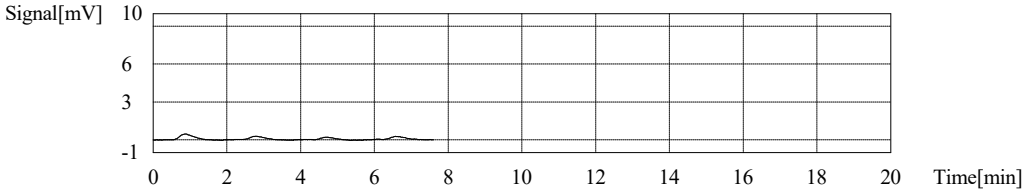
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.06393mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.209	0.2399mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:08:34 PM
2	0.6801	0.07565mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:10:41 PM
3	0.5587	0.03795mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:12:47 PM
4	0.6883	0.07820mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:14:54 PM

Mean Area 0.6424
Mean Conc. 0.06393mg/L



Sample

Sample Name: HS21041169-03
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:784.1mg/L

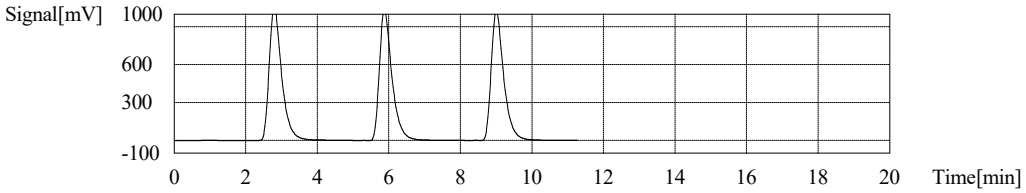
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5053	0.02137mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:23:39 PM
2	2564	796.1mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:26:58 PM
3	2517	781.5mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:30:21 PM
4	2495	774.7mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:33:46 PM

TOC-Control L Report

Mean Area 2525
Mean Conc. 784.1mg/L



Sample

Sample Name: HS21041169-03MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

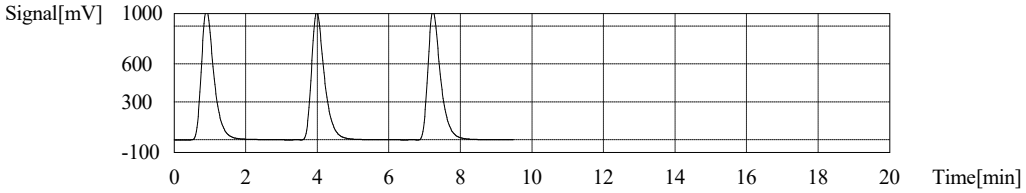
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:780.7mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2514	780.6mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:43:40 PM
2	2532	786.2mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:47:10 PM
3	2497	775.3mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:50:35 PM

Mean Area 2514
Mean Conc. 780.7mg/L



Sample

Sample Name: HS21041169-06
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.56mg/L

1. Det

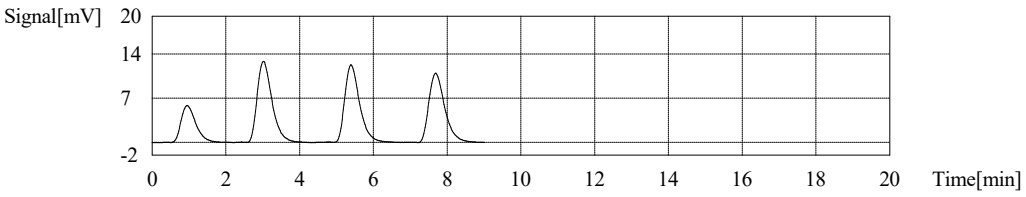
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.10	4.864mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:59:33 PM
2	36.30	11.14mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:02:09 PM
3	34.18	10.48mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:04:40 PM
4	32.87	10.07mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:07:12 PM

TOC-Control L Report

2021_05_03_001.tlx

Mean Area 34.45
Mean Conc. 10.56mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

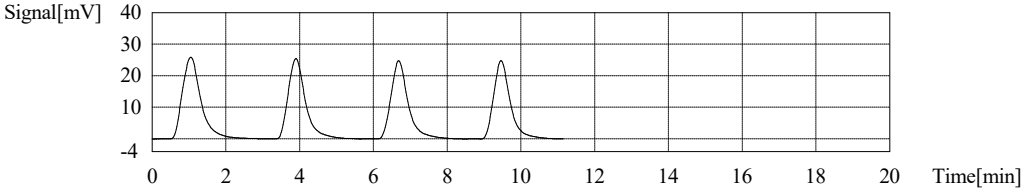
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.48mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	89.07	27.53mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:33:24 PM
2	81.98	25.32mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:36:25 PM
3	79.13	24.44mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:39:27 PM
4	76.72	23.69mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:42:25 PM

Mean Area 79.28
Mean Conc. 24.48mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1052mg/L

1. Det

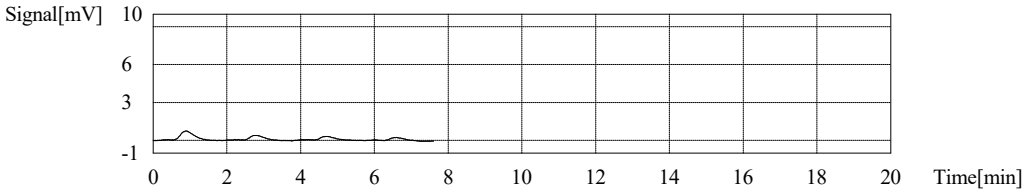
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.843	0.4368mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:51:08 PM
2	0.9525	0.1602mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:53:16 PM
3	0.7192	0.08779mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:55:24 PM
4	0.6536	0.06742mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:57:32 PM

TOC-Control L Report

2021_05_03_001.tlx

Mean Area	0.7751
Mean Conc.	0.1052mg/L



C:\TOC-L\Data\2021_05_04_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result	Notes	Status
1	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.31mg/L		Completed
2	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.08070mg/L		Completed
3	Unknown	NPOC	MBLK-05042021		02_25_2021	NPOC:-0.1356mg/L		Completed
4	Unknown	NPOC	LCS-05042021		02_25_2021	NPOC:9.830mg/L		Completed
5	Unknown	NPOC	LCSD-05042021	TOC_W 5310B	02_25_2021	NPOC:9.588mg/L		Completed
6	Unknown	NPOC	HS21050107-01		02_25_2021	NPOC:4.168mg/L		Completed
7	Unknown	NPOC	HS21050107-03		02_25_2021	NPOC:6.972mg/L		Completed
8	Unknown	NPOC	HS21050107-06		02_25_2021	NPOC:4.963mg/L		Completed
9	Unknown	NPOC	HS21050107-08		02_25_2021	NPOC:24.88mg/L		Completed
10	Unknown	NPOC	HS21050107-10		02_25_2021	NPOC:21.39mg/L		Completed
11	Unknown	NPOC	HS21050107-12		02_25_2021	NPOC:28.24mg/L		Completed
12	Unknown	NPOC	HS21050107-14		02_25_2021	NPOC:20.59mg/L		Completed
13	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.56mg/L		Completed
14	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02527mg/L		Completed
15	Unknown	NPOC	HS21050107-16		02_25_2021	NPOC:5.422mg/L		Completed
16	Unknown	NPOC	HS21041169-03DF100		02_25_2021	NPOC:7.461mg/L		Completed
17	Unknown	NPOC	HS21041169-03MSDF100		02_25_2021	NPOC:18.00mg/L		Completed
18	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.75mg/L		Completed
19	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.09849mg/L		Completed
20	Unknown	NPOC	MBLK2-05042021		02_25_2021	NPOC:-0.1142mg/L		Completed
21	Unknown	NPOC	LCS2-05042021		02_25_2021	NPOC:9.752mg/L		Completed
22	Unknown	NPOC	LCSD2-05042021	TOC_W 5310B	02_25_2021	NPOC:9.610mg/L		Completed
23	Unknown	NPOC	HS21041585-01		02_25_2021	NPOC:0.02967mg/L		Completed
24	Unknown	NPOC	HS21041585-02		02_25_2021	NPOC:8.110mg/L		Completed
25	Unknown	NPOC	HS21041585-02MS		02_25_2021	NPOC:18.88mg/L		Completed
26	Unknown	NPOC	HS21041255-05DF50		02_25_2021	NPOC:11.44mg/L		Completed
27	Unknown	NPOC	HS21041275-09		02_25_2021	NPOC:10.30mg/L		Completed
28	Unknown	NPOC	HS21041275-10		02_25_2021	NPOC:21.35mg/L		Completed
29	Unknown	NPOC	HS21041275-11		02_25_2021	NPOC:21.33mg/L		Completed
30	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.53mg/L		Completed
31	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.1356mg/L		Completed
32	Unknown	NPOC	HS21041275-12		02_25_2021	NPOC:21.21mg/L		Completed
33	Unknown	NPOC	HS21041622-01		02_25_2021	NPOC:12.60mg/L		Completed
34	Unknown	NPOC	HS21041684-01		02_25_2021	NPOC:0.03908mg/L		Completed
35	Unknown	NPOC	HS21050109-01		02_25_2021	NPOC:-0.05443mg/L		Completed
36	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.56mg/L		Completed
37	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.1356mg/L		Completed

	Date / Time	Vial
1	5/4/2021 5:0	1
2	5/4/2021 5:2	2
3	5/4/2021 5:3	3
4	5/4/2021 5:5	4
5	5/4/2021 6:0	5
6	5/4/2021 6:1	6
7	5/4/2021 6:3	7
8	5/4/2021 6:4	8
9	5/4/2021 7:0	9
10	5/4/2021 7:1	10
11	5/4/2021 7:3	11
12	5/4/2021 7:4	12
13	5/4/2021 8:0	13
14	5/4/2021 8:1	14
15	5/4/2021 8:3	15
16	5/4/2021 8:4	16
17	5/4/2021 9:0	17
18	5/4/2021 9:1	1
19	5/4/2021 9:3	2
20	5/4/2021 9:4	3
21	5/4/2021 10:	4
22	5/4/2021 10:	5
23	5/4/2021 10:	18
24	5/4/2021 10:	19
25	5/4/2021 11:	20
26	5/4/2021 11:	21
27	5/4/2021 11:	22
28	5/4/2021 11:	23
29	5/5/2021 12:	24
30	5/5/2021 12:	13
31	5/5/2021 12:	14
32	5/5/2021 12:	25
33	5/5/2021 1:0	26
34	5/5/2021 1:2	27
35	5/5/2021 1:3	28
36	5/5/2021 1:4	1
37	5/5/2021 2:0	2

TOC-Control L Report

2021_05_04_001.tlx

Instr.Information

Instrument Options TOC/ASI/IC Unit/
Catalyst Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

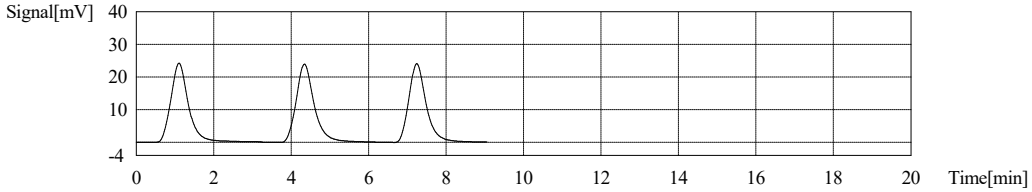
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.31mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	75.95	23.45mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:01:21 PM
2	76.18	23.52mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:04:31 PM
3	74.33	22.95mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:07:39 PM

Mean Area 75.49
Mean Conc. 23.31mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.08070mg/L

1. Det

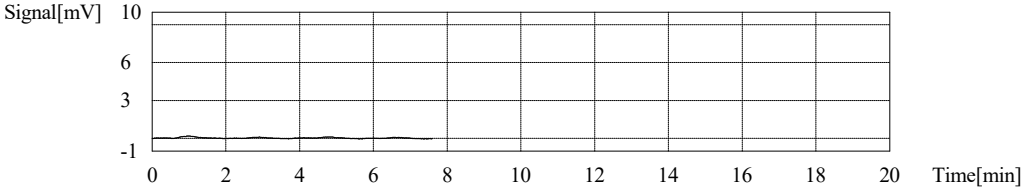
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4968	0.01873mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:16:27 PM
2	0.2138	-0.06916mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:18:34 PM
3	0.1354	-0.09351mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:20:41 PM
4	0.1807	-0.07944mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:22:48 PM

TOC-Control L Report

2021_05_04_001.tlx

Mean Area 0.1766
Mean Conc. -0.08070mg/L



Sample

Sample Name: MBLK-05042021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

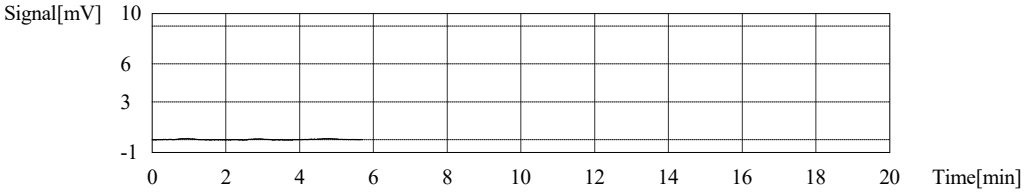
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1356mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:31:31 PM
2	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:33:38 PM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:35:45 PM

Mean Area 0.000
Mean Conc. -0.1356mg/L



Sample

Sample Name: LCS-05042021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.830mg/L

1. Det

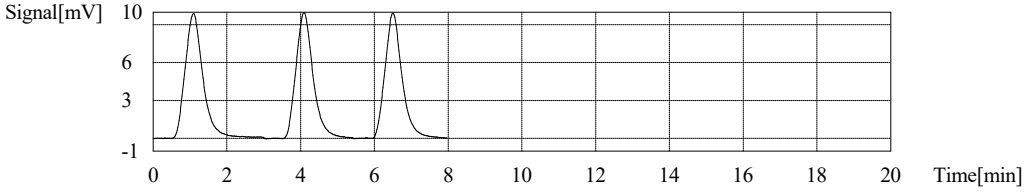
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.64	10.00mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:45:40 PM
2	31.99	9.799mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:48:20 PM
3	31.64	9.691mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 5:51:07 PM

TOC-Control L Report

2021_05_04_001.tlx

Mean Area 32.09
Mean Conc. 9.830mg/L



Sample

Sample Name: LCSD-05042021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

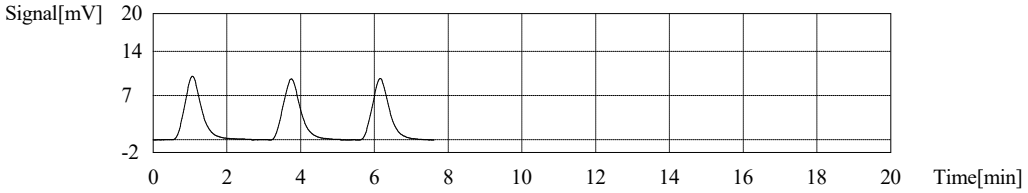
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.588mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.43	9.625mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 6:00:41 PM
2	31.27	9.576mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 6:03:21 PM
3	31.23	9.563mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 6:06:08 PM

Mean Area 31.31
Mean Conc. 9.588mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.56mg/L

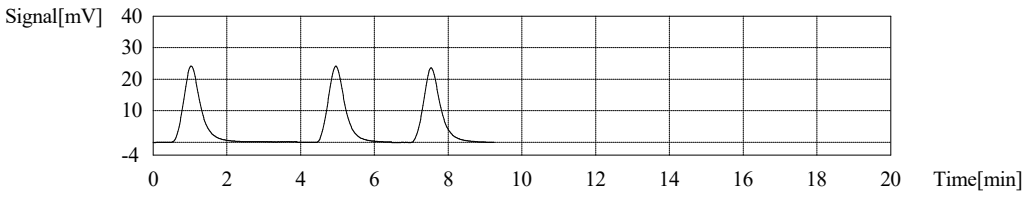
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	77.42	23.91mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 7:57:35 PM
2	75.81	23.41mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:00:24 PM
3	75.69	23.37mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:03:26 PM

TOC-Control L Report

Mean Area 76.31
Mean Conc. 23.56mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

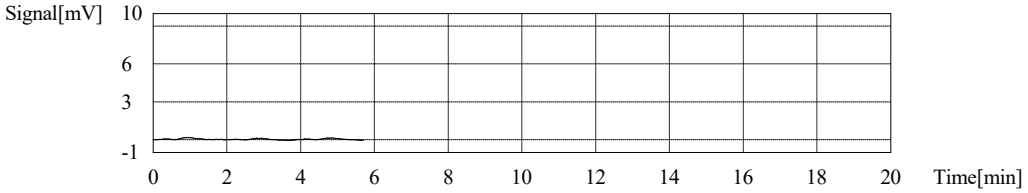
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.02527mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3544	-0.02550mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:12:14 PM
2	0.3329	-0.03217mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:14:21 PM
3	0.3781	-0.01814mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:16:28 PM

Mean Area 0.3551
Mean Conc. -0.02527mg/L



Sample

Sample Name: HS21041169-03DF100
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:7.461mg/L

1. Det

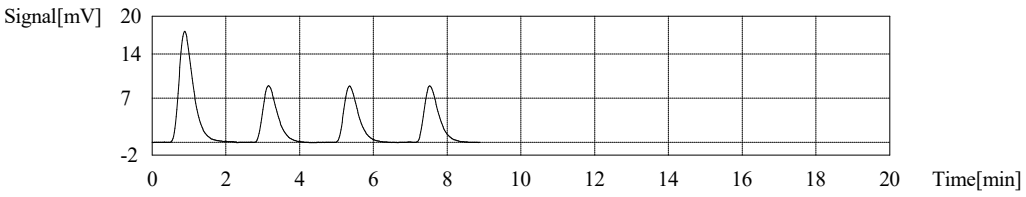
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	46.90	14.43mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:39:36 PM
2	24.70	7.535mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:42:02 PM
3	24.38	7.436mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:44:28 PM
4	24.30	7.411mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:46:55 PM

TOC-Control L Report

2021_05_04_001.tlx

Mean Area 24.46
Mean Conc. 7.461mg/L



Sample

Sample Name: HS21041169-03MSDF100
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

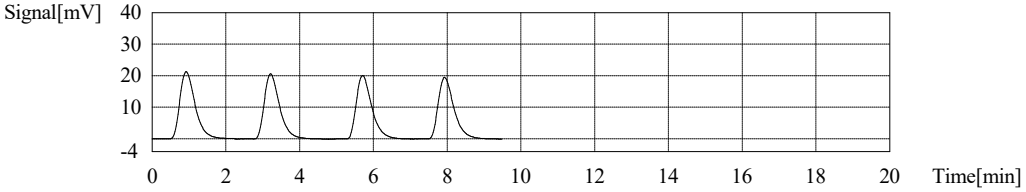
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:18.00mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	60.92	18.78mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:56:00 PM
2	59.17	18.24mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 8:58:45 PM
3	58.39	18.00mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:01:13 PM
4	57.62	17.76mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:03:55 PM

Mean Area 58.39
Mean Conc. 18.00mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.75mg/L

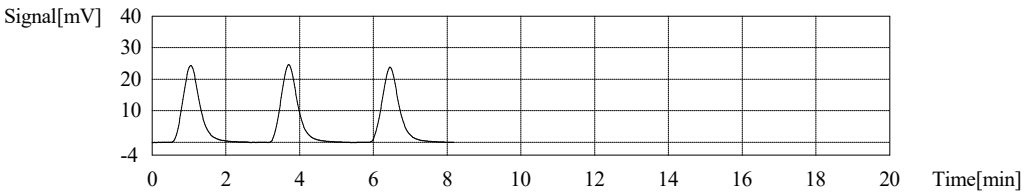
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	76.85	23.73mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:13:29 PM
2	77.55	23.95mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:16:27 PM
3	76.37	23.58mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:19:29 PM

TOC-Control L Report

Mean Area 76.92
Mean Conc. 23.75mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

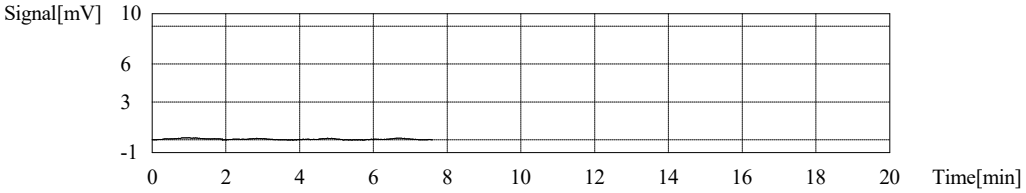
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.09849mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1445	-0.09068mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:28:17 PM
2	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:30:26 PM
3	0.4717	0.01093mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:32:33 PM
4	0.2136	-0.06922mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:34:40 PM

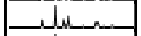
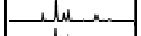
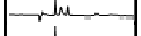
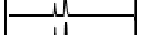
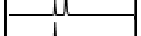
Mean Area 0.1194
Mean Conc. -0.09849mg/L



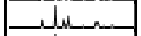
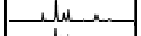
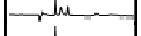
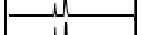
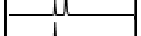
HS21041169 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS21041169

Sequence: 042221
Last Update Operator: alshs.nouser

ECD_1	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method
	STD1		Calibration	BB1	1.00	01	ICS2100ISO39	Anion Processing Method ISO39
	STD2		Calibration	BB2	1.00	02	ICS2100ISO39	Anion Processing Method ISO39
	STD3		Calibration	BB3	1.00	03	ICS2100ISO39	Anion Processing Method ISO39
	STD4		Calibration	BB4	1.00	04	ICS2100ISO39	Anion Processing Method ISO39
	STD5		Calibration	BB5	1.00	05	ICS2100ISO39	Anion Processing Method ISO39
	STD6		Calibration	BB6	1.00	06	ICS2100ISO39	Anion Processing Method ISO39
	ICV		Unknown	BB7	1.00		ICS2100ISO39	Anion Processing Method ISO39
	ICB		Unknown	BA1	1.00		ICS2100ISO39	Anion Processing Method ISO39
	CCV		Unknown	G1	1.00		ICS2100ISO39	Anion Processing Method ISO39
	CCB		Unknown	G4	1.00		ICS2100ISO39	Anion Processing Method ISO39
	HS21041169-01DF5		Unknown	GB4	5.00		ICS2100ISO39	Anion Processing Method ISO39
	HS21041169-02DF5		Unknown	GB5	5.00		ICS2100ISO39	Anion Processing Method ISO39
	HS21041169-06		Unknown	GC1	1.00		ICS2100ISO39	Anion Processing Method ISO39
	HS21041169-03DF2		Unknown	GB6	2.00		ICS2100ISO39	Anion Processing Method ISO39
	HS21041169-03MSDF2		Unknown	GB7	2.00		ICS2100ISO39	Anion Processing Method ISO39
	HS21041169-03MSDDF2		Unknown	GB8	2.00		ICS2100ISO39	Anion Processing Method ISO39
	CCV1		Unknown	G3	1.00		ICS2100ISO39	Anion Processing Method ISO39
	CCB		Unknown	G7	1.00		ICS2100ISO39	Anion Processing Method ISO39
	MBLK-		Unknown	G5	1.00		ICS2100ISO39	Anion Processing Method ISO39
	LCS-		Unknown	G2	1.00		ICS2100ISO39	Anion Processing Method ISO39
	CCV		Unknown	G1	1.00		ICS2100ISO39	Anion Processing Method ISO39
	CCB		Unknown	G4	1.00		ICS2100ISO39	Anion Processing Method ISO39

Sequence: 042221
Last Update Operator: alshs.nouser

ECD_1	Name	Volume [µl]	Status	Inject Time
	STD1	10.0	Finished	4/16/2021 12:17:16 PM -05:00
	STD2	10.0	Finished	4/16/2021 12:30:05 PM -05:00
	STD3	10.0	Finished	4/16/2021 12:42:55 PM -05:00
	STD4	10.0	Finished	4/16/2021 12:55:55 PM -05:00
	STD5	10.0	Finished	4/16/2021 1:08:46 PM -05:00
	STD6	10.0	Finished	4/16/2021 1:21:36 PM -05:00
	ICV	10.0	Finished	4/16/2021 1:34:34 PM -05:00
	ICB	10.0	Finished	4/16/2021 2:00:13 PM -05:00
	CCV	10.0	Finished	4/22/2021 3:38:47 PM -05:00
	CCB	10.0	Finished	4/22/2021 3:51:37 PM -05:00
	HS21041169-01DF5	10.0	Finished	4/22/2021 4:04:26 PM -05:00
	HS21041169-02DF5	10.0	Finished	4/22/2021 4:17:30 PM -05:00
	HS21041169-06	10.0	Finished	4/22/2021 5:09:02 PM -05:00
	HS21041169-03DF2	10.0	Finished	4/22/2021 5:21:55 PM -05:00
	HS21041169-03MSDF2	10.0	Finished	4/22/2021 5:36:52 PM -05:00
	HS21041169-03MSDDF2	10.0	Finished	4/22/2021 5:49:41 PM -05:00
	CCV1	10.0	Finished	4/22/2021 6:02:31 PM -05:00
	CCB	10.0	Finished	4/22/2021 6:28:11 PM -05:00
	MBLK-	10.0	Finished	4/22/2021 6:41:01 PM -05:00
	LCS-	10.0	Finished	4/22/2021 6:54:41 PM -05:00
	CCV	10.0	Finished	4/22/2021 8:50:49 PM -05:00
	CCB	10.0	Finished	4/22/2021 9:03:39 PM -05:00

Sequence: 042221
Injection #6: STD6

Calibration

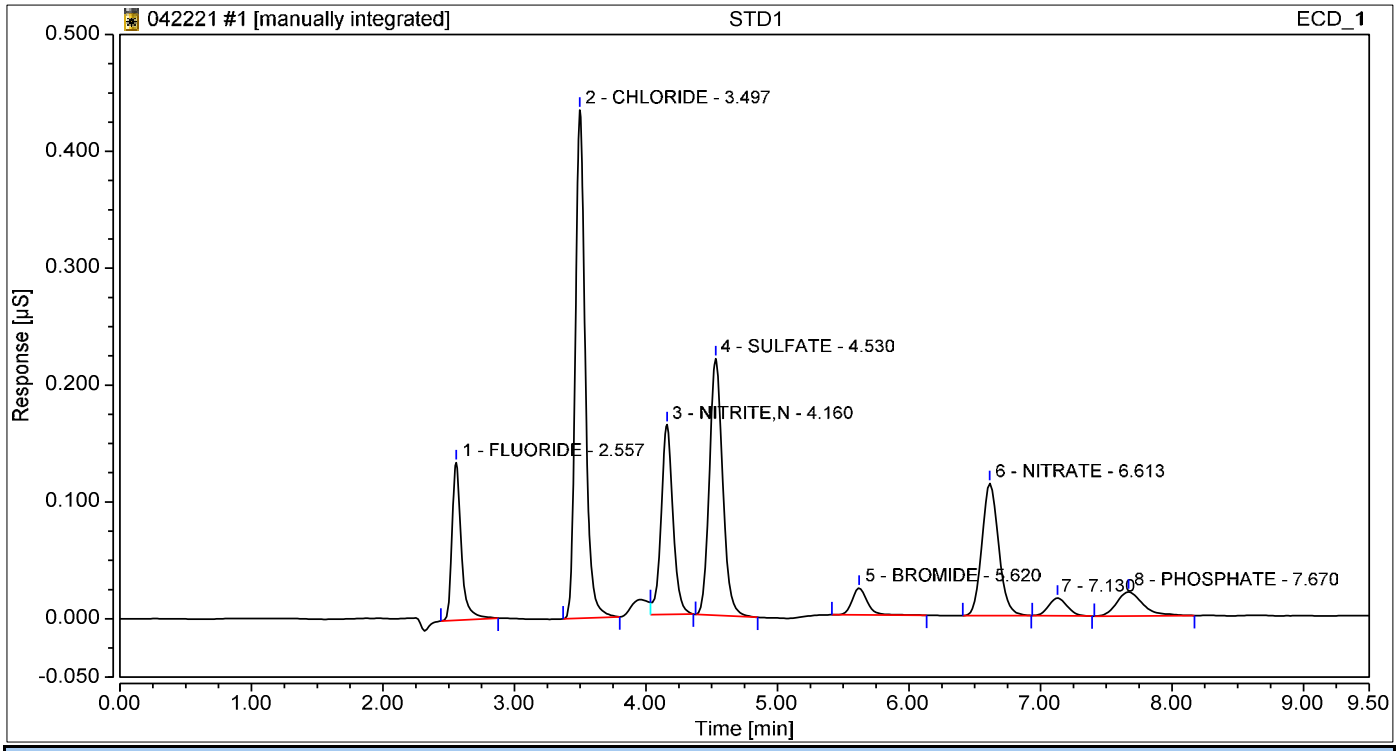
Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
2	*FLUORIDE*	*Lin, WithOffset, 1/*	*Area*	*6*	*20.7057*	*0.99791*	*-0.0027*	*0.1517*	*0.0000*
3	CHLORIDE	Lin, WithOffset, 1/	Area	6	5.3679	0.99986	-0.0107	0.0937	0.0000
4	NITRITE,N	Lin, WithOffset, 1/	Area	6	21.1412	0.99763	0.0002	0.1889	0.0000
5	SULFATE	Lin, WithOffset, 1/	Area	6	8.3244	0.99969	-0.0124	0.0701	0.0000
6	BROMIDE	Lin, WithOffset, 1/	Area	6	23.4929	0.99769	-0.0019	0.0395	0.0000
7	NITRATE	Lin, WithOffset, 1/	Area	6	7.6163	0.99975	-0.0095	0.2337	0.0000
8	CHLORATE	Lin, WithOffset, 1/	Area	4	3.9452	0.99939	-0.0169	0.0374	0.0000
9	PHOSPHATE	Lin, WithOffset, 1/	Area	6	15.8236	0.99906	-0.0064	0.0918	0.0000
Maximum					**23.4929**	0.99986			
Minimum					3.9452	**0.99763**			

Chromatogram and Results

Injection Details

Injection Name:	**STD1**	***Run Time (min):***	**9.50**
Vial Number:	**BB1**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**01**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 12:17**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

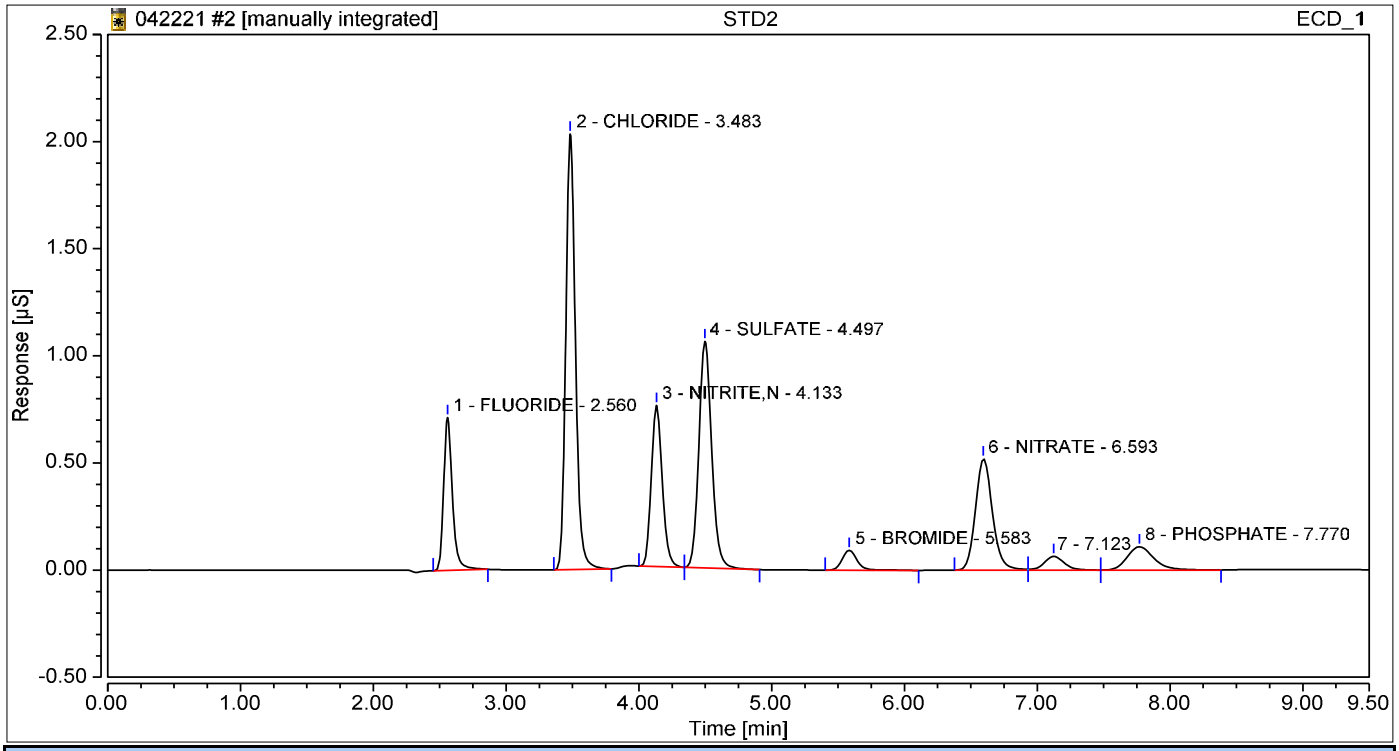
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.557	0.011	0.135	9.31	12.01	0.0903
2	CHLORIDE	3.497	0.038	0.435	32.03	38.71	0.5194
3	NITRITE,N	4.160	0.017	0.162	14.24	14.46	0.0883
4	SULFATE	4.530	0.026	0.220	21.68	19.55	0.5435
5	BROMIDE	5.620	0.003	0.023	2.59	2.04	0.1271
6	NITRATE	6.613	0.017	0.113	14.06	10.05	0.1119
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7		7.130	0.002	0.015	2.09	1.35	n.a.
8	PHOSPHATE	7.670	0.005	0.020	3.99	1.82	0.1218
Total:			**0.119**	**1.123**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD2**	***Run Time (min):***	**9.50**
Vial Number:	**BB2**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**02**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 12:30**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

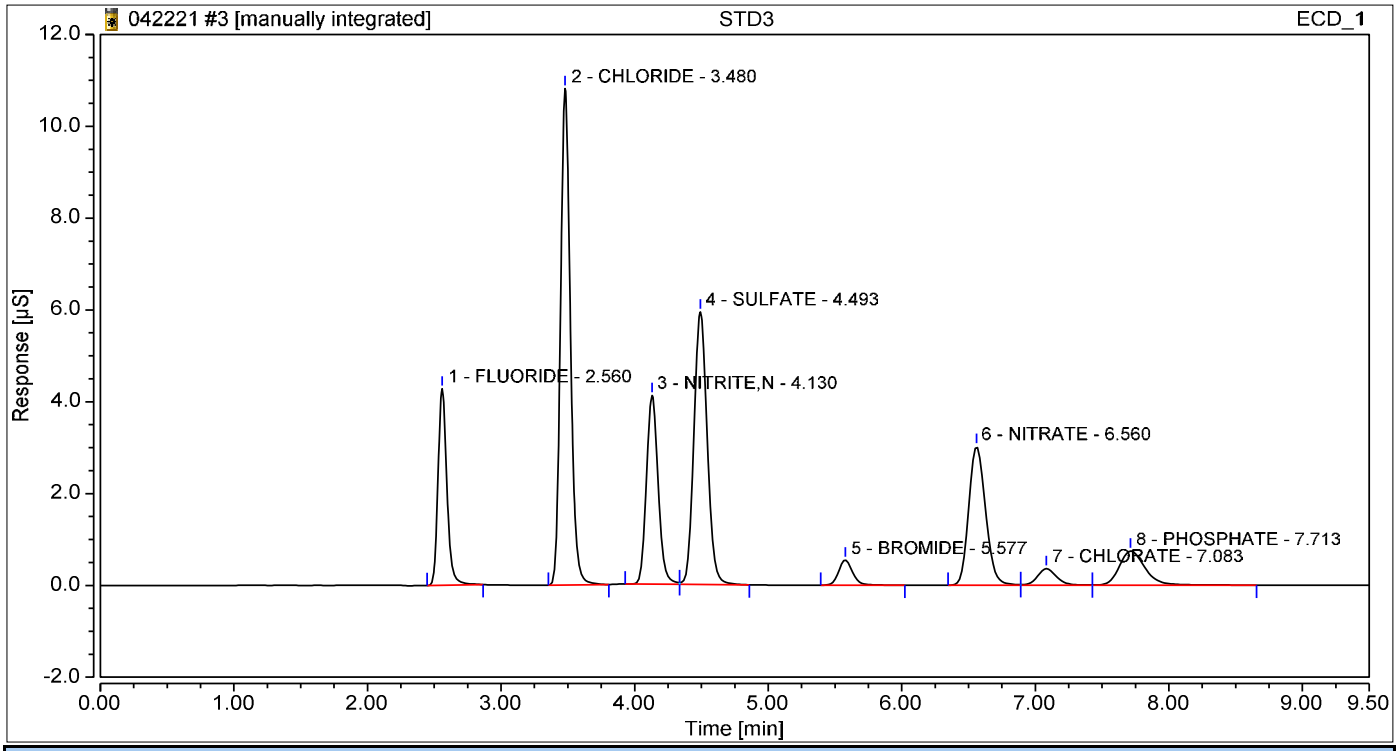
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.560	0.054	0.713	10.03	13.36	0.3752
2	CHLORIDE	3.483	0.171	2.033	31.56	38.08	1.9360
3	NITRITE,N	4.133	0.072	0.752	13.24	14.08	0.3781
4	SULFATE	4.497	0.119	1.057	21.90	19.79	1.8680
5	BROMIDE	5.583	0.012	0.093	2.26	1.74	0.3591
6	NITRATE	6.593	0.077	0.519	14.24	9.72	0.3703
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7		7.123	0.011	0.064	2.07	1.19	n.a.
8	PHOSPHATE	7.770	0.025	0.109	4.70	2.04	0.3476
Total:			**0.541**	**5.339**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD3**	***Run Time (min):***	**9.50**
Vial Number:	**BB3**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**03**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 12:42**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

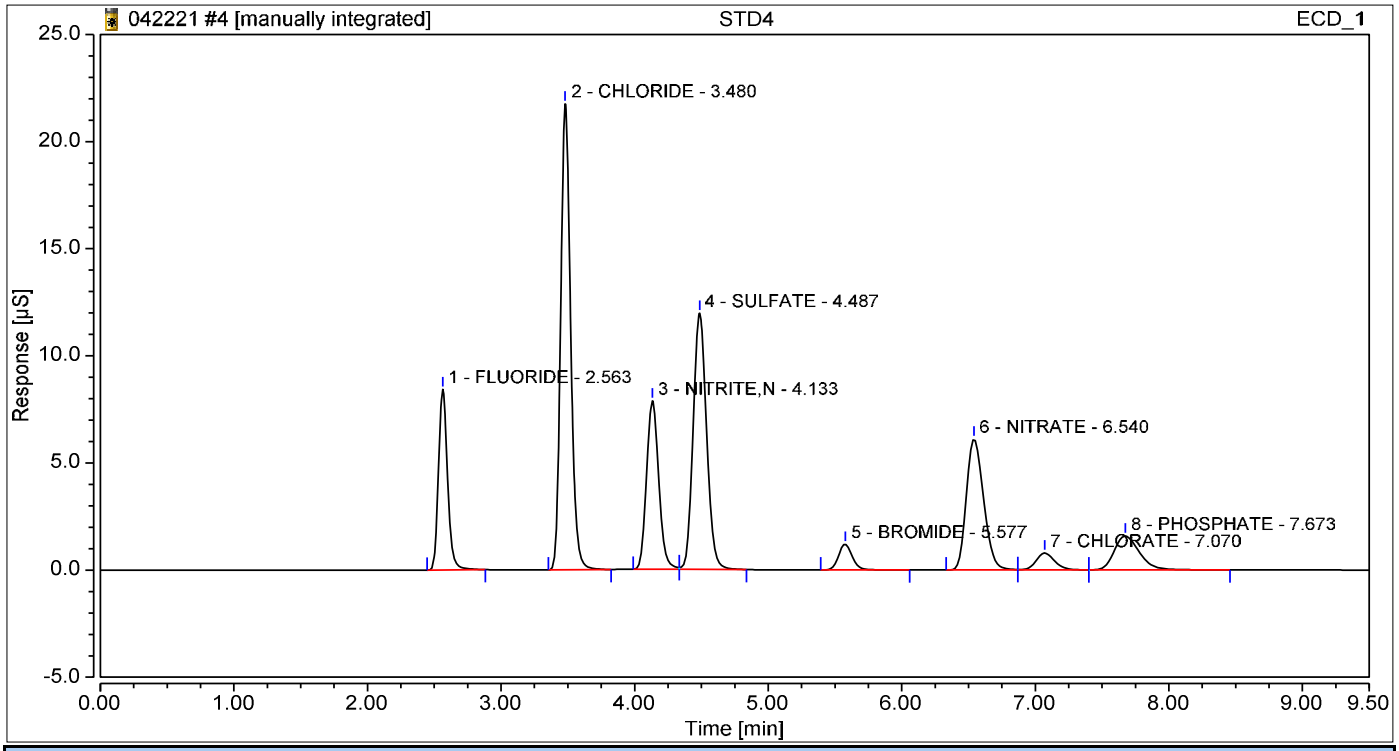
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.560	0.327	4.277	10.62	14.35	2.1743
2	CHLORIDE	3.480	0.924	10.811	29.98	36.26	9.9692
3	NITRITE,N	4.130	0.415	4.110	13.47	13.79	2.1971
4	SULFATE	4.493	0.680	5.936	22.08	19.91	9.8843
5	BROMIDE	5.577	0.067	0.549	2.18	1.84	1.7510
6	NITRATE	6.560	0.441	3.023	14.30	10.14	1.9269
7	CHLORATE	7.083	0.060	0.363	1.96	1.22	2.0669
8	PHOSPHATE	7.713	0.166	0.744	5.40	2.50	1.8826
Total:			**3.081**	**29.812**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD4**	***Run Time (min):***	**9.50**
Vial Number:	**BB4**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**04**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 12:55**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

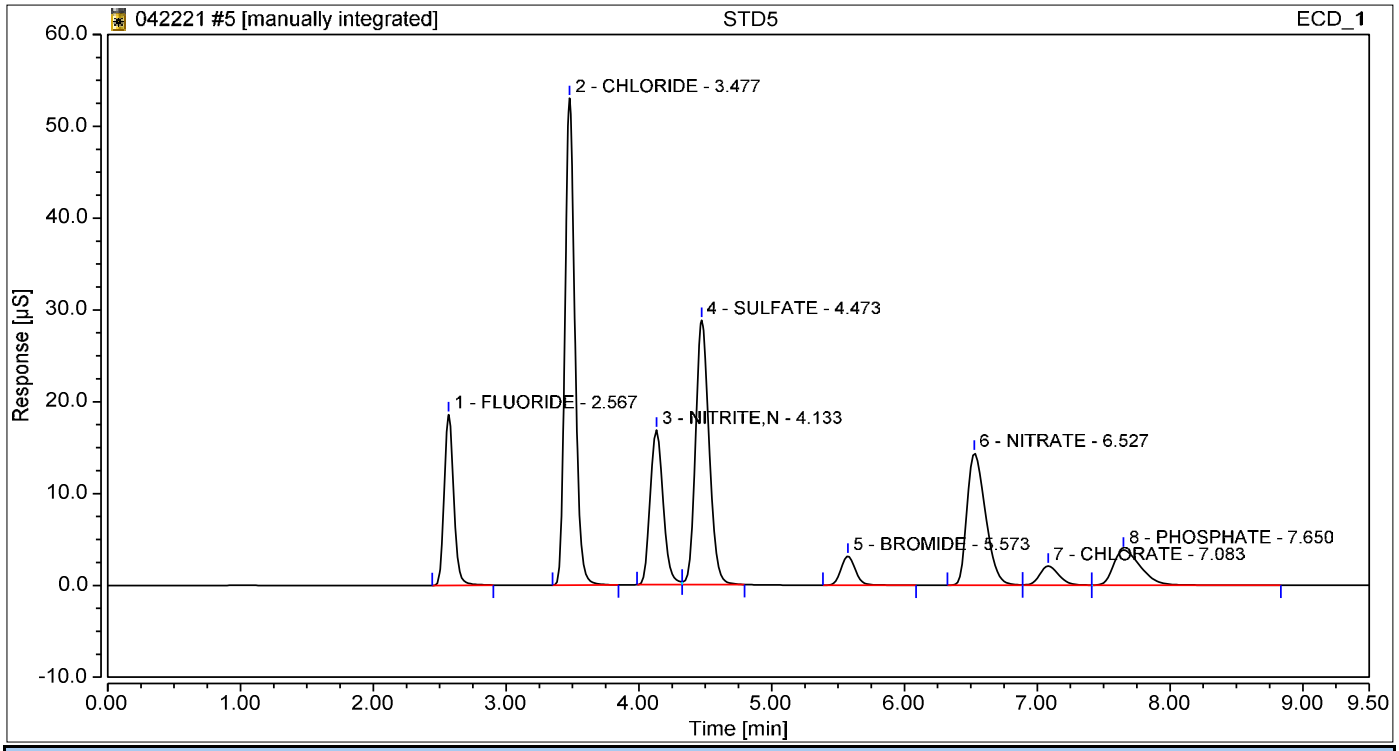
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.563	0.660	8.425	10.52	14.12	4.3705
2	CHLORIDE	3.480	1.873	21.745	29.82	36.44	20.0903
3	NITRITE,N	4.133	0.828	7.860	13.18	13.17	4.3822
4	SULFATE	4.487	1.387	11.956	22.09	20.04	19.9757
5	BROMIDE	5.577	0.145	1.201	2.31	2.01	3.7192
6	NITRATE	6.540	0.913	6.117	14.53	10.25	3.9463
7	CHLORATE	7.070	0.129	0.790	2.05	1.32	3.8977
8	PHOSPHATE	7.673	0.345	1.581	5.49	2.65	3.8293
Total:			**6.280**	**59.674**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD5**	***Run Time (min):***	**9.50**
Vial Number:	**BB5**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**05**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 13:08**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

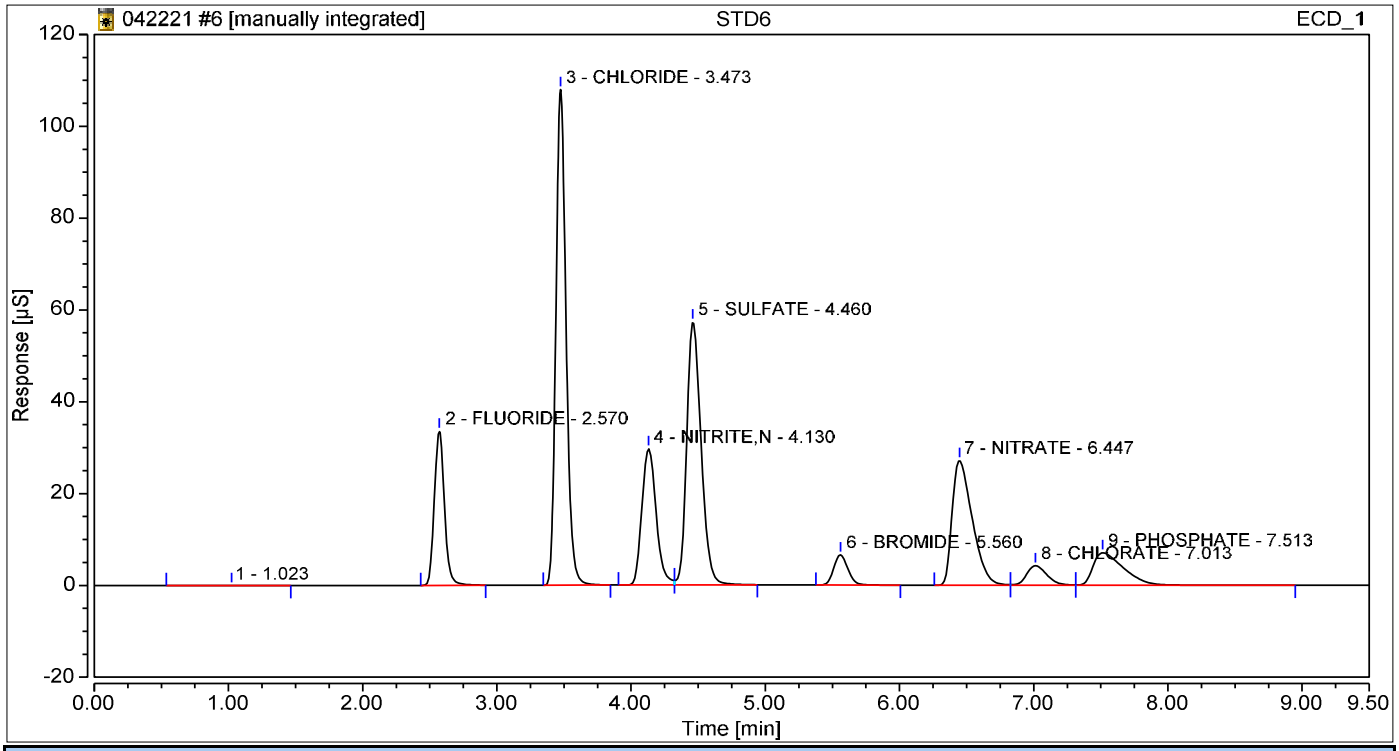
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.567	1.528	18.583	9.91	13.21	10.0905
2	CHLORIDE	3.477	4.600	53.021	29.82	37.69	49.1800
3	NITRITE,N	4.133	1.908	16.841	12.37	11.97	10.1010
4	SULFATE	4.473	3.418	28.793	22.16	20.46	48.9447
5	BROMIDE	5.573	0.392	3.150	2.54	2.24	9.9778
6	NITRATE	6.527	2.320	14.382	15.04	10.22	9.9716
7	CHLORATE	7.083	0.350	2.078	2.27	1.48	9.8073
8	PHOSPHATE	7.650	0.909	3.846	5.89	2.73	9.9723
Total:			**15.424**	**140.694**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD6**	***Run Time (min):***	**9.50**
Vial Number:	**BB6**	***Injection Volume:***	**10.00**
Injection Type:	**Calibration Standard**	***Channel:***	**ECD_1**
Calibration Level:	**06**	***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 13:21**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

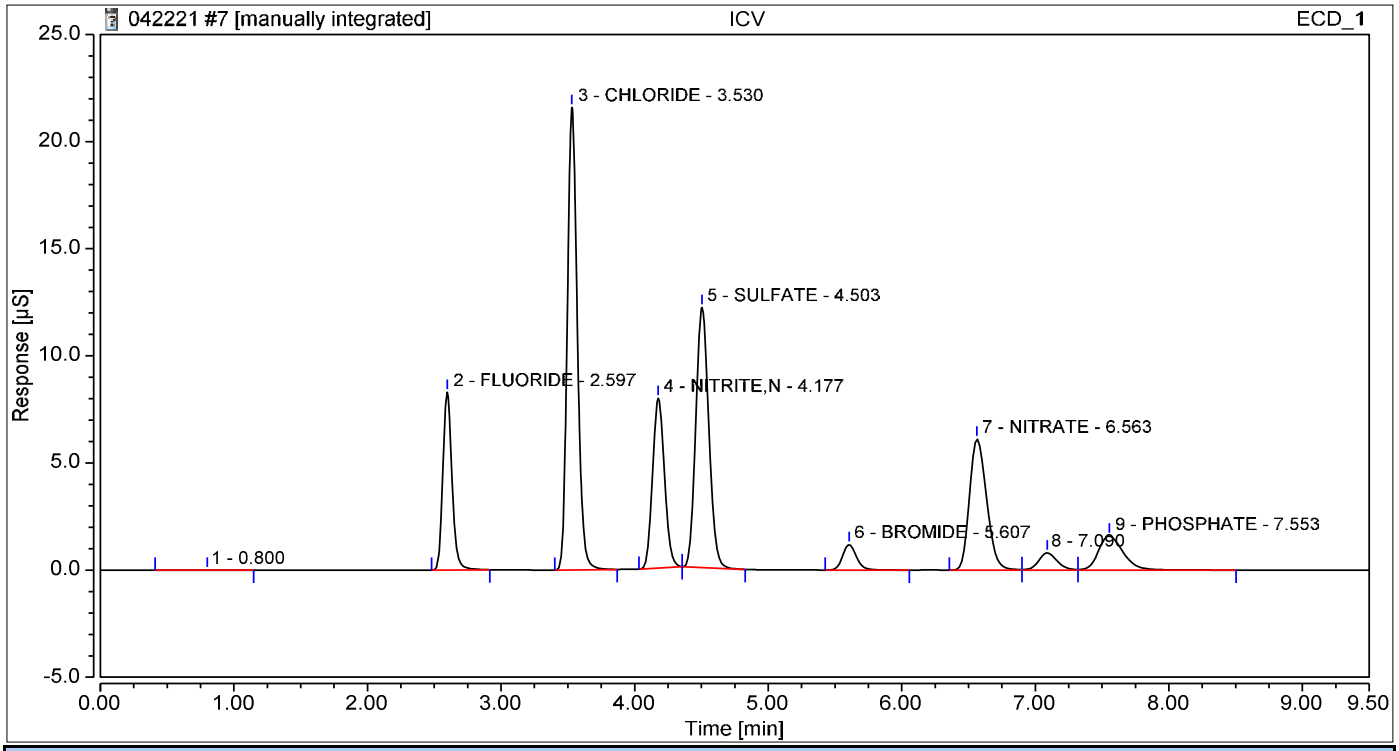
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		1.023	0.002	0.004	0.01	0.00	n.a.
2	FLUORIDE	2.570	2.941	33.620	9.41	12.28	19.3991
3	CHLORIDE	3.473	9.439	107.947	30.22	39.44	100.8050
4	NITRITE,N	4.130	3.656	29.680	11.70	10.84	19.3534
5	SULFATE	4.460	7.085	57.303	22.68	20.94	101.2839
6	BROMIDE	5.560	0.809	6.602	2.59	2.41	20.5658
7	NITRATE	6.447	4.704	27.190	15.06	9.93	20.1732
8	CHLORATE	7.013	0.740	4.262	2.37	1.56	20.2281
9	PHOSPHATE	7.513	1.860	7.083	5.96	2.59	20.3465
Total:			**31.237**	**273.691**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICV**	***Run Time (min):***	**9.50**
Vial Number:	**BB7**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 13:34**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

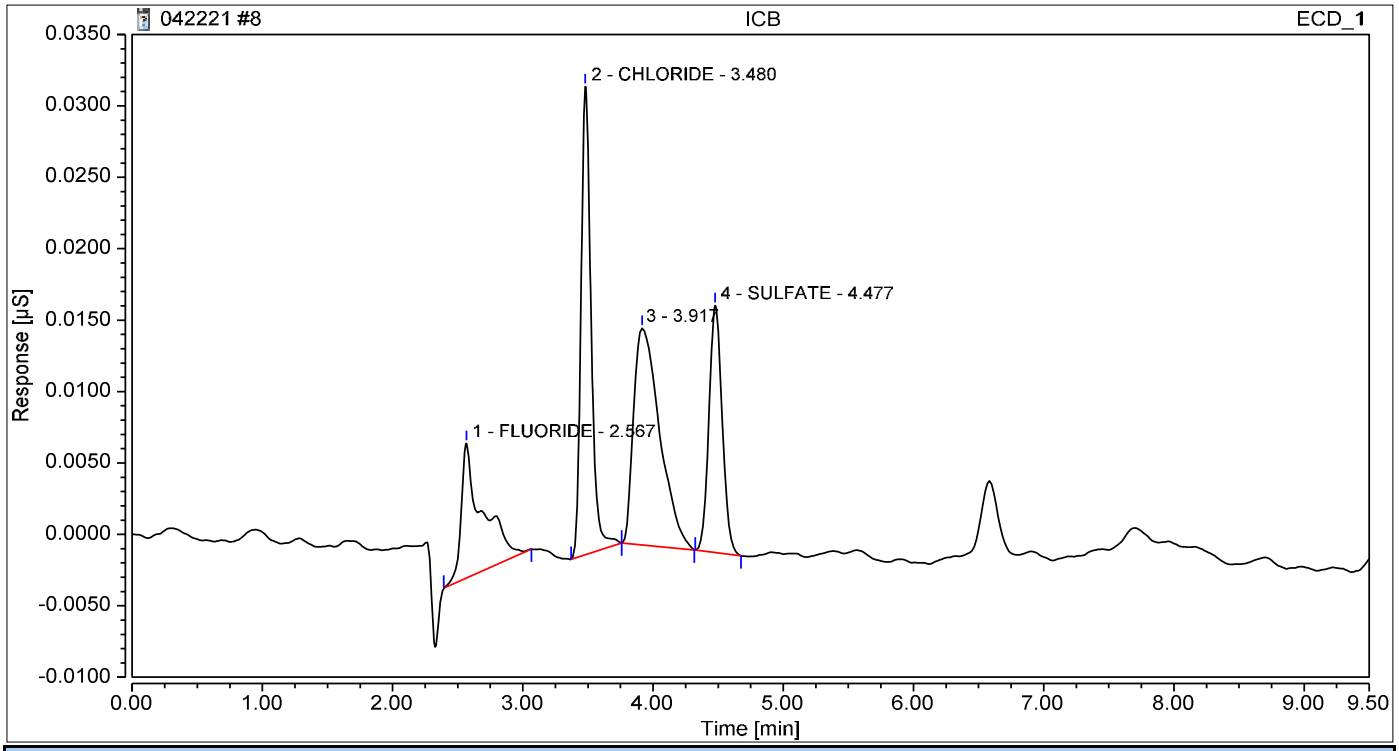
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		0.800	0.002	0.005	0.03	0.01	n.a.
2	FLUORIDE	2.597	0.655	8.294	10.51	13.91	4.3316
3	CHLORIDE	3.530	1.865	21.577	29.96	36.18	20.0118
4	NITRITE,N	4.177	0.815	7.916	13.09	13.27	4.3123
5	SULFATE	4.503	1.363	12.146	21.90	20.37	19.6278
6	BROMIDE	5.607	0.143	1.192	2.30	2.00	3.6807
7	NITRATE	6.563	0.908	6.116	14.59	10.26	3.9279
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8		7.090	0.130	0.805	2.09	1.35	n.a.
9	PHOSPHATE	7.553	0.344	1.588	5.52	2.66	3.8140
Total:			**6.225**	**59.640**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB**	***Run Time (min):***	**9.50**
Vial Number:	**BA1**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**16/Apr/21 14:00**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

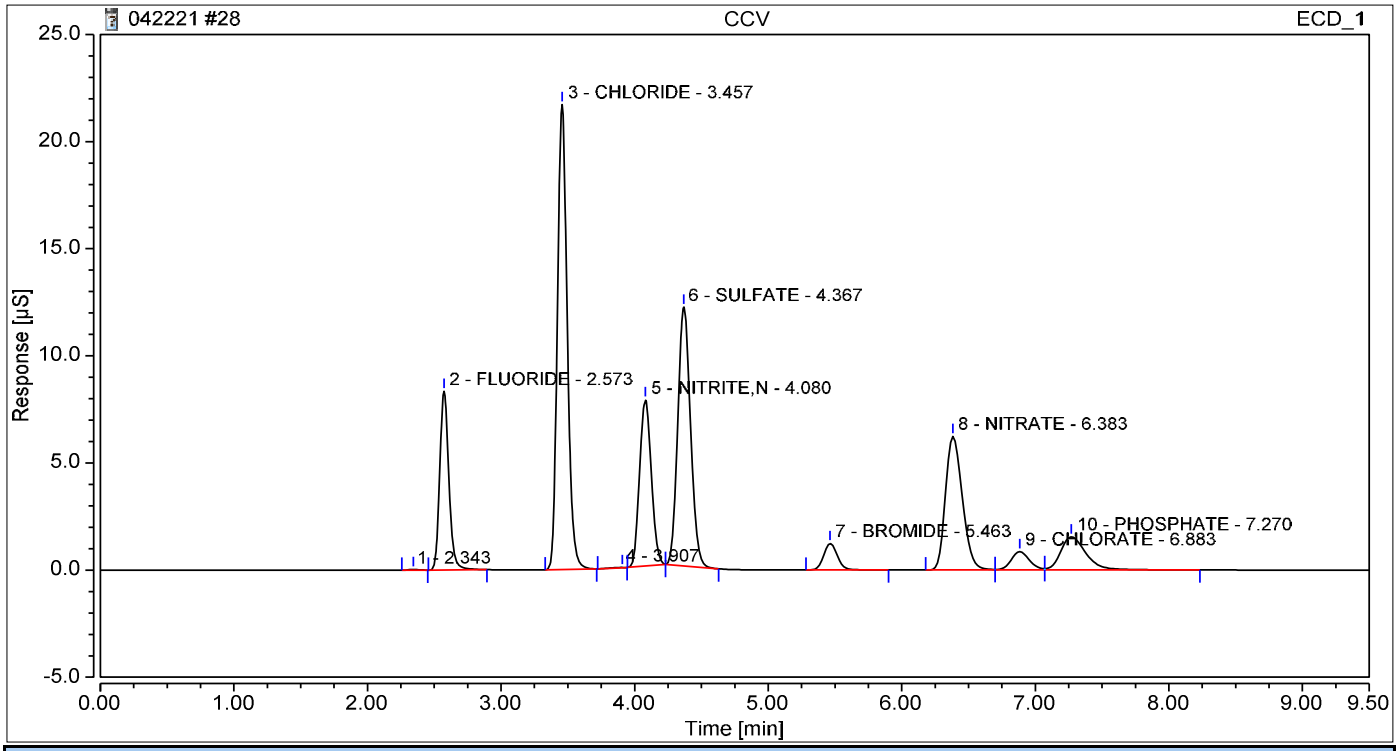
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.567	0.002	0.009	17.22	12.63	0.0293
2	CHLORIDE	3.480	0.003	0.033	28.66	43.89	0.1459
3		3.917	0.004	0.015	34.30	20.32	n.a.
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	SULFATE	4.477	0.002	0.017	19.82	23.16	0.2060
n.a.	BROMIDE	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.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.010**	**0.075**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV**	***Run Time (min):***	**9.50**
Vial Number:	**G1**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 15:38**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

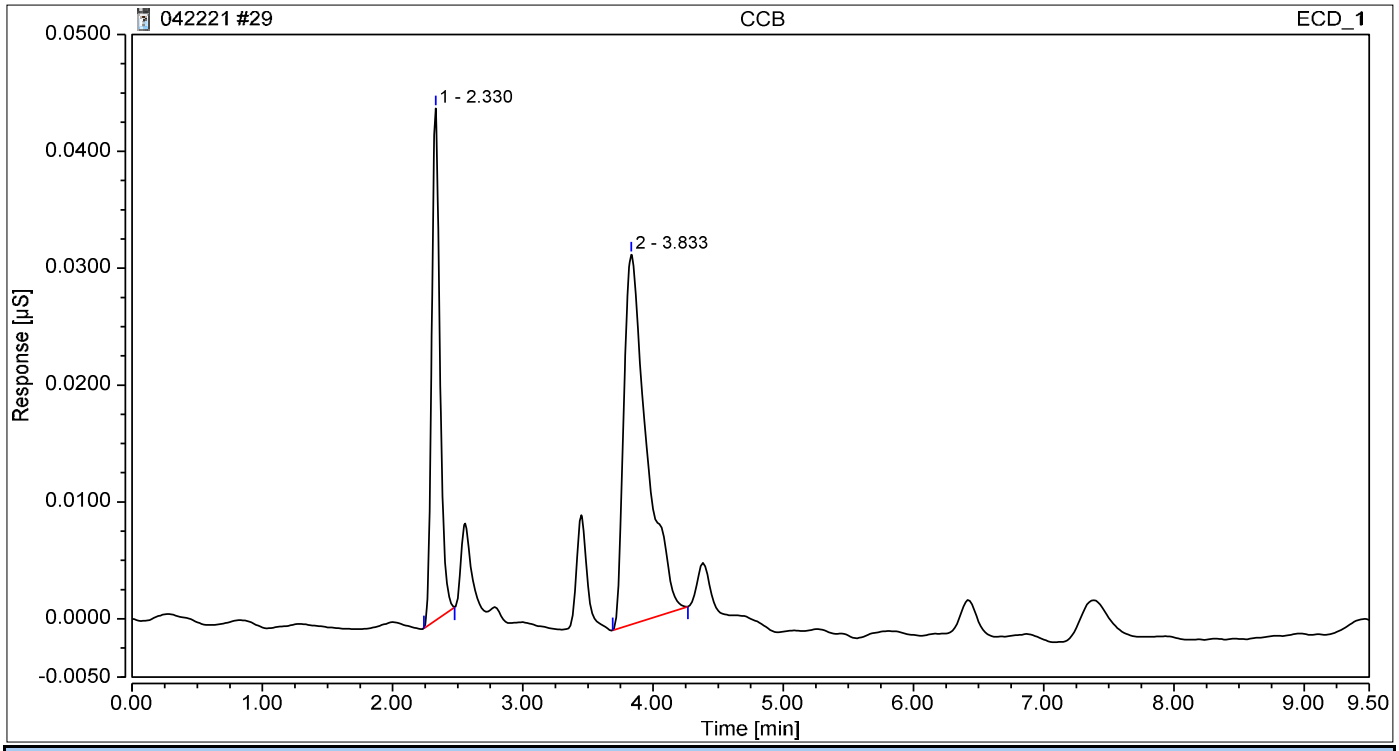
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.343	0.002	0.032	0.04	0.05	n.a.
2	FLUORIDE	2.573	0.656	8.343	10.60	13.95	4.3386
3	CHLORIDE	3.457	1.852	21.698	29.95	36.28	19.8751
4		3.907	0.002	0.012	0.03	0.02	n.a.
5	NITRITE,N	4.080	0.787	7.762	12.73	12.98	4.1675
6	SULFATE	4.367	1.349	12.076	21.81	20.19	19.4268
7	BROMIDE	5.463	0.148	1.239	2.39	2.07	3.7966
8	NITRATE	6.383	0.914	6.236	14.77	10.43	3.9504
9	CHLORATE	6.883	0.135	0.854	2.18	1.43	4.0586
10	PHOSPHATE	7.270	0.341	1.551	5.51	2.59	3.7834
Total:			**6.186**	**59.802**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**9.50**
Vial Number:	**G4**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 15:51**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

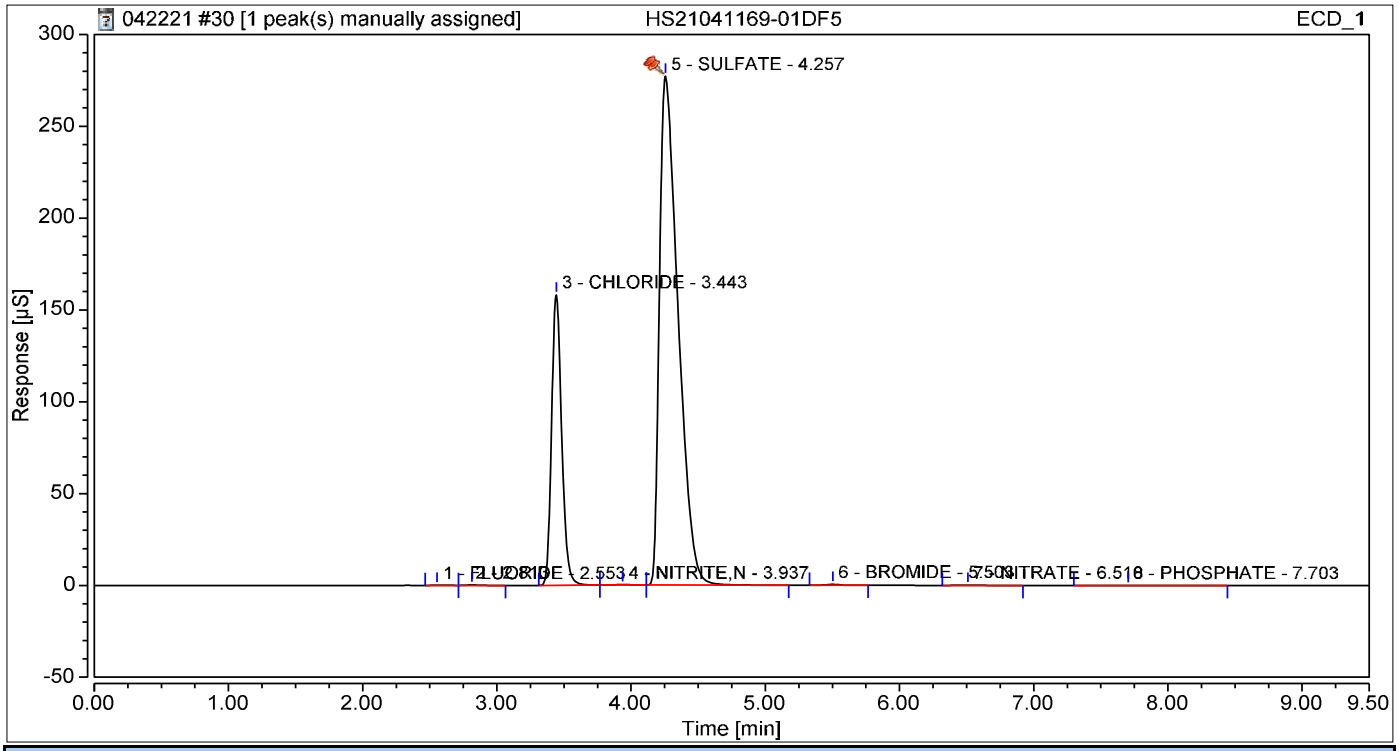
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.330	0.003	0.044	33.33	58.05	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	CHLORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		3.833	0.006	0.032	66.67	41.95	n.a.
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	BROMIDE	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.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.010**	**0.075**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS21041169-01DF5**	***Run Time (min):***	**9.50**
Vial Number:	**GB4**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**5.0000**
Injection Date/Time:	**22/Apr/21 16:04**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

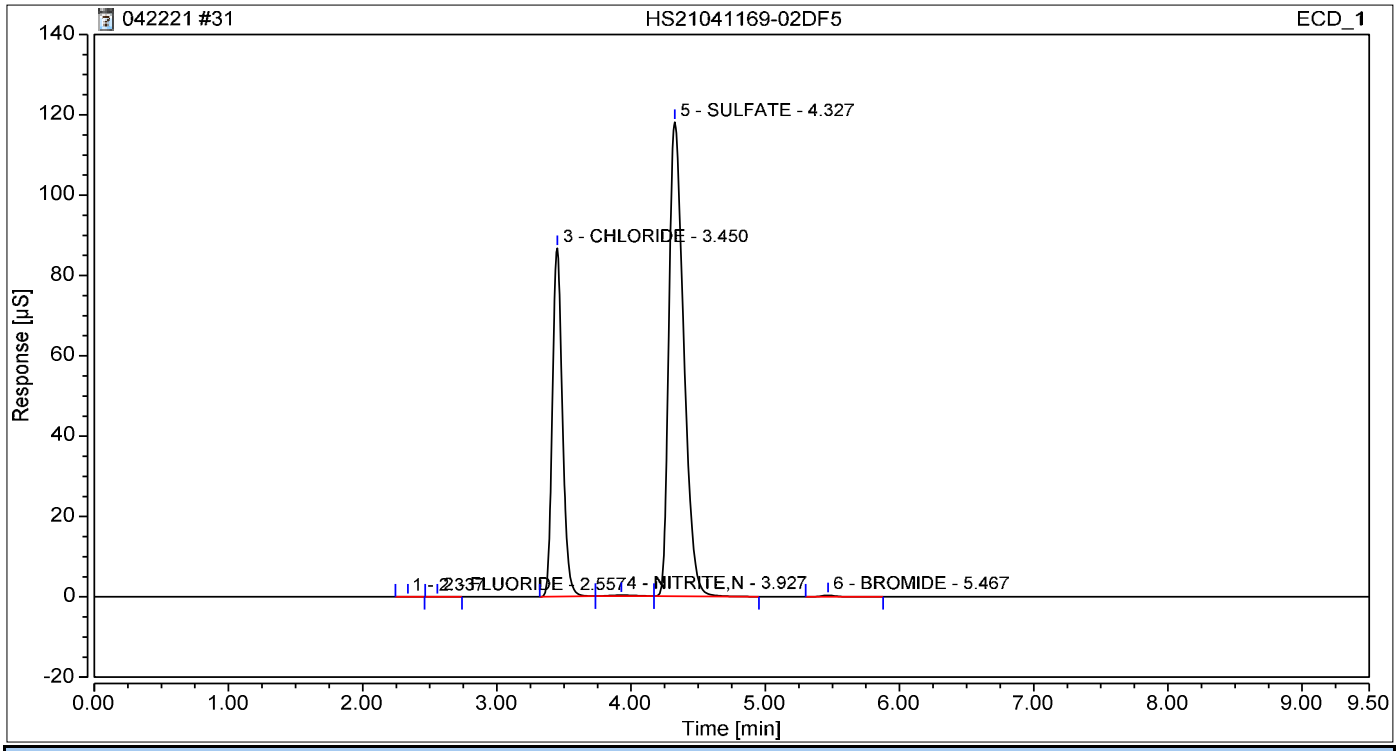
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.553	0.006	0.077	0.01	0.02	0.2959
2		2.813	0.024	0.298	0.04	0.07	n.a.
3	CHLORIDE	3.443	13.740	158.136	23.54	36.24	733.4396
4	NITRITE,N	3.937	0.031	0.161	0.05	0.04	0.8022
5	SULFATE	4.257	44.485	277.100	76.22	63.50	3174.8483
6	BROMIDE	5.503	0.063	0.503	0.11	0.12	8.2161
7	NITRATE	6.510	0.014	0.089	0.02	0.02	0.4947
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	PHOSPHATE	7.703	0.003	0.006	0.01	0.00	0.5378
Total:			**58.366**	**436.371**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS21041169-02DF5**	***Run Time (min):***	**9.50**
Vial Number:	**GB5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**5.0000**
Injection Date/Time:	**22/Apr/21 16:17**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

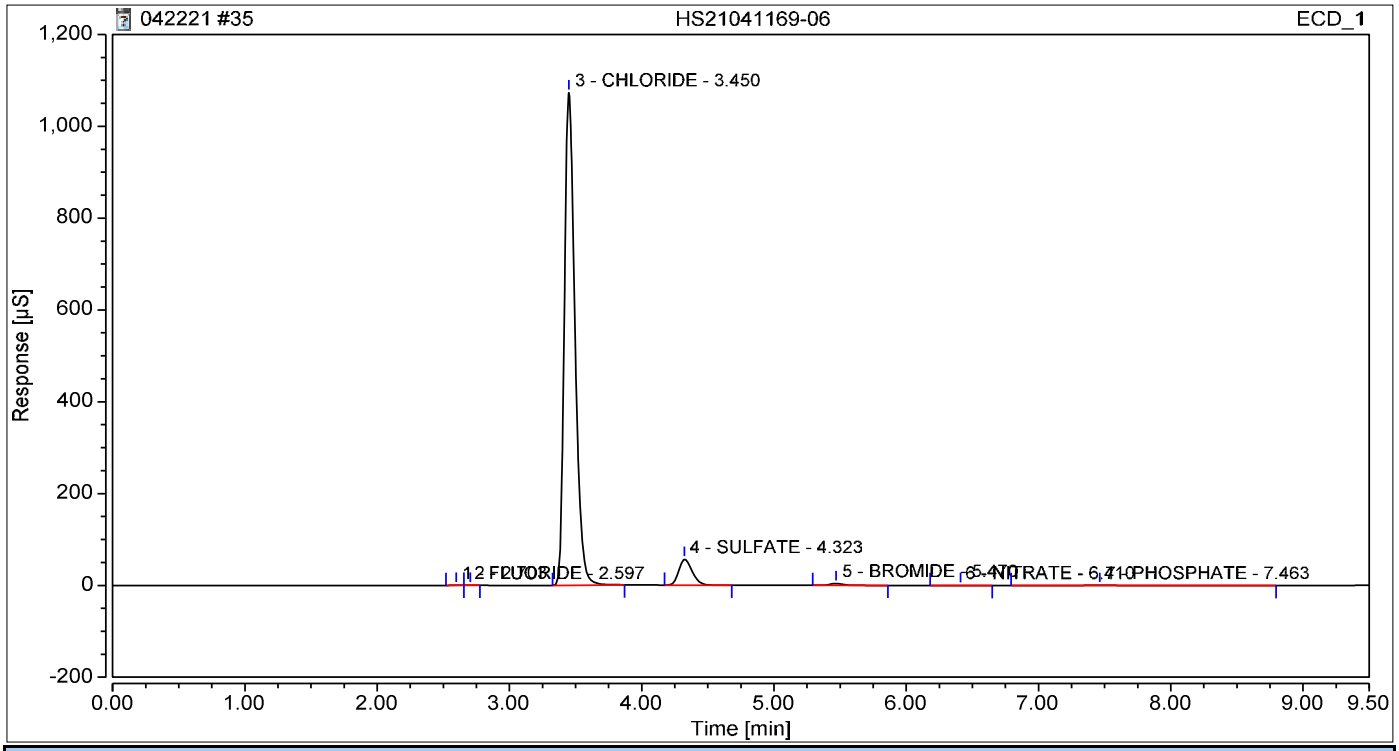
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.337	0.002	0.024	0.01	0.01	n.a.
2	FLUORIDE	2.557	0.005	0.055	0.02	0.03	0.2394
3	CHLORIDE	3.450	7.482	86.699	32.92	42.21	399.6285
4	NITRITE,N	3.927	0.052	0.232	0.23	0.11	1.3755
5	SULFATE	4.327	15.144	117.994	66.63	57.45	1081.3794
6	BROMIDE	5.467	0.045	0.373	0.20	0.18	5.9321
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.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**22.729**	**205.377**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS21041169-06**	***Run Time (min):***	**9.50**
Vial Number:	**GC1**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 17:09**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

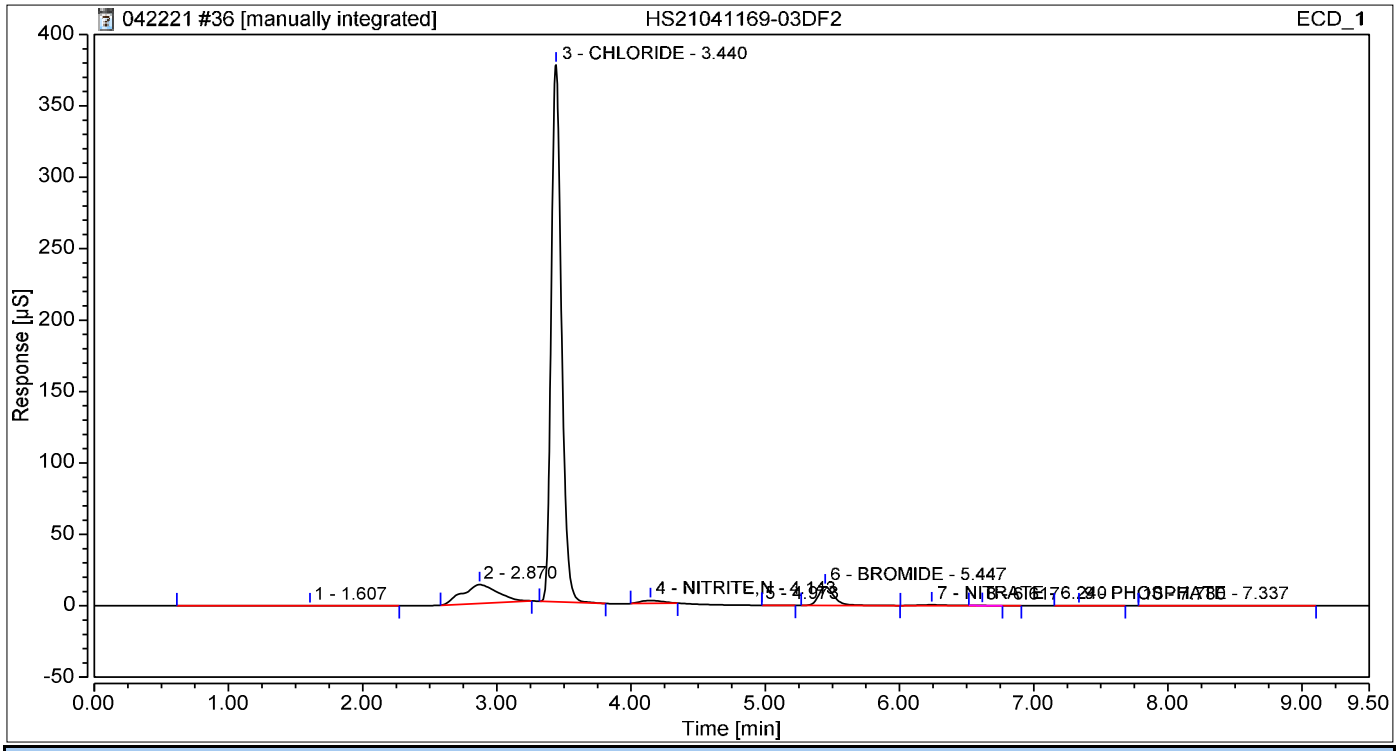
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.597	0.033	0.519	0.03	0.05	0.2345
2		2.703	0.009	0.155	0.01	0.01	n.a.
3	CHLORIDE	3.450	99.766	1072.635	93.23	94.62	1064.3493
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	SULFATE	4.323	6.661	56.261	6.22	4.96	95.2285
5	BROMIDE	5.470	0.485	4.009	0.45	0.35	12.3357
6	NITRATE	6.410	0.002	0.015	0.00	0.00	0.0503
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	PHOSPHATE	7.463	0.059	0.087	0.05	0.01	0.7113
Total:			**107.015**	**1133.681**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS21041169-03DF2**	***Run Time (min):***	**9.50**
Vial Number:	**GB6**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**2.0000**
Injection Date/Time:	**22/Apr/21 17:21**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

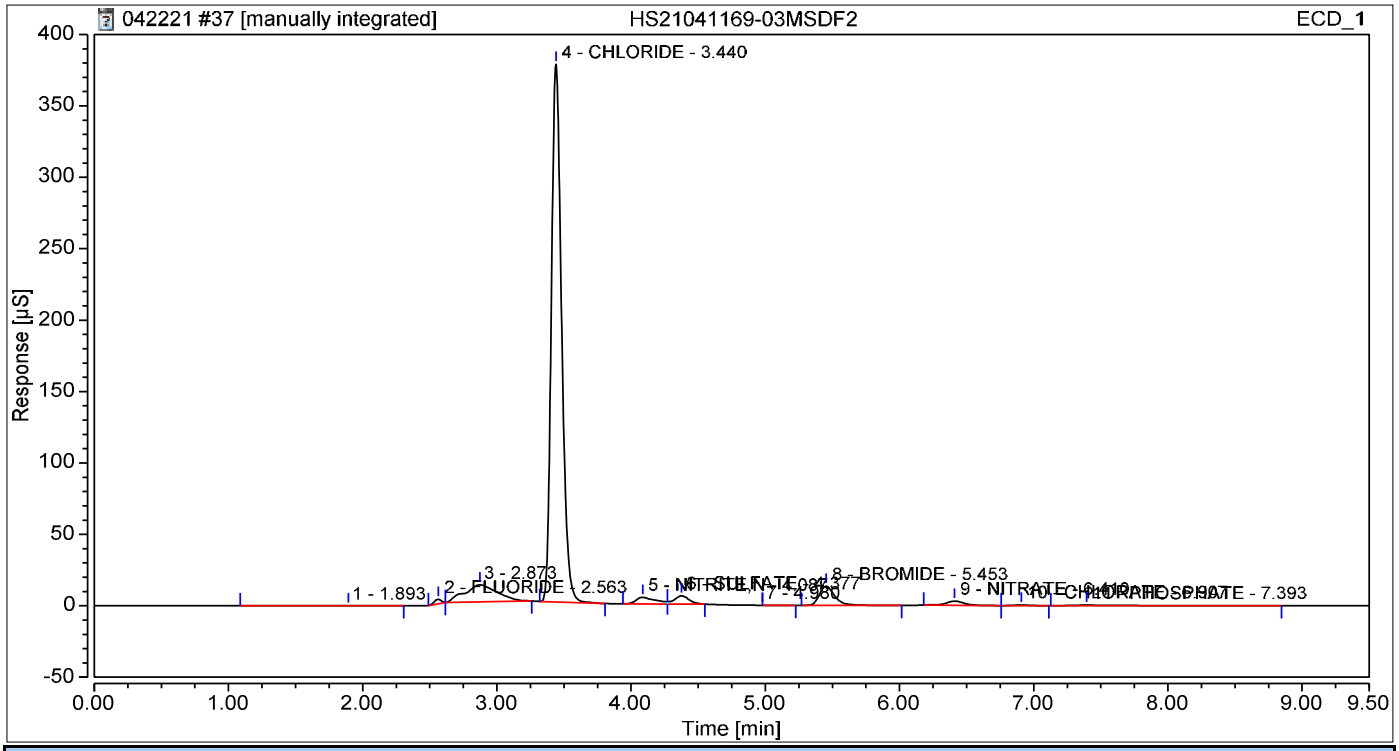
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		1.607	0.006	0.006	0.01	0.00	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		2.870	3.993	13.120	10.13	3.24	n.a.
3	CHLORIDE	3.440	33.121	375.922	84.02	92.87	706.8468
4	NITRITE,N	4.143	0.384	2.019	0.97	0.50	4.0606
n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		4.973	0.005	0.000	0.01	0.00	n.a.
6	BROMIDE	5.447	1.765	13.173	4.48	3.25	89.5663
7	NITRATE	6.240	0.138	0.515	0.35	0.13	1.2636
8		6.617	0.005	0.038	0.01	0.01	n.a.
n.a.	CHLORATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9	PHOSPHATE	7.337	0.003	0.012	0.01	0.00	0.1951
10		7.780	0.004	0.000	0.01	0.00	n.a.
Total:			**39.422**	**404.804**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS21041169-03MSDF2**	***Run Time (min):***	**9.50**
Vial Number:	**GB7**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**2.0000**
Injection Date/Time:	**22/Apr/21 17:36**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

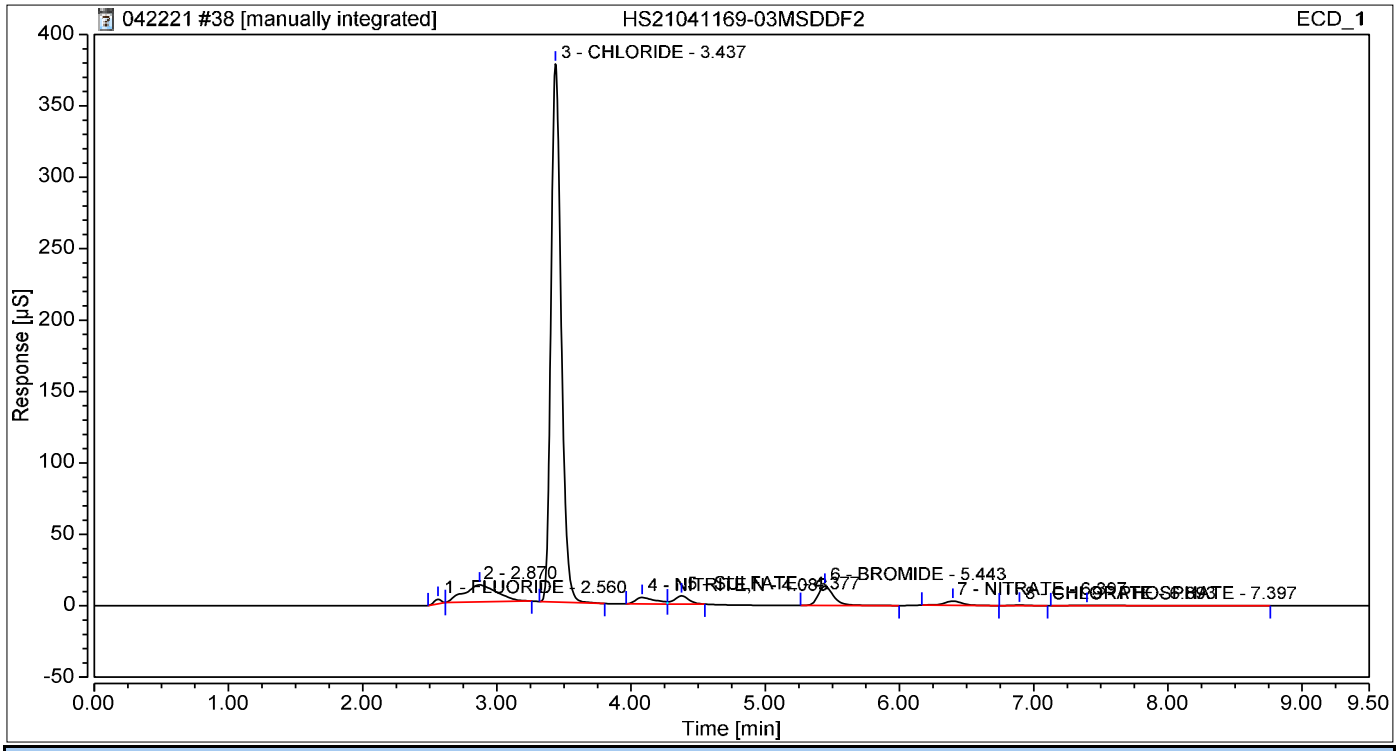
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		1.893	0.012	0.019	0.03	0.00	n.a.
2	FLUORIDE	2.563	0.197	3.239	0.48	0.77	2.6308
3		2.873	3.408	11.918	8.38	2.84	n.a.
4	CHLORIDE	3.440	33.090	376.418	81.35	89.85	706.1948
5	NITRITE,N	4.087	0.774	4.550	1.90	1.09	8.1962
6	SULFATE	4.377	0.727	5.730	1.79	1.37	21.1094
7		4.980	0.004	0.000	0.01	0.00	n.a.
8	BROMIDE	5.453	1.811	13.455	4.45	3.21	91.9276
9	NITRATE	6.410	0.440	2.901	1.08	0.69	3.8491
10	CHLORATE	6.907	0.053	0.363	0.13	0.09	3.7541
11	PHOSPHATE	7.393	0.157	0.349	0.39	0.08	3.5677
Total:			**40.675**	**418.943**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**HS21041169-03MSDDF2**	***Run Time (min):***	**9.50**
Vial Number:	**GB8**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**2.0000**
Injection Date/Time:	**22/Apr/21 17:49**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

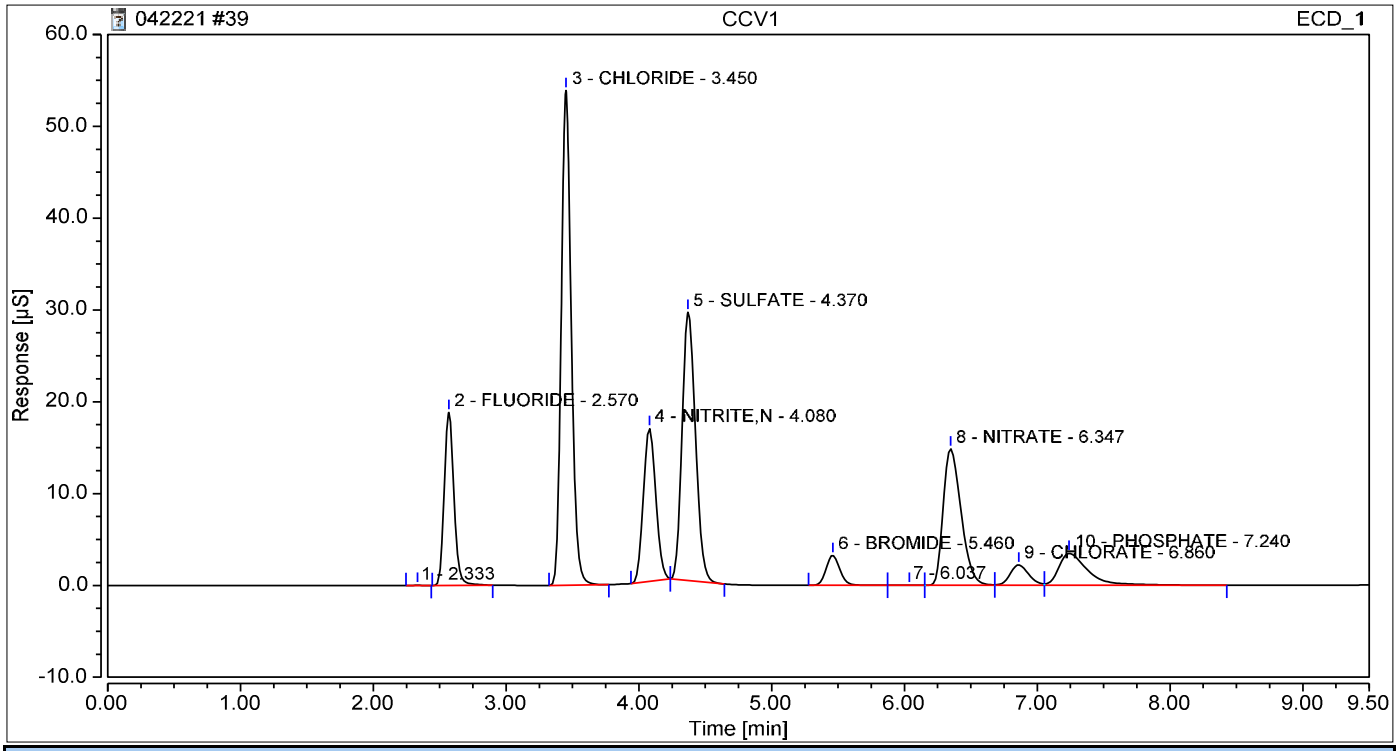
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	FLUORIDE	2.560	0.199	3.299	0.49	0.79	2.6632
2		2.870	3.410	11.940	8.40	2.85	n.a.
3	CHLORIDE	3.437	33.073	376.651	81.44	89.84	705.8330
4	NITRITE,N	4.083	0.772	4.528	1.90	1.08	8.1703
5	SULFATE	4.377	0.723	5.727	1.78	1.37	20.9907
6	BROMIDE	5.443	1.798	13.485	4.43	3.22	91.2570
7	NITRATE	6.397	0.440	2.906	1.08	0.69	3.8462
8	CHLORATE	6.893	0.054	0.368	0.13	0.09	3.7898
9	PHOSPHATE	7.397	0.141	0.344	0.35	0.08	3.2219
Total:			**40.611**	**419.249**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV1**	***Run Time (min):***	**9.50**
Vial Number:	**G3**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 18:02**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

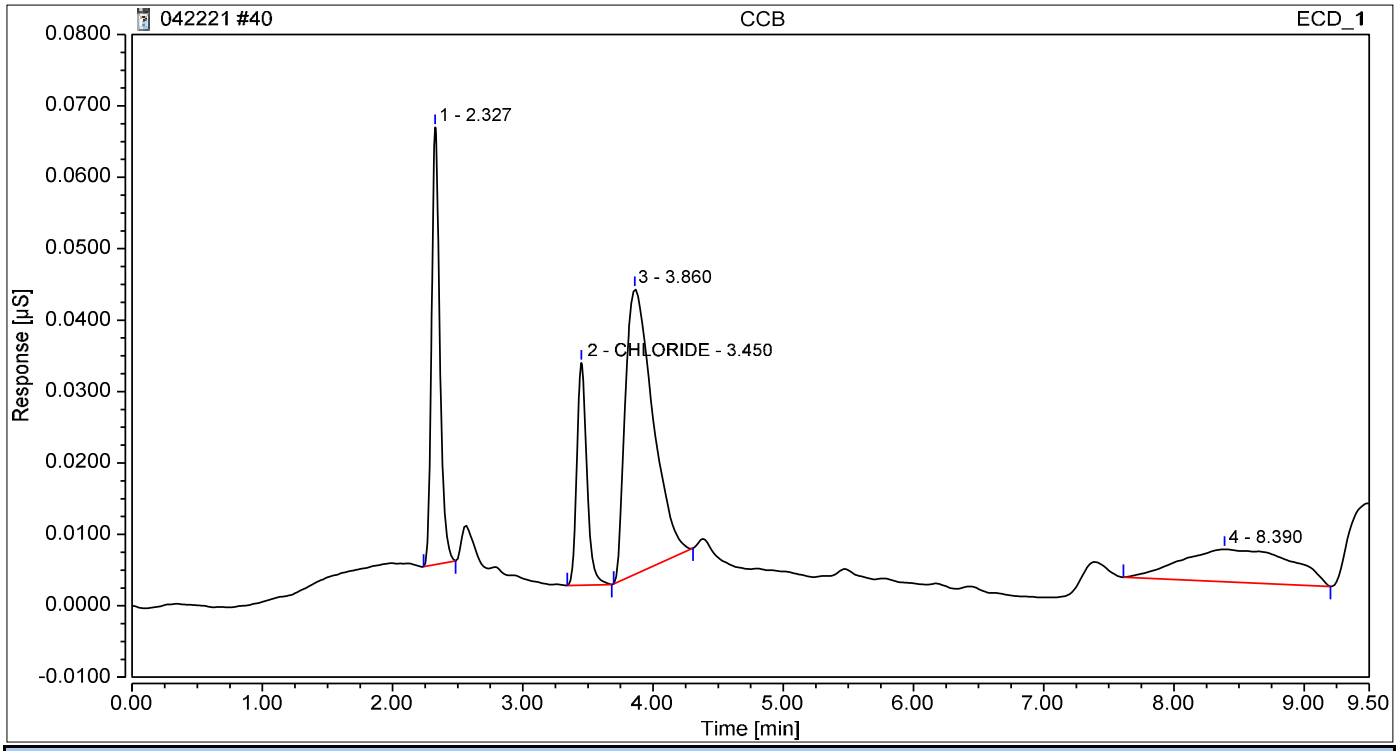
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.333	0.002	0.035	0.02	0.02	n.a.
2	FLUORIDE	2.570	1.580	18.849	10.23	13.23	10.4290
3	CHLORIDE	3.450	4.686	53.870	30.36	37.80	50.1013
4	NITRITE,N	4.080	1.825	16.664	11.82	11.69	9.6591
5	SULFATE	4.370	3.381	29.221	21.90	20.51	48.4183
6	BROMIDE	5.460	0.394	3.260	2.55	2.29	10.0333
7		6.037	0.001	0.009	0.01	0.01	n.a.
8	NITRATE	6.347	2.313	14.874	14.98	10.44	9.9379
9	CHLORATE	6.860	0.363	2.226	2.35	1.56	10.1369
10	PHOSPHATE	7.240	0.893	3.487	5.79	2.45	9.8076
Total:			**15.437**	**142.497**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**9.50**
Vial Number:	**G7**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 18:28**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

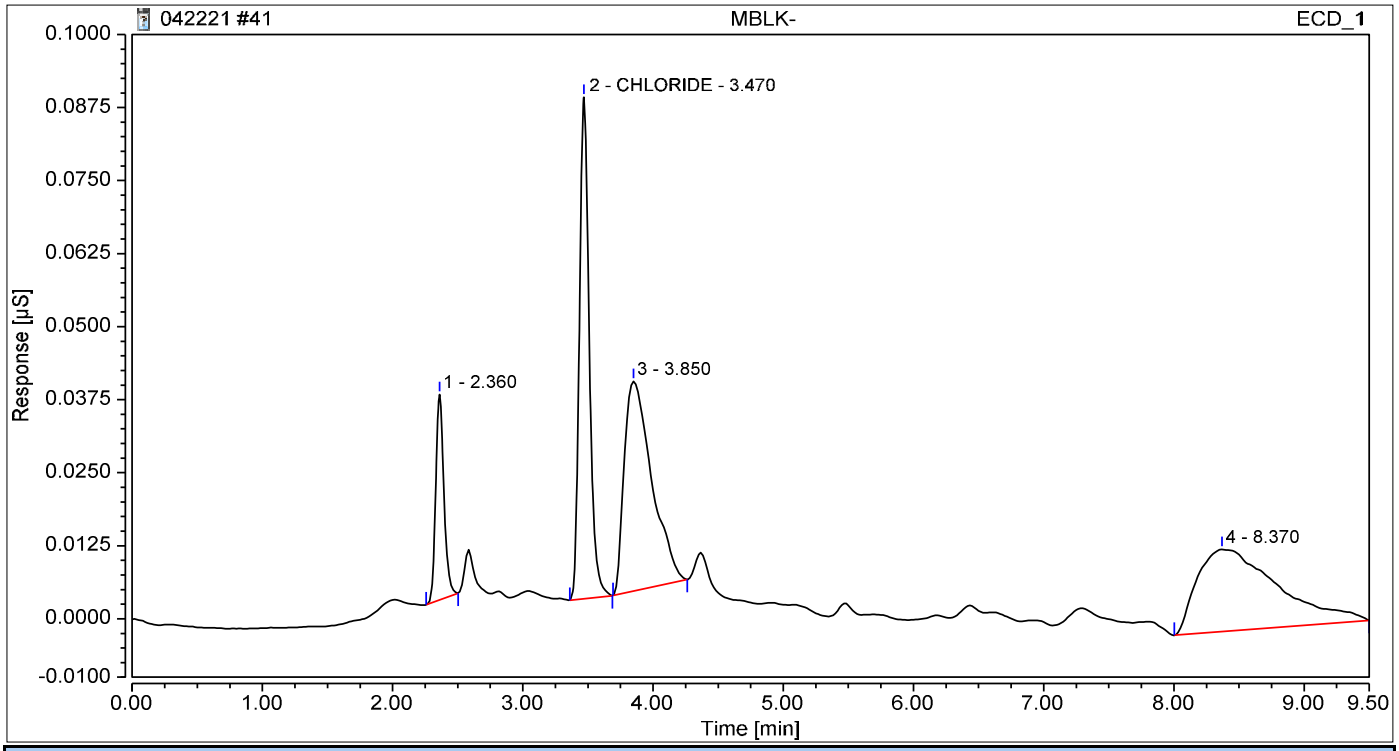
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.327	0.004	0.061	20.64	44.74	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	CHLORIDE	3.450	0.003	0.031	12.85	22.75	0.1441
3		3.860	0.010	0.040	45.46	29.18	n.a.
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	BROMIDE	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.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		8.390	0.005	0.005	21.05	3.33	n.a.
Total:			**0.022**	**0.137**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MBLK-**	***Run Time (min):***	**9.50**
Vial Number:	**G5**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 18:41**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

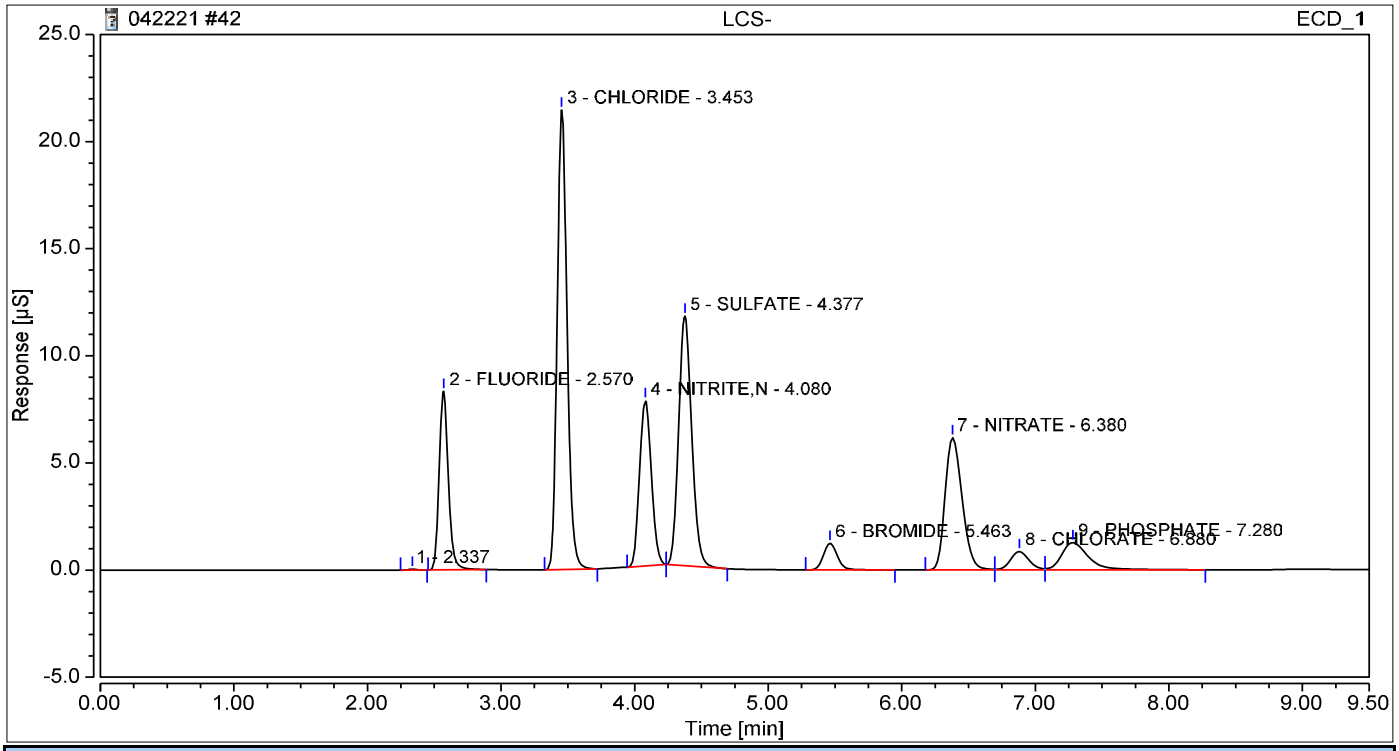
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.360	0.003	0.035	8.82	20.55	n.a.
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	CHLORIDE	3.470	0.008	0.086	26.14	50.22	0.1950
3		3.850	0.009	0.036	30.40	21.00	n.a.
n.a.	NITRITE,N	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	SULFATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	BROMIDE	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.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		8.370	0.010	0.014	34.63	8.23	n.a.
Total:			**0.029**	**0.171**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-**	***Run Time (min):***	**9.50**
Vial Number:	**G2**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 18:54**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

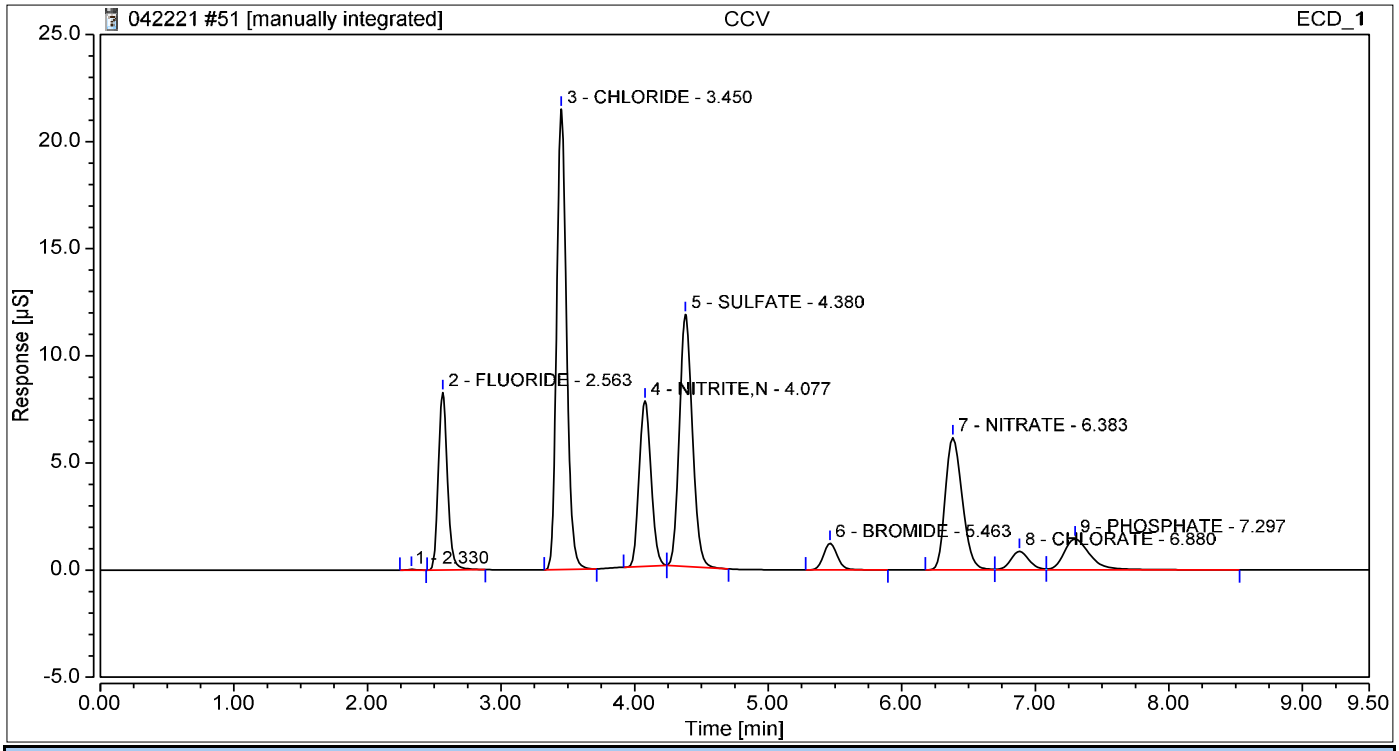
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.337	0.003	0.041	0.05	0.07	n.a.
2	FLUORIDE	2.570	0.663	8.330	10.79	14.18	4.3876
3	CHLORIDE	3.453	1.856	21.448	30.21	36.52	19.9174
4	NITRITE,N	4.080	0.792	7.720	12.89	13.14	4.1925
5	SULFATE	4.377	1.336	11.653	21.74	19.84	19.2439
6	BROMIDE	5.463	0.149	1.238	2.43	2.11	3.8272
7	NITRATE	6.380	0.912	6.171	14.85	10.51	3.9451
8	CHLORATE	6.880	0.136	0.859	2.22	1.46	4.0956
9	PHOSPHATE	7.280	0.297	1.275	4.83	2.17	3.3025
Total:			**6.145**	**58.735**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV**	***Run Time (min):***	**9.50**
Vial Number:	**G1**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 20:50**	***Sample Weight:***	**1.0000**

Chromatogram



Integration Results

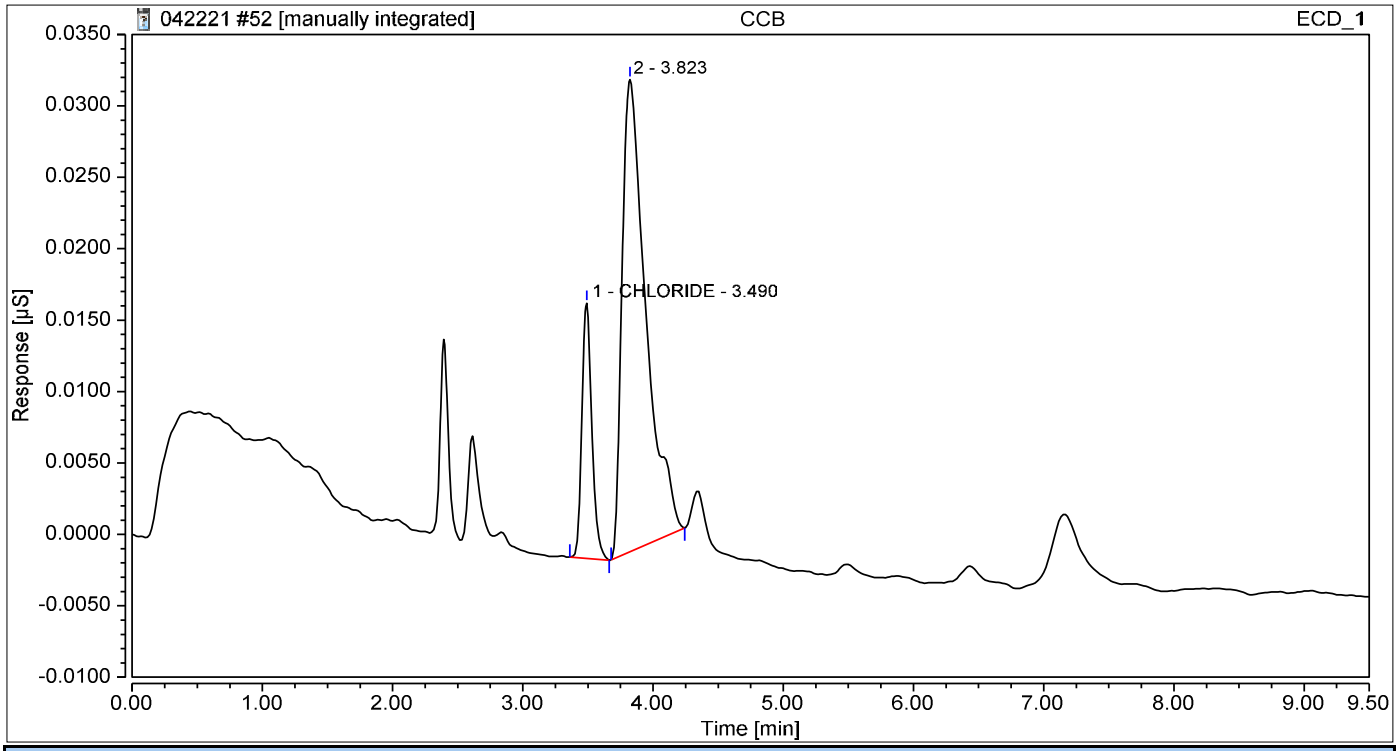
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1		2.330	0.002	0.034	0.04	0.06	n.a.
2	FLUORIDE	2.563	0.656	8.282	10.62	14.04	4.3382
3	CHLORIDE	3.450	1.852	21.494	30.02	36.43	19.8698
4	NITRITE,N	4.077	0.794	7.724	12.86	13.09	4.2010
5	SULFATE	4.380	1.342	11.752	21.75	19.92	19.3264
6	BROMIDE	5.463	0.149	1.241	2.41	2.10	3.8225
7	NITRATE	6.383	0.911	6.175	14.76	10.47	3.9389
8	CHLORATE	6.880	0.137	0.862	2.22	1.46	4.1104
9	PHOSPHATE	7.297	0.327	1.443	5.31	2.45	3.6377
Total:			**6.170**	**59.006**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB**	***Run Time (min):***	**9.50**
Vial Number:	**G4**	***Injection Volume:***	**10.00**
Injection Type:	**Unknown**	***Channel:***	**ECD_1**
Calibration Level:		***Wavelength:***	**n.a.**
Instrument Method:	**ICS2100ISO39**	***Bandwidth:***	**n.a.**
Processing Method:	**Anion Processing Method ISO39**	***Dilution Factor:***	**1.0000**
Injection Date/Time:	**22/Apr/21 21:03**	***Sample Weight:***	**1.0000**

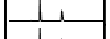
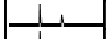
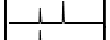
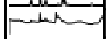
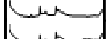
Chromatogram



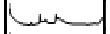
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
n.a.	FLUORIDE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1	CHLORIDE	3.490	0.002	0.018	18.45	35.07	0.1313
2		3.823	0.007	0.033	81.55	64.93	n.a.
n.a.	NITRITE,N	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.	BROMIDE	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.
n.a.	PHOSPHATE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.009**	**0.051**	**100.00**	**100.00**	

Sequence: 043021
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method
	STD1		Calibration	BE1	1.00	1	Anions Program 06022020.1	Anions Processing Method
	STD2		Calibration	BE2	1.00	2	Anions Program 06022020.1	Anions Processing Method
	STD3		Calibration	BE3	1.00	3	Anions Program 06022020.1	Anions Processing Method
	STD4		Calibration	BE4	1.00	4	Anions Program 06022020.1	Anions Processing Method
	STD5		Calibration	BE5	1.00	5	Anions Program 06022020.1	Anions Processing Method
	STD6		Calibration	BE6	1.00	6	Anions Program 06022020.1	Anions Processing Method
	ICV		Unknown	BE7	1.00		Anions Program 06022020.1	Anions Processing Method
	ICB		Unknown	BE8	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041595-02		Unknown	RA4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041595-02MS		Unknown	RA5	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041595-02MSD		Unknown	RA6	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R8	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041169-01DF50		Unknown	RB3	50.00		Anions Program 06022020.1	Anions Processing Method
	HS21041169-02DF50		Unknown	RB4	50.00		Anions Program 06022020.1	Anions Processing Method
	HS21041169-03DF20		Unknown	RB5	20.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R6	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R8	1.00		Anions Program 06022020.1	Anions Processing Method
	MBLK-		Unknown	R5	1.00		Anions Program 06022020.1	Anions Processing Method
	LCS-		Unknown	R2	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method

Sequence: 043021
Last Update Operator: alshs.nouser

CD	Name	Volume	Status	Inject Time
	STD1	5.0	Finished	4/20/2021 9:54:11 AM -05:00
	STD2	5.0	Finished	4/20/2021 10:12:33 AM -05:00
	STD3	5.0	Finished	4/20/2021 10:30:56 AM -05:00
	STD4	5.0	Finished	4/20/2021 10:49:20 AM -05:00
	STD5	5.0	Finished	4/20/2021 11:07:48 AM -05:00
	STD6	5.0	Finished	4/20/2021 11:28:05 AM -05:00
	ICV	5.0	Finished	4/20/2021 11:46:31 AM -05:00
	ICB	5.0	Finished	4/20/2021 12:25:13 PM -05:00
	CCV	5.0	Finished	4/30/2021 11:19:48 AM -05:00
	CCB	5.0	Finished	4/30/2021 11:38:13 AM -05:00
	HS21041595-02	5.0	Finished	4/30/2021 1:29:07 PM -05:00
	HS21041595-02MS	5.0	Finished	4/30/2021 1:47:31 PM -05:00
	HS21041595-02MSD	5.0	Finished	4/30/2021 2:06:02 PM -05:00
	CCV1	5.0	Finished	4/30/2021 3:03:55 PM -05:00
	CCB	5.0	Finished	4/30/2021 3:42:37 PM -05:00
	CCV	5.0	Finished	4/30/2021 7:17:04 PM -05:00
	CCB	5.0	Finished	4/30/2021 7:35:30 PM -05:00
	HS21041169-01DF50	5.0	Finished	4/30/2021 9:32:03 PM -05:00
	HS21041169-02DF50	5.0	Finished	4/30/2021 9:52:21 PM -05:00
	HS21041169-03DF20	5.0	Finished	4/30/2021 10:11:08 PM -05:00
	CCV1	5.0	Finished	4/30/2021 11:10:08 PM -05:00
	CCB	5.0	Finished	4/30/2021 11:48:52 PM -05:00
	CCV1	5.0	Finished	5/1/2021 7:27:37 AM -05:00
	CCB	5.0	Finished	5/1/2021 7:46:01 AM -05:00
	MBLK-	5.0	Finished	5/1/2021 8:23:11 AM -05:00
	LCS-	5.0	Finished	5/1/2021 8:41:35 AM -05:00
	CCV	5.0	Finished	5/1/2021 10:51:13 AM -05:00
	CCB	5.0	Finished	5/1/2021 11:28:25 AM -05:00

Sequence: 043021
Injection #6: STD6

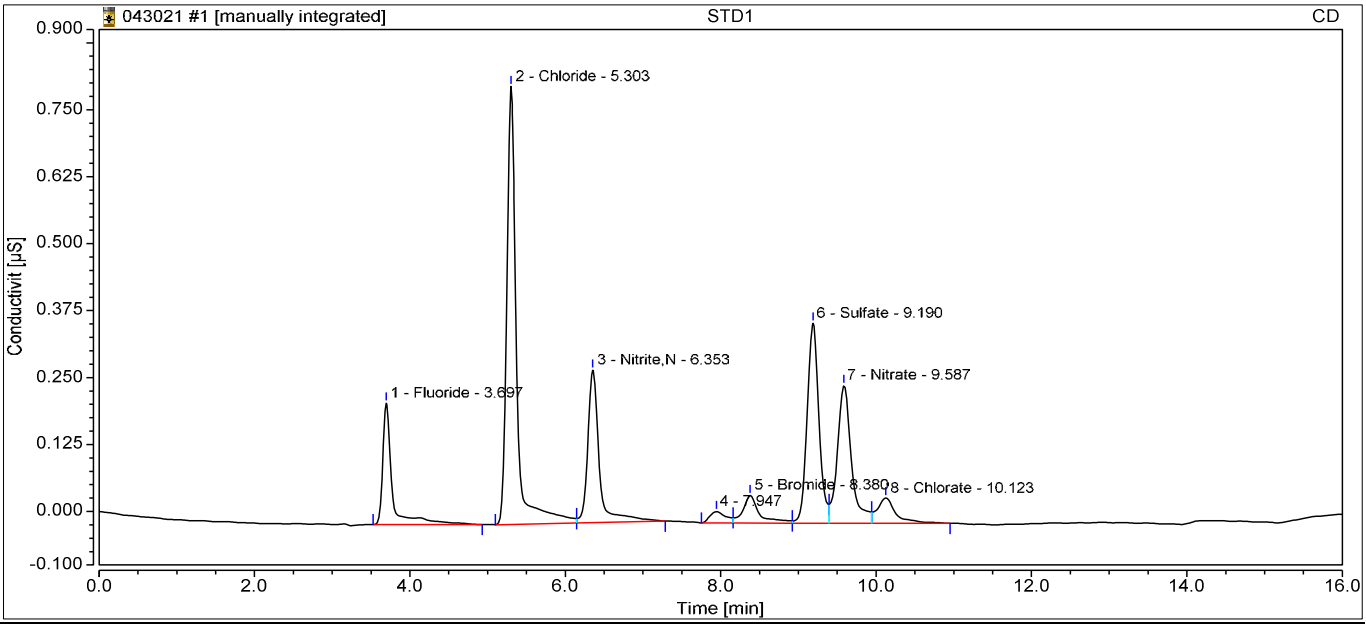
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*18.7874*	*0.99804*	*0.0037*	*0.3228*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	4.4845	0.99989	0.0060	0.2088	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	23.2258	0.99660	0.0167	0.4015	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	13.6081	0.99885	0.0031	0.0812	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	4.6885	0.99989	-0.0143	0.1515	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	5.2526	0.99986	-0.0011	0.5393	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	20.9413	0.99684	0.0071	0.0945	0.0000
11	Phosphate	Lin, WithOffset, 1/	Area	5	9.6125	0.99905	-0.0521	0.2007	0.0000
Maximum					**23.2258**	0.99989			
Minimum					4.4845	**0.99660**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BE1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 09:54**	*Sample Weight:*	**1.0000**

Run Time:



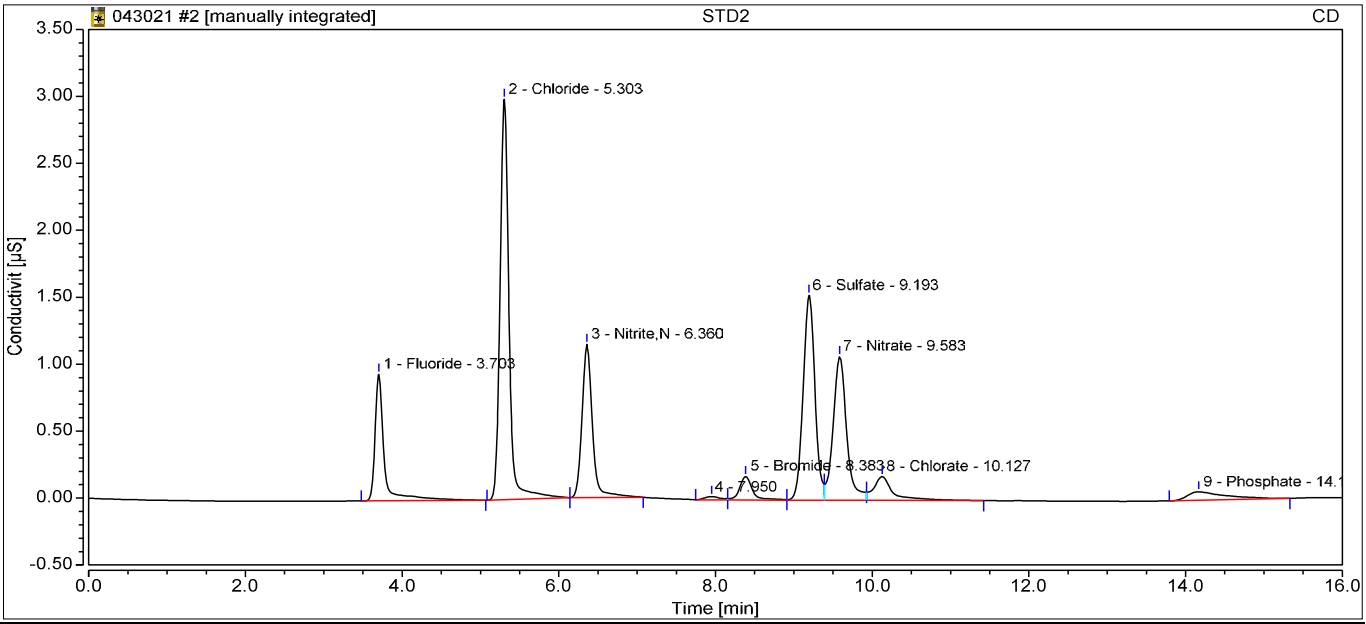
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.032	0.0880	0.0880	1.0000
2	5.30	Chloride	BM *	0.118	0.5381	0.5381	1.0000
3	6.35	Nitrite,N	MB*	0.049	0.0802	0.0802	1.0000
5	8.38	Bromide	M	0.013	0.1188	0.1188	1.0000
6	9.19	Sulfate	M	0.066	0.5285	0.5285	1.0000
7	9.59	Nitrate	M	0.054	0.1022	0.1022	1.0000
8	10.12	Chlorate	MB	0.013	0.0640	0.0640	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.345**		**1.52**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BE2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:12**	*Sample Weight:*	**1.0000**

Run Time:



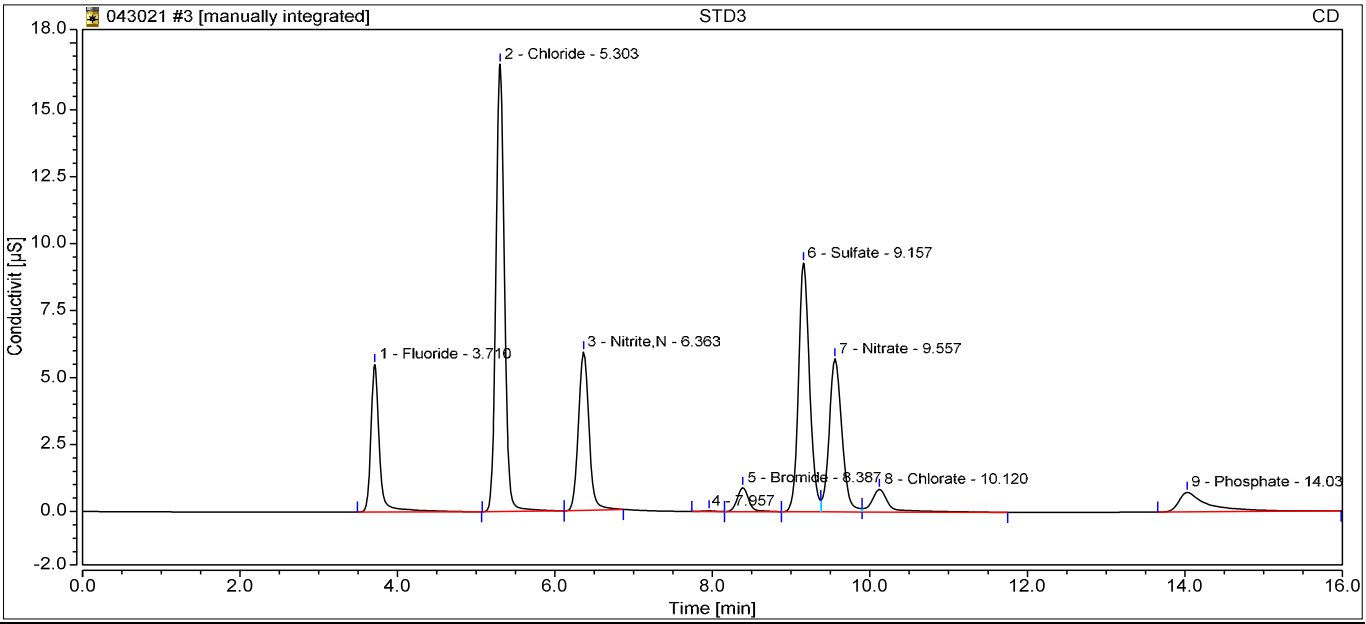
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.129	0.3886	0.3886	1.0000
2	5.30	Chloride	BMb*	0.393	1.8537	1.8537	1.0000
3	6.36	Nitrite,N	bMB*	0.176	0.3975	0.3975	1.0000
5	8.38	Bromide	M	0.033	0.3714	0.3714	1.0000
6	9.19	Sulfate	M	0.266	1.8512	1.8512	1.0000
7	9.58	Nitrate	M	0.213	0.3976	0.3976	1.0000
8	10.13	Chlorate	MB	0.052	0.4776	0.4776	1.0000
9	14.17	Phosphate	BMB	0.036	0.4401	0.4401	1.0000
Total:			**0.000**	**1.300**		**6.18**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BE3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:30**	*Sample Weight:*	**1.0000**

Run Time:



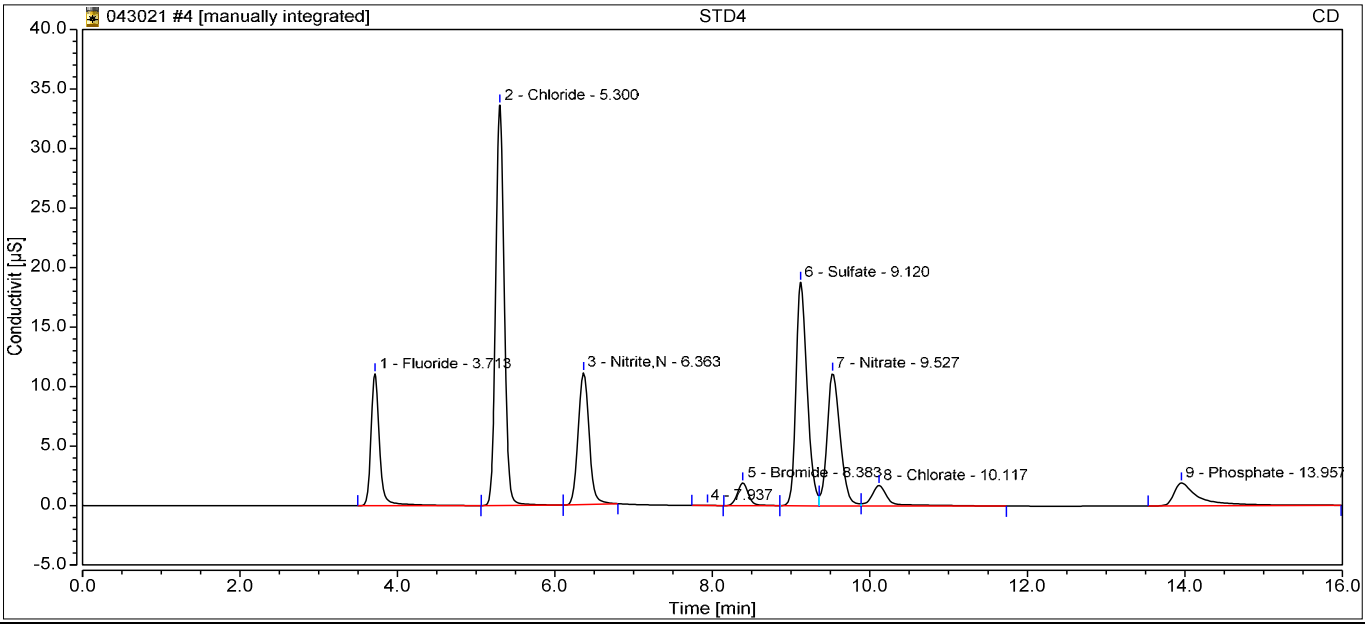
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.701	2.1586	2.1586	1.0000
2	5.30	Chloride	BMb*	2.082	9.9444	9.9444	1.0000
3	6.36	Nitrite,N	bMB*	0.918	2.2461	2.2461	1.0000
5	8.39	Bromide	M	0.152	1.8301	1.8301	1.0000
6	9.16	Sulfate	M	1.509	10.0487	10.0487	1.0000
7	9.56	Nitrate	M	1.072	1.9895	1.9895	1.0000
8	10.12	Chlorate	MB	0.216	2.2126	2.2126	1.0000
9	14.03	Phosphate	BMB	0.322	1.8648	1.8648	1.0000
Total:			**0.000**	**6.971**		**32.29**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BE4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:49**	*Sample Weight:*	**1.0000**

Run Time:



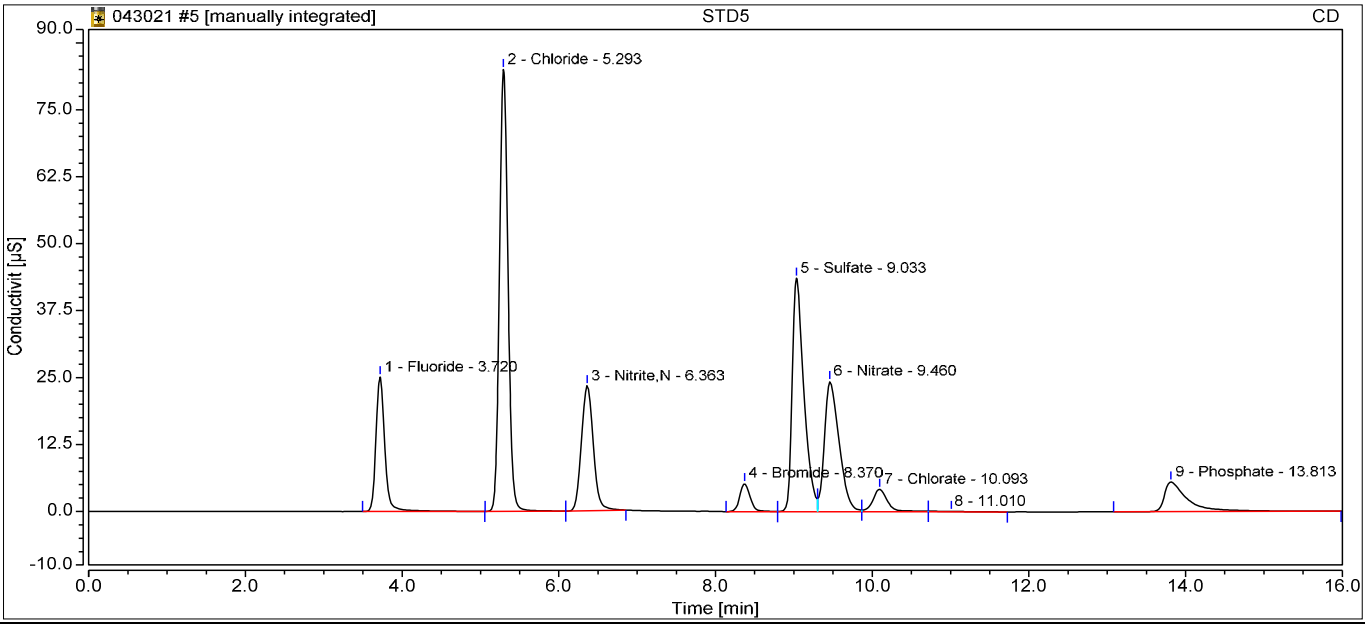
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	1.403	4.3336	4.3336	1.0000
2	5.30	Chloride	BMb*	4.203	20.1063	20.1063	1.0000
3	6.36	Nitrite,N	bMB*	1.787	4.4092	4.4092	1.0000
5	8.38	Bromide	BM	0.313	3.8179	3.8179	1.0000
6	9.12	Sulfate	M	3.063	20.3070	20.3070	1.0000
7	9.53	Nitrate	M	2.148	3.9846	3.9846	1.0000
8	10.12	Chlorate	MB	0.424	4.4085	4.4085	1.0000
9	13.96	Phosphate	BMB	0.719	3.8422	3.8422	1.0000
Total:			**0.000**	**14.060**		**65.21**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BE5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:07**	*Sample Weight:*	**1.0000**

Run Time:



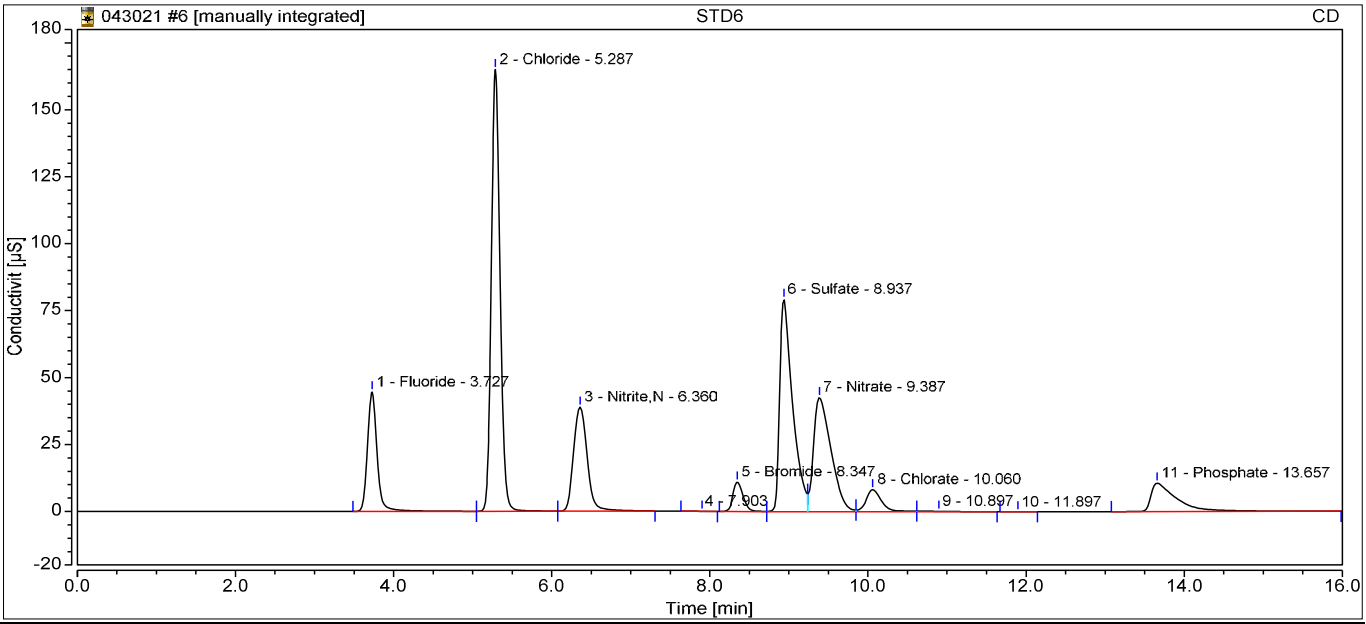
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	3.290	10.1807	10.1807	1.0000
2	5.29	Chloride	BMb*	10.372	49.6551	49.6551	1.0000
3	6.36	Nitrite,N	bMB*	4.114	10.2053	10.2053	1.0000
4	8.37	Bromide	BM	0.808	9.9156	9.9156	1.0000
5	9.03	Sulfate	M	7.557	49.9615	49.9615	1.0000
6	9.46	Nitrate	M	5.301	9.8318	9.8318	1.0000
7	10.09	Chlorate	M	0.936	9.8243	9.8243	1.0000
9	13.81	Phosphate	BMB	1.932	9.8822	9.8822	1.0000
Total:			**0.000**	**34.310**		**159.46**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BE6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:28**	*Sample Weight:*	**1.0000**

Run Time:



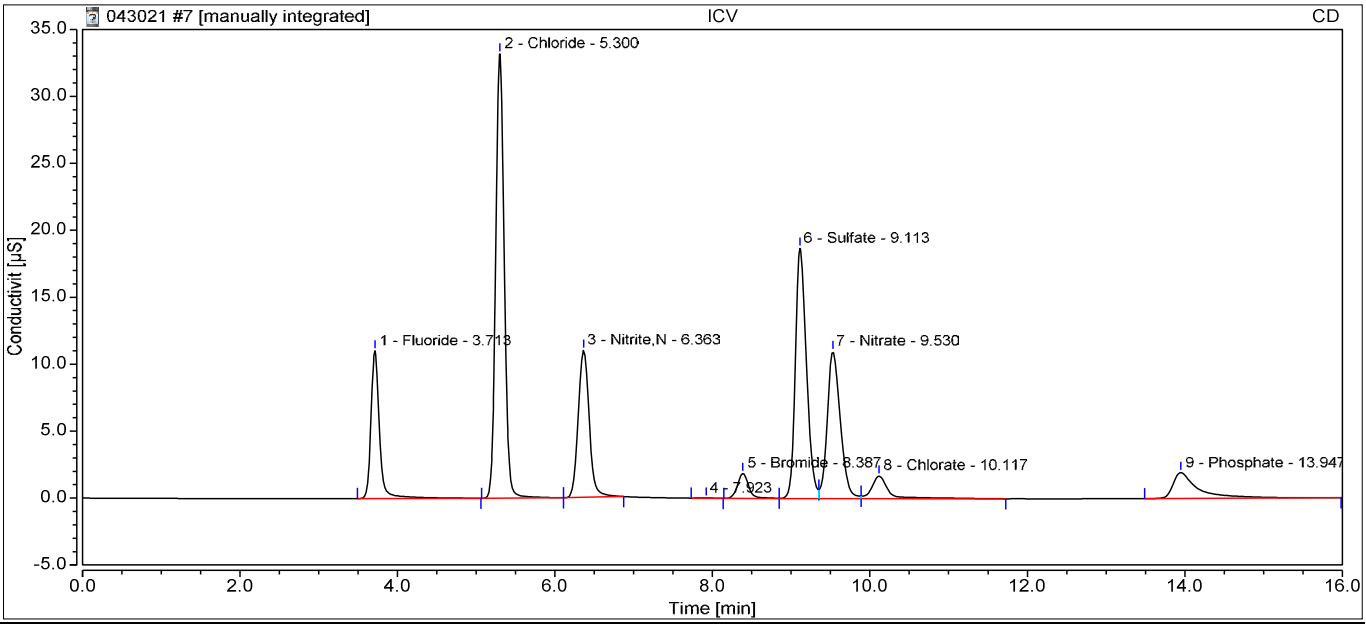
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	6.250	19.3505	19.3505	1.0000
2	5.29	Chloride	BMb*	20.966	100.4024	100.4024	1.0000
3	6.36	Nitrite,N	bMB*	7.710	19.1617	19.1617	1.0000
5	8.35	Bromide	BM	1.662	20.4462	20.4462	1.0000
6	8.94	Sulfate	M	15.110	99.8032	99.8032	1.0000
7	9.39	Nitrate	M	10.889	20.1943	20.1943	1.0000
8	10.06	Chlorate	M	1.852	19.5130	19.5130	1.0000
11	13.66	Phosphate	BMB	4.037	20.3707	20.3707	1.0000
Total:			**0.000**	**68.477**		**319.24**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:46**	*Sample Weight:*	**1.0000**

Run Time:



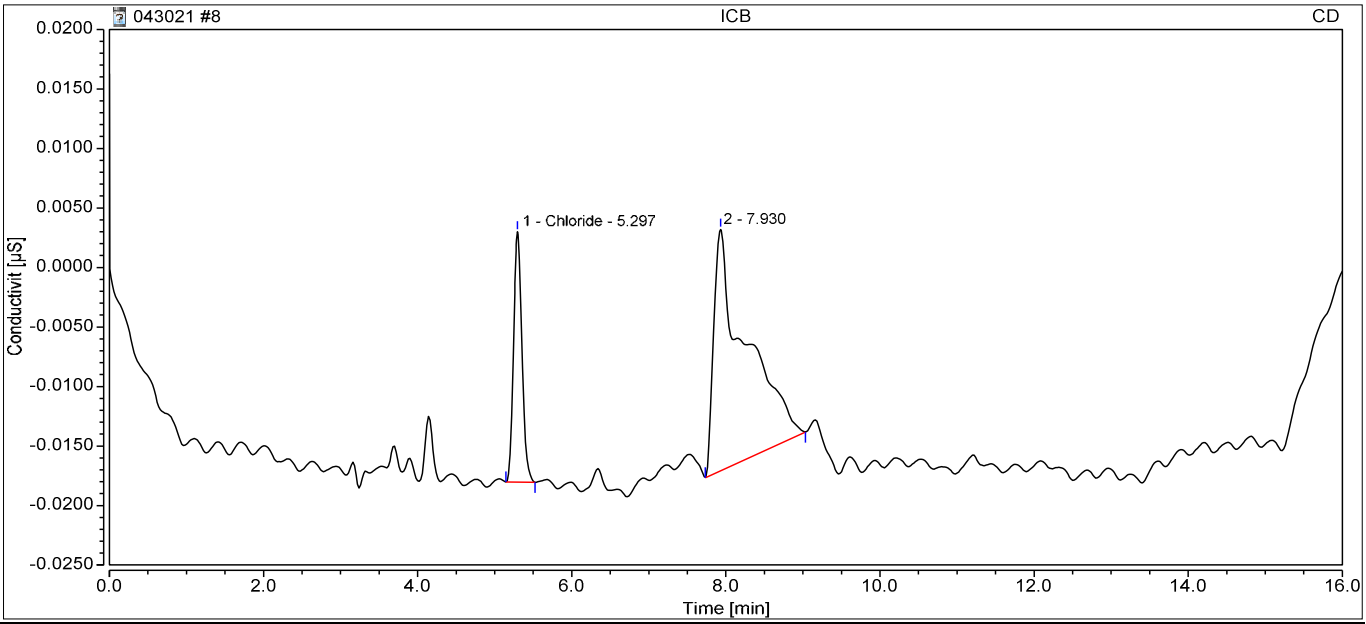
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	1.384	4.2770	4.2770	1.0000
2	5.30	Chloride	BMb*	4.144	19.8205	19.8205	1.0000
3	6.36	Nitrite,N	bMB*	1.777	4.3839	4.3839	1.0000
5	8.39	Bromide	BM	0.309	3.7640	3.7640	1.0000
6	9.11	Sulfate	M	3.024	20.0510	20.0510	1.0000
7	9.53	Nitrate	M	2.119	3.9305	3.9305	1.0000
8	10.12	Chlorate	MB	0.422	4.3868	4.3868	1.0000
9	13.95	Phosphate	BMB	0.725	3.8706	3.8706	1.0000
Total:			**0.000**	**13.903**		**64.48**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BE8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 12:25**	*Sample Weight:*	**1.0000**

Run Time:



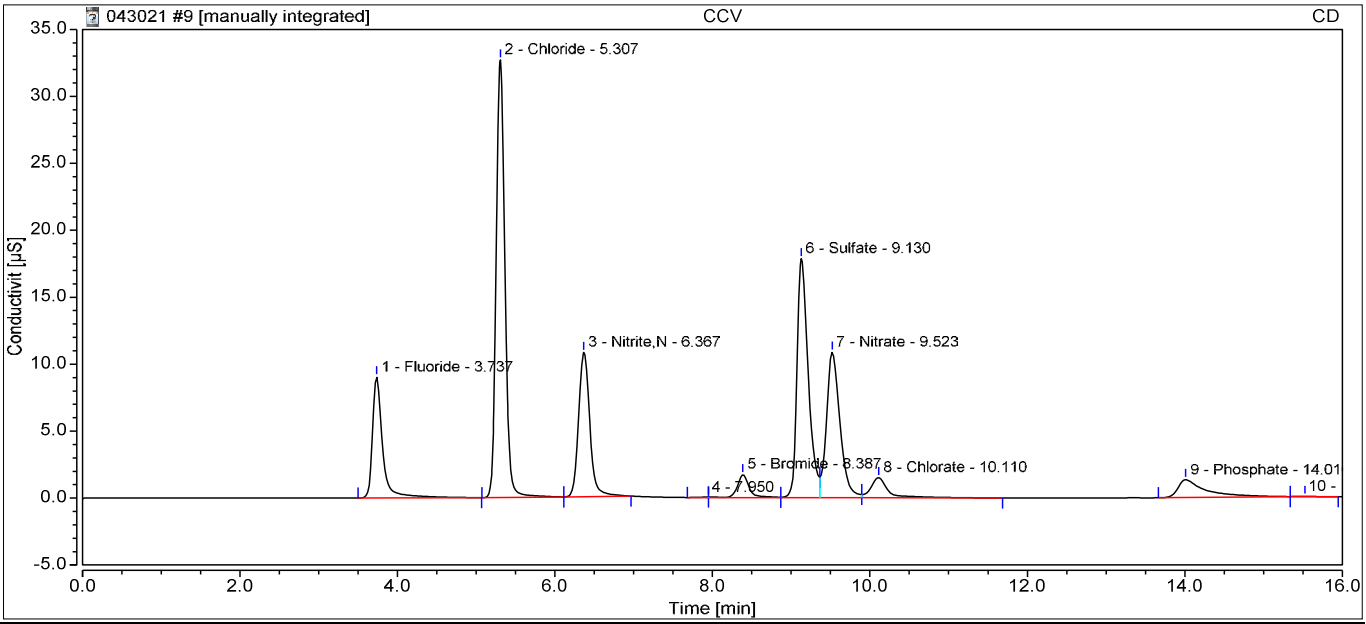
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

9 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 11:19**	*Sample Weight:*	**1.0000**

Run Time:



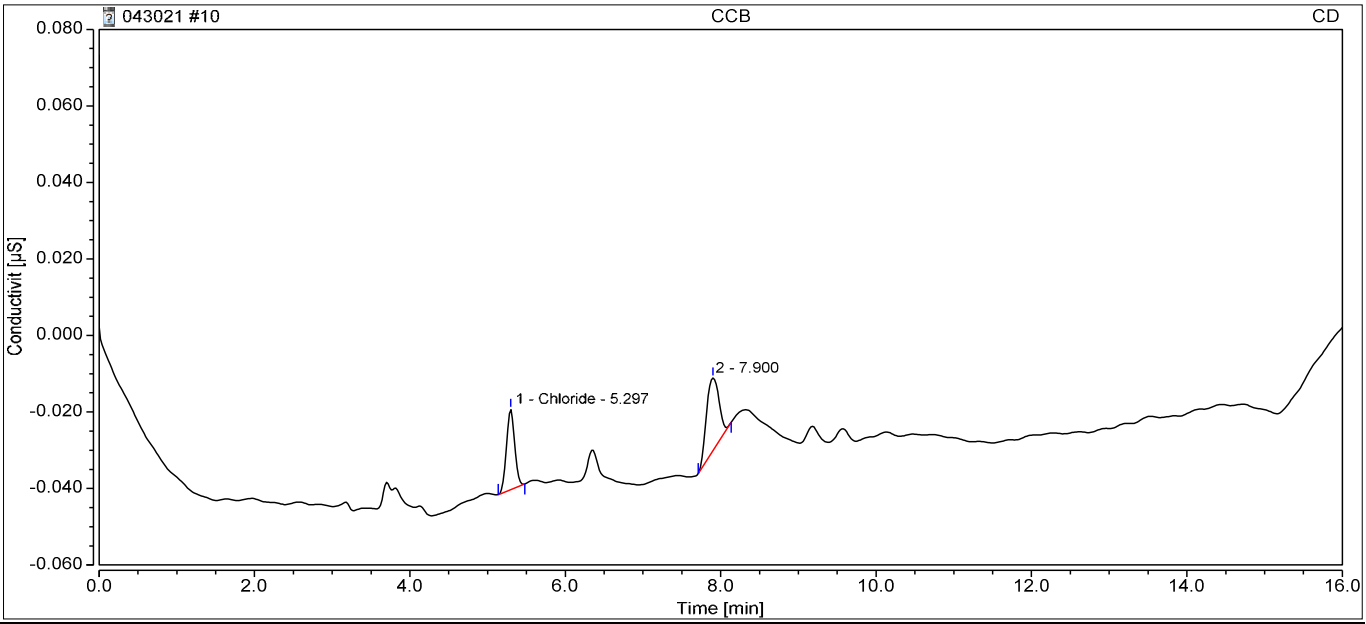
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.350	4.1710	4.1710	1.0000
2	5.31	Chloride	BMb*	4.172	19.9569	19.9569	1.0000
3	6.37	Nitrite,N	bMB*	1.774	4.3771	4.3771	1.0000
5	8.39	Bromide	M *	0.298	3.6345	3.6345	1.0000
6	9.13	Sulfate	M	2.940	19.4920	19.4920	1.0000
7	9.52	Nitrate	M	2.163	4.0135	4.0135	1.0000
8	10.11	Chlorate	MB	0.391	4.0597	4.0597	1.0000
9	14.01	Phosphate	BMB	0.548	2.9890	2.9890	1.0000
Total:			**0.000**	**13.636**		**62.69**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 11:38**	*Sample Weight:*	**1.0000**

Run Time:



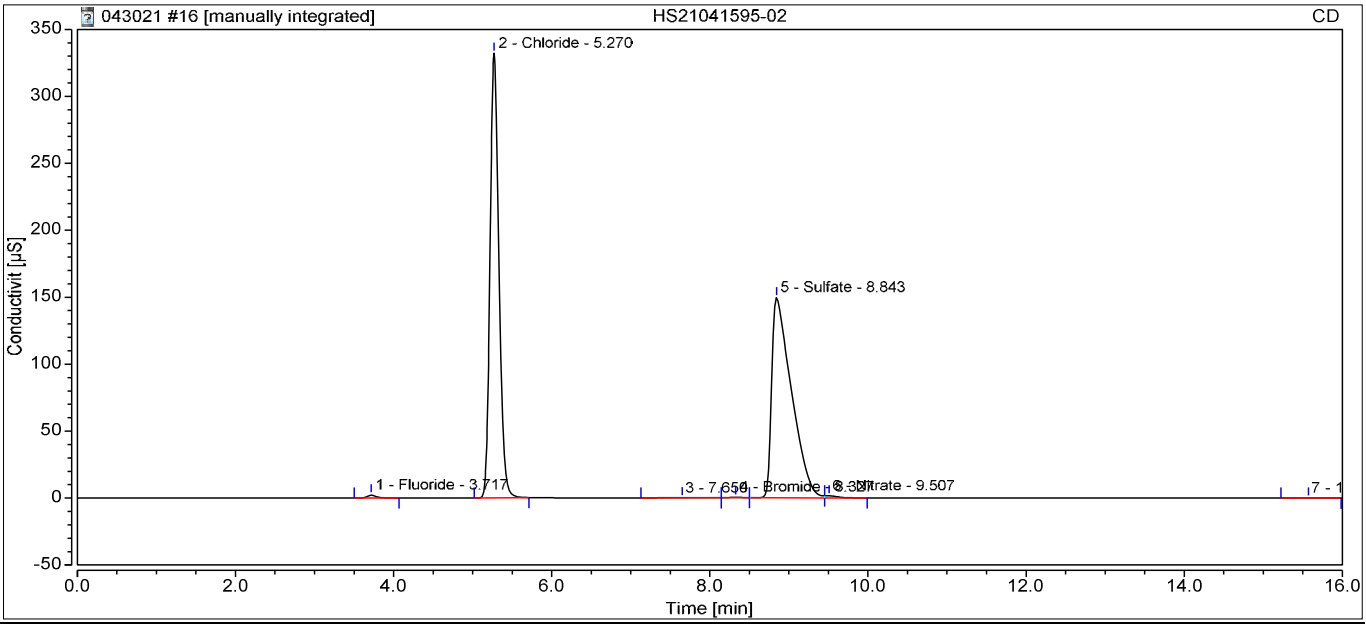
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

16 HS21041595-02

Sample Name:	**HS21041595-02**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 13:29**	*Sample Weight:*	**1.0000**

Run Time:



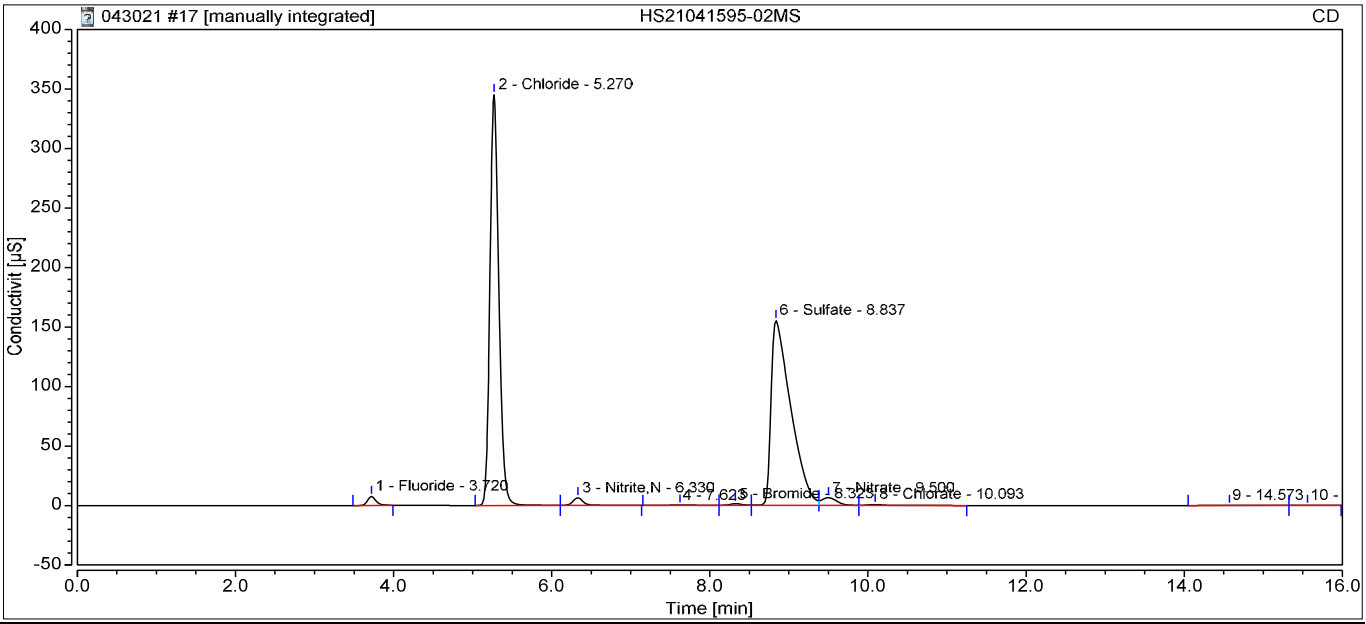
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB*	0.291	0.8913	0.8913	1.0000
2	5.27	Chloride	BMB*	43.097	206.4146	206.4146	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.33	Bromide	bM *	0.071	0.8359	0.8359	1.0000
5	8.84	Sulfate	M *	43.170	284.9607	284.9607	1.0000
6	9.51	Nitrate	MB*	0.285	0.5300	0.5300	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**86.914**		**493.63**	

17 HS21041595-02MS

Sample Name:	**HS21041595-02MS**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 13:47**	*Sample Weight:*	**1.0000**

Run Time:



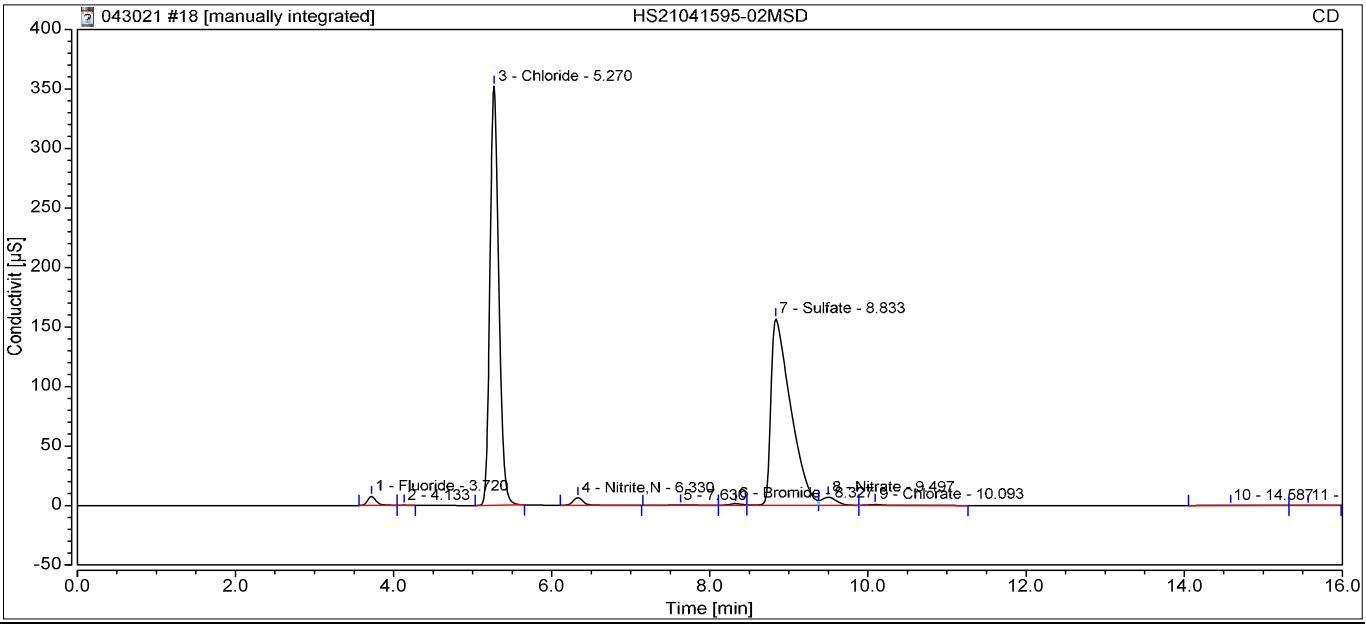
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB*	0.939	2.8977	2.8977	1.0000
2	5.27	Chloride	BMB	45.053	215.7797	215.7797	1.0000
3	6.33	Nitrite,N	BMB	0.957	2.3417	2.3417	1.0000
5	8.32	Bromide	BM	0.228	2.7716	2.7716	1.0000
6	8.84	Sulfate	M	44.611	294.4713	294.4713	1.0000
7	9.50	Nitrate	M	1.445	2.6820	2.6820	1.0000
8	10.09	Chlorate	MB	0.177	1.7983	1.7983	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**93.410**		**522.74**	

18 HS21041595-02MSD

Sample Name:	**HS21041595-02MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 14:06**	*Sample Weight:*	**1.0000**

Run Time:



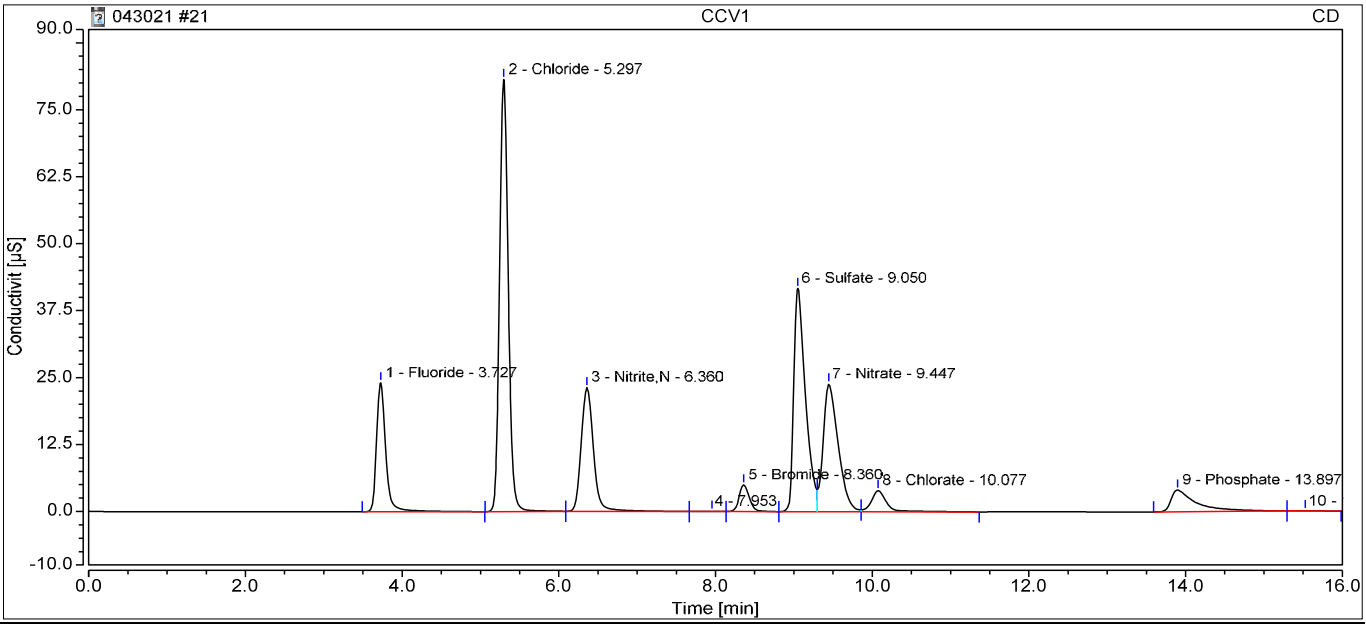
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.965	2.9784	2.9784	1.0000
3	5.27	Chloride	BMB*	45.840	219.5498	219.5498	1.0000
4	6.33	Nitrite,N	BMB	0.967	2.3681	2.3681	1.0000
6	8.33	Bromide	BM *	0.241	2.9288	2.9288	1.0000
7	8.83	Sulfate	M *	45.171	298.1674	298.1674	1.0000
8	9.50	Nitrate	M	1.529	2.8369	2.8369	1.0000
9	10.09	Chlorate	MB	0.181	1.8365	1.8365	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**94.894**		**530.67**	

21 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 15:03**	*Sample Weight:*	**1.0000**

Run Time:



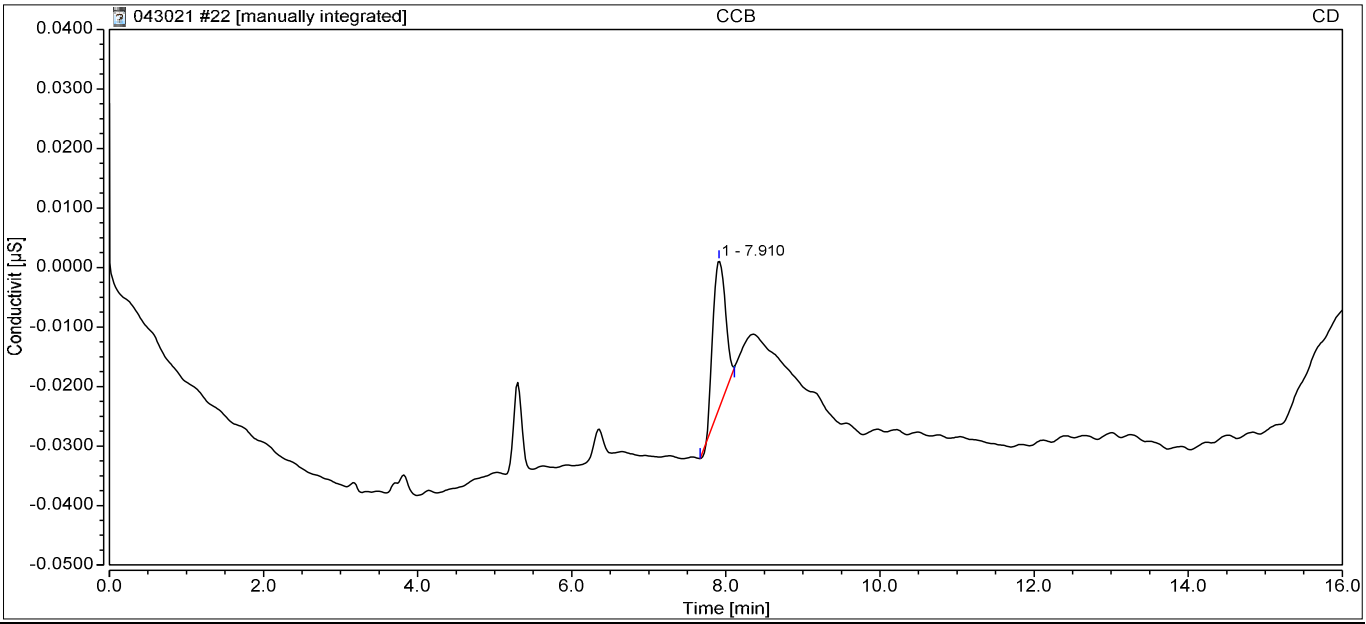
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.282	10.1554	10.1554	1.0000
2	5.30	Chloride	BMB	10.329	49.4475	49.4475	1.0000
3	6.36	Nitrite,N	BMB	4.202	10.4238	10.4238	1.0000
5	8.36	Bromide	MB	0.758	9.3004	9.3004	1.0000
6	9.05	Sulfate	BM	7.276	48.1039	48.1039	1.0000
7	9.45	Nitrate	M	5.298	9.8267	9.8267	1.0000
8	10.08	Chlorate	MB	0.906	9.5101	9.5101	1.0000
9	13.90	Phosphate	BMB	1.523	7.8454	7.8454	1.0000
Total:			**0.000**	**33.573**		**154.61**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 15:42**	*Sample Weight:*	**1.0000**

Run Time:



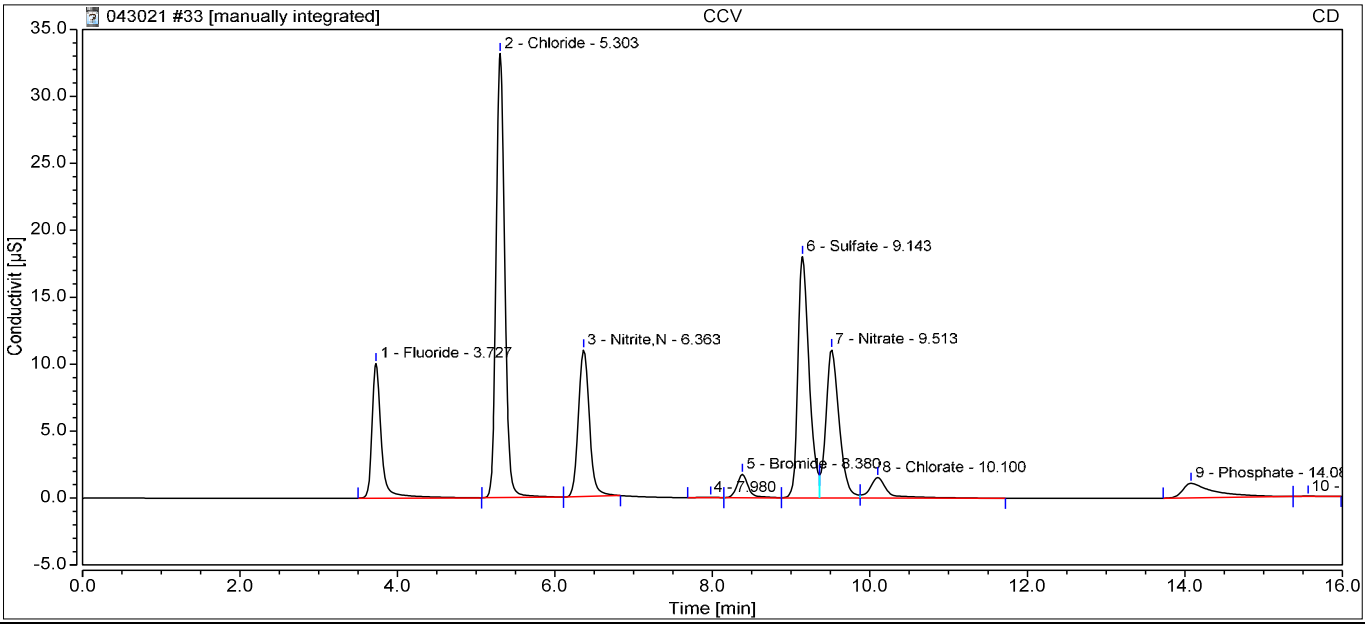
Integration Results

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

33 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 19:17**	*Sample Weight:*	**1.0000**

Run Time:



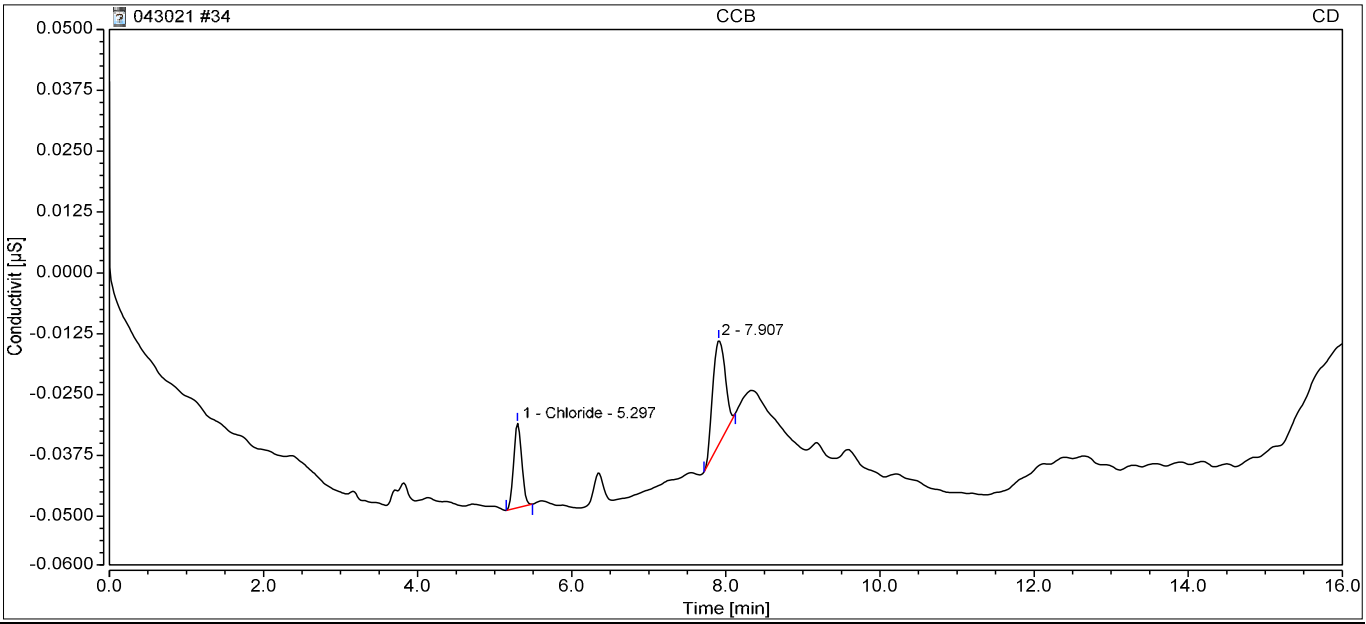
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.383	4.2718	4.2718	1.0000
2	5.30	Chloride	BMb*	4.210	20.1400	20.1400	1.0000
3	6.36	Nitrite,N	bMB*	1.773	4.3744	4.3744	1.0000
5	8.38	Bromide	M	0.295	3.6004	3.6004	1.0000
6	9.14	Sulfate	M	2.973	19.7147	19.7147	1.0000
7	9.51	Nitrate	M	2.172	4.0304	4.0304	1.0000
8	10.10	Chlorate	MB	0.402	4.1750	4.1750	1.0000
9	14.08	Phosphate	BMB	0.508	2.7907	2.7907	1.0000
Total:			**0.000**	**13.717**		**63.10**	

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 19:35**	*Sample Weight:*	**1.0000**

Run Time:



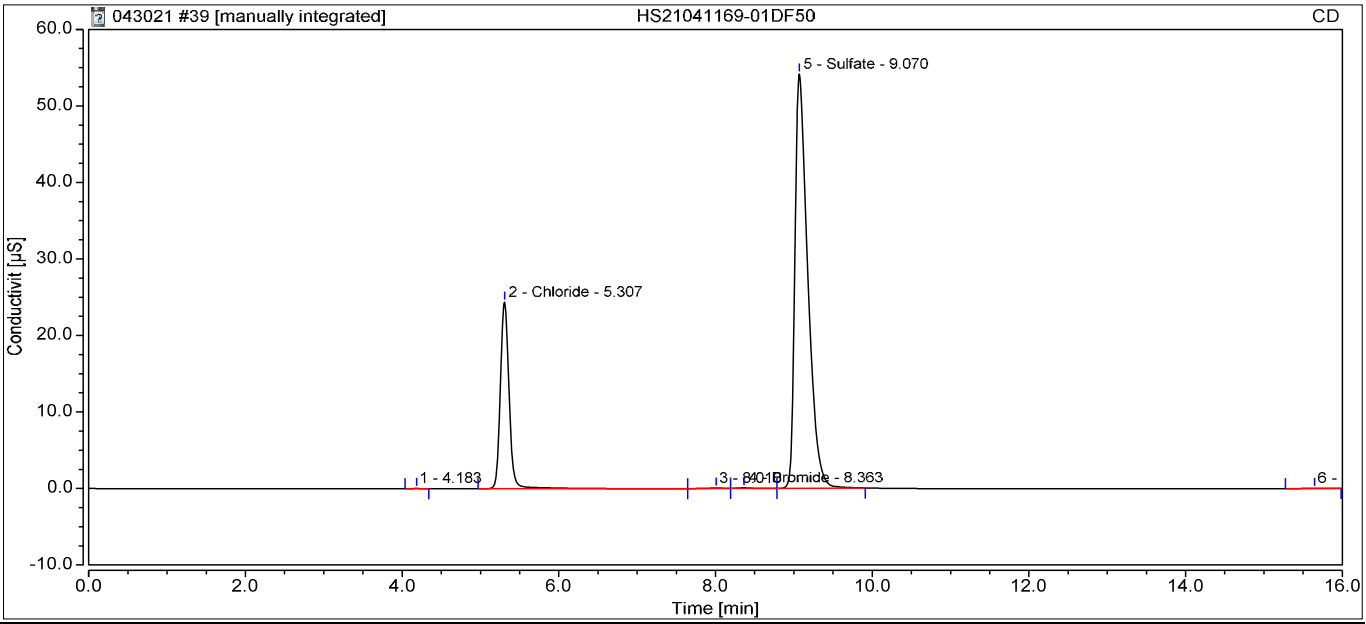
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

39 HS21041169-01DF50

Sample Name:	**HS21041169-01DF50**	*Injection Volume:*	**5.00**
Vial Number:	**RB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**04/30/2021 21:32**	*Sample Weight:*	**1.0000**

Run Time:



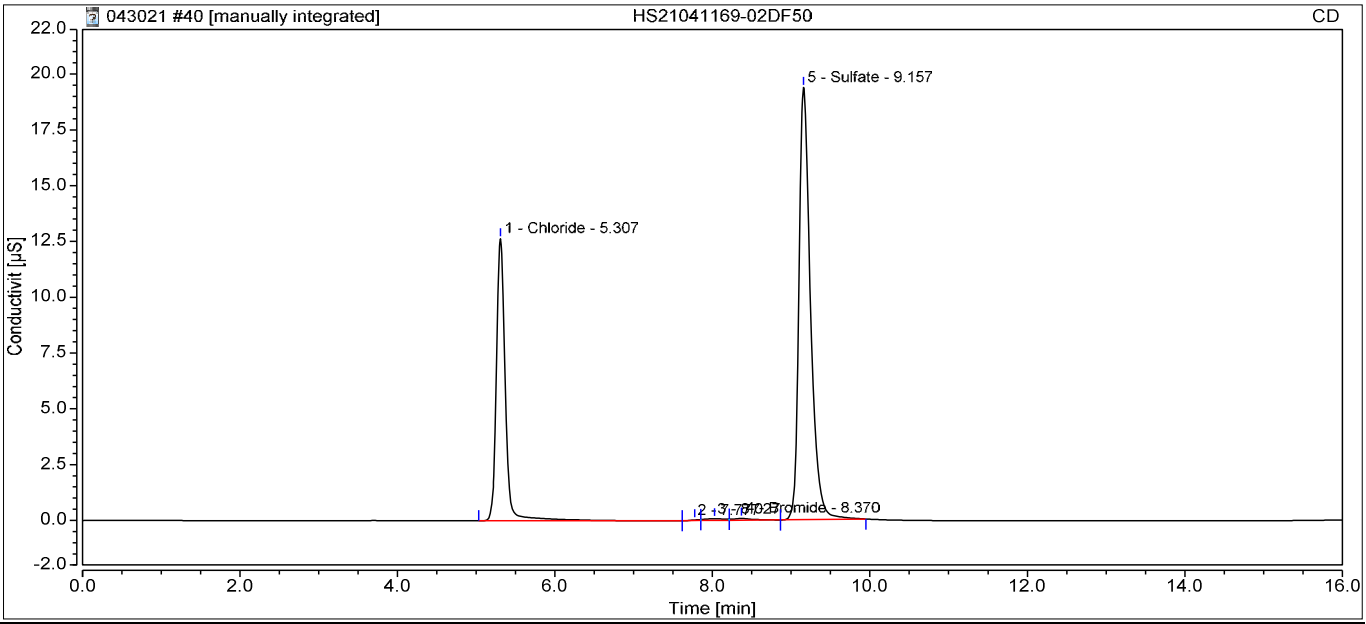
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	50.0000
2	5.31	Chloride	BMb*	3.136	14.9913	749.5656	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
4	8.36	Bromide	M *	0.014	0.1296	6.4801	50.0000
5	9.07	Sulfate	MB*	10.338	68.3091	3415.4526	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**13.487**		**4171.50**	

40 HS21041169-02DF50

Sample Name:	**HS21041169-02DF50**	*Injection Volume:*	**5.00**
Vial Number:	**RB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**04/30/2021 21:52**	*Sample Weight:*	**1.0000**

Run Time:



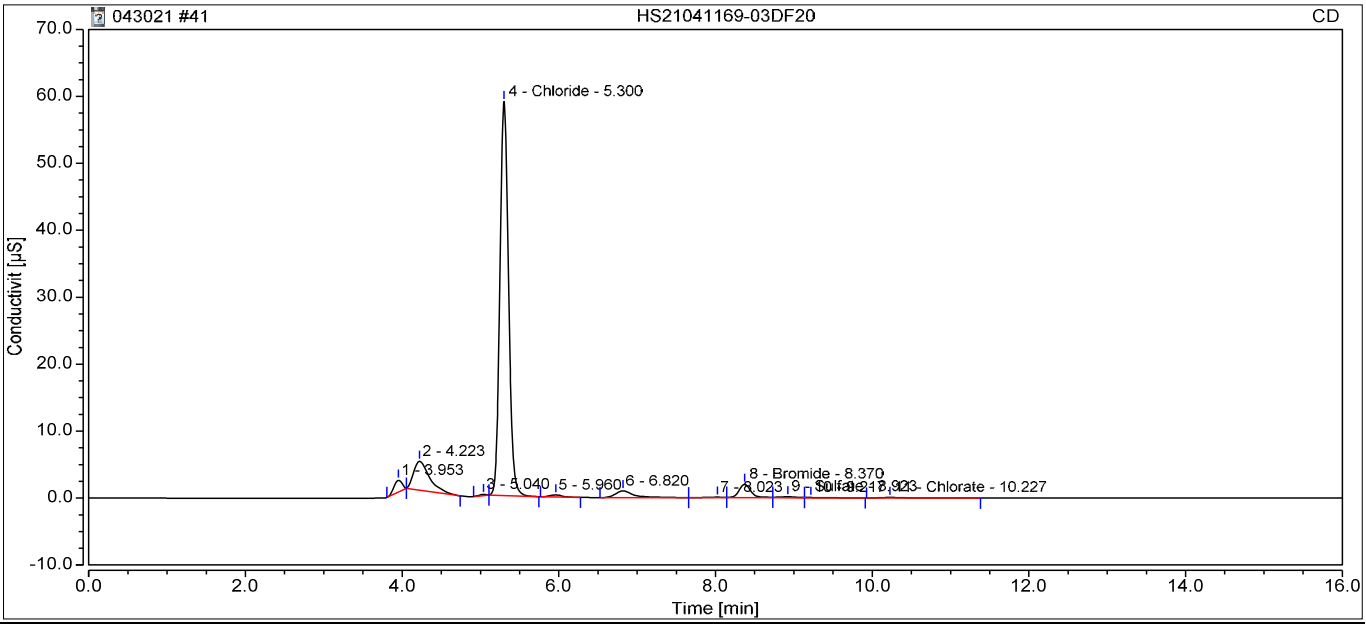
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	50.0000
1	5.31	Chloride	BMb*	1.638	7.8198	390.9876	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
4	8.37	Bromide	M *	0.021	0.2221	11.1055	50.0000
5	9.16	Sulfate	MB*	3.298	21.8574	1092.8708	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**4.958**		**1494.96**	

41 HS21041169-03DF20

Sample Name:	**HS21041169-03DF20**	*Injection Volume:*	**5.00**
Vial Number:	**RB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**04/30/2021 22:11**	*Sample Weight:*	**1.0000**

Run Time:



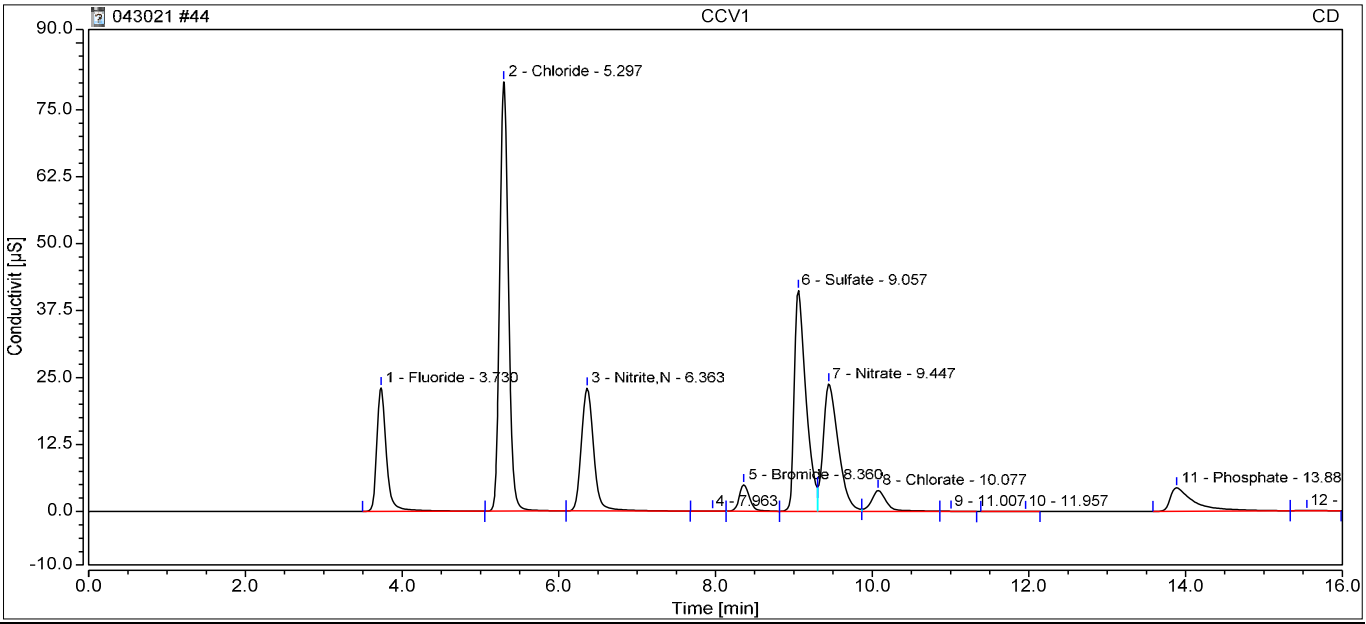
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	20.0000
4	5.30	Chloride	BMB	7.481	35.8046	716.0916	20.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	20.0000
8	8.37	Bromide	M	0.361	4.4065	88.1291	20.0000
9	8.92	Sulfate	M	0.047	0.4064	8.1278	20.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	20.0000
11	10.23	Chlorate	BMB	0.031	0.2510	5.0201	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**7.920**		**817.37**	

44 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 23:10**	*Sample Weight:*	**1.0000**

Run Time:



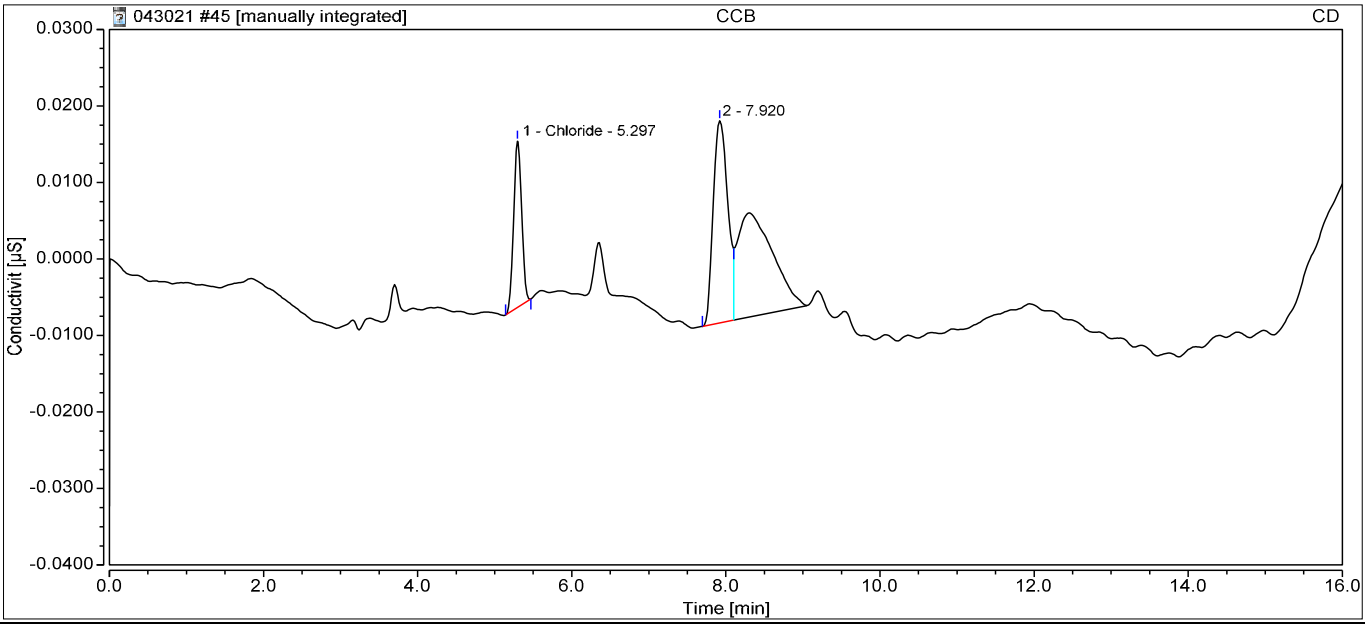
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.271	10.1227	10.1227	1.0000
2	5.30	Chloride	BMB	10.295	49.2881	49.2881	1.0000
3	6.36	Nitrite,N	BMB	4.198	10.4155	10.4155	1.0000
5	8.36	Bromide	MB	0.752	9.2330	9.2330	1.0000
6	9.06	Sulfate	BM	7.208	47.6596	47.6596	1.0000
7	9.45	Nitrate	M	5.339	9.9014	9.9014	1.0000
8	10.08	Chlorate	M	0.887	9.3007	9.3007	1.0000
11	13.88	Phosphate	BMB	1.560	8.0321	8.0321	1.0000
Total:			**0.000**	**33.511**		**153.95**	

45 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 23:48**	*Sample Weight:*	**1.0000**

Run Time:



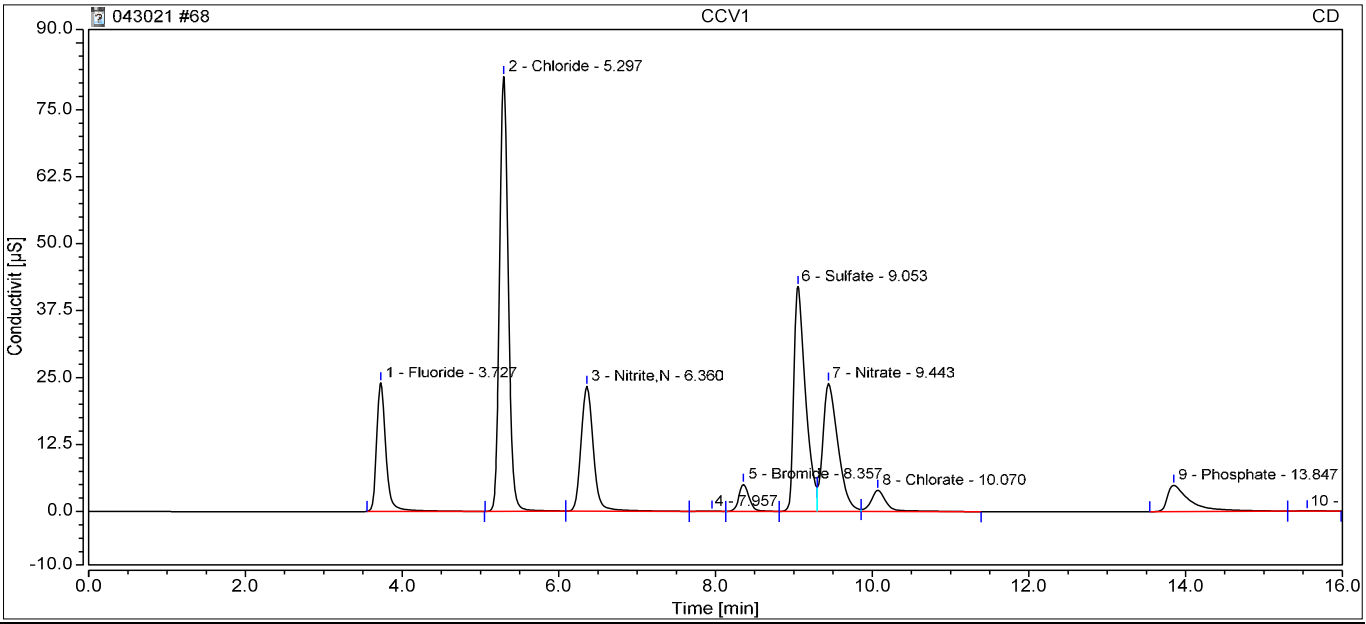
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

68 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 07:27**	*Sample Weight:*	**1.0000**

Run Time:



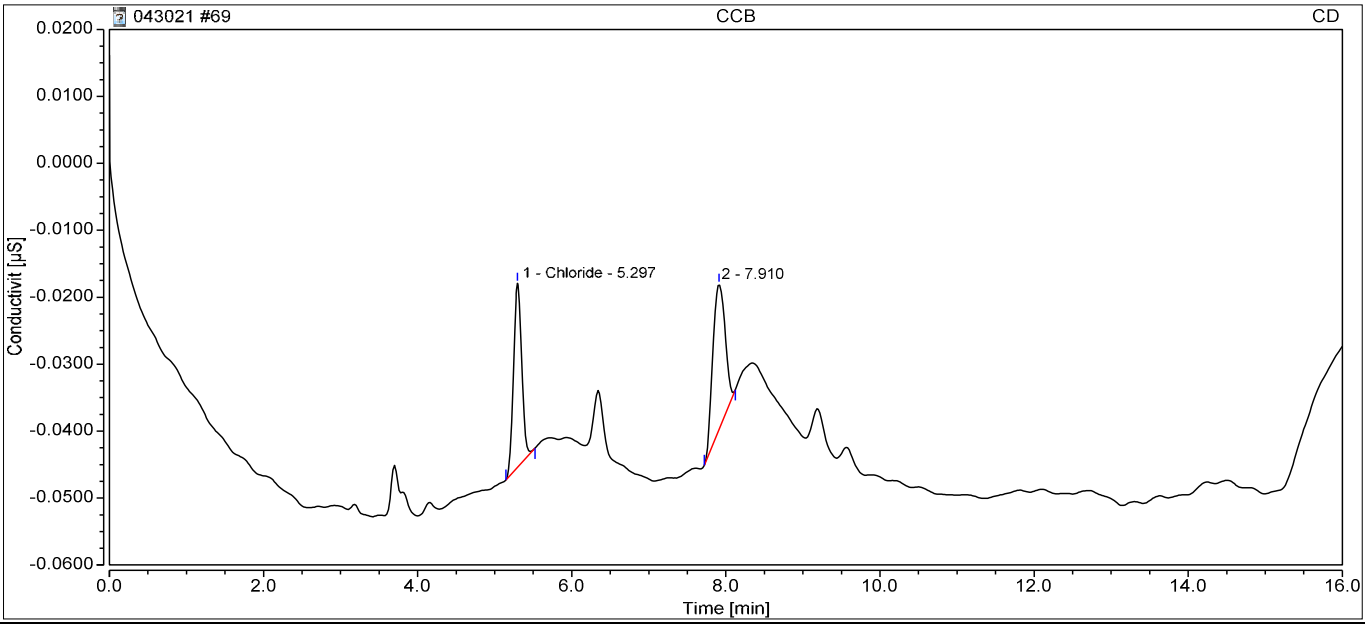
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.277	10.1390	10.1390	1.0000
2	5.30	Chloride	BMB	10.424	49.9025	49.9025	1.0000
3	6.36	Nitrite,N	BMB	4.235	10.5071	10.5071	1.0000
5	8.36	Bromide	MB	0.768	9.4294	9.4294	1.0000
6	9.05	Sulfate	BM	7.330	48.4626	48.4626	1.0000
7	9.44	Nitrate	M	5.383	9.9830	9.9830	1.0000
8	10.07	Chlorate	MB	0.921	9.6659	9.6659	1.0000
9	13.85	Phosphate	BMB	1.639	8.4236	8.4236	1.0000
Total:			**0.000**	**33.976**		**156.51**	

69 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 07:46**	*Sample Weight:*	**1.0000**

Run Time:



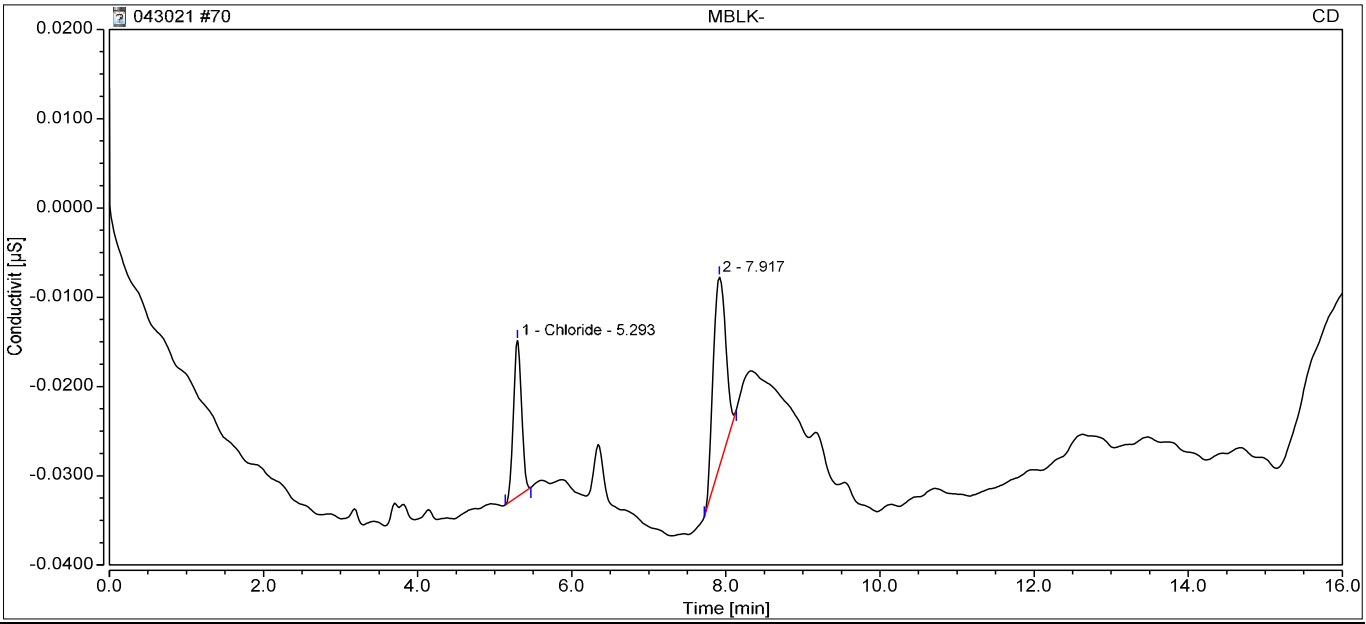
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

70 MBLK-

Sample Name:	**MBLK-**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 08:23**	*Sample Weight:*	**1.0000**

Run Time:

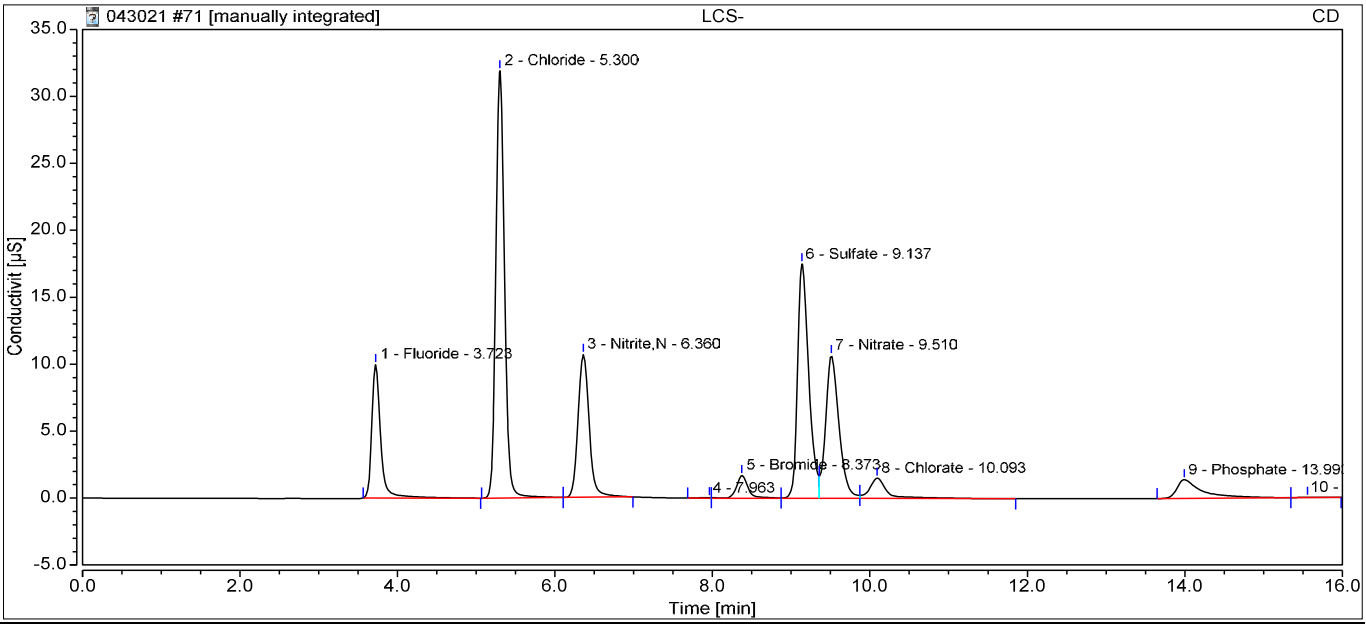


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.29	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

71 LCS-			
Sample Name:	**LCS-**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 08:41**	*Sample Weight:*	**1.0000**

Run Time:



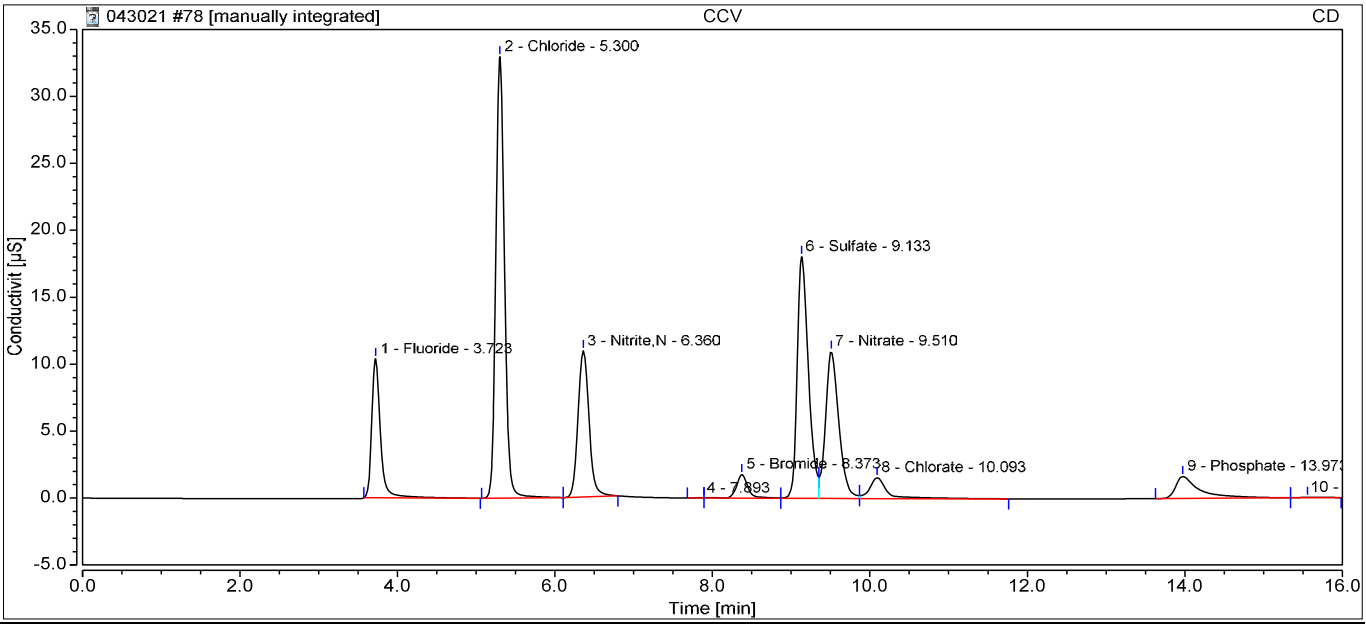
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	1.309	4.0428	4.0428	1.0000
2	5.30	Chloride	BMb*	4.048	19.3627	19.3627	1.0000
3	6.36	Nitrite,N	bMB*	1.749	4.3154	4.3154	1.0000
5	8.37	Bromide	M *	0.289	3.5282	3.5282	1.0000
6	9.14	Sulfate	M *	2.884	19.1235	19.1235	1.0000
7	9.51	Nitrate	M *	2.100	3.8953	3.8953	1.0000
8	10.09	Chlorate	MB*	0.403	4.1856	4.1856	1.0000
9	13.99	Phosphate	BMB	0.520	2.8487	2.8487	1.0000
Total:			**0.000**	**13.302**		**61.30**	

78 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 10:51**	*Sample Weight:*	**1.0000**

Run Time:



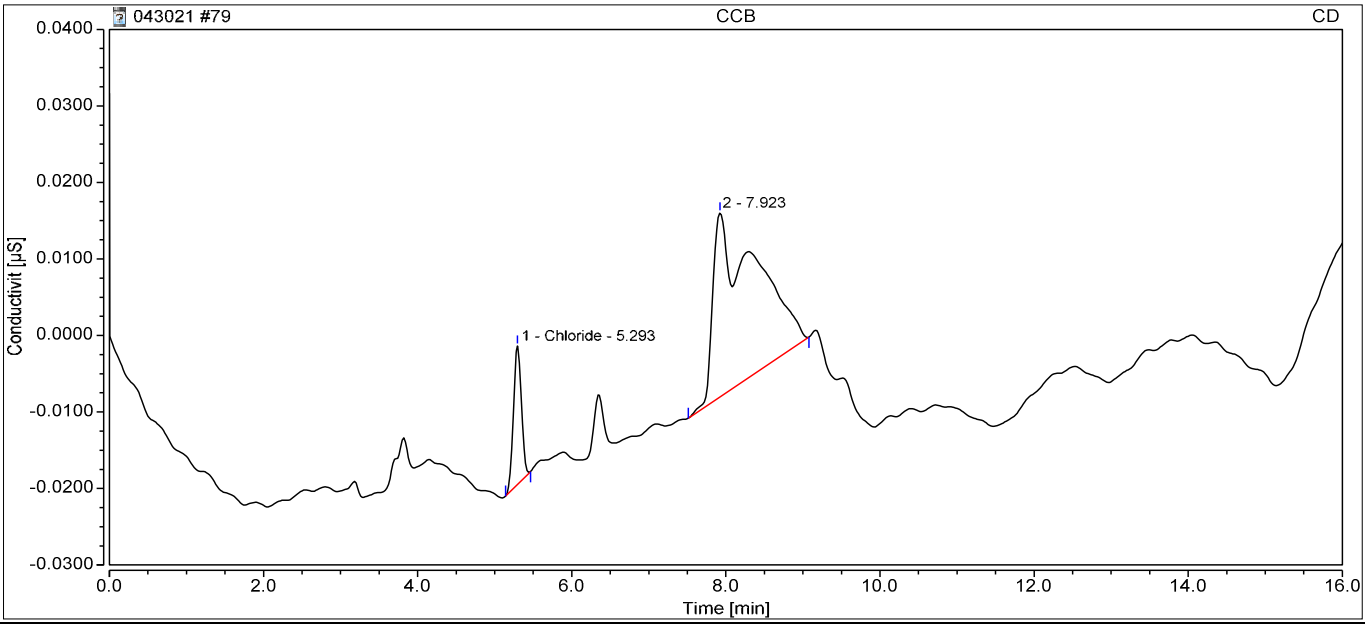
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	1.336	4.1284	4.1284	1.0000
2	5.30	Chloride	BMb*	4.184	20.0144	20.0144	1.0000
3	6.36	Nitrite,N	bMB*	1.765	4.3542	4.3542	1.0000
5	8.37	Bromide	M *	0.300	3.6607	3.6607	1.0000
6	9.13	Sulfate	M	2.969	19.6828	19.6828	1.0000
7	9.51	Nitrate	M	2.154	3.9960	3.9960	1.0000
8	10.09	Chlorate	MB	0.404	4.1946	4.1946	1.0000
9	13.97	Phosphate	BMB	0.589	3.1913	3.1913	1.0000
Total:			**0.000**	**13.700**		**63.22**	

79 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 11:28**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.29	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

HS21041169 - Sub Perch Data IV (E2100464)

ALS WO# HS21041169

May 05, 2021 Service Request No:E2100464

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

Laboratory Results for: HS21041169

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 22, 2021
For your reference, these analyses have been assigned our service request number **E2100464.**

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.:**	E2100464
Project:	HS21041169	**Date Received:**	04/22/21
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

Six samples were received for analysis at ALS Environmental in Houston on 04/22/21.

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:

EQ2100262: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The MS/MSD was performed on an unrelated sample. The LCS/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:**E2100464
Project: HS21041169

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100464-001	16EW01-210421	4/21/2021	0715
E2100464-002	16EW03-210421	4/21/2021	0800
E2100464-003	16IW10-210421	4/21/2021	0850
E2100464-004	16RW11-210421	4/21/2021	0945
E2100464-005	16RW11-210421-FD	4/21/2021	0945
E2100464-006	16IW20-210421	4/21/2021	1055

Service Request Summary

Folder #: **E2100464**
Client Name: ALS Environmental - US
Project Name: HS21041169
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: 04/22/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041169
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100464-001	16EW01-210421	Ground Water	04/21/21 0715	**IV**
E2100464-002	16EW03-210421	Ground Water	04/21/21 0800	**IV**
E2100464-003	16IW10-210421	Ground Water	04/21/21 0850	**IV**
E2100464-004	16RW11-210421	Ground Water	04/21/21 0945	**IV**
E2100464-005	16RW11-210421-FD	Ground Water	04/21/21 0945	**IV**
E2100464-006	16IW20-210421	Ground Water	04/21/21 1055	**IV**

Service Request Summary

Folder #: **E2100464**
Client Name: ALS Environmental - US
Project Name: HS21041169
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: 04/22/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041169
EDD: No EDD Specified

6 125 mL-Plastic Bottle Plastic
Location: EHRMS-AirArch 1
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 5/6,IV due 5/13
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD

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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
United States Department of Agriculture	P330-19-00299	10/10/2022

Chain of Custody

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Phone (713)266-1599 Fax (713)266-0130
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10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 15972**

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:	HS21041169
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041169-01**	**16EW01-210421**	**Groundwater**	**21 Apr 2021 07:15**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
2.	**HS21041169-02**	**16EW03-210421**	**Groundwater**	**21 Apr 2021 08:00**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
3.	**HS21041169-03**	**16IW10-210421**	**Groundwater**	**21 Apr 2021 08:50**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
4.	**HS21041169-04**	**16RW11-210421**	**Groundwater**	**21 Apr 2021 09:45**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
5.	**HS21041169-05**	**16RW11-210421-FD**	**Groundwater**	**21 Apr 2021 09:45**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
6.	**HS21041169-06**	**16IW20-210421**	**Groundwater**	**21 Apr 2021 10:55**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021

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

QC Level: DOD IV (DoD Data Package)

WORLDWIDE LOGISTICS SUBJECT TO TERMS

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **15972**

Relinquished By: J. Johnson

Date/Time:

Received By:

Date/Time: 4/22/21 1498

Cooler ID(s):

Temperature(s):

Cooler Receipt Form

ALS Environmental

Project Chemist CA

Client/Project ALS-HI

Thermometer ID IR31

Date/Time Received: 4/22/21 Initials: CA

Date/Time Logged in: 4/22/21 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ◉ ALS Courier ○ Client

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

3. Were custody seals on coolers? ○ Yes ◉ No

Were they intact? ○ Yes ○ No ◉ N/A

Were they signed and dated? ○ Yes ○ No ◉ N/A

If yes, how many and where?

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

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
NA		4/22/21	1448	CA	4.5	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◉ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◉ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◉ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ◉ Yes ○ No

10. Did sample labels and tags agree with custody documents? ◉ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

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10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
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SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100460-001	16EW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100460-002	16EW04-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100460-003	16EW08-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100460-004	16WW13-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100460-005	16WW42-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100460-006	16RW05-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100460-007	16RW06-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100460-008	16RW07-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100461-001	16SW01-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100461-002	16SW01-210419-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100461-003	16SW02-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100461-004	16SW03-210419	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100464-001	16EW01-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100464-002	16EW03-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100464-003	16IW10-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100464-004	16RW11-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2100464-005	16RW11-210421-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2100464-006	16IW20-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
19	EQ2100262-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100262-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2100262-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2100262-04	16SW02-210419 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2100262-05	16SW02-210419 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100262-02	1.00µL	EQ2100262-03	1.00µL	EQ2100262-04	1.00µL	EQ2100262-05	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100460-001	100.00µL	E2100460-002	100.00µL	E2100460-003	100.00µL	E2100460-004	100.00µL	E2100460-005	100.00µL	E2100460-006	100.00µL
E2100460-007	100.00µL	E2100460-008	100.00µL	E2100461-001	100.00µL	E2100461-002	100.00µL	E2100461-003	100.00µL	E2100461-004	100.00µL
E2100464-001	100.00µL	E2100464-002	100.00µL	E2100464-003	100.00µL	E2100464-004	100.00µL	E2100464-005	100.00µL	E2100464-006	100.00µL
EQ2100262-01	100.00µL	EQ2100262-02	100.00µL	EQ2100262-03	100.00µL	EQ2100262-04	100.00µL	EQ2100262-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 378426 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:02

Preparation Steps

Step: Preparation
Started: 4/30/21 12:02
Finished: 4/30/21 14:00
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0715
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16EW01-210421	**Units:**	µg/L
Lab Code:	E2100464-001	**Basis:**	As Received

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	**41.9**		0.200	0.100	0.0500	2	4/30/21	5/1/21 15:25	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0800
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16EW03-210421	**Units:**	µg/L
Lab Code:	E2100464-002	**Basis:**	As Received

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	4/30/21	4/30/21 22:07	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0850
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16IW10-210421	**Units:**	µg/L
Lab Code:	E2100464-003	**Basis:**	As Received

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	0.200	0.100	0.0500	2	4/30/21	5/1/21 15:35	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0945
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16RW11-210421	**Units:**	µg/L
Lab Code:	E2100464-004	**Basis:**	As Received

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	**0.0617**	J	0.200	0.100	0.0500	2	4/30/21	5/1/21 15:53	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 0945
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16RW11-210421-FD	**Units:**	µg/L
Lab Code:	E2100464-005	**Basis:**	As Received

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	0.200	0.100	0.0500	2	4/30/21	5/1/21 16:03	378426	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	4/21/21 1055
Sample Matrix:	Ground Water	**Date Received:**	4/22/21
Sample Name:	16IW20-210421	**Units:**	µg/L
Lab Code:	E2100464-006	**Basis:**	As Received

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	4/30/21	4/30/21 22:53	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100262-01	**Basis:**	As Received

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	4/30/21	4/30/21 19:08	378426	722218	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Analyzed:**	4/30/21
Sample Matrix:	Ground Water		

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	As Received
		Extraction Lot:	378426

	Lab Control Sample EQ2100262-02			Duplicate Lab Control Sample EQ2100262-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0976	0.100	98	0.0984	0.100	98	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:**	E2100464
Project:	HS21041169	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-02	**Basis:**	As Received

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	**0.0976**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:18	378426	722218	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100262-03	**Basis:**	As Received

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	**0.0984**	J	0.100	0.0500	0.0250	1	4/30/21	4/30/21 19:27	378426	722218	

Initial Calibration

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20210428

ALS Environmental

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20210428_044	Perchlorate6850b.lcm	1x	☒	3100808-05	4/28/2021 18:16
2	PERCHLORATE2		20210428_045	Perchlorate6850b.lcm	1x	☒	3100808-06	4/28/2021 18:25
3	PERCHLORATE3		20210428_046	Perchlorate6850b.lcm	1x	☒	3100808-07	4/28/2021 18:34
4	PERCHLORATE4		20210428_047	Perchlorate6850b.lcm	1x	☒	3100808-08	4/28/2021 18:44
5	PERCHLORATE5		20210428_048	Perchlorate6850b.lcm	1x	☒	3100808-09	4/28/2021 18:53
6	PERCHLORATE6		20210428_049	Perchlorate6850b.lcm	1x	☒	3100809-01	4/28/2021 19:03
7	PERCHLORATE7		20210428_050	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 19:12
8	PERCHLORATE8		20210428_051	Perchlorate6850b.lcm	1x	☒	3100809-03	4/28/2021 19:22
9	PERCHLORATE9		20210428_052	Perchlorate6850b.lcm	1x	☒	3100809-04	4/28/2021 19:31
10	PERCHLORATEICV		20210428_054	Perchlorate6850b.lcm	1x	☒	3100809-06	4/28/2021 19:50
11	ICS		20210428_055	Perchlorate6850b.lcm	1x	☒		4/28/2021 19:59
12	LODV		20210428_056	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:08
13	PERCHLORATE7		20210428_057	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 20:18
14	EQ2100244-01		20210428_058	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:27
15	EQ2100244-02		20210428_059	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:37
16	EQ2100244-03		20210428_060	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:46
17	E2100412-016X10		20210428_061	Perchlorate6850b.lcm	10X	☒		4/28/2021 20:55
18	E2100412-017X10		20210428_062	Perchlorate6850b.lcm	10X	☒		4/28/2021 21:05
19	E2100412-011X10DNU		20210428_063	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:14
20	E2100412-012X10DNU		20210428_064	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:24
21	E2100412-013X10DNU		20210428_065	Perchlorate6850b.lcm	10X	☒	Over ICAL: Run 50X	4/28/2021 21:33
22	E2100412-014X10DNU		20210428_066	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:42
23	E2100412-015X10DNU		20210428_067	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:52
24	PERCHLORATE7		20210428_068	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:01
25	E2100411-001		20210428_069	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:10
26	E2100412-003X10		20210428_070	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:20
27	E2100412-010X10		20210428_071	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:29
28	R2103214-010		20210428_072	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:38
29	PERCHLORATE7		20210428_073	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:48
30	E2100485-002X10		20210428_074	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:57
31	E2100485-003X10		20210428_075	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:07
32	E2100485-007X10		20210428_076	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:16
33	E2100485-010X10		20210428_077	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:25
34	EQ2100244-04X10DNU		20210428_078	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:35
35	EQ2100244-05X10DNU		20210428_079	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:44
36	PERCHLORATE7		20210428_080	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 23:54
37	E2100485-001		20210428_081	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:03
38	E2100485-004		20210428_082	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:12
39	E2100485-005		20210428_083	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:22
40	E2100485-006DNU		20210428_084	Perchlorate6850b.lcm	1x	☒	DNU: INST failed	4/29/2021 0:31
41	PERCHLORATE7		20210428_085	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 0:40
42	E2100485-008		20210428_086	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:50
43	E2100485-009		20210428_087	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:59
44	E2100485-011		20210428_088	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:09
45	E2100485-012DNU		20210428_089	Perchlorate6850b.lcm	1x	☒	DNU-low INST	4/29/2021 1:18
46	E2100485-013		20210428_090	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:27
47	EQ2100244-04		20210428_091	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:37
48	EQ2100244-05		20210428_092	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:46
49	PERCHLORATE7		20210428_093	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 1:56
50								
51								

Initial Calibration - Detailed Report

Calibration ID: EC2100026 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2100026-01	PERCHLORATE1	20210428_044	04/28/2021 18:16
02	EC2100026-02	PERCHLORATE2	20210428_045	04/28/2021 18:25
03	EC2100026-03	PERCHLORATE3	20210428_046	04/28/2021 18:34
04	EC2100026-04	PERCHLORATE4	20210428_047	04/28/2021 18:44
05	EC2100026-05	PERCHLORATE5	20210428_048	04/28/2021 18:53
06	EC2100026-06	PERCHLORATE6	20210428_049	04/28/2021 19:03
07	EC2100026-07	PERCHLORATE7	20210428_050	04/28/2021 19:12
08	EC2100026-08	PERCHLORATE8	20210428_051	04/28/2021 19:22
10	EC2100026-10	PERCHLORATE9	20210428_052	04/28/2021 19:31

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

Perchlorate **Average RF** **RSD = 13.94** **Average RF = 0.1168**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1516	02	0.5000	0.1269	03	0.7000	0.1246	04	1.0000	0.1032
05	2.0000	0.1172	06	5.0000	0.1124	07	10.0000	0.1144	08	20.0000	0.09843
10	30.0000	0.1026									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.130	29.8	02	0.5000	0.543	8.6	03	0.7000	0.746	6.6
04	1.0000	0.883	-11.7	05	2.0000	2.01	0.3	06	5.0000	4.81	-3.8
07	10.0000	9.79	-2.1	08	20.0000	16.9	-15.7	10	30.0000	26.4	-12.1

Initial Calibration Verification Summary Report

Calibration ID:	EC2100026	**Instrument ID:**	E-LCMS-01
Datafile ID:	20210428_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2100026-09	T	Average RF	10	9.455	ng/mL	-5.4	<= 15

Insight Report

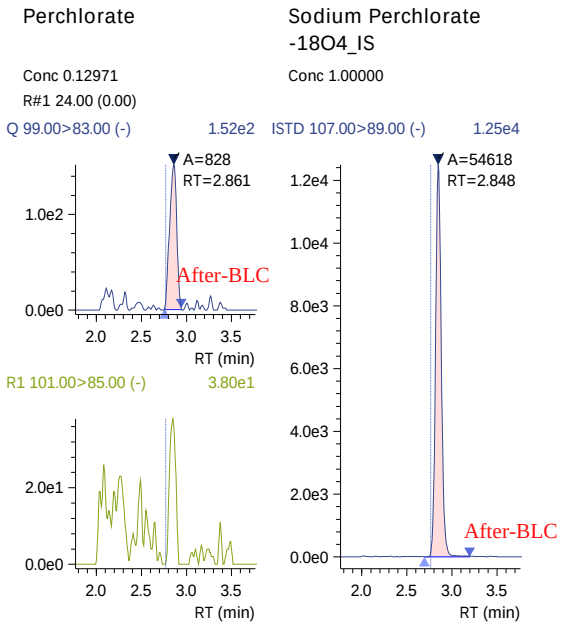
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Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.861	828	54618	1	0.12971	ng/mL	0.1000	24.00
Sodium Perchlorate-18O4 _IS	M	2.848	54618	54618	1	1.00000	ng/mL	1.0000	----



Insight Report

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Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

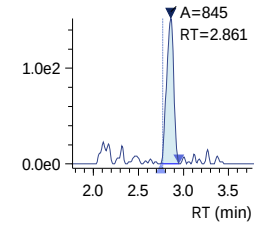
20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

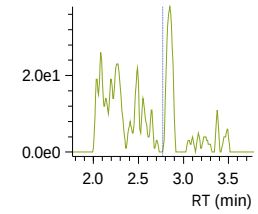
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)

Q 99.00>83.00 (-) 1.52e2



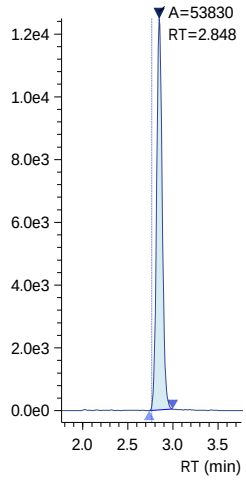
R1 101.00>85.00 (-) 3.80e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



Insight Report

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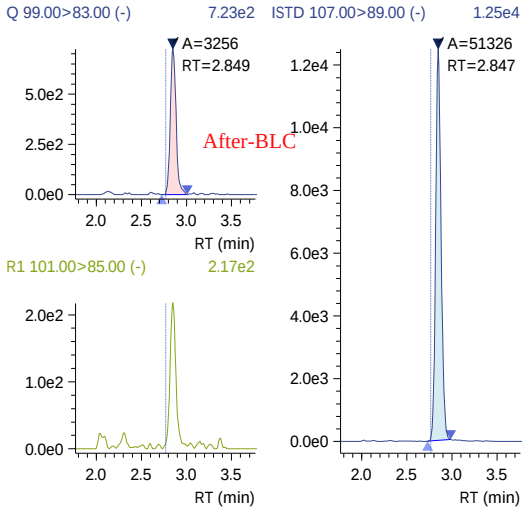
20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	3256	51326	1	0.54312	ng/mL	0.5000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.847	51326	51326	1	1.00000	ng/mL	1.0000	----

Perchlorate

Conc 0.54312
R#1 30.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

After-BLC

Insight Report

Printed at 4/29/2021 1:28:28 PM

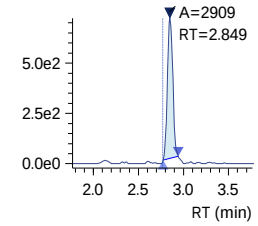
20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

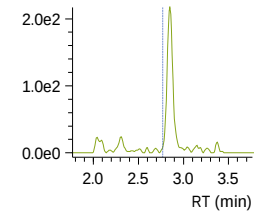
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



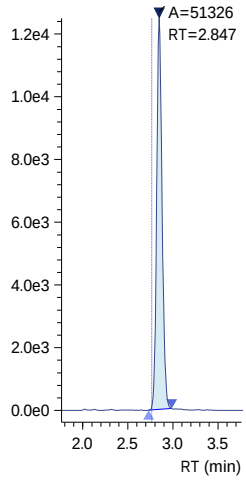
R1 101.00>85.00 (-) 2.17e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



Insight Report

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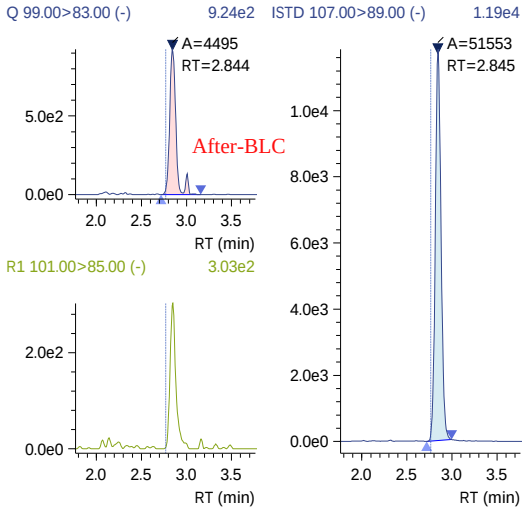
20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.844	4495	51553	1	0.74640	ng/mL	0.7000	31.37
Sodium Perchlorate-18O4 _IS	Auto	2.845	51553	51553	1	1.00000	ng/mL	1.0000	----

Perchlorate

Conc 0.74640
R#1 31.37 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

Printed at 4/29/2021 1:28:28 PM

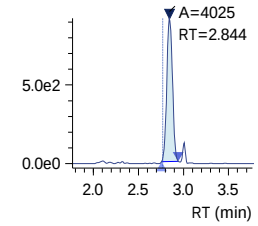
20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

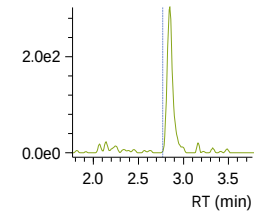
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



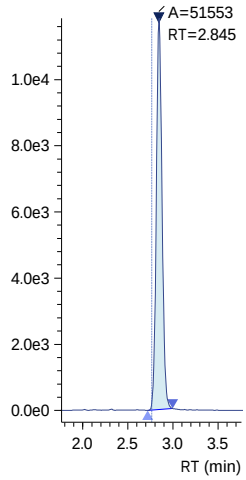
R1 101.00>85.00 (-) 3.03e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



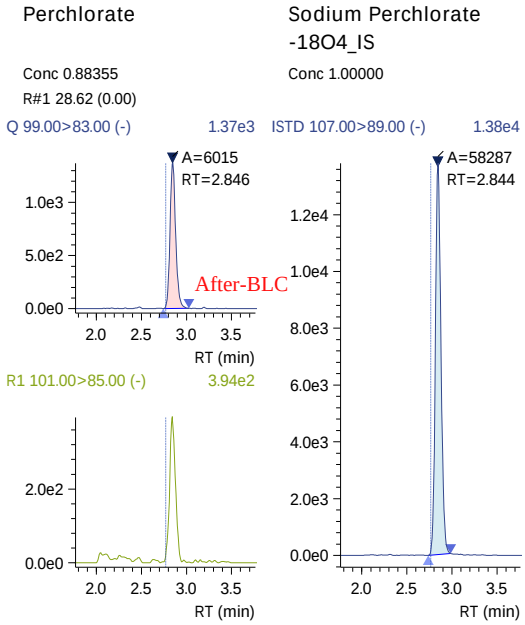
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.846	6015	58287	1	0.88355	ng/mL	1.0000	28.62
Sodium Perchlorate-18O4 _IS	Auto	2.844	58287	58287	1	1.00000	ng/mL	1.0000	----



Insight Report

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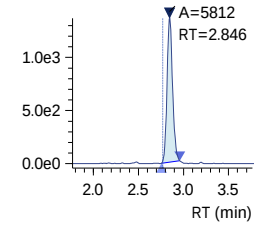
20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

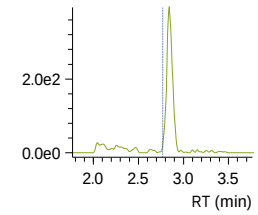
Perchlorate

Conc 0.86245
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.37e3



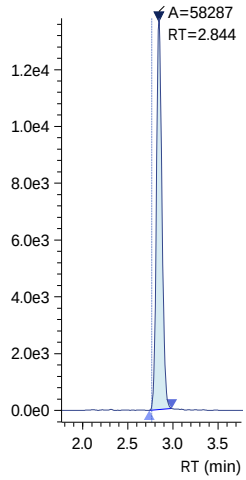
R1 101.00>85.00 (-) 3.94e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



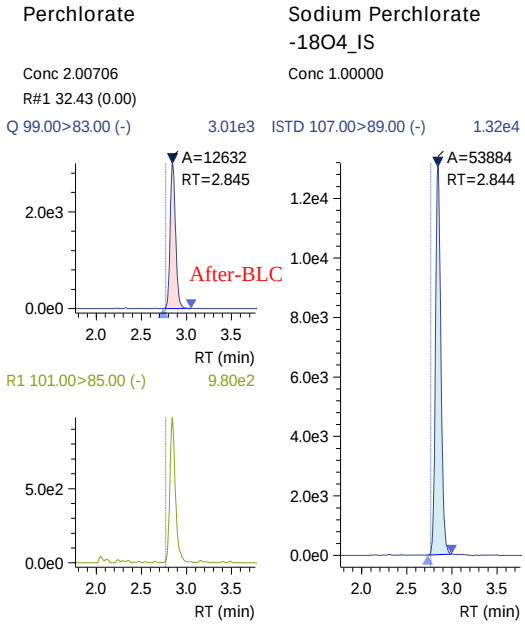
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	12632	53884	1	2.00706	ng/mL	2.0000	32.43
Sodium Perchlorate-18O4 _IS	Auto	2.844	53884	53884	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

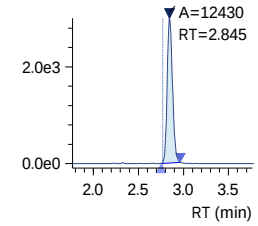
20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

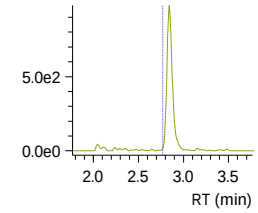
Perchlorate

Conc 1.99532
R#1 32.28 (0.00)

Q 99.00>83.00 (-) 3.01e3



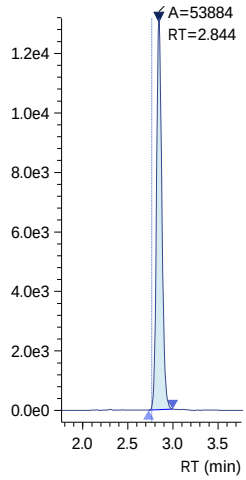
R1 101.00>85.00 (-) 9.80e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.32e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

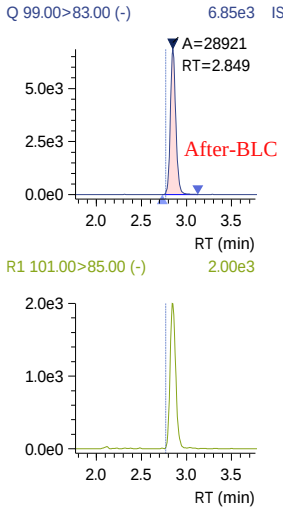
20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	28921	51456	1	4.81188	ng/mL	5.0000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.846	51456	51456	1	1.00000	ng/mL	1.0000	----

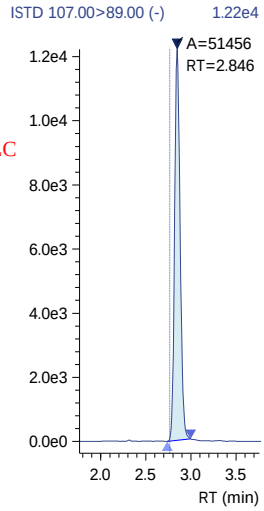
Perchlorate

Conc 4.81188
R#1 30.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

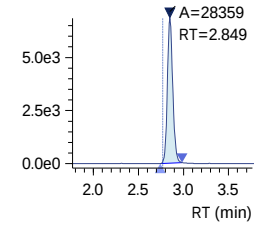
20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

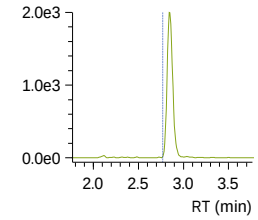
Perchlorate

Conc 4.76710
R#1 30.13 (0.00)

Q 99.00>83.00 (-) 6.85e3



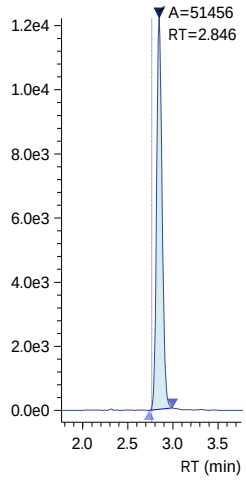
R1 101.00>85.00 (-) 2.00e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

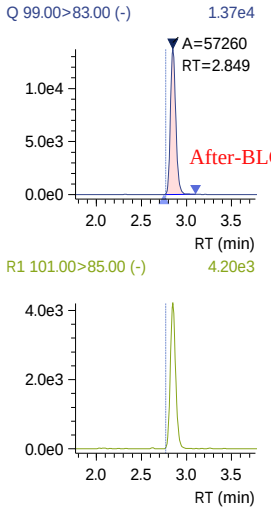
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	57260	50051	1	9.79458	ng/mL	10.0000	30.74
Sodium Perchlorate-18O4 _IS	Auto	2.848	50051	50051	1	1.00000	ng/mL	1.0000	----

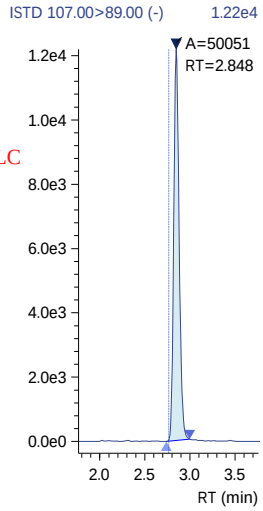
Perchlorate

Conc 9.79458
R#1 30.74 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

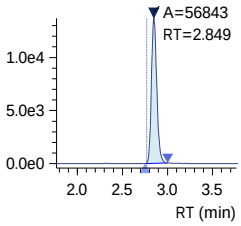
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

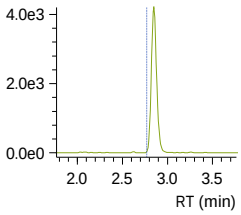
Perchlorate

Conc 9.82335
R#1 30.77 (0.00)

Q 99.00>83.00 (-) 1.37e4



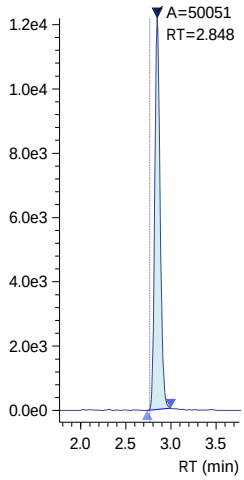
R1 101.00>85.00 (-) 4.20e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

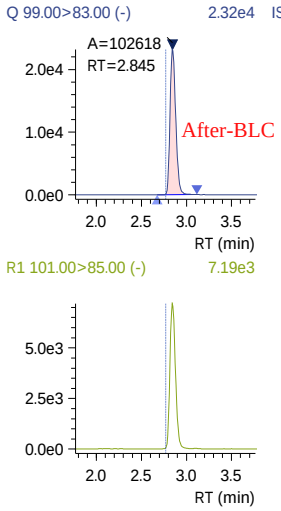
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	102618	52128	1	16.85388	ng/mL	20.0000	30.96
Sodium Perchlorate-18O4_IS	Auto	2.844	52128	52128	1	1.00000	ng/mL	1.0000	----

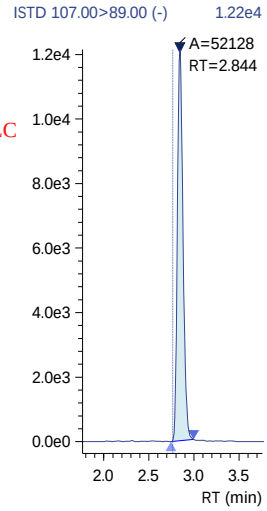
Perchlorate

Conc 16.85388
R#1 30.96 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

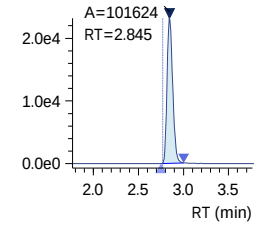
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

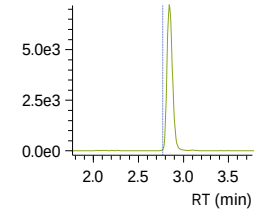
Perchlorate

Conc 16.86268
R#1 30.97 (0.00)

Q 99.00>83.00 (-) 2.32e4



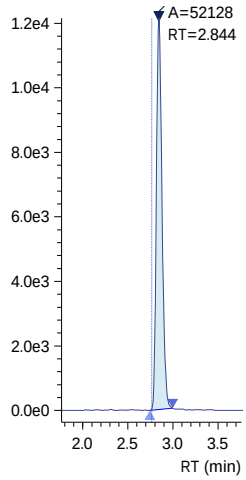
R1 101.00>85.00 (-) 7.19e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

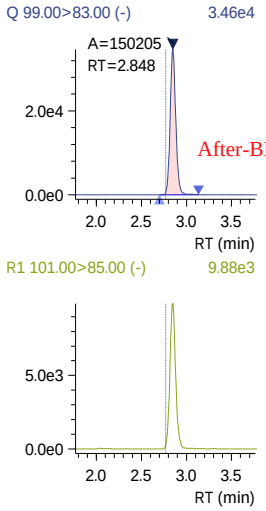
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.848	150205	48780	1	26.36258	ng/mL	30.0000	29.04
Sodium Perchlorate-18O4_IS	Auto	2.846	48780	48780	1	1.00000	ng/mL	1.0000	----

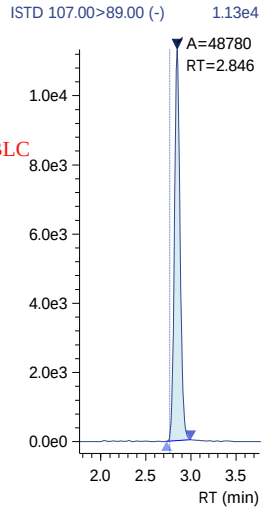
Perchlorate

Conc 26.36258
R#1 29.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

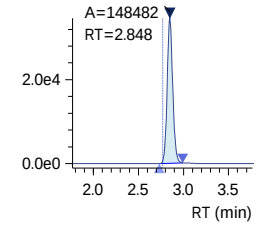
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

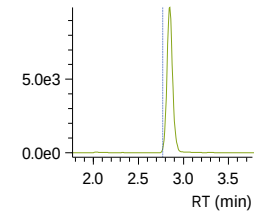
Perchlorate

Conc 26.32873
R#1 29.04 (0.00)

Q 99.00>83.00 (-) 3.46e4



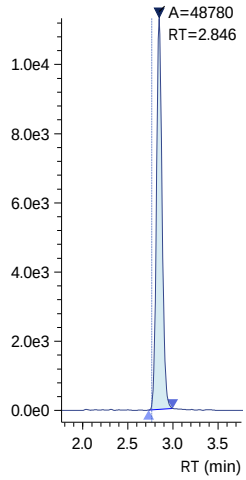
R1 101.00>85.00 (-) 9.88e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

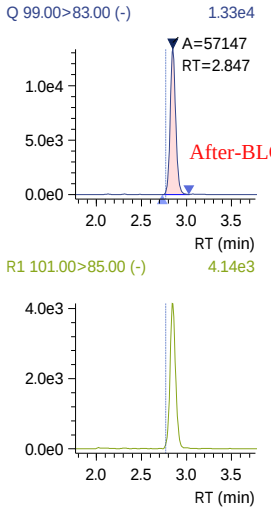
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.847	57147	51740	1	9.45615	ng/mL	10.0000	31.56
Sodium Perchlorate-18O4 _IS	Auto	2.847	51740	51740	1	1.00000	ng/mL	1.0000	----

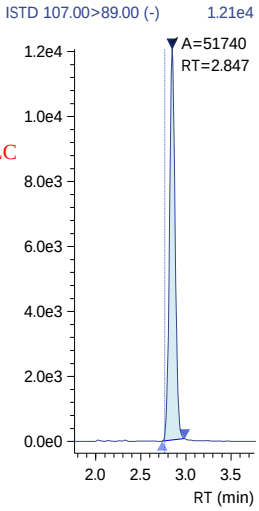
Perchlorate

Conc 9.45615
R#1 31.56 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

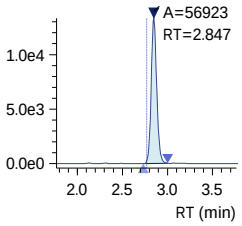
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

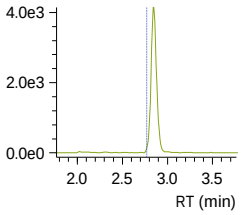
Perchlorate

Conc 9.51618
R#1 31.56 (0.00)

Q 99.00>83.00 (-) 1.33e4



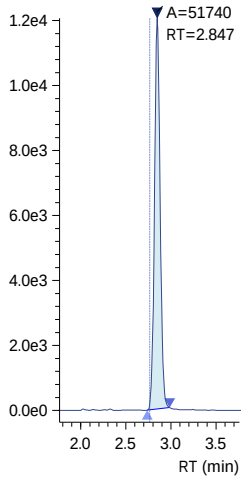
R1 101.00>85.00 (-) 4.14e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



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

20210430

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210430_001	Perchlorate6850b.lcm	1x	☒		4/30/2021 13:53
2	null		20210430_002	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:04
3	IB		20210430_003	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:11
4	IB		20210430_004	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:21
5	ICS		20210430_005	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:30
6	LODV		20210430_006	Perchlorate6850b.lcm	1x	☒		4/30/2021 14:39
7	PERCHLORATE7		20210430_007	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 14:49
8	EQ2100261-01		20210430_008	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:04
9	EQ2100261-02		20210430_009	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:13
10	EQ2100261-03		20210430_010	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:23
11	EQ2100261-04		20210430_011	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:32
12	EQ2100261-05		20210430_012	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:42
13	E2100458-001		20210430_013	Perchlorate6850b.lcm	1x	☒		4/30/2021 15:51
14	E2100459-001DNU		20210430_014	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	4/30/2021 16:00
15	E2100459-002DNU		20210430_015	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	4/30/2021 16:10
16	E2100459-003		20210430_016	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:19
17	E2100459-004		20210430_017	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:29
18	PERCHLORATE7		20210430_018	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 16:38
19	E2100459-005		20210430_019	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:47
20	E2100459-006		20210430_020	Perchlorate6850b.lcm	1x	☒		4/30/2021 16:57
21	E2100459-007DNU		20210430_021	Perchlorate6850b.lcm	1x	☒	DNU:Over Ical Range	4/30/2021 17:06
22	E2100459-008DNU		20210430_022	Perchlorate6850b.lcm	1x	☒	DNU:Over Ical Range	4/30/2021 17:16
23	E2100459-009		20210430_023	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:25
24	E2100459-010-DNU		20210430_024	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 17:34
25	E2100486-001		20210430_025	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:44
26	E2100486-002		20210430_026	Perchlorate6850b.lcm	1x	☒		4/30/2021 17:53
27	E2100486-003		20210430_027	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:02
28	PERCHLORATE7		20210430_028	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 18:12
29	E2100486-004		20210430_029	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:21
30	E2100486-005		20210430_030	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:31
31	E2100486-006		20210430_031	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:40
32	E2100486-007		20210430_032	Perchlorate6850b.lcm	1x	☒		4/30/2021 18:49
33	PERCHLORATE7		20210430_033	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 18:59
34	EQ2100262-01		20210430_034	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:08
35	EQ2100262-02		20210430_035	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:18
36	EQ2100262-03		20210430_036	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:27
37	EQ2100262-04DNU		20210430_037	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 19:36
38	EQ2100262-05DNU		20210430_038	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 19:46
39	E2100460-001		20210430_039	Perchlorate6850b.lcm	1x	☒		4/30/2021 19:55
40	E2100460-002		20210430_040	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:05
41	E2100460-003		20210430_041	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:14
42	E2100460-004		20210430_042	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:23
43	E2100460-005		20210430_043	Perchlorate6850b.lcm	1x	☒		4/30/2021 20:33
44	PERCHLORATE7		20210430_044	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 20:42
45	E2100460-006DNU		20210430_045	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 20:52
46	E2100460-007DNU		20210430_046	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:01
47	E2100460-008		20210430_047	Perchlorate6850b.lcm	1x	☒		4/30/2021 21:10
48	E2100461-001DNU		20210430_048	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:20
49	E2100461-002DNU		20210430_049	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:29
50	E2100461-003DNU		20210430_050	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:38
51	E2100461-004DNU		20210430_051	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 21:48
52	E2100464-001DNU		20210430_052	Perchlorate6850b.lcm	1x	☒	DNU-Over Ical Range	4/30/2021 21:57
53	E2100464-002		20210430_053	Perchlorate6850b.lcm	1x	☒		4/30/2021 22:07
54	E2100464-003DNU		20210430_054	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:16
55	PERCHLORATE7		20210430_055	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 22:25
56	E2100464-004DNU		20210430_056	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:35
57	E2100464-005DNU		20210430_057	Perchlorate6850b.lcm	1x	☒	DNU-INST failed	4/30/2021 22:44
58	E2100464-006		20210430_058	Perchlorate6850b.lcm	1x	☒		4/30/2021 22:53
59	PERCHLORATE7		20210430_059	Perchlorate6850b.lcm	1x	☒	3100809-02	4/30/2021 23:03
60								

20210501

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210501_001	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:07
2	null		20210501_002	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:13
3	IB		20210501_003	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:19
4	IB		20210501_004	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:29
5	ICS		20210501_005	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:38
6	LODV		20210501_006	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:48
7	PERCHLORATE7		20210501_007	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 13:04
8	E2100459-001X5		20210501_008	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:14
9	E2100459-002X5		20210501_009	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:23
10	E2100459-007X10		20210501_010	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:32
11	E2100459-008X2		20210501_011	Perchlorate6850b.lcm	2x	☒		5/1/2021 13:42
12	E2100459-010X10		20210501_012	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:51
13	PERCHLORATE7		20210501_013	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 14:01
14	EQ2100262-04X5		20210501_014	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:10
15	EQ2100262-05X5		20210501_015	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:19
16	E2100460-006X2		20210501_016	Perchlorate6850b.lcm	2x	☒		5/1/2021 14:29
17	E2100460-007X2DNU		20210501_017	Perchlorate6850b.lcm	2x	☒	DNU:INST failed	5/1/2021 14:38
18	E2100461-001X5		20210501_018	Perchlorate6850b.lcm	5x	☒	3100809-02	5/1/2021 14:48
19	E2100461-002X5		20210501_019	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:57
20	E2100461-003X5		20210501_020	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:06
21	E2100461-004X5		20210501_021	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:16
22	E2100464-001X2		20210501_022	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:25
23	E2100464-003X2		20210501_023	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:35
24	PERCHLORATE7		20210501_024	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 15:44
25	E2100464-004X2		20210501_025	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:53
26	E2100464-005X2		20210501_026	Perchlorate6850b.lcm	2x	☒		5/1/2021 16:03
27	PERCHLORATE7		20210501_027	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 16:12
28	EQ2100263-01		20210501_028	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:22
29	EQ2100263-02		20210501_029	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:31
30	EQ2100263-03		20210501_030	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:40
31	E2100469-001		20210501_031	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:50
32	E2100469-002DNU		20210501_032	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 16:59
33	E2100469-003		20210501_033	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:09
34	E2100469-004		20210501_034	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:18
35	E2100469-005		20210501_035	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:27
36	E2100469-006		20210501_036	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:37
37	E2100469-007DNU		20210501_037	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 17:46
38	PERCHLORATE7		20210501_038	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:56
39	E2100470-001DNU		20210501_039	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 18:05
40	E2100470-002DNU		20210501_040	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 18:14
41	E2100492-001-DNU		20210501_041	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:24
42	E2100492-002-DNU		20210501_042	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:33
43	E2100492-003-DNU		20210501_043	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:43
44	E2100492-004-DNU		20210501_044	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:52
45	E2100492-005-DNU		20210501_045	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:01
46	E2100492-006-DNU		20210501_046	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:11
47	E2100493-001-DNU		20210501_047	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:20
48	PERCHLORATE7		20210501_048	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 19:30
49								

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 4/30/21

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\20210430\20210430_033

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.83	0.1168	0.1149	-1.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 4/30/21

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\20210430\20210430_044

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.71	0.1168	0.1135	-2.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 4/30/21

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\20210430\20210430_055

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.0	0.1168	0.1173	0.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 4/30/21

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\20210430\20210430_059

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722218
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.83	0.1168	0.1148	-1.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 5/ 1/21

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\20210501\20210501_007

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.87	0.1168	0.1153	-1.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 5/ 1/21

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\20210501\20210501_013

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.23	0.1168	0.1079	-7.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 5/ 1/21

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\20210501\20210501_024

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.49	0.1168	0.1109	-5.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 5/ 1/21

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\20210501\20210501_027

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.12	0.1168	0.1065	-8.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041169

Service Request: E2100464
Date Analyzed: 5/ 1/21

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\20210501\20210501_038

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1168	0.1138	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100464
Project:	HS21041169	**Date Analyzed:**	4/30/21 18:59

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20210430\20210430_033	**Lab Code:**	EQ2100271-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-01	52,539	2.84
Method Blank	EQ2100262-01	48,538	2.84
Lab Control Sample	EQ2100262-02	50,308	2.84
Duplicate Lab Control Sample	EQ2100262-03	51,554	2.84

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: HS21041169

Service Request: E2100464
Date Analyzed: 4/30/21 20:42

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

File ID: I:\LCMS01\DATA\20210430\20210430_044
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2100271-02
Analysis Lot: 722218
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-02	54,759	2.84
16EW03-210421	E2100464-002	27,904	2.85

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:**	E2100464
Project:	HS21041169	**Date Analyzed:**	4/30/21 22:25

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

File ID:	I:\LCMS01\DATA\20210430\20210430_055	**Lab Code:**	EQ2100271-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-03	41,221	2.84
16IW20-210421	E2100464-006	31,563	2.83

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:**	E2100464
Project:	HS21041169	**Date Analyzed:**	4/30/21 23:03

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

File ID:	I:\LCMS01\DATA\20210430\20210430_059	**Lab Code:**	EQ2100271-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722218
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100271-04	34,913	2.84

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:**	E2100464
Project:	HS21041169	**Date Analyzed:**	5/1/21 13:04

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

File ID:	I:\LCMS01\DATA\20210501\20210501_007	**Lab Code:**	EQ2100272-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-01	51,400	2.71

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:**	E2100464
Project:	HS21041169	**Date Analyzed:**	5/1/21 14:01

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20210501\20210501_013	**Lab Code:**	EQ2100272-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-02	46,369	2.84
16EW01-210421	E2100464-001	28,243	2.86
16IW10-210421	E2100464-003	33,316	2.84

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:**	E2100464
Project:	HS21041169	**Date Analyzed:**	5/1/21 15:44

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20210501\20210501_024	**Lab Code:**	EQ2100272-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-03	45,961	2.85
16RW11-210421	E2100464-004	40,248	2.84
16RW11-210421-FD	E2100464-005	38,412	2.84

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:**	E2100464
Project:	HS21041169	**Date Analyzed:**	5/1/21 16:12

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

File ID:	I:\LCMS01\DATA\20210501\20210501_027	**Lab Code:**	EQ2100272-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-04	41,773	2.85

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:**	E2100464
Project:	HS21041169	**Date Analyzed:**	5/1/21 17:56

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20210501\20210501_038	**Lab Code:**	EQ2100272-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-05	42,418	2.85

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

Insight Report

Printed at 5/3/2021 9:29:52 AM

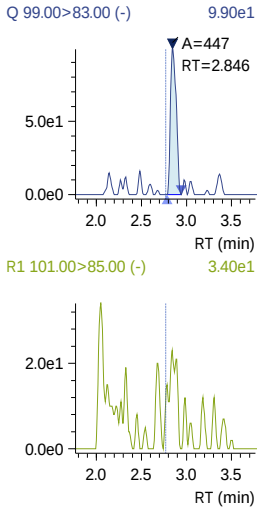
20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	447	64733	1	0.05905	ng/mL	----	12.12
Sodium Perchlorate-18O4 _IS	Auto	2.845	64733	64733	1	1.00000	ng/mL	----	----

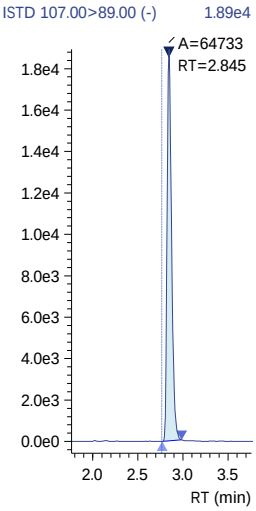
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

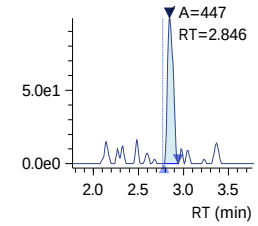
20210430_006

Sample ID: LODV
Date Acquired: 4/30/2021 2:39:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

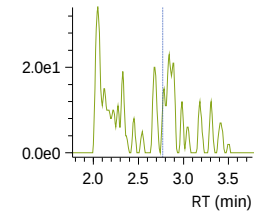
Perchlorate

Conc 0.05905
R#1 12.12 (0.00)

Q 99.00>83.00 (-) 9.90e1



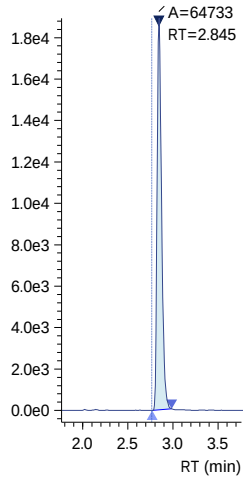
R1 101.00>85.00 (-) 3.40e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.89e4



Insight Report

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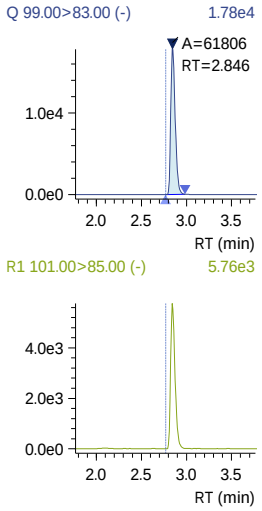
20210430_007

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 2:49:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	61806	56664	1	9.33832	ng/mL	10.0000	32.34
Sodium Perchlorate-18O4 _IS	Auto	2.845	56664	56664	1	1.00000	ng/mL	1.0000	----

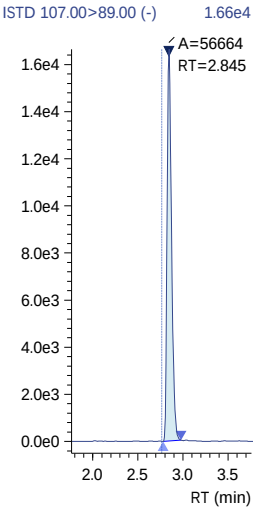
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

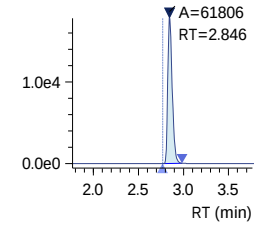
20210430_007

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 2:49:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

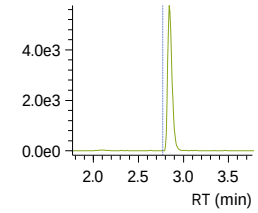
Perchlorate

Conc 9.33832
R#1 32.34 (0.00)

Q 99.00>83.00 (-) 1.78e4



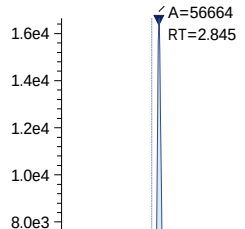
R1 101.00>85.00 (-) 5.76e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.66e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

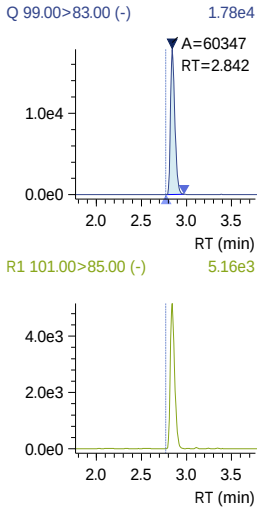
20210430_033

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 6:59:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	60347	52539	1	9.83366	ng/mL	10.0000	28.94
Sodium Perchlorate-18O4 _IS	Auto	2.841	52539	52539	1	1.00000	ng/mL	1.0000	----

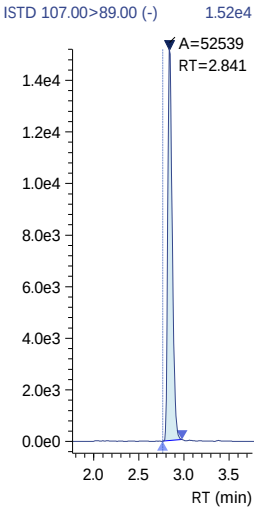
Perchlorate

Conc 9.83366
R#1 28.94 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

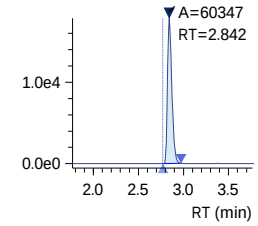
20210430_033

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 6:59:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_033.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

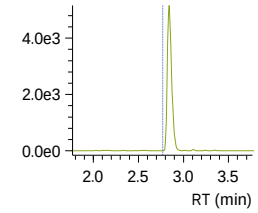
Perchlorate

Conc 9.83366
R#1 28.94 (0.00)

Q 99.00>83.00 (-) 1.78e4



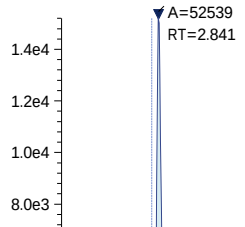
R1 101.00>85.00 (-) 5.16e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.52e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

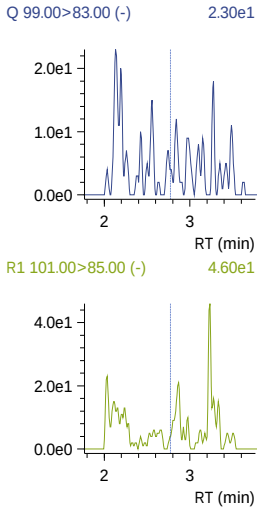
20210430_034

Sample ID: EQ2100262-01
Date Acquired: 4/30/2021 7:08:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_034.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	48538	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.841	48538	48538	1	1.00000	ng/mL	----	----

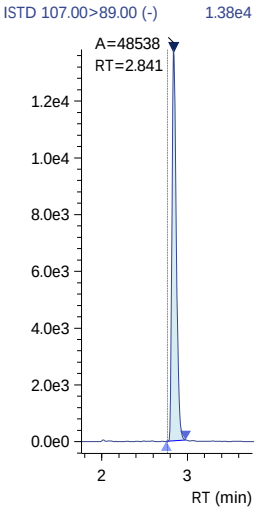
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

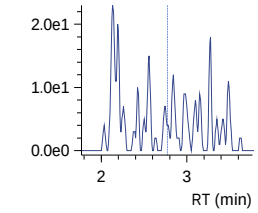
20210430_034

Sample ID: EQ2100262-01
Date Acquired: 4/30/2021 7:08:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_034.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2

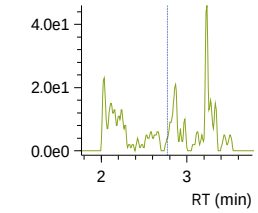
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 2.30e1



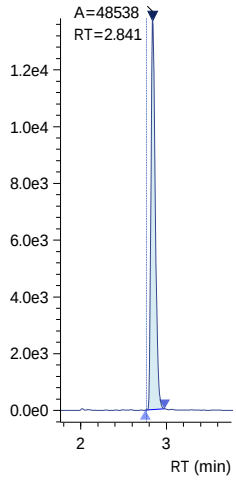
R1 101.00>85.00 (-) 4.60e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

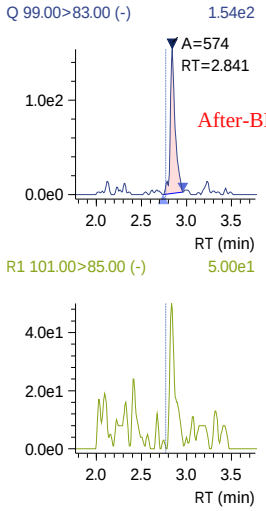
20210430_035

Sample ID: EQ2100262-02
Date Acquired: 4/30/2021 7:18:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_035.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.841	574	50308	1	0.09764	ng/mL	----	32.37
Sodium Perchlorate-18O4 _IS	Auto	2.842	50308	50308	1	1.00000	ng/mL	----	----

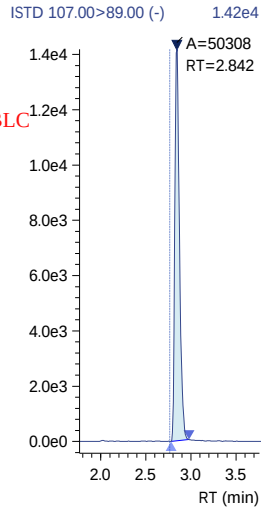
Perchlorate

Conc 0.09764
R#1 32.37 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

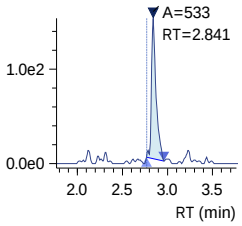
20210430_035

Sample ID: EQ2100262-02
Date Acquired: 4/30/2021 7:18:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_035.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

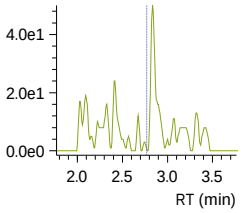
Perchlorate

Conc 0.09062
R#1 35.34 (0.00)

Q 99.00>83.00 (-) 1.54e2



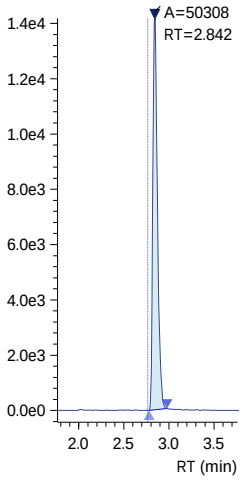
R1 101.00>85.00 (-) 5.00e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.42e4



Insight Report

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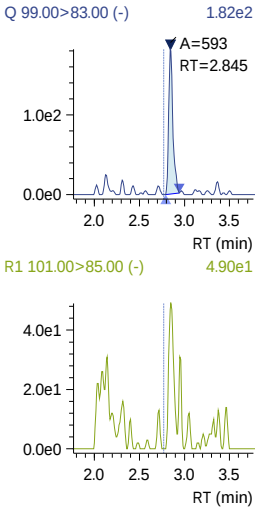
20210430_036

Sample ID: EQ2100262-03
Date Acquired: 4/30/2021 7:27:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_036.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	593	51554	1	0.09840	ng/mL	----	21.91
Sodium Perchlorate-18O4 _IS	Auto	2.843	51554	51554	1	1.00000	ng/mL	----	----

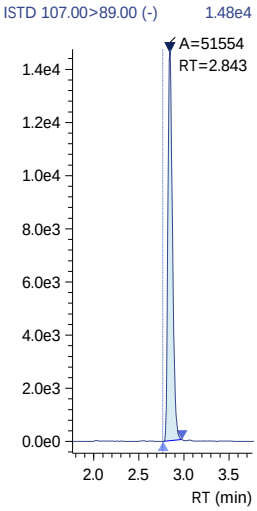
Perchlorate

Conc 0.09840
R#1 21.91 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

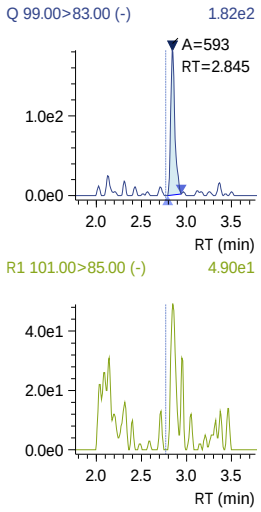
Printed at 5/3/2021 9:31:38 AM

20210430_036

Sample ID: EQ2100262-03
Date Acquired: 4/30/2021 7:27:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_036.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

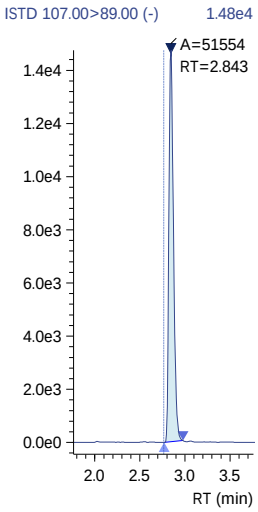
Perchlorate

Conc 0.09840
R#1 21.91 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:29:52 AM

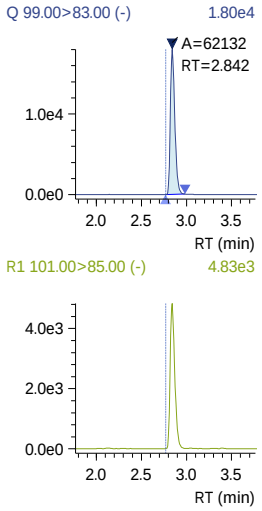
20210430_044

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 8:42:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_044.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	62132	54759	1	9.71420	ng/mL	10.0000	26.86
Sodium Perchlorate-18O4 _IS	Auto	2.840	54759	54759	1	1.00000	ng/mL	1.0000	----

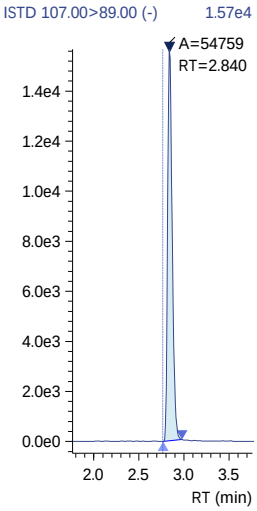
Perchlorate

Conc 9.71420
R#1 26.86 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

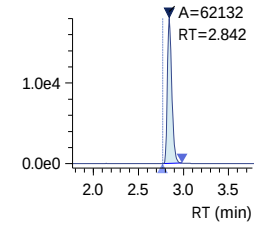
20210430_044

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 8:42:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_044.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

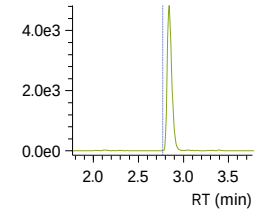
Perchlorate

Conc 9.71420
R#1 26.86 (0.00)

Q 99.00>83.00 (-) 1.80e4



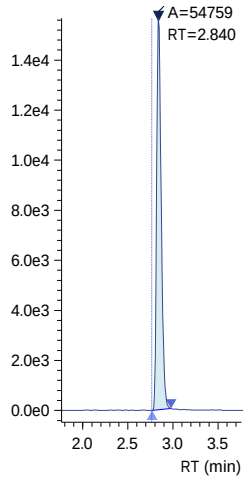
R1 101.00>85.00 (-) 4.83e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.57e4



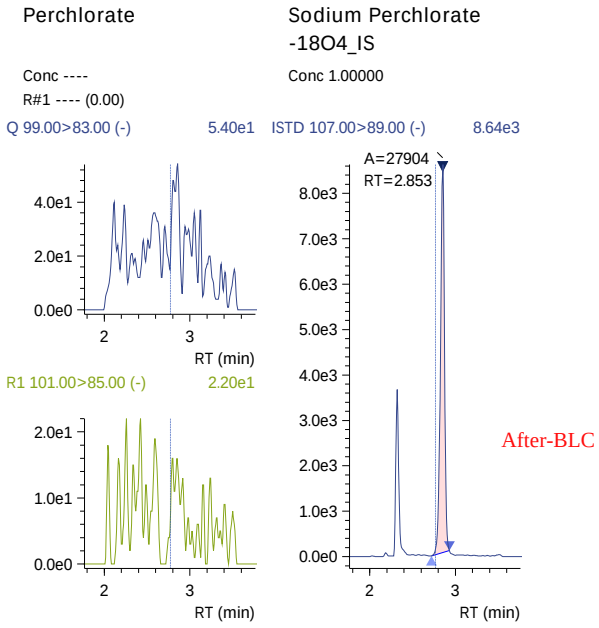
Insight Report

Printed at 5/3/2021 9:29:52 AM

20210430_053

Sample ID: E2100464-002
Date Acquired: 4/30/2021 10:07:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_053.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	27904	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	M	2.853	27904	27904	1	1.00000	ng/mL	----	----



Insight Report

Printed at 5/3/2021 9:31:38 AM

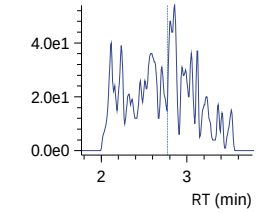
20210430_053

Sample ID: E2100464-002
Date Acquired: 4/30/2021 10:07:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_053.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 3

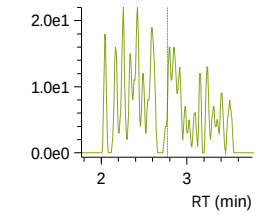
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 5.40e1



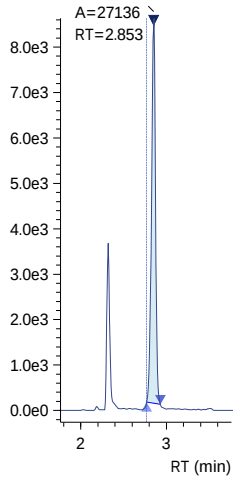
R1 101.00>85.00 (-) 2.20e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.64e3



Insight Report

Printed at 5/3/2021 9:29:52 AM

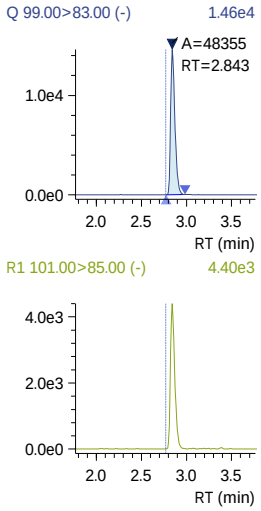
20210430_055

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 10:25:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_055.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.843	48355	41221	1	10.04323	ng/mL	10.0000	30.10
Sodium Perchlorate-18O4_IS	Auto	2.843	41221	41221	1	1.00000	ng/mL	1.0000	----

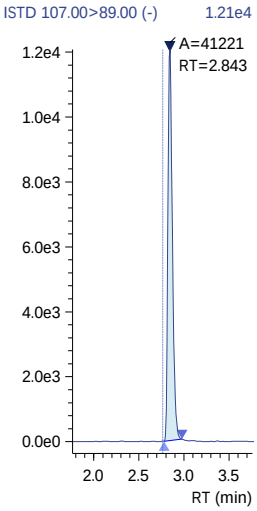
Perchlorate

Conc 10.04323
R#1 30.10 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

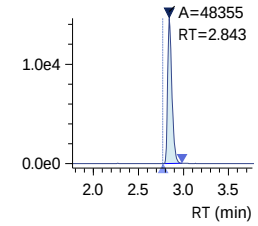
20210430_055

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 10:25:53 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_055.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

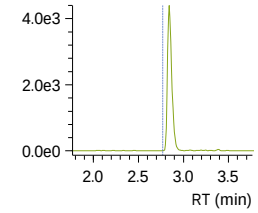
Perchlorate

Conc 10.04323
R#1 30.10 (0.00)

Q 99.00>83.00 (-) 1.46e4



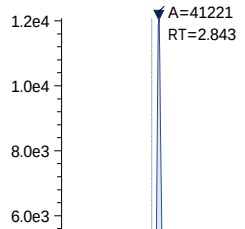
R1 101.00>85.00 (-) 4.40e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



Insight Report

Printed at 5/3/2021 9:29:52 AM

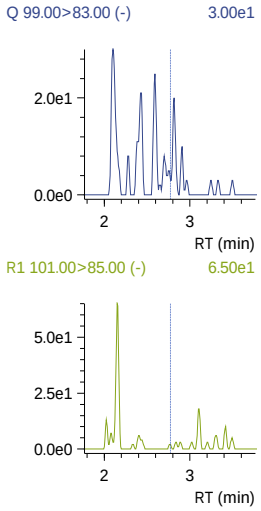
20210430_058

Sample ID: E2100464-006
Date Acquired: 4/30/2021 10:53:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_058.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	31563	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.826	31563	31563	1	1.00000	ng/mL	----	----

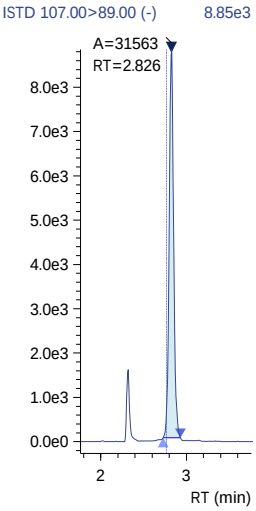
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

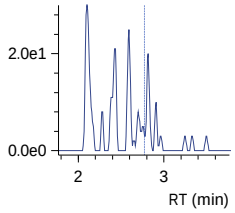
20210430_058

Sample ID: E2100464-006
Date Acquired: 4/30/2021 10:53:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_058.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 3

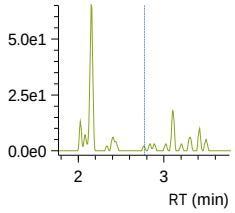
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.00e1



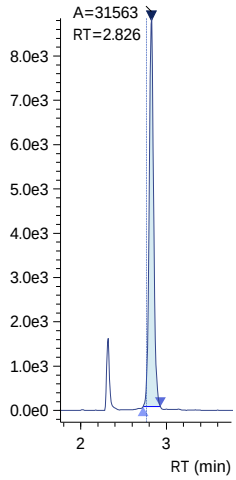
R1 101.00>85.00 (-) 6.50e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 8.85e3



Insight Report

Printed at 5/3/2021 9:29:52 AM

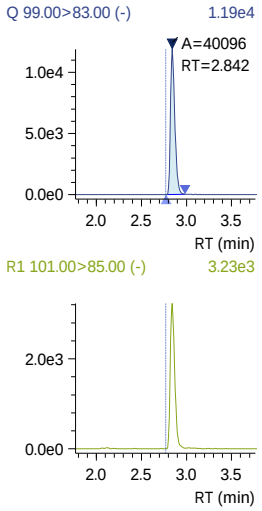
20210430_059

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 11:03:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\20210430_059.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	40096	34913	1	9.83241	ng/mL	10.0000	27.24
Sodium Perchlorate-18O4 _IS	Auto	2.841	34913	34913	1	1.00000	ng/mL	1.0000	----

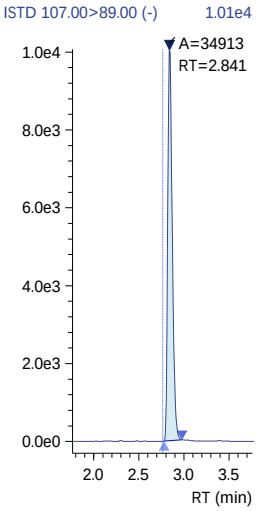
Perchlorate

Conc 9.83241
R#1 27.24 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:31:38 AM

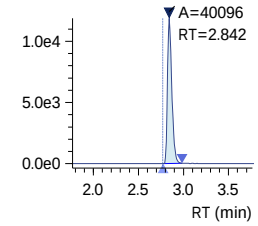
20210430_059

Sample ID: PERCHLORATE7
Date Acquired: 4/30/2021 11:03:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210430\Before\20210430_059.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

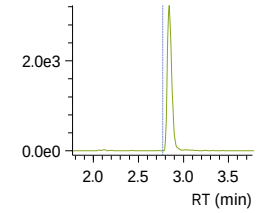
Perchlorate

Conc 9.83241
R#1 27.24 (0.00)

Q 99.00>83.00 (-) 1.19e4



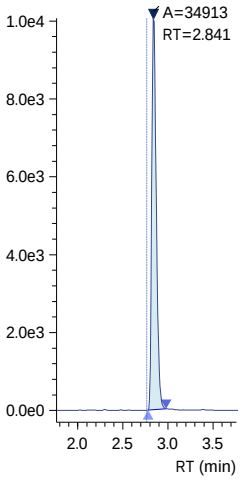
R1 101.00>85.00 (-) 3.23e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.01e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

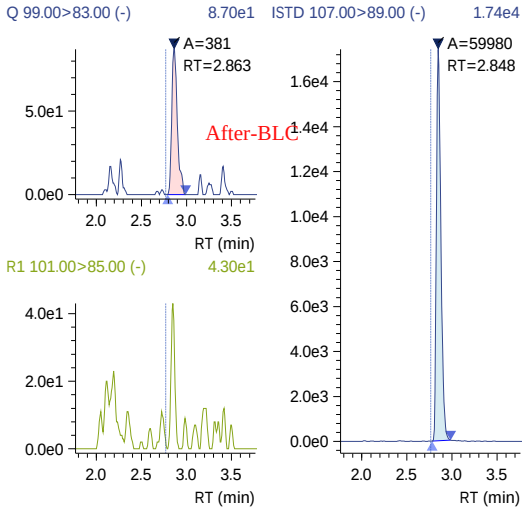
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.863	381	59980	1	0.05431	ng/mL	----	40.70
Sodium Perchlorate-18O4 _IS	Auto	2.848	59980	59980	1	1.00000	ng/mL	----	----

Perchlorate

Conc 0.05431
R#1 40.70 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

After-BLC

Insight Report

Printed at 5/3/2021 9:27:25 AM

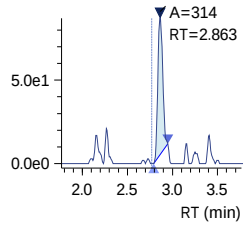
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

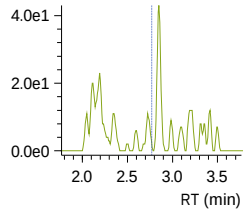
Perchlorate

Conc 0.04482
R#1 46.91 (0.00)

Q 99.00>83.00 (-) 8.70e1



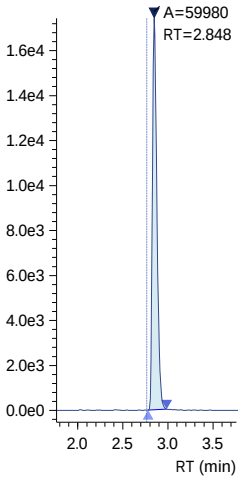
R1 101.00>85.00 (-) 4.30e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.74e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

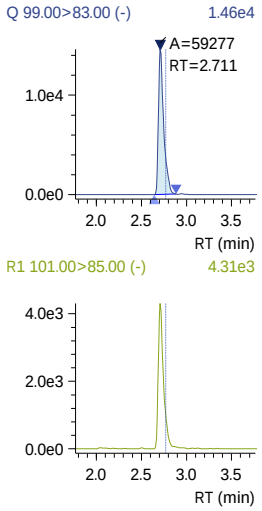
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.711	59277	51400	1	9.87331	ng/mL	10.0000	29.40
Sodium Perchlorate-18O4 _IS	Auto	2.710	51400	51400	1	1.00000	ng/mL	1.0000	----

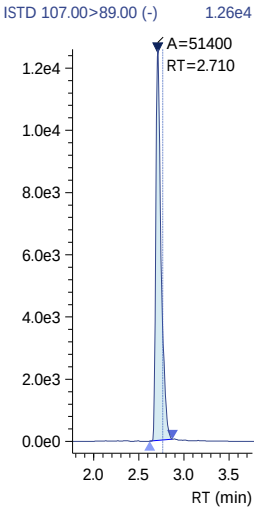
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

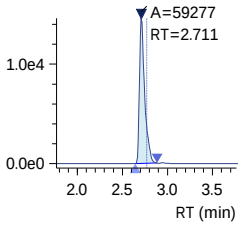
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

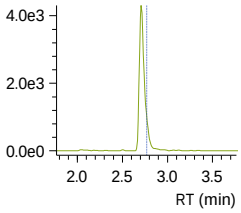
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)

Q 99.00>83.00 (-) 1.46e4



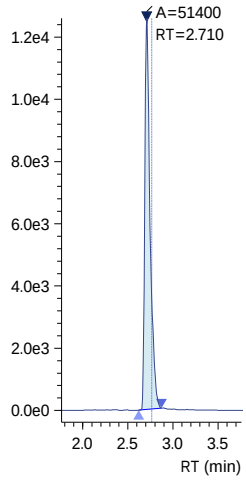
R1 101.00>85.00 (-) 4.31e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.26e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

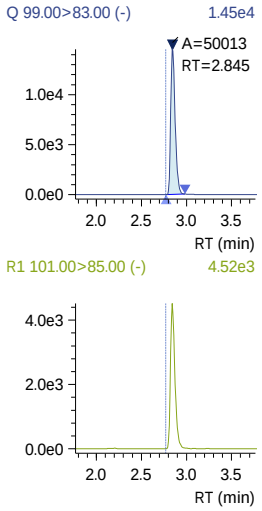
20210501_013

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 2:01:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	50013	46369	1	9.23433	ng/mL	10.0000	31.00
Sodium Perchlorate-18O4 _IS	Auto	2.844	46369	46369	1	1.00000	ng/mL	1.0000	----

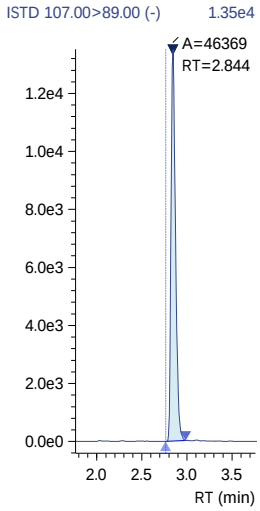
Perchlorate

Conc 9.23433
R#1 31.00 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

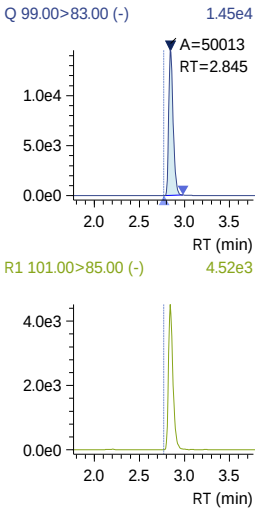
Printed at 5/3/2021 9:27:25 AM

20210501_013

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 2:01:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

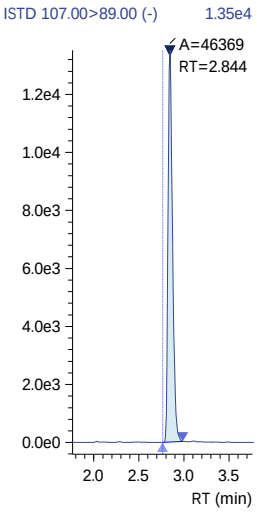
Perchlorate

Conc 9.23433
R#1 31.00 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:25:34 AM

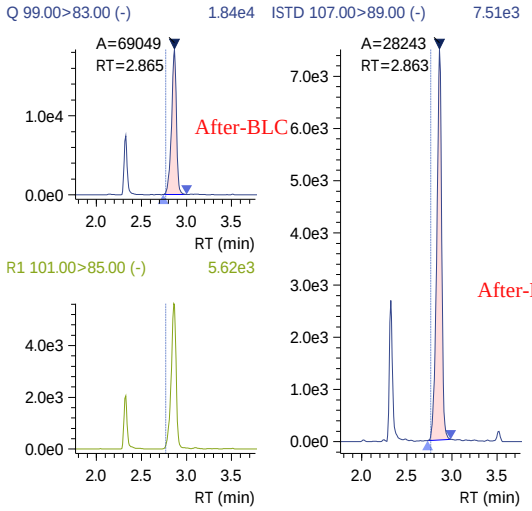
20210501_022

Sample ID: E2100464-001X2
Date Acquired: 5/1/2021 3:25:46 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_022.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.865	69049	28243	1	20.93109	ng/mL	----	31.89
Sodium Perchlorate-18O4_IS	M	2.863	28243	28243	1	1.00000	ng/mL	----	----

Perchlorate

Conc 20.93109
R#1 31.89 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

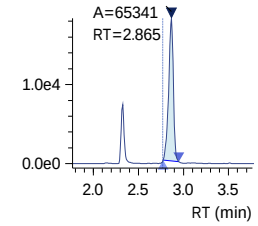
20210501_022

Sample ID: E2100464-001X2
Date Acquired: 5/1/2021 3:25:46 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_022.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 3

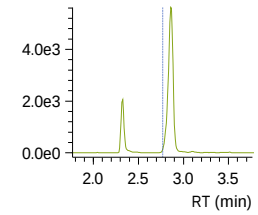
Perchlorate

Conc 21.45335
R#1 31.83 (0.00)

Q 99.00>83.00 (-) 1.84e4



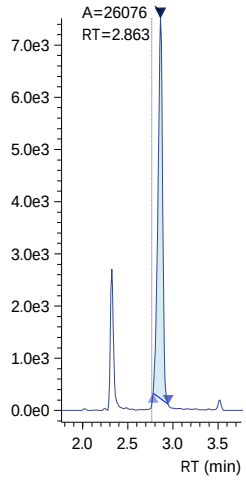
R1 101.00>85.00 (-) 5.62e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 7.51e3



Insight Report

Printed at 5/3/2021 9:25:34 AM

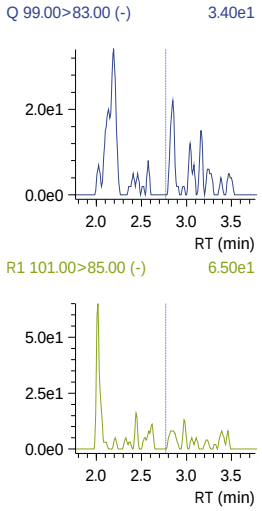
20210501_023

Sample ID: E2100464-003X2
Date Acquired: 5/1/2021 3:35:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_023.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	33316	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.840	33316	33316	1	1.00000	ng/mL	----	----

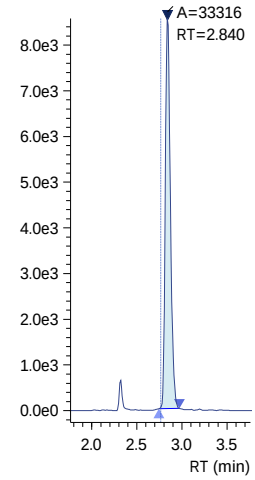
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

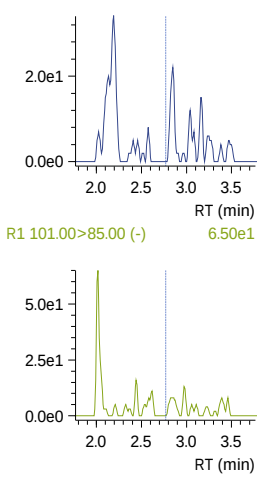
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20210501_023

Sample ID: E2100464-003X2
Date Acquired: 5/1/2021 3:35:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_023.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 3

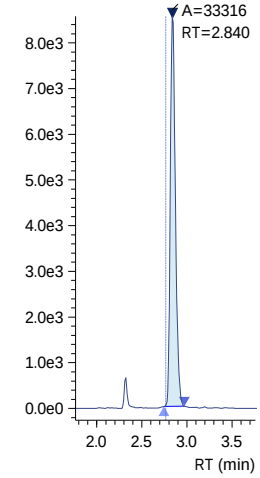
Perchlorate

Conc ----
R#1 ---- (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:25:34 AM

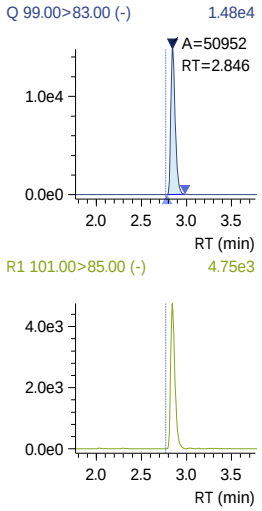
20210501_024

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 3:44:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_024.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	50952	45961	1	9.49107	ng/mL	10.0000	32.18
Sodium Perchlorate-18O4 _IS	Auto	2.845	45961	45961	1	1.00000	ng/mL	1.0000	----

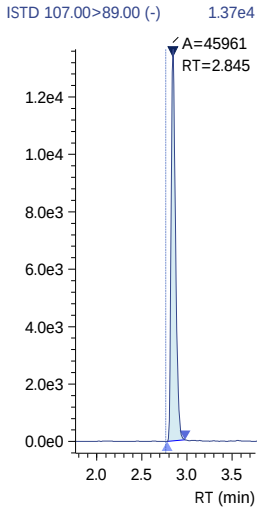
Perchlorate

Conc 9.49107
R#1 32.18 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

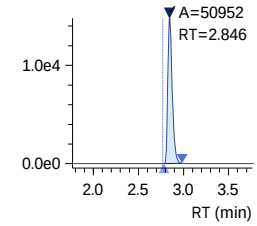
20210501_024

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 3:44:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_024.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

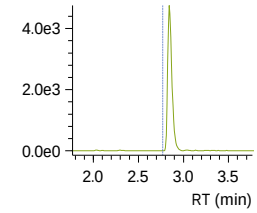
Perchlorate

Conc 9.49107
R#1 32.18 (0.00)

Q 99.00>83.00 (-) 1.48e4



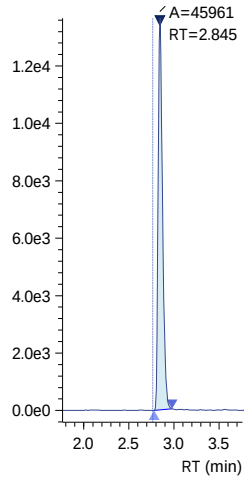
R1 101.00>85.00 (-) 4.75e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.37e4



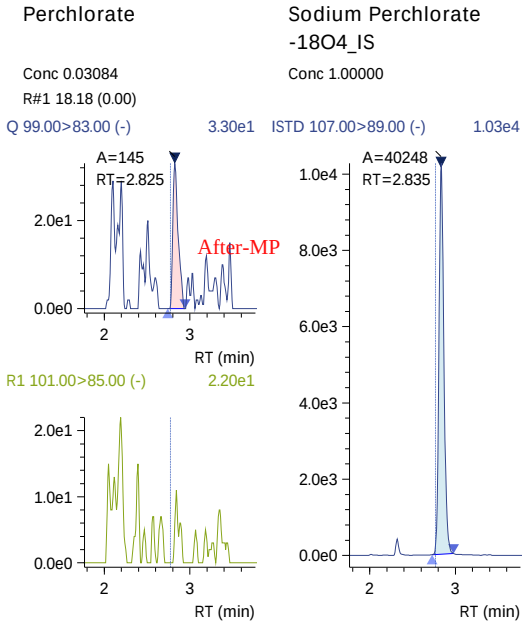
Insight Report

Printed at 5/3/2021 9:25:34 AM

20210501_025

Sample ID: E2100464-004X2
Date Acquired: 5/1/2021 3:53:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_025.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.825	145	40248	1	0.03084	ng/mL	----	18.18
Sodium Perchlorate-18O4 _IS	Auto	2.835	40248	40248	1	1.00000	ng/mL	----	----



Insight Report

Printed at 5/3/2021 9:27:25 AM

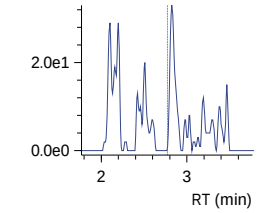
20210501_025

Sample ID: E2100464-004X2
Date Acquired: 5/1/2021 3:53:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_025.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 3

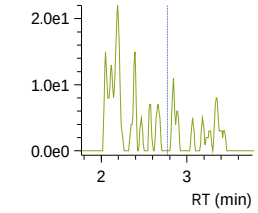
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.30e1



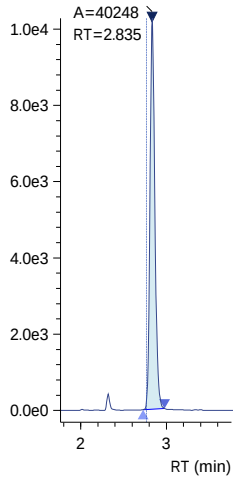
R1 101.00>85.00 (-) 2.20e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.03e4



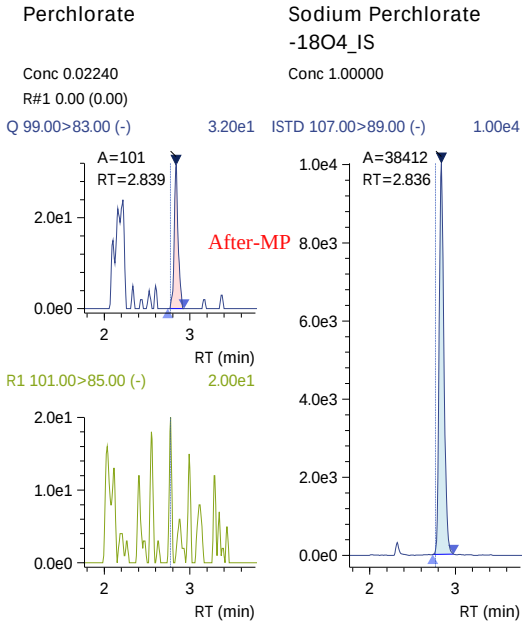
Insight Report

Printed at 5/3/2021 9:25:34 AM

20210501_026

Sample ID: E2100464-005X2
Date Acquired: 5/1/2021 4:03:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_026.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.839	101	38412	1	0.02240	ng/mL	----	0.00
Sodium Perchlorate-18O4 _IS	Auto	2.836	38412	38412	1	1.00000	ng/mL	----	----



Insight Report

Printed at 5/3/2021 9:27:25 AM

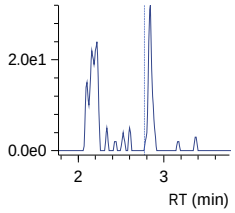
20210501_026

Sample ID: E2100464-005X2
Date Acquired: 5/1/2021 4:03:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_026.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 3

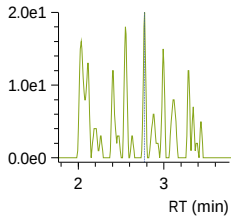
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.20e1



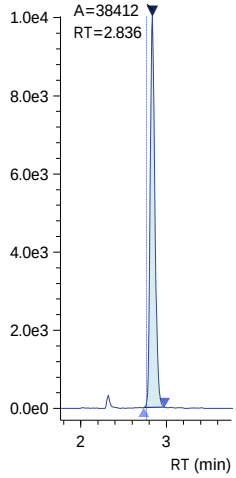
R1 101.00>85.00 (-) 2.00e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.00e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

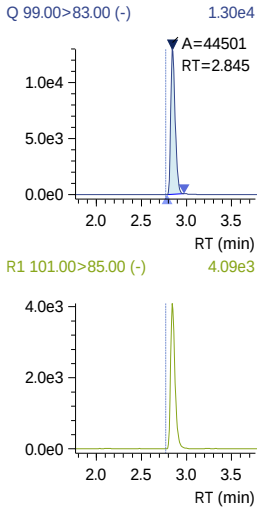
20210501_027

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 4:12:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_027.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	44501	41773	1	9.12063	ng/mL	10.0000	31.50
Sodium Perchlorate-18O4 _IS	Auto	2.845	41773	41773	1	1.00000	ng/mL	1.0000	----

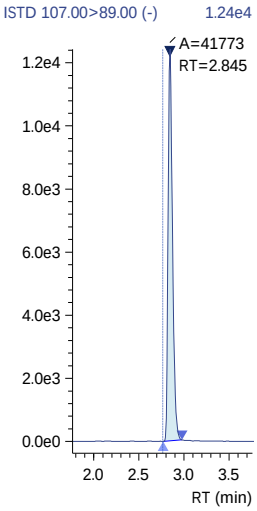
Perchlorate

Conc 9.12063
R#1 31.50 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

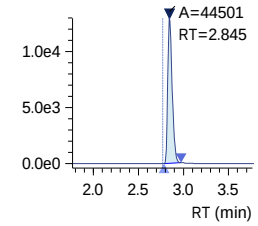
20210501_027

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 4:12:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_027.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

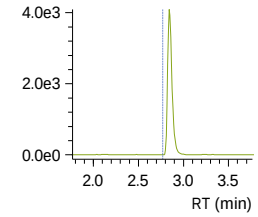
Perchlorate

Conc 9.12063
R#1 31.50 (0.00)

Q 99.00>83.00 (-) 1.30e4



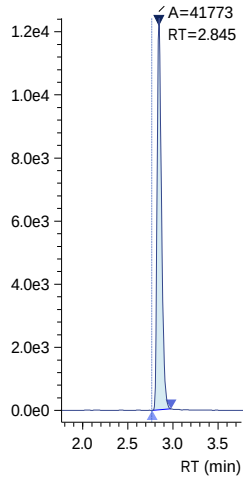
R1 101.00>85.00 (-) 4.09e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.24e4



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

WorkOrder: HS21041197

Longhorn Army Ammunition Plant 16 April 2021

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

25-May-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

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  - 16WW12-210421
  - Trip Blank-210421
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - Sample Tracking Record
  - SampleReceiptCheckList
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HS21041197 Longhorn Army Ammunition Plant
16 April 2021 Final

ALS WO# HS21041197

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

May 07, 2021

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

Work Order: **HS21041197**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 April 2021**

Dear Vicki Graves ,

ALS Environmental received 3 sample(s) on Apr 22, 2021 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: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041197

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21041197-01	16WW40-210421	Groundwater		21-Apr-2021 11:40	22-Apr-2021 10:20	☐
HS21041197-02	16WW12-210421	Groundwater		21-Apr-2021 12:25	22-Apr-2021 10:20	☐
HS21041197-03	Trip Blank-210421	Water		21-Apr-2021 00:00	22-Apr-2021 10:20	☐

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041197

Work Order Comments

• The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R382623

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

GCMS Volatiles by Method SW8260

Batch ID: R382341

Sample ID: 16WW40-210421 (HS21041197-01)

• Lowest practical dilution for sample HS21041197-01. Sample is lightly foamy.

WetChemistry by Method SM5310B

Batch ID: R382895

Sample ID: HS21041169-03MS

• MS is for an unrelated sample

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Sample ID: 16WW40-210421
Collection Date: 21-Apr-2021 11:40

ANALYTICAL REPORT
WorkOrder:HS21041197
Lab ID:HS21041197-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	25-Apr-2021 19:01
1,1-Dichloroethene	**2.8**	J	**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:01
1,2-Dichloroethane	**5.6**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:01
cis-1,2-Dichloroethene	**210**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:01
Methylene chloride	10	U	2.0	10	10	ug/L	5	25-Apr-2021 19:01
Trichloroethene	**1,000**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:01
Vinyl chloride	**5.4**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Apr-2021 19:01
Surr: 1,2-Dichloroethane-d4	*100*			**0**	*81-118*	*%REC*	*5*	*25-Apr-2021 19:01*
Surr: 4-Bromofluorobenzene	*93.7*			**0**	*85-114*	*%REC*	*5*	*25-Apr-2021 19:01*
Surr: Dibromofluoromethane	*92.3*			**0**	*80-119*	*%REC*	*5*	*25-Apr-2021 19:01*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*5*	*25-Apr-2021 19:01*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	27-Apr-2021 15:50
Ethene	**0.00125**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	27-Apr-2021 15:50
Methane	**0.00957**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	27-Apr-2021 16:22
TOTAL ORGANIC CARBON - SM5310B		**Method:SM5310B**						Analyst: MZD
Organic Carbon, Total	**11.3**		**0.500**	**0.500**	**1.00**	**mg/L**	1	03-May-2021 20:23
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	07-May-2021 13:01

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

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041197
Sample ID: 16WW12-210421 Lab ID:HS21041197-02
Collection Date: 21-Apr-2021 12:25 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	ug/L	10	25-Apr-2021 20:25
1,1-Dichloroethene	**5.4**	J	**2.0**	**5.0**	**10**	**ug/L**	10	25-Apr-2021 20:25
1,2-Dichloroethane	**7.3**	J	**2.0**	**5.0**	**10**	**ug/L**	10	25-Apr-2021 20:25
cis-1,2-Dichloroethene	**76**		**2.0**	**5.0**	**10**	**ug/L**	10	25-Apr-2021 20:25
Methylene chloride	20	U	4.0	20	20	ug/L	10	25-Apr-2021 20:25
Trichloroethene	**2,100**		**20**	**50**	**100**	**ug/L**	100	25-Apr-2021 20:46
Vinyl chloride	**8.2**	J	**2.0**	**5.0**	**10**	**ug/L**	10	25-Apr-2021 20:25
Surr: 1,2-Dichloroethane-d4	*99.0*			**0**	*81-118*	*%REC*	*10*	*25-Apr-2021 20:25*
Surr: 1,2-Dichloroethane-d4	*99.6*			**0**	*81-118*	*%REC*	*100*	*25-Apr-2021 20:46*
Surr: 4-Bromofluorobenzene	*92.1*			**0**	*85-114*	*%REC*	*10*	*25-Apr-2021 20:25*
Surr: 4-Bromofluorobenzene	*94.2*			**0**	*85-114*	*%REC*	*100*	*25-Apr-2021 20:46*
Surr: Dibromofluoromethane	*95.1*			**0**	*80-119*	*%REC*	*100*	*25-Apr-2021 20:46*
Surr: Dibromofluoromethane	*94.1*			**0**	*80-119*	*%REC*	*10*	*25-Apr-2021 20:25*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*10*	*25-Apr-2021 20:25*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*100*	*25-Apr-2021 20:46*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	07-May-2021 13:01

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

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041197
Sample ID: Trip Blank-210421 Lab ID:HS21041197-03
Collection Date: 21-Apr-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 14:06
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:06
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:06
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:06
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 14:06
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:06
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:06
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 14:06*
Surr: 4-Bromofluorobenzene	*95.7*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 14:06*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 14:06*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 14:06*

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

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041197

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R382341 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21041197-03	Trip Blank-210421	21 Apr 2021 00:00			25 Apr 2021 14:06	1
Batch ID: R382341 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21041197-01	16WW40-210421	21 Apr 2021 11:40			25 Apr 2021 19:01	5
HS21041197-02	16WW12-210421	21 Apr 2021 12:25			25 Apr 2021 20:46	100
HS21041197-02	16WW12-210421	21 Apr 2021 12:25			25 Apr 2021 20:25	10
Batch ID: R382623 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS21041197-01	16WW40-210421	21 Apr 2021 11:40			27 Apr 2021 16:22	1
HS21041197-01	16WW40-210421	21 Apr 2021 11:40			27 Apr 2021 15:50	1
Batch ID: R382895 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B				**Matrix:** Groundwater	
HS21041197-01	16WW40-210421	21 Apr 2021 11:40			03 May 2021 20:23	1
Batch ID: R383195 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS21041197-01	16WW40-210421	21 Apr 2021 11:40			07 May 2021 13:01	1
HS21041197-02	16WW12-210421	21 Apr 2021 12:25			07 May 2021 13:01	1

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041197

QC BATCH REPORT

Batch ID: R382623 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-210427** Units: **mg/L** Analysis Date: **27-Apr-2021 09:48**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067727** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-210427** Units: **mg/L** Analysis Date: **27-Apr-2021 09:57**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067728** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0214	0.00100	0.01804	0	119	75 - 125				
Ethene	0.0184	0.00100	0.0168	0	109	75 - 125				
Methane	0.00936	0.000500	0.009647	0	97.0	75 - 125				

LCSD Sample ID: **LCSD-210427** Units: **mg/L** Analysis Date: **27-Apr-2021 10:08**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067729** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0209	0.00100	0.01804	0	116	75 - 125	0.02138	2.36	30	
Ethene	0.0178	0.00100	0.0168	0	106	75 - 125	0.01836	3.2	30	
Methane	0.00980	0.000500	0.009647	0	102	75 - 125	0.009361	4.55	30	

DUP Sample ID: **HS21041132-05DUP** Units: **mg/L** Analysis Date: **27-Apr-2021 10:35**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067731** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100					0	0	30	U
Ethene	0.000500	0.00100					0	0	30	U
Methane	0.00353	0.000500					0.003447	2.5	30	

The following samples were analyzed in this batch: HS21041197-01

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041197

QC BATCH REPORT

Batch ID: R382341 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-210425** Units: **ug/L** Analysis Date: **25-Apr-2021 13:45**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	2.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*47.35*	*1.0*	*50*	*0*	*94.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.34*	*1.0*	*50*	*0*	*92.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.8*	*1.0*	*50*	*0*	*91.6*	*80 - 119*				
Surr: Toluene-d8	*53.63*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-210425** Units: **ug/L** Analysis Date: **25-Apr-2021 13:03**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	21.98	1.0	20	0	110	80 - 119				
1,1-Dichloroethene	17.51	1.0	20	0	87.5	71 - 131				
1,2-Dichloroethane	20.39	1.0	20	0	102	73 - 128				
cis-1,2-Dichloroethene	21.09	1.0	20	0	105	78 - 123				
Methylene chloride	21.19	2.0	20	0	106	74 - 124				
Trichloroethene	19.92	1.0	20	0	99.6	79 - 123				
Vinyl chloride	18.77	1.0	20	0	93.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*53.91*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.34*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.43*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*51.26*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041197

QC BATCH REPORT

Batch ID: R382341 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS21041169-03MS** Units: **ug/L** Analysis Date: **25-Apr-2021 15:09**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060292** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.9	1.0	20	0	99.5	80 - 119				
1,1-Dichloroethene	17.96	1.0	20	0	89.8	71 - 131				
1,2-Dichloroethane	18.76	1.0	20	0	93.8	73 - 128				
cis-1,2-Dichloroethene	32.24	1.0	20	15.28	84.8	78 - 123				
Methylene chloride	18.33	2.0	20	0	91.7	74 - 124				
Trichloroethene	24.38	1.0	20	5.447	94.7	79 - 123				
Vinyl chloride	22.63	1.0	20	2.451	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.44*	*1.0*	*50*	*0*	*96.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.76*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*47.82*	*1.0*	*50*	*0*	*95.6*	*80 - 119*				
Surr: Toluene-d8	*52.13*	*1.0*	*50*	*0*	*104*	*89 - 112*				

MSD Sample ID: **HS21041169-03MSD** Units: **ug/L** Analysis Date: **25-Apr-2021 15:30**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060293** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.3	1.0	20	0	101	80 - 119	19.9	1.98	20	
1,1-Dichloroethene	17.12	1.0	20	0	85.6	71 - 131	17.96	4.74	20	
1,2-Dichloroethane	18.86	1.0	20	0	94.3	73 - 128	18.76	0.516	20	
cis-1,2-Dichloroethene	32.68	1.0	20	15.28	87.0	78 - 123	32.24	1.34	20	
Methylene chloride	18.48	2.0	20	0	92.4	74 - 124	18.33	0.778	20	
Trichloroethene	23.57	1.0	20	5.447	90.6	79 - 123	24.38	3.38	20	
Vinyl chloride	21.86	1.0	20	2.451	97.0	58 - 137	22.63	3.47	20	
Surr: 1,2-Dichloroethane-d4	*48.73*	*1.0*	*50*	*0*	*97.5*	*81 - 118*	*48.44*	*0.614*	*20*	
Surr: 4-Bromofluorobenzene	*47.89*	*1.0*	*50*	*0*	*95.8*	*85 - 114*	*48.76*	*1.82*	*20*	
Surr: Dibromofluoromethane	*46.89*	*1.0*	*50*	*0*	*93.8*	*80 - 119*	*47.82*	*1.95*	*20*	
Surr: Toluene-d8	*52.33*	*1.0*	*50*	*0*	*105*	*89 - 112*	*52.13*	*0.386*	*20*	

The following samples were analyzed in this batch: HS21041197-01 HS21041197-02 HS21041197-03

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041197

QC BATCH REPORT

Batch ID: R382895 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B**

MBLK Sample ID: **MBLK-05032021** Units: **mg/L** Analysis Date: **03-May-2021 16:25**
Client ID: Run ID: **TOC_04_382895** SeqNo: **6073620** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS-05032021** Units: **mg/L** Analysis Date: **03-May-2021 16:41**
Client ID: Run ID: **TOC_04_382895** SeqNo: **6073621** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.38	1.00	10	0	104	85 - 115				

LCSD Sample ID: **LCSD-05032021** Units: **mg/L** Analysis Date: **03-May-2021 16:57**
Client ID: Run ID: **TOC_04_382895** SeqNo: **6073622** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.36	1.00	10	0	104	85 - 115	10.38	0.193	20	

MS Sample ID: **HS21041169-03MS** Units: **mg/L** Analysis Date: **03-May-2021 19:50**
Client ID: Run ID: **TOC_04_382895** SeqNo: **6073633** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	780.7	1.00	10	784.1	-34.0	80 - 120				SEO

The following samples were analyzed in this batch: HS21041197-01

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: **HS21041197**

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	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	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, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022

ALS Houston, US Date: 07-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041197

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21041197-01	16WW40-210421	Login	4/22/2021 4:14:55 PM	NDR	WET015
HS21041197-01	16WW40-210421	Login	4/22/2021 4:14:55 PM	NDR	Sub
HS21041197-01	16WW40-210421	Login	4/22/2021 4:14:55 PM	NDR	VOA160
HS21041197-01	16WW40-210421	Login	4/22/2021 4:14:55 PM	NDR	RSK009
HS21041197-01	16WW40-210421	Login	4/22/2021 4:14:55 PM	NDR	WET015

ALS Houston, US Date: 07-May-21

Sample Receipt Checklist

Work Order ID: HS21041197 **Date/Time Received:** 22-Apr-2021 10:20

Client Name: CBI-Houston **Received by:** Pablo Marinez

Completed By: /S/ Nilesh D. Ranchod (eSignature) 22-Apr-2021 16:38 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 23-Apr-2021 08:55 (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):	0.4°C UC/C	IR31
Cooler(s)/Kit(s):	45539	
Date/Time sample(s) sent to storage:	4/22/2021 16:50	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 April 2021**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)
				Analyses											
16WW40-210421	WG	4/21/21/ 1140		9	X	X	X			X					
16WW12-210421	WG	4/21/21/ 1225		4	X					X					
TRIP BLANK-210421	W	4/21/21		2	X										

Additional Remarks: Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
	4/21/21	1330		4/22/21	10:00						

For Lab Use Only

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

Remarks:

45534 0.4C IR31 CFU

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 April 2021

HS21041197

(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

U5539

CUSTODY SEAL

Date: 4/21/21 Time: 1330
Name: Scott Beesinger
Company: BHMRA

Seal Broken By:
Date: 04122121

U5539

APR 2 2 2021

4

Must Deliver Next Business Da
Time and Tempature Sensitive!

U5539

ORIGIN ID:SGRA (903) 930-8193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFRASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 29MAR21
ACTWGT: 1.00 LB MAN
CAD: 6221247/CAFE3409
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-BO 77443-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0841 7502

THU - 22 APR AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

EID: 5090257 21Apr2021 GGGA 5H0G3/F9A6/1B23

May 07, 2021 Service Request No:E2100470

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

Laboratory Results for: HS21041197

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 26, 2021
For your reference, these analyses have been assigned our service request number **E2100470.**

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
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ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2100470
Project:	HS21041197	**Date Received:**	04/26/21
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 was received for analysis at ALS Environmental in Houston on 04/26/21.

The samples were received in good condition and is 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:

EQ2100263: 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:**E2100470
Project: HS21041197

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100470-001	16WW40-210421	4/21/2021	1140
E2100470-002	16WW12-210421	4/21/2021	1225

Service Request Summary

Folder #: **E2100470**
Client Name: ALS Environmental - US
Project Name: HS21041197
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: 04/26/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041197
EDD: No EDD Specified

2 125 mL-Plastic Bottle HDPE NM CLEAR Unpreserved
Location: EHRMS-WIC 4C
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100470-001	16WW40-210421	Ground Water	04/21/21 1140	**IV**
E2100470-002	16WW12-210421	Ground Water	04/21/21 1225	**IV**

Service Request Summary

Folder #: **E2100470**
Client Name: ALS Environmental - US
Project Name: HS21041197
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: 04/26/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041197
EDD: No EDD Specified

2 125 mL-Plastic Bottle HDPE NM CLEAR Unpreserved
Location: EHRMS-WIC 4C
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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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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	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
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: 15975**

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:	HS21041197
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041197-01**	**16WW40-210421**	**Groundwater**	**21 Apr 2021 11:40**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
2.	**HS21041197-02**	**16WW12-210421**	**Groundwater**	**21 Apr 2021 12:25**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 4/22/21 0800

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist _____

Client/Project _____ Thermometer ID _____

Date/Time Received: _____ Initials: _____ Date/Time Logged in: _____ Initials _____

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ⊘ 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			0800		0.6	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ⊘ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ⊘ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ⊘ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ⊘ Yes ○ No

10. Did sample labels and tags agree with custody documents? ⊘ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100469-001	16WW27-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100469-002	16WW43-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100469-003	16WW23-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100469-004	16WW24-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100469-005	16IW09-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100469-006	16WW49-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100469-007	16WW48-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100469-008	16EW06-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100470-001	16WW40-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100470-002	16WW12-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100492-001	HBW7_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
12	E2100492-002	HBW10_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
13	E2100492-003	HBW10_042721_a	.01	6850/ClO4 DOD			Surface Water	10mL	
14	E2100492-004	HBW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
15	E2100492-005	GPW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
16	E2100492-006	GPW3_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
17	E2100493-001	LH18/24-SP650_042721_BIX	.01	6850/ClO4 DOD			Surface Water	10mL	
18	EQ2100263-01	MB		6850/ClO4 DOD			Liquid	10mL	
19	EQ2100263-02	LCS		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100263-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100263-02 1.00µL EQ2100263-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100469-001	100.00µL	E2100469-002	100.00µL	E2100469-003	100.00µL	E2100469-004	100.00µL	E2100469-005	100.00µL	E2100469-006	100.00µL
E2100469-007	100.00µL	E2100469-008	100.00µL	E2100470-001	100.00µL	E2100470-002	100.00µL	E2100492-001	100.00µL	E2100492-002	100.00µL
E2100492-003	100.00µL	E2100492-004	100.00µL	E2100492-005	100.00µL	E2100492-006	100.00µL	E2100493-001	100.00µL	EQ2100263-01	100.00µL
EQ2100263-02	100.00µL	EQ2100263-03	100.00µL								

Preparation Information Benchsheet

Prep Run#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

Preparation Steps

Step: Preparation
Started: 4/30/21 12:06
Finished: 4/30/21 14:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

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:**	E2100470
Project:	HS21041197	**Date Collected:**	4/21/21 1140
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW40-210421	**Units:**	µg/L
Lab Code:	E2100470-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.880**		0.200	0.100	0.0500	2	4/30/21	5/3/21 10:41	378427	722497	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Collected:**	4/21/21 1225
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW12-210421	**Units:**	µg/L
Lab Code:	E2100470-002	**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	**42.1**		0.200	0.100	0.0500	2	4/30/21	5/3/21 10:51	378427	722497	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100263-01	**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	4/30/21	5/1/21 16:22	378427	722220	

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197
Sample Matrix: Ground Water

Service Request: E2100470
Date Analyzed: 5/ 1/21

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: 378427

	Lab Control Sample EQ2100263-02			Duplicate Lab Control Sample EQ2100263-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0981	0.100	98	0.112	0.100	112	84 - 119	13	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:**	E2100470
Project:	HS21041197	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-02	**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	**0.0981**	J	0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:31	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-03	**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	**0.112**		0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:40	378427	722220	

HS21041197 8260_W_DOD Raw Data

ALS WO# HS21041197

MSVOA06 -Logbook

Batch: 44312 **Analyst:** Presenta Cabascango

Date: 04-02-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-02-2021 10:32 am	1.00	50 mL	50 mL	X040201.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	04-02-2021 10:53 am	1.00	50 mL	50 mL	X040202.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	04-02-2021 11:35 am	1.00	50 mL	50 mL	X040203.D	Liquid	Y	NA
4	VSTD001	ICAL3	04-02-2021 11:56 am	1.00	50 mL	50 mL	X040204.D	Liquid	Y	NA
5	VSTD002	ICAL4	04-02-2021 12:17 pm	1.00	50 mL	50 mL	X040205.D	Liquid	Y	NA
6	VSTD005	ICAL5	04-02-2021 12:38 pm	1.00	50 mL	50 mL	X040206.D	Liquid	Y	NA
7	VSTD020	ICAL6	04-02-2021 12:59 pm	1.00	50 mL	50 mL	X040207.D	Liquid	Y	NA
8	VSTD050	ICAL7	04-02-2021 01:20 pm	1.00	50 mL	50 mL	X040208.D	Liquid	Y	NA
9	VSTD100	ICAL8	04-02-2021 01:41 pm	1.00	50 mL	50 mL	X040209.D	Liquid	Y	NA
10	VSTD150	ICAL9	04-02-2021 02:02 pm	1.00	50 mL	50 mL	X040210.D	Liquid	Y	NA
11	VSTD200	ICAL	04-02-2021 02:23 pm	1.00	50 mL	50 mL	X040211.D	Liquid	Y	NA
12	BLANK	SAMP	04-02-2021 02:44 pm	1.00	50 mL	50 mL	X040212.D	Liquid	Y	NA
13	CCV	SAMP	04-02-2021 03:05 pm	1.00	50 mL	50 mL	X040213.D	Liquid	Y	NA
14	CCV	CCV	04-02-2021 03:26 pm	1.00	50 mL	50 mL	X040214.D	Liquid	Y	NA
15	CCB	SAMP	04-02-2021 03:47 pm	1.00	50 mL	50 mL	X040215.D	Liquid	Y	NA
16	VLCSW-210402	LCS	04-02-2021 04:08 pm	1.00	50 mL	50 mL	X040216.D	Liquid	Y	NA
17	BLANK	SAMP	04-02-2021 04:29 pm	1.00	50 mL	50 mL	X040217.D	Liquid	Y	NA
18	BLANK	SAMP	04-02-2021 04:50 pm	1.00	50 mL	50 mL	X040218.D	Liquid	Y	NA
19	VBLKW-210402	MBLK	04-02-2021 05:11 pm	1.00	50 mL	50 mL	X040219.D	Liquid	Y	NA
20	HS21031390-28	SAMP	04-02-2021 05:32 pm	1.00	50 mL	50 mL	X040220.D	Liquid	Y	NA
21	HS21031390-01	SAMP	04-02-2021 05:53 pm	1.00	50 mL	50 mL	X040221.D	Liquid	Y	NA
22	HS21031390-02	SAMP	04-02-2021 06:14 pm	1.00	50 mL	50 mL	X040222.D	Liquid	Y	NA
23	HS21031390-08	SAMP	04-02-2021 06:35 pm	1.00	50 mL	50 mL	X040223.D	Liquid	Y	NA
24	HS21031390-14	SAMP	04-02-2021 06:56 pm	1.00	50 mL	50 mL	X040224.D	Liquid	Y	NA
25	HS21031390-06	SAMP	04-02-2021 07:17 pm	10.00	5 mL	50 mL	X040225.D	Liquid	Y	NA
26	HS21031390-09	SAMP	04-02-2021 07:38 pm	5.00	10 mL	50 mL	X040226.D	Liquid	Y	NA
27	HS21031390-28MS	MS	04-02-2021 07:59 pm	1.00	50 mL	50 mL	X040227.D	Liquid	Y	NA
28	HS21031390-28MSD	MSD	04-02-2021 08:20 pm	1.00	50 mL	50 mL	X040228.D	Liquid	Y	NA
29	HS21031390-06	SAMP	04-02-2021 08:41 pm	100.0(	500 µL	50 mL	X040229.D	Liquid	Y	NA
30	HS21031390-09	SAMP	04-02-2021 09:03 pm	25.00	2 mL	50 mL	X040230.D	Liquid	Y	NA
31	HS21031318-29	SAMP	04-02-2021 09:24 pm	1.00	50 mL	50 mL	X040231.D	Liquid	Y	NA
32	HS21040032-03	SAMP	04-02-2021 09:45 pm	1.00	50 mL	50 mL	X040232.D	Liquid	Y	NA
33	BFB	TUNE	04-02-2021 10:06 pm	1.00	50 mL	50 mL	Y040201.D	Liquid	Y	NA
34	CCV	CCV	04-02-2021 10:27 pm	1.00	50 mL	50 mL	Y040202a.D	Liquid	Y	NA
35	CCV	CCV	04-02-2021 10:48 pm	1.00	50 mL	50 mL	Y040203.D	Liquid	Y	NA
36	CCB	SAMP	04-02-2021 11:09 pm	1.00	50 mL	50 mL	Y040204.D	Liquid	Y	NA
37	VLCSW-210402	LCS	04-02-2021 11:30 pm	1.00	50 mL	50 mL	Y040205.D	Liquid	Y	NA
38	BLANK	SAMP	04-02-2021 11:51 pm	1.00	50 mL	50 mL	Y040206.D	Liquid	Y	NA
39	VBLKW-210402	MBLK	04-03-2021 12:12 am	1.00	50 mL	50 mL	Y040207.D	Liquid	Y	NA
40	HS21031399-49	SAMP	04-03-2021 12:33 am	1.00	50 mL	50 mL	Y040208.D	Liquid	Y	NA
41	HS21031390-31	SAMP	04-03-2021 12:54 am	1.00	50 mL	50 mL	Y040209.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS21031390-33	SAMP	04-03-2021 01:15 am	1.00	50 mL	50 mL	Y040210.D	Liquid	Y	NA
43	HS21031390-31MS	MS	04-03-2021 01:36 am	1.00	50 mL	50 mL	Y040211.D	Liquid	Y	NA
44	HS21031390-31MSD	MSD	04-03-2021 01:57 am	1.00	50 mL	50 mL	Y040212.D	Liquid	Y	NA
45	BLANK	SAMP	04-03-2021 02:18 am	1.00	50 mL	50 mL	Y040213.D	Liquid	Y	NA
46	BLANK	SAMP	04-03-2021 02:39 am	1.00	50 mL	50 mL	Y040214.D	Liquid	Y	NA
47	HS21031399-38	SAMP	04-03-2021 03:00 am	1.00	50 mL	50 mL	Y040215.D	Liquid	Y	NA
48	HS21031399-39	SAMP	04-03-2021 03:21 am	1.00	50 mL	50 mL	Y040216.D	Liquid	Y	NA
49	HS21031399-41	SAMP	04-03-2021 03:43 am	1.00	50 mL	50 mL	Y040217.D	Liquid	Y	NA
50	HS21031399-42	SAMP	04-03-2021 04:04 am	1.00	50 mL	50 mL	Y040218.D	Liquid	Y	NA
51	HS21031399-43	SAMP	04-03-2021 04:25 am	1.00	50 mL	50 mL	Y040219.D	Liquid	Y	NA
52	HS21031399-44	SAMP	04-03-2021 04:46 am	1.00	50 mL	50 mL	Y040220.D	Liquid	Y	NA
53	HS21031399-45	SAMP	04-03-2021 05:07 am	1.00	50 mL	50 mL	Y040221.D	Liquid	Y	NA
54	HS21031399-46	SAMP	04-03-2021 05:28 am	1.00	50 mL	50 mL	Y040222.D	Liquid	Y	NA
55	HS21031565-01	SAMP	04-03-2021 05:49 am	1.00	50 mL	50 mL	Y040223.D	Liquid	Y	NA
56	HS21031565-05	SAMP	04-03-2021 06:10 am	1.00	50 mL	50 mL	Y040224.D	Liquid	Y	NA
57	HS21031565-06	SAMP	04-03-2021 06:31 am	1.00	50 mL	50 mL	Y040225.D	Liquid	Y	NA
58	HS21031565-07	SAMP	04-03-2021 06:52 am	1.00	50 mL	50 mL	Y040226.D	Liquid	Y	NA
59	HS21031565-08	SAMP	04-03-2021 07:13 am	1.00	50 mL	50 mL	Y040227.D	Liquid	Y	NA
60	HS21031565-11	SAMP	04-03-2021 07:35 am	1.00	50 mL	50 mL	Y040228.D	Liquid	Y	NA
61	HS21031565-14	SAMP	04-03-2021 07:56 am	1.00	50 mL	50 mL	Y040229.D	Liquid	Y	NA
62	HS21031565-15	SAMP	04-03-2021 08:17 am	1.00	50 mL	50 mL	Y040230.D	Liquid	Y	NA
63	HS21031390-32	SAMP	04-03-2021 08:38 am	1.00	50 mL	50 mL	Y040231.D	Liquid	Y	NA
64	BLANJ	SAMP	04-03-2021 08:59 am	1.00	50 mL	50 mL	Y040240.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	46.17	92	80-120
Methylene Chloride	50.00	45.57	91	80-120
1,1-Dichloroethene	50.00	46.21	92	80-120
1,2-Dichloroethane	50.00	47.48	95	80-120
cis-1,2-Dichloroethene	50.00	46.33	93	80-120
1,1,2-Trichloroethane	50.00	48.15	96	80-120
Trichloroethene	50.00	50.43	101	80-120

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

* Values outside of QC limits

COMMENTS: _____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Lab File ID: X040201 BFB Injection Date: 04/02/21

Instrument ID: VOA6 BFB Injection Time: 1032

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	22.5
75	30.0 - 60.0% of mass 95	53.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	Greater than 50.0% of mass 95	83.8
175	5.0 - 9.0% of mass 174	6.3 (7.6)1
176	95.0 - 101.0% of mass 174	81.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.4 (5.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X040202	04/02/21	1053
02	VSTD000.5	VSTD000.5	X040203	04/02/21	1135
03	VSTD001	VSTD001	X040204	04/02/21	1156
04	VSTD002	VSTD002	X040205	04/02/21	1217
05	VSTD005	VSTD005	X040206	04/02/21	1238
06	VSTD020	VSTD020	X040207	04/02/21	1259
07	VSTD050	VSTD050	X040208	04/02/21	1320
08	VSTD100	VSTD100	X040209	04/02/21	1341
09	VSTD150	VSTD150	X040210	04/02/21	1402
10	VSTD200	VSTD200	X040211	04/02/21	1423
11	ICV	ICV	X040214	04/02/21	1526
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF0.25: X040202 RF0.5: X040203 RF1: X040204
RF2: X040205 RF5: X040206 RF20: X040207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.844	0.943	0.758	0.756	0.736
Methylene Chloride		2167	4155	7271	17205	63925
1,1-Dichloroethene		0.748	0.754	0.752	0.776	0.659
1,2-Dichloroethane		0.560	0.634	0.506	0.530	0.475
cis-1,2-Dichloroethene		0.588	0.711	0.624	0.604	0.542
1,1,2-Trichloroethane		0.276	0.355	0.300	0.320	0.251
Trichloroethene		0.263	0.401	0.364	0.376	0.308
Dibromofluoromethane		1934	3862	6870	17824	68668
1,2-Dichloroethane-d4		2323	4438	7506	20809	80475
Toluene-d8		6330	12313	22274	56112	218999
4-Bromofluorobenzene		2889	4647	7732	19193	81621

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104119

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF50: X040208 RF100: X040209 RF150: X040210
RF200: X040211

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.712	0.681	0.664	0.652
Methylene Chloride	173954	420832	703062	1013494
1,1-Dichloroethene	0.668	0.684	0.663	0.702
1,2-Dichloroethane	0.517	0.525	0.513	0.503
cis-1,2-Dichloroethene	0.580	0.612	0.608	0.631
1,1,2-Trichloroethane	0.265	0.281	0.281	0.284
Trichloroethene	0.345	0.350	0.337	0.337
Dibromofluoromethane	201590	476731	758989	1061294
1,2-Dichloroethane-d4	243778	568806	919399	1266674
Toluene-d8	658700	1733824	2714142	3949224
4-Bromofluorobenzene	267013	624362	1011725	1473828

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104119

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.74959896	12.472	15.000
Methylene Chloride	LINR	2.966e-002	1.78818120	0.9978871	0.9900000
1,1-Dichloroethene	AVRG		0.71193342	6.418	15.000
1,2-Dichloroethane	AVRG		0.52923847	8.569	15.000
cis-1,2-Dichloroethene	AVRG		0.61120734	7.506	15.000
1,1,2-Trichloroethane	AVRG		0.29044925	10.722	15.000
Trichloroethene	AVRG		0.34228157	11.637	15.000
Dibromofluoromethane	LINR	8.656e-003	1.68407127	0.9996746	0.9900000
1,2-Dichloroethane-d4	LINR	9.666e-003	1.40410549	0.9998489	0.9900000
Toluene-d8	LINR	3.71e-002	0.74922718	0.9979532	0.9900000
4-Bromofluorobenzene	LINR	3.301e-002	2.01663185	0.9986184	0.9900000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

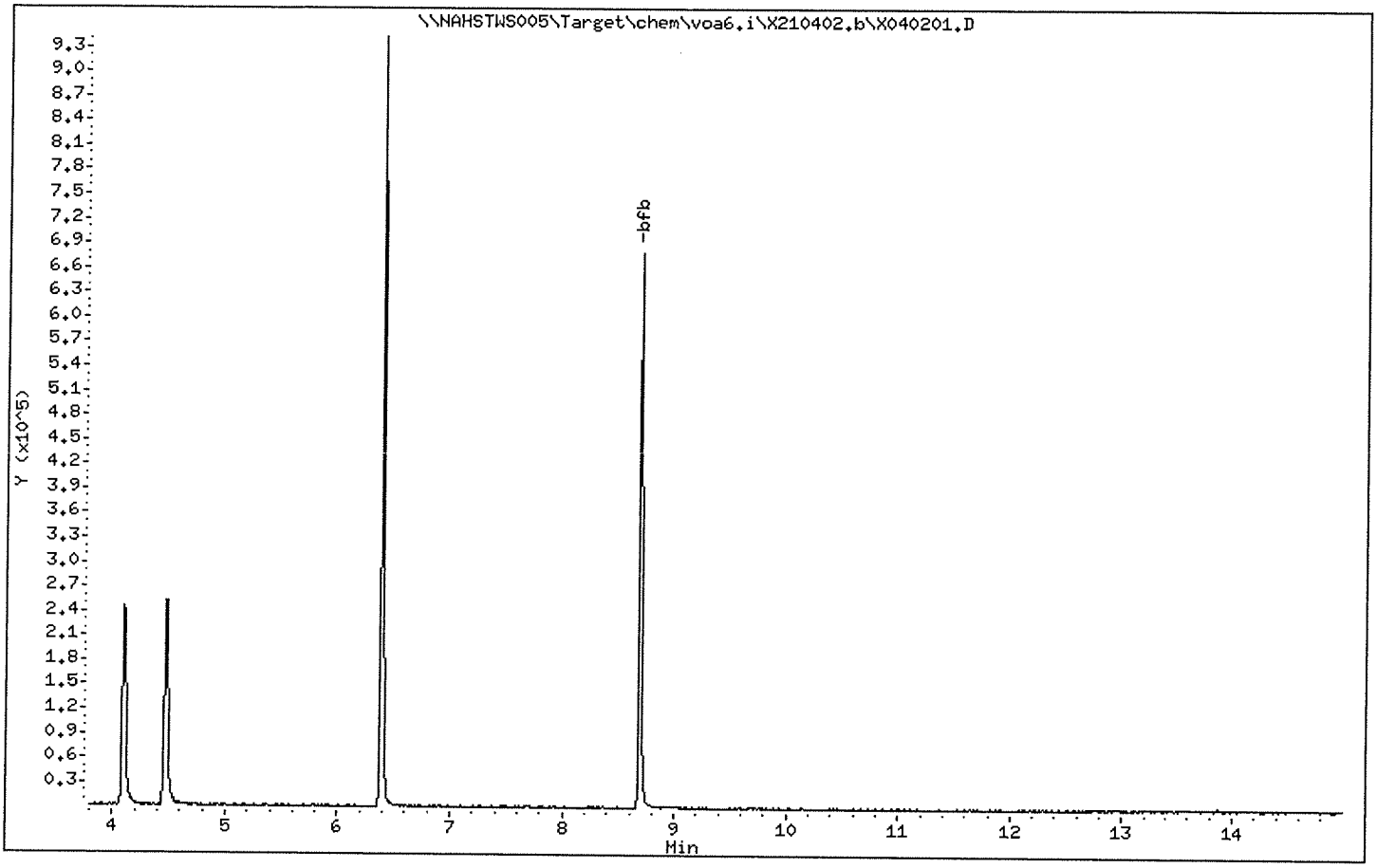
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

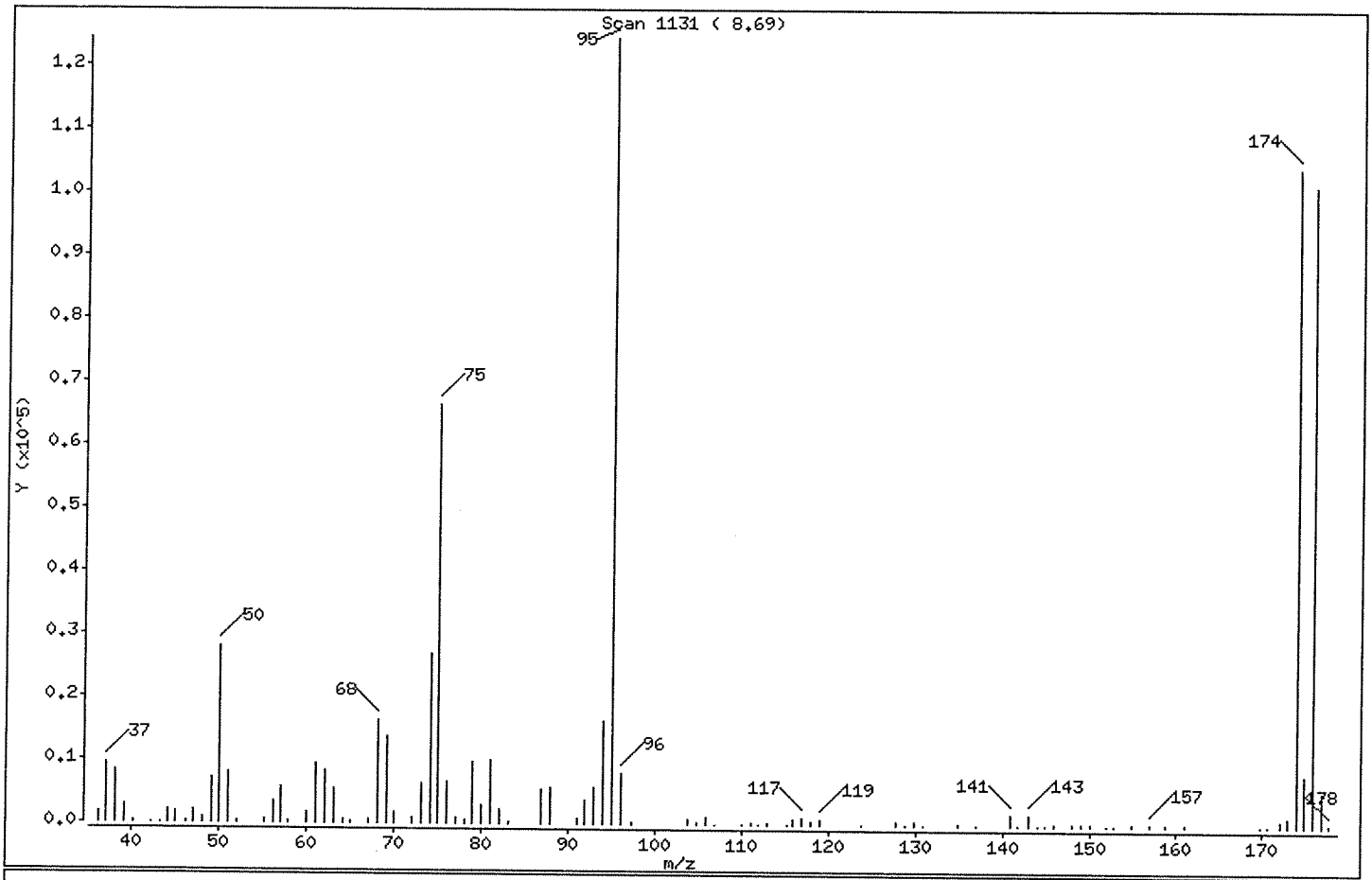
Volume Injected (uL): 2.0

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	22.51
75	30.00 - 60.00% of mass 95	53.31
96	5.00 - 9.00% of mass 95	6.51
173	Less than 2.00% of mass 174	1.06 (1.26)
174	Greater than 50.00% of mass 95	83.79
175	5.00 - 9.00% of mass 174	6.34 (7.56)
176	95.00 - 101.00% of mass 174	81.37 (97.11)
177	5.00 - 9.00% of mass 176	4.40 (5.40)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

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: X040201.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1732	64.00	599	95.00	124200	141.70	84
37.00	9290	65.00	153	96.00	8090	142.90	1576
38.00	8308	67.00	500	97.20	217	143.90	75
39.00	2929	68.00	16384	103.70	740	144.80	94
40.10	424	69.00	13717	104.80	164	145.90	148
42.20	74	70.00	1785	105.80	1029	147.90	250
43.20	72	72.10	777	106.90	112	148.90	155
44.00	2050	73.00	6328	109.90	136	150.00	286
45.00	1795	74.00	26912	111.00	268	151.80	52
46.10	242	75.00	66216	111.90	85	152.70	124
47.00	1874	76.00	6620	112.90	237	154.80	284
48.00	988	77.10	800	115.10	59	156.80	312
49.00	7094	78.10	446	115.80	811	158.80	260
50.00	27952	78.90	9818	116.90	1154	161.00	258
51.00	7947	79.90	2794	117.80	635	169.80	139
51.90	391	80.90	10133	118.90	930	170.60	140
55.20	631	82.00	2269	123.70	57	172.20	893
56.10	3391	83.00	193	127.70	679	172.90	1311
57.00	5690	86.90	5298	128.70	113	173.90	104064
57.90	400	87.90	5776	129.70	519	174.90	7871
59.90	1604	90.90	805	130.80	68	175.90	101056
61.00	9323	91.90	3707	134.80	220	176.90	5459
62.00	8245	92.90	5610	136.80	123	177.80	373
63.00	5418	94.00	16192	140.90	1678		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-APR-2021 10:53
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

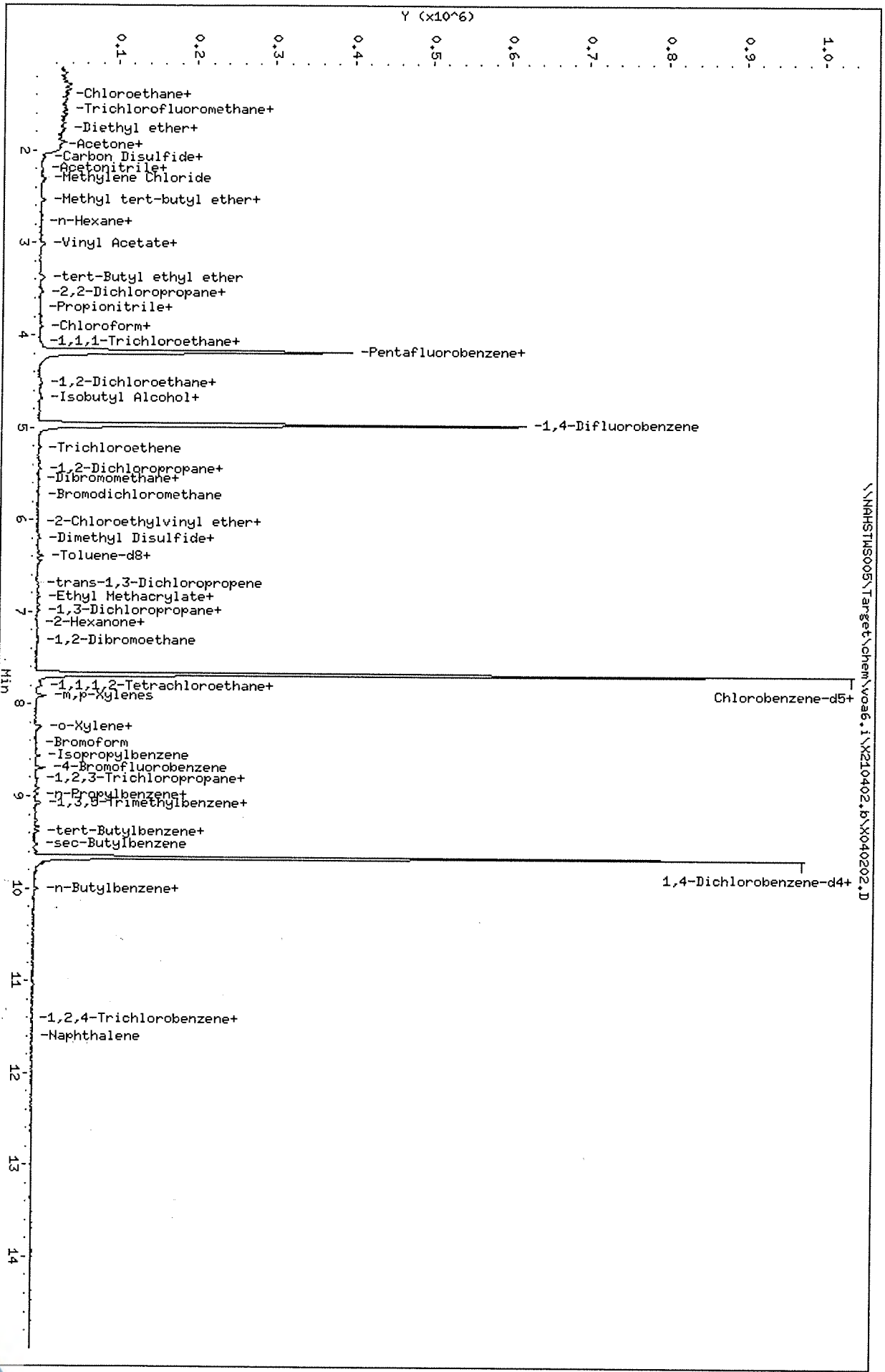
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	311555	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	505232	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	450629	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197083	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	968	0.25000	0.69(M)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1238	0.25000	0.76(TM)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	4819	0.25000	2.25
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3592	0.25000	2.45
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	995	0.25000	0.38(a)
11 1,1-Dichloroethene	96	1.904	1.904	(0.455)	1567	0.25000	0.35(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	1597	0.25000	0.29(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	893	0.25000	0.23(M)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2054	0.25000	2.07(aM)
38 Trichloroethene	130	5.221	5.221	(1.052)	988	0.25000	0.28(M)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1614	0.25000	0.34(M)

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\X210402.b\X040202.D
Date : 02-APR-2021 10:53
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\X210402.b\X040203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-APR-2021 11:35
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 10:53 Cal File: X040202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

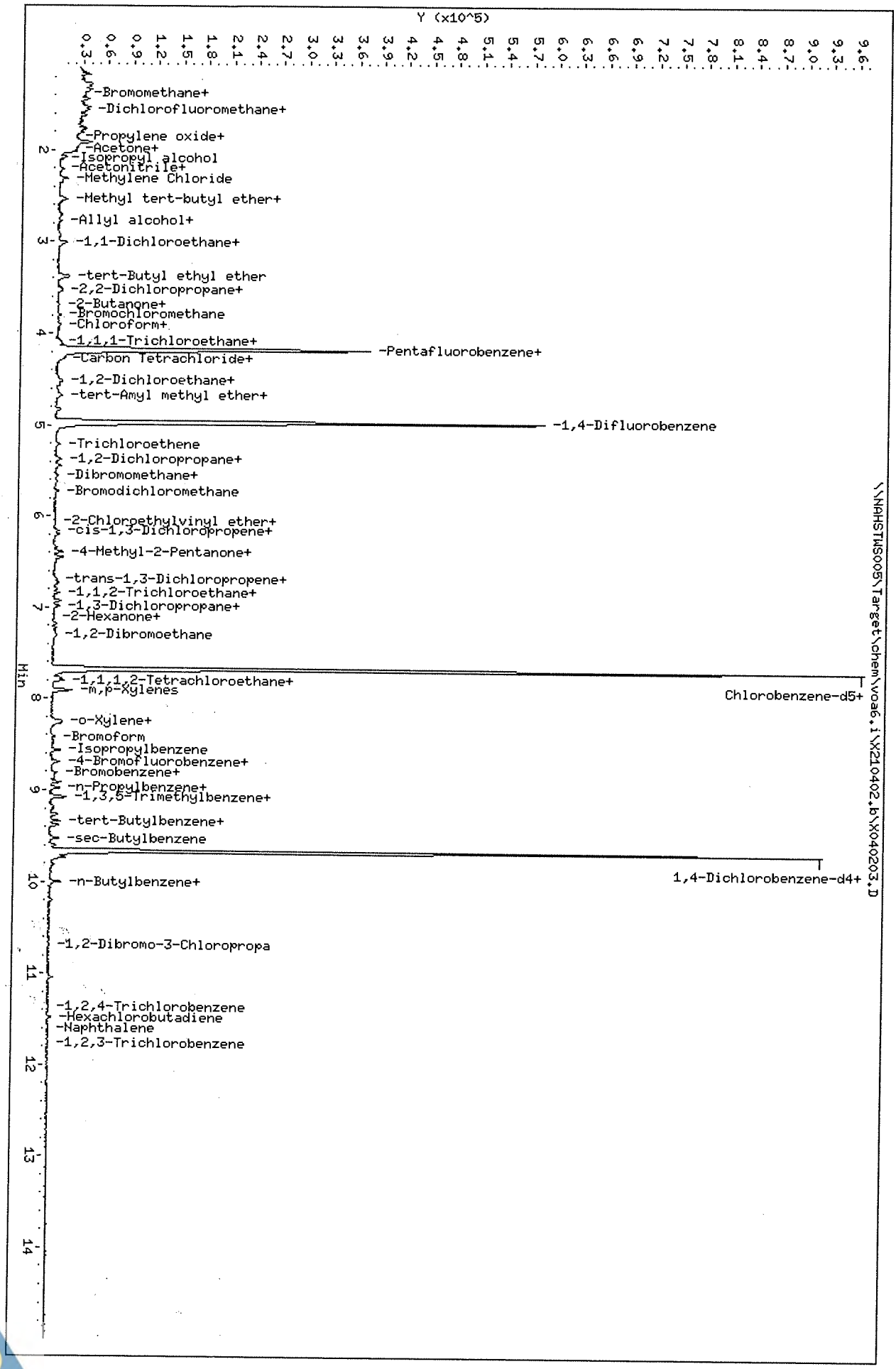
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	292480	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	476531	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	420545	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	191809	50.0000	
$	30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1934	0.50000	0.98
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2323	0.50000	1.04(T)
$	48 Toluene-d8	98	6.389	6.389	(0.833)	6330	0.50000	2.41(T)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2889	0.50000	2.34
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1162	0.50000	0.47(a)
	11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2188	0.50000	0.52(aM)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	2669	0.50000	0.52(aM)
	27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.848)	1721	0.50000	0.48
	17 Methylene Chloride	84	2.306	2.306	(0.551)	2167	0.50000	2.14(aM)
	38 Trichloroethene	130	5.214	5.214	(1.049)	1254	0.50000	0.38
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	2470	0.50000	0.56

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.

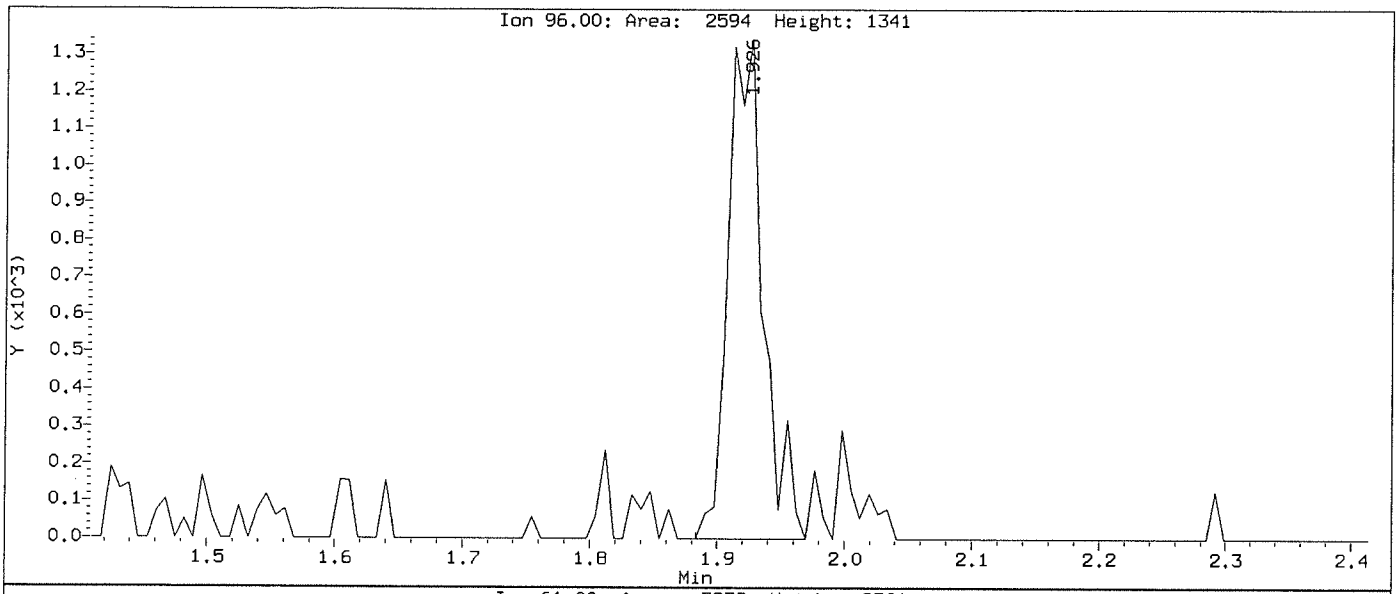


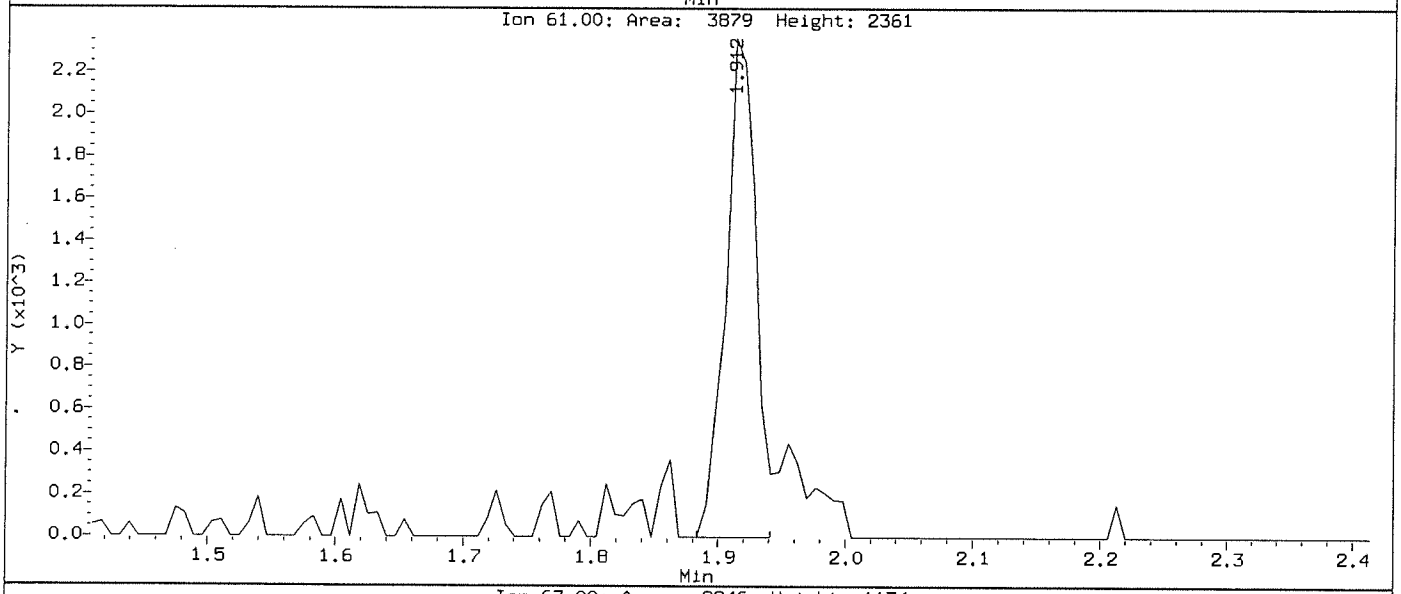
Data File: \\NAHSTWS005\Target\chem\voa6,i\X210402,b\X040203,D
Date : 02-APR-2021 11:35
Client ID: VSTD000,5
Sample Info: VSTD000,5;VSTD000,5;1;2;;
Purge Volume: 5,0
Column phase: DB624

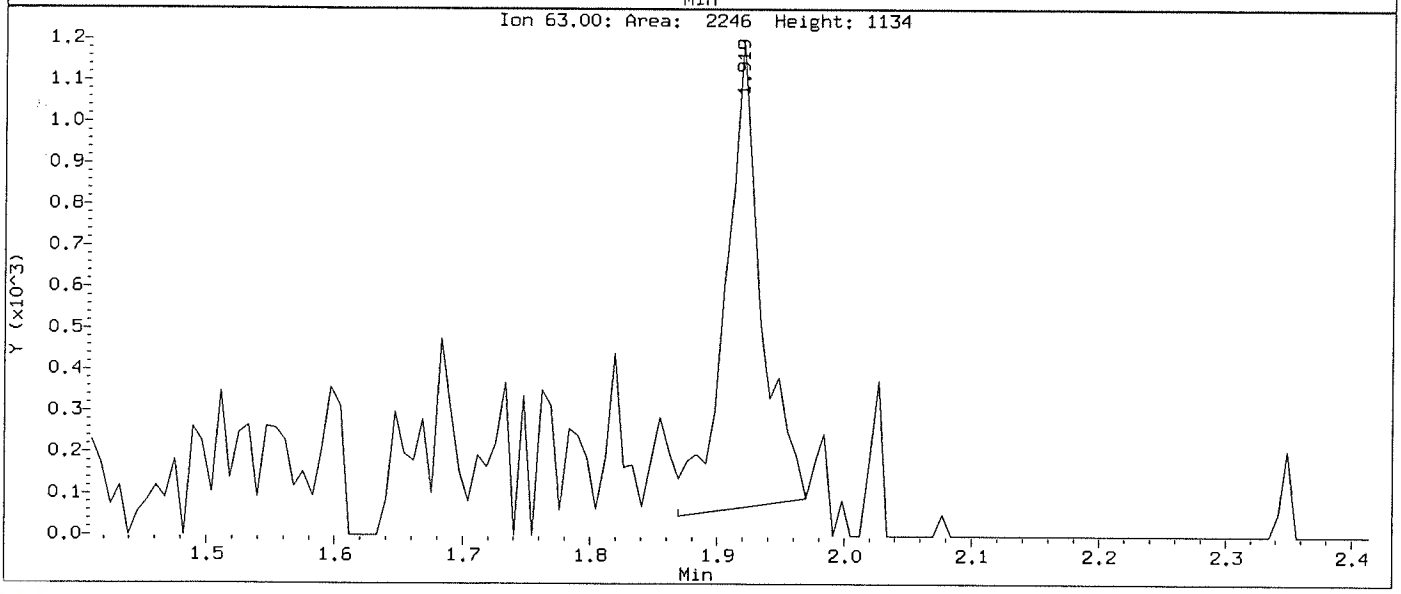
Instrument: voa6,i
Operator: PC
Column diameter: 0,18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

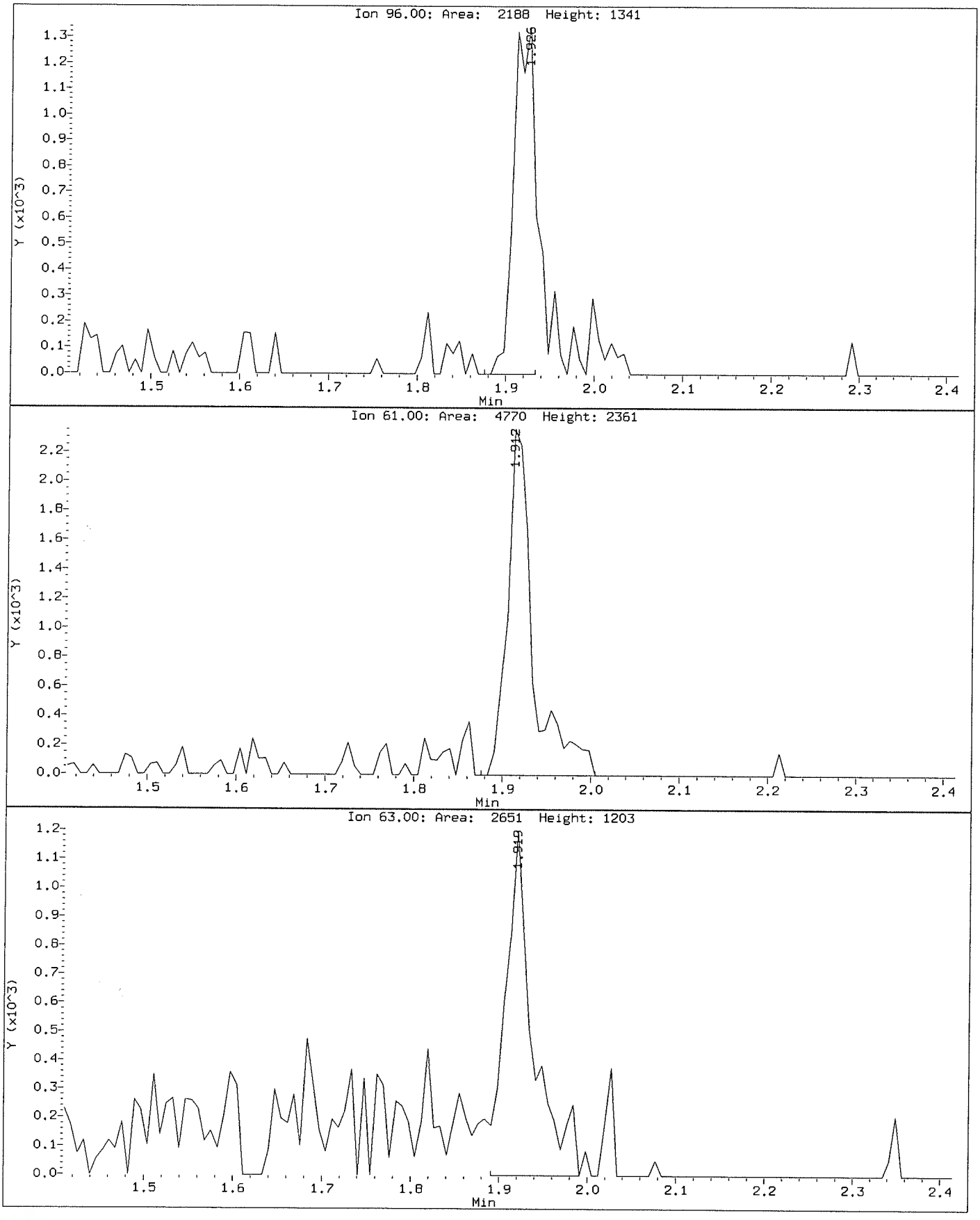






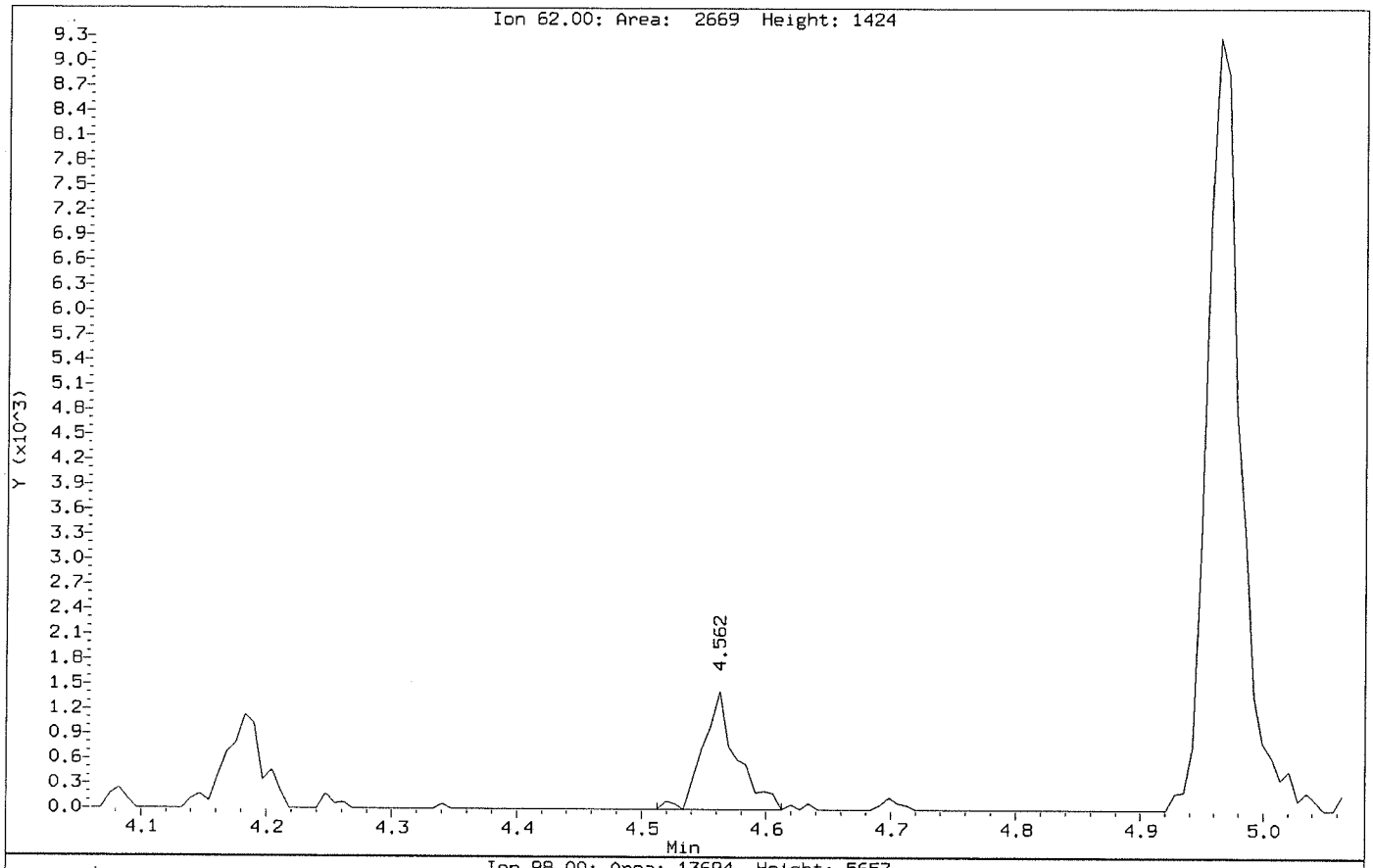
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

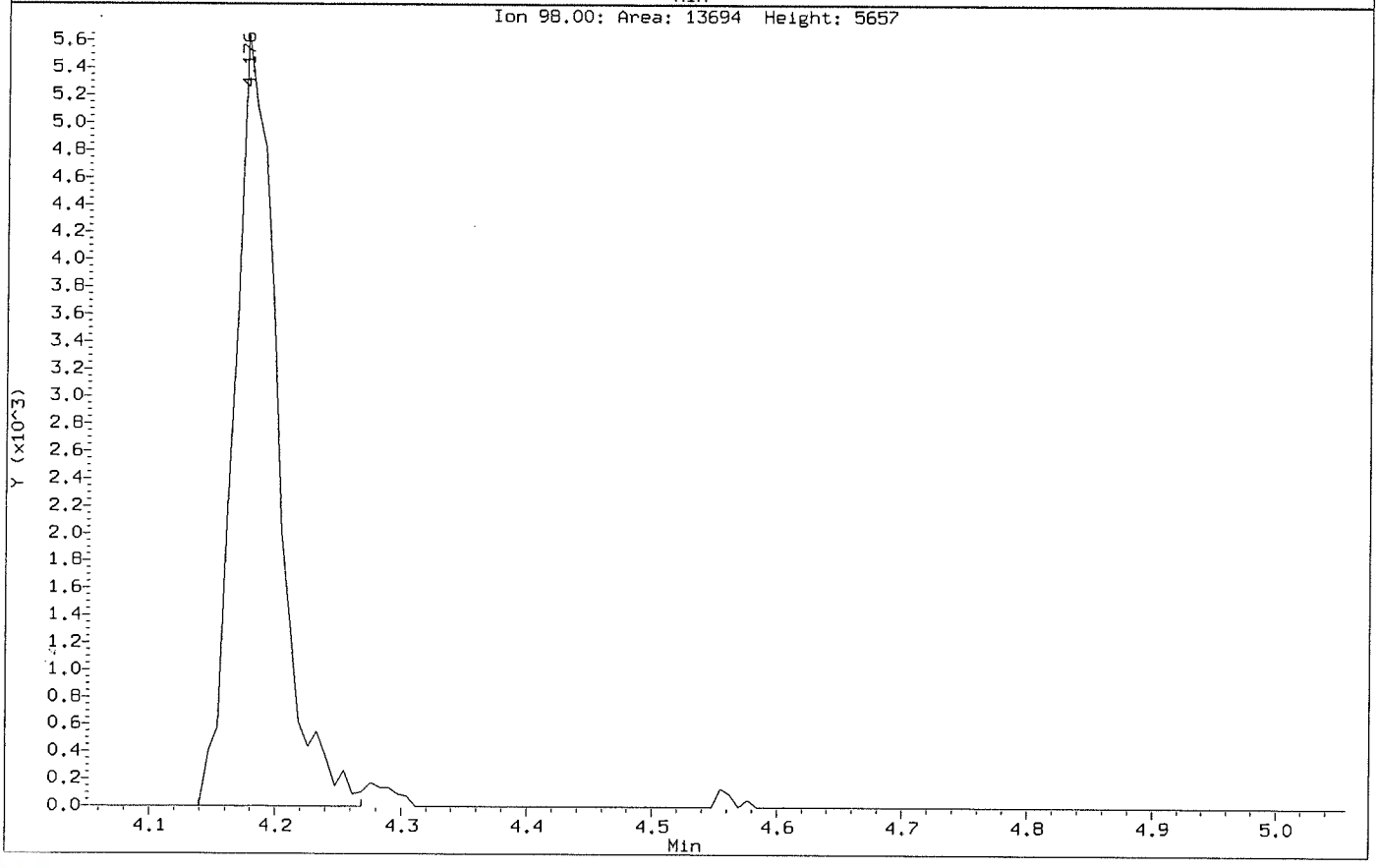
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

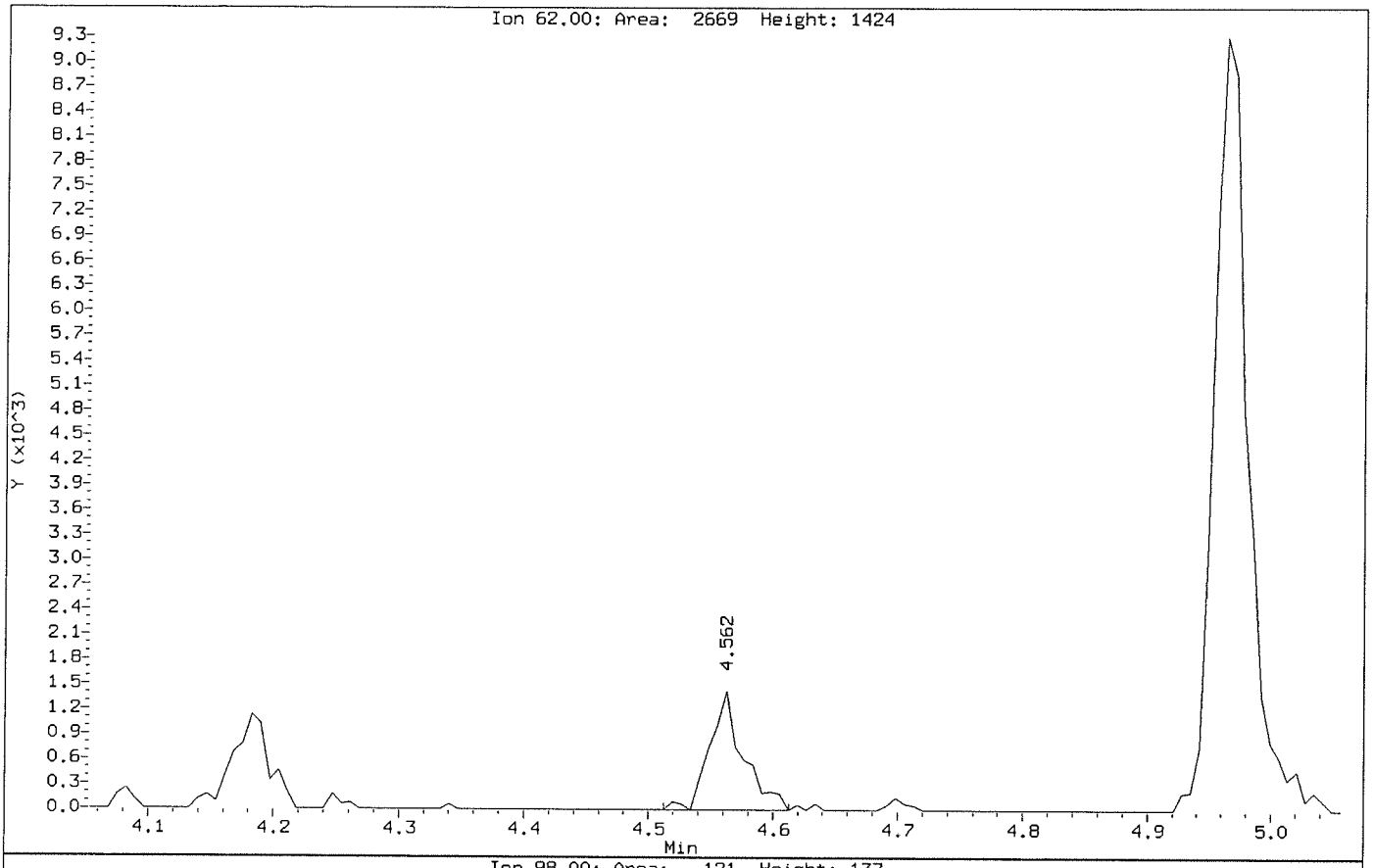
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

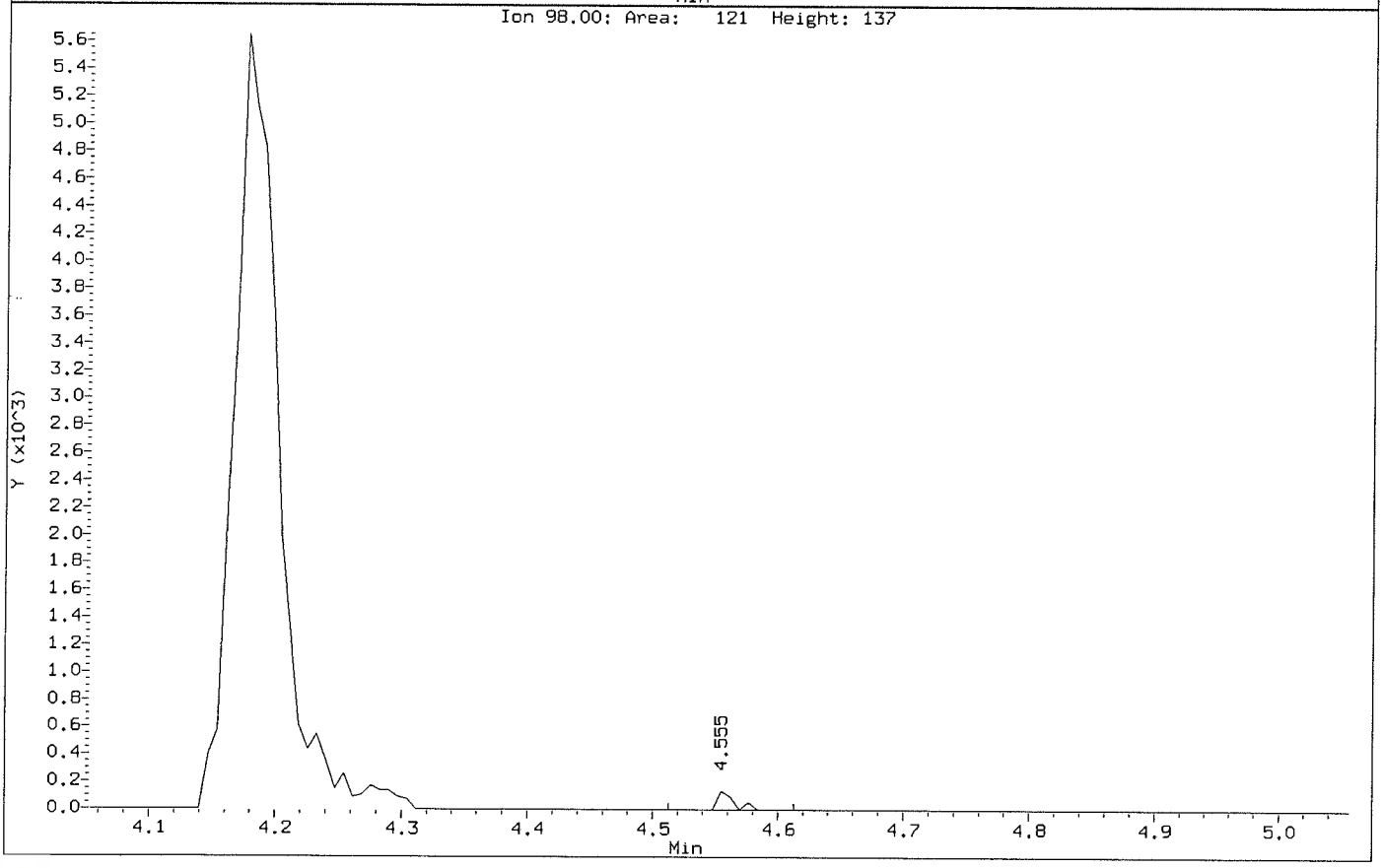




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

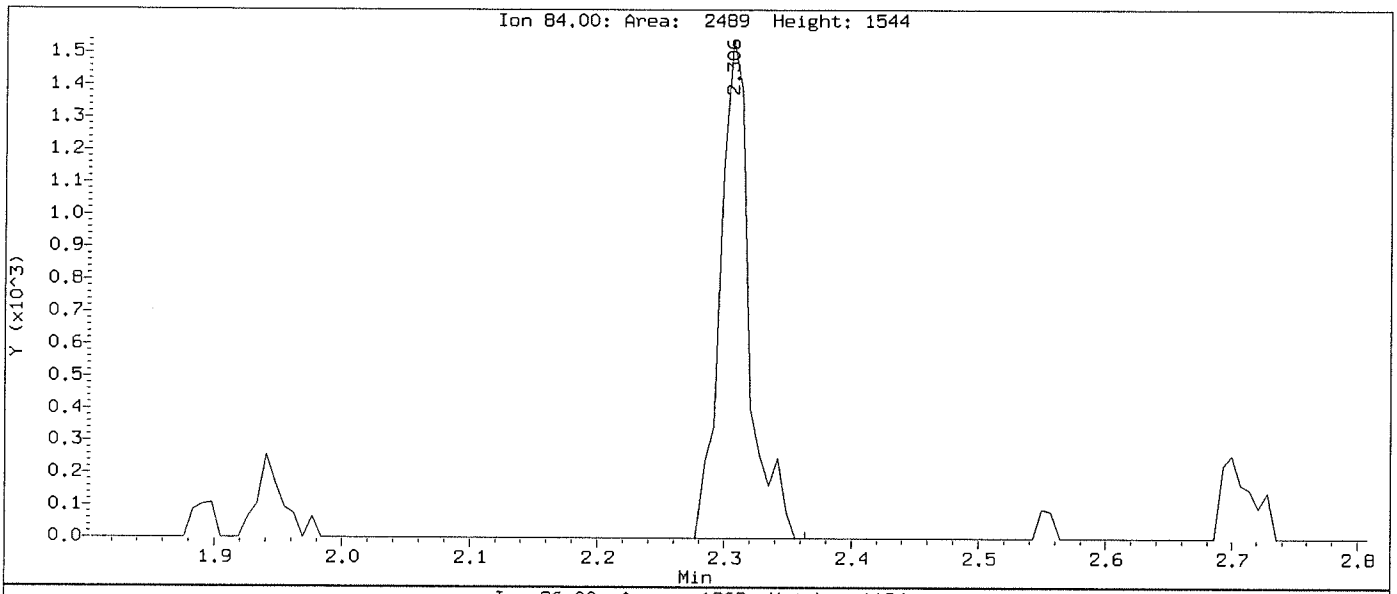
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

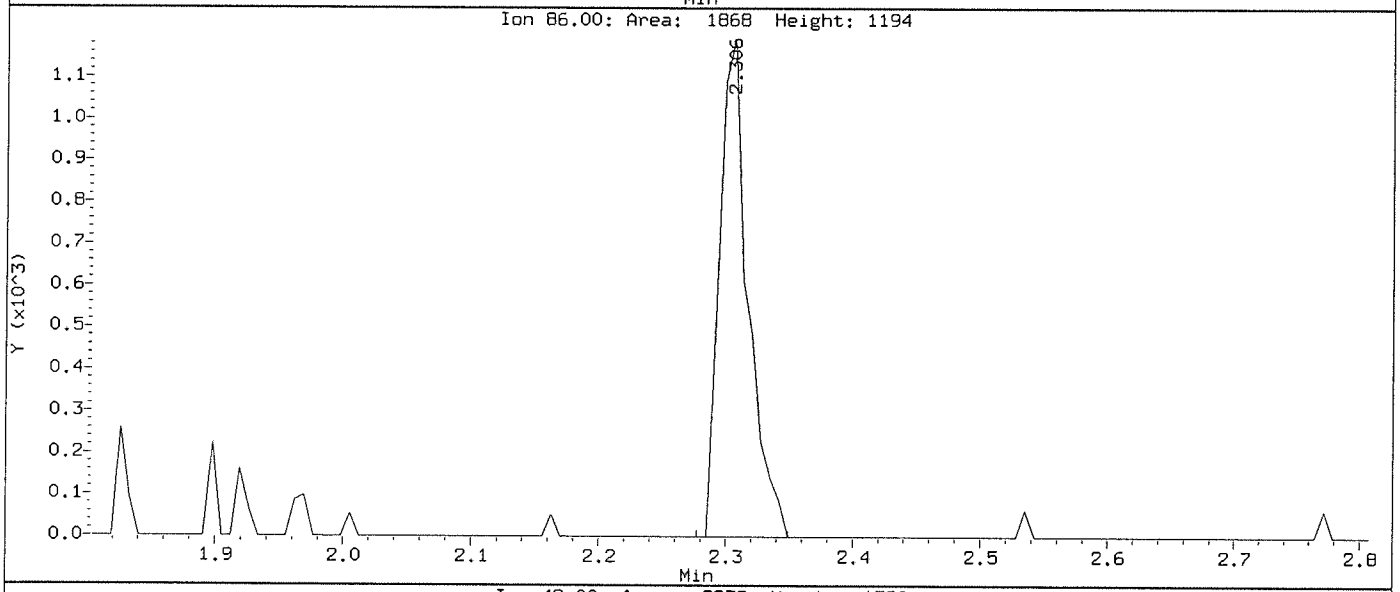


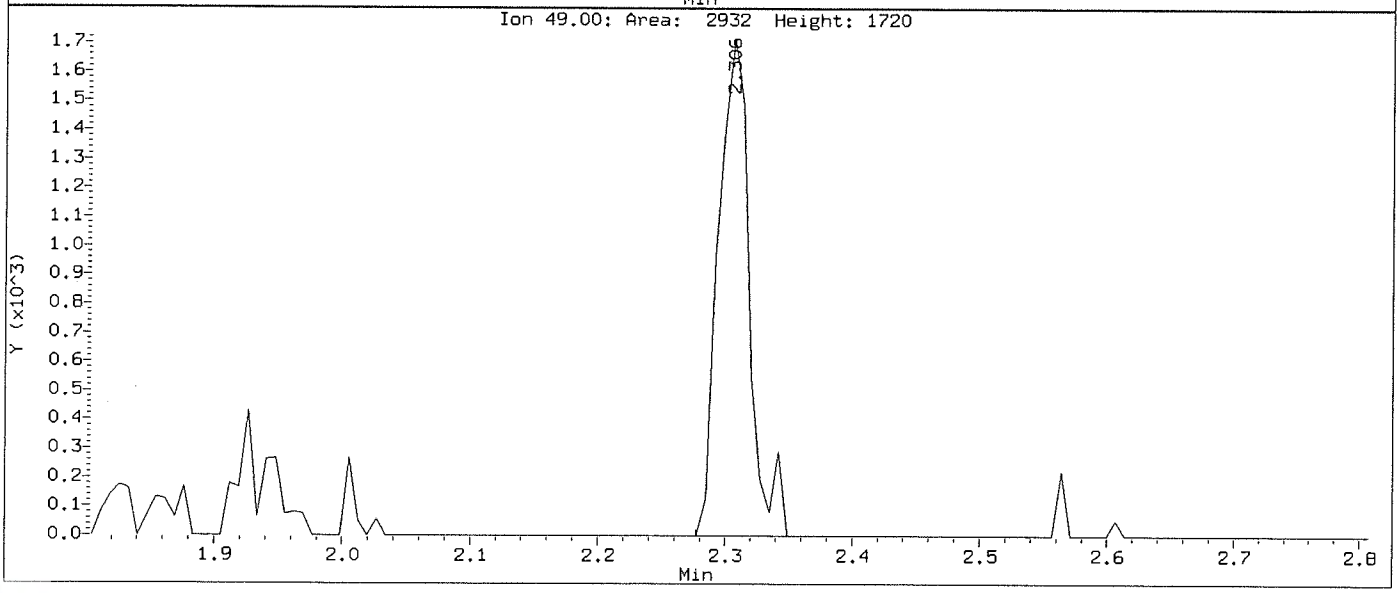


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

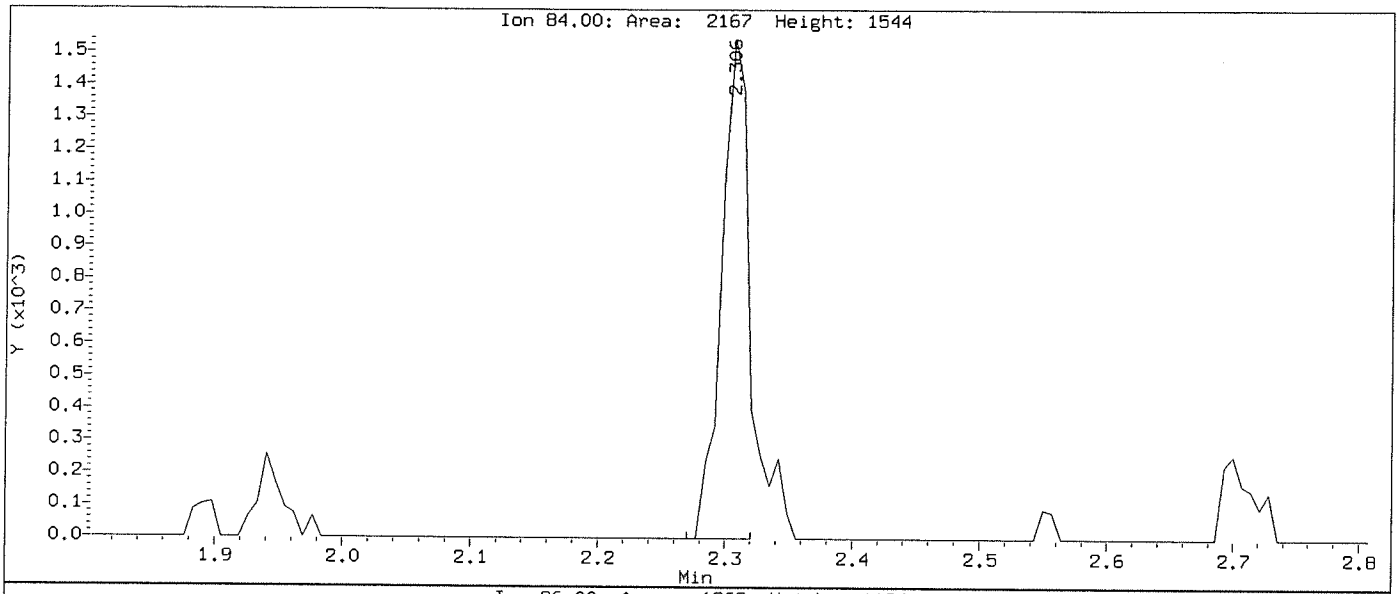


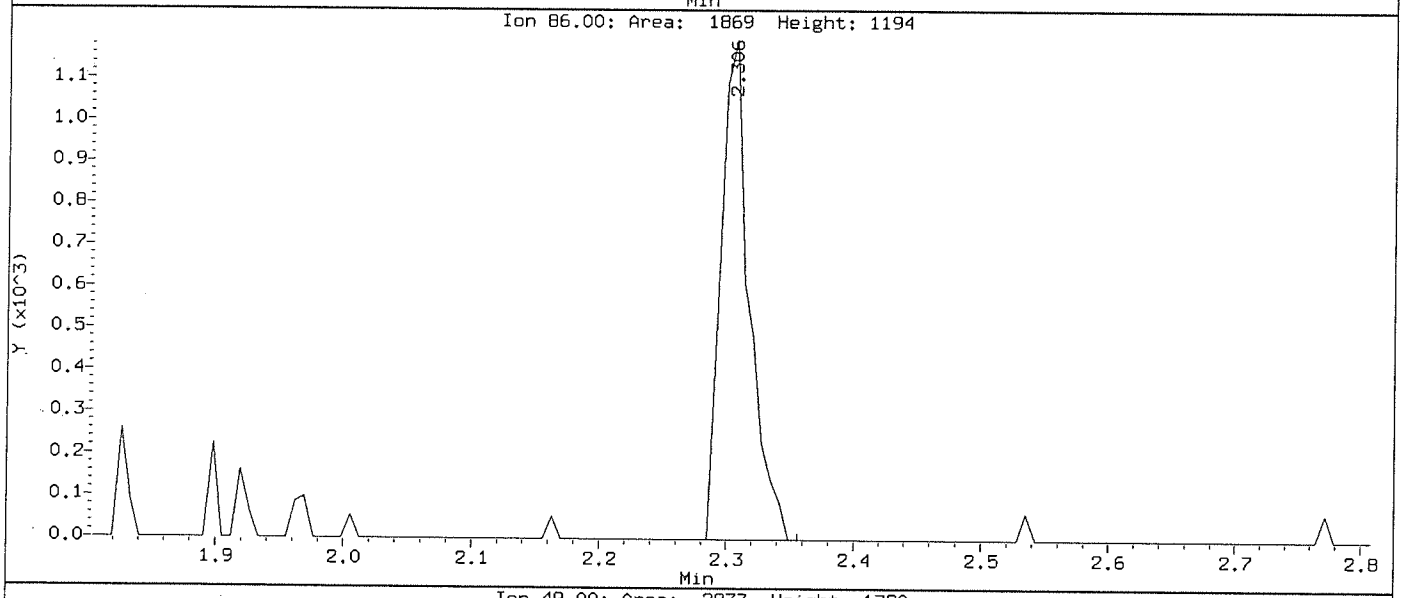


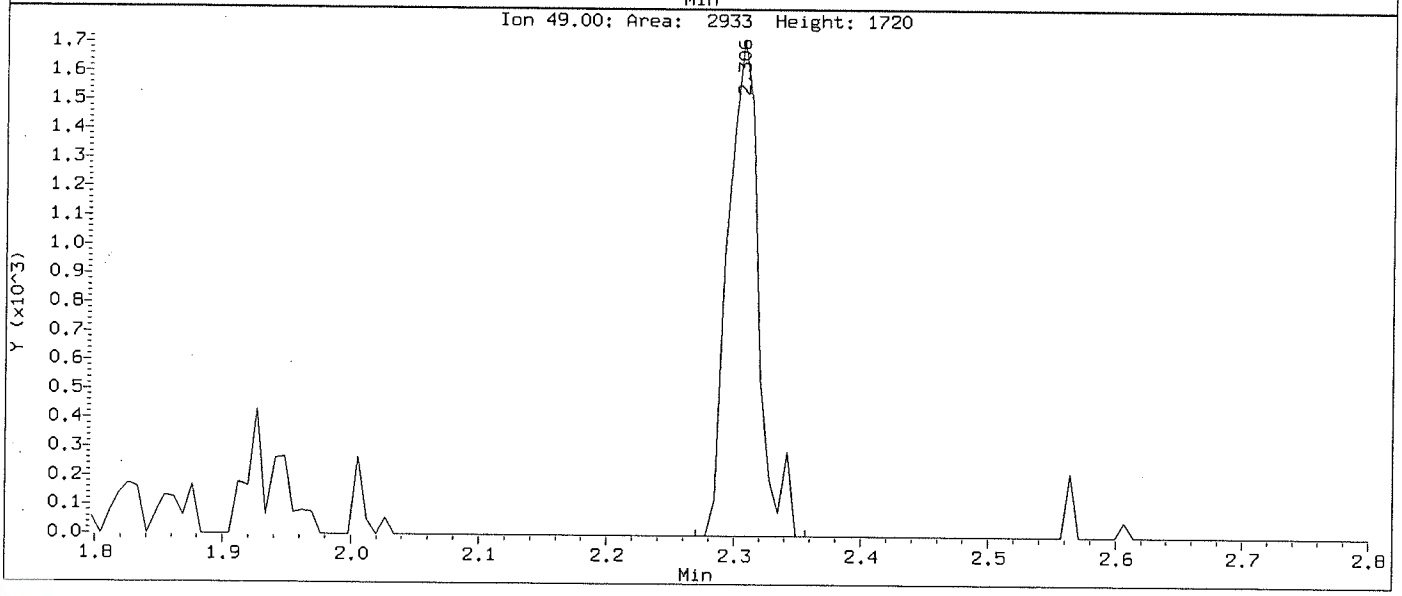


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-APR-2021 11:56
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:35 Cal File: X040203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

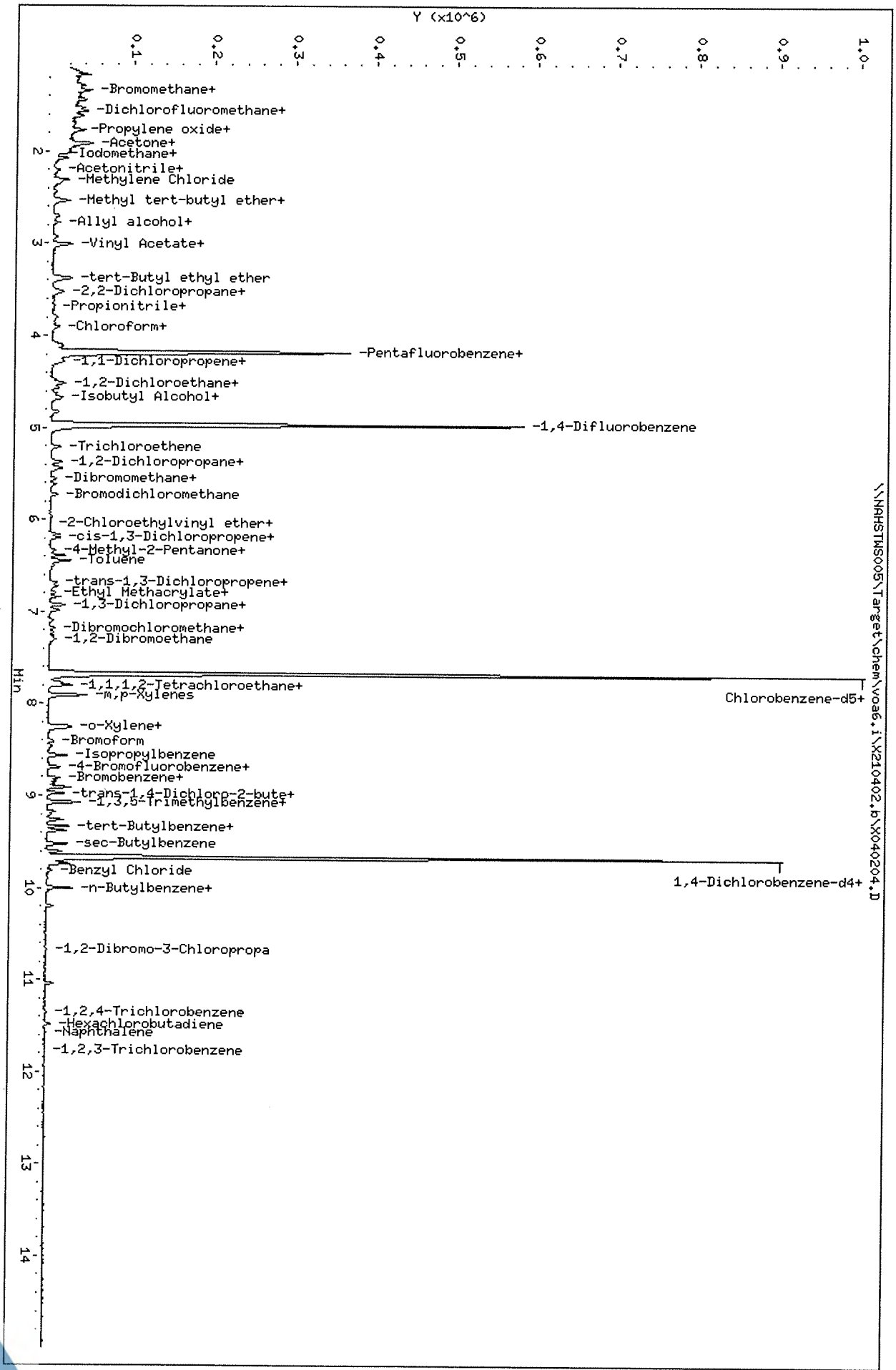
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278422	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	467952	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	425730	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	185938	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3862	1.00000	1.60
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4438	1.00000	1.60
$	48 Toluene-d8	98	6.388	6.388	(0.833)	12313	1.00000	2.93
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4647	1.00000	2.75
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	3024	1.00000	1.22(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4199	1.00000	1.05(aM)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	5931	1.00000	1.19(aM)
	27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3959	1.00000	1.16
	17 Methylene Chloride	84	2.298	2.298	(0.550)	4155	1.00000	2.81(aM)
	38 Trichloroethene	130	5.207	5.207	(1.049)	3757	1.00000	1.17(M)
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	5253	1.00000	1.25(M)

QC Flag Legend

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

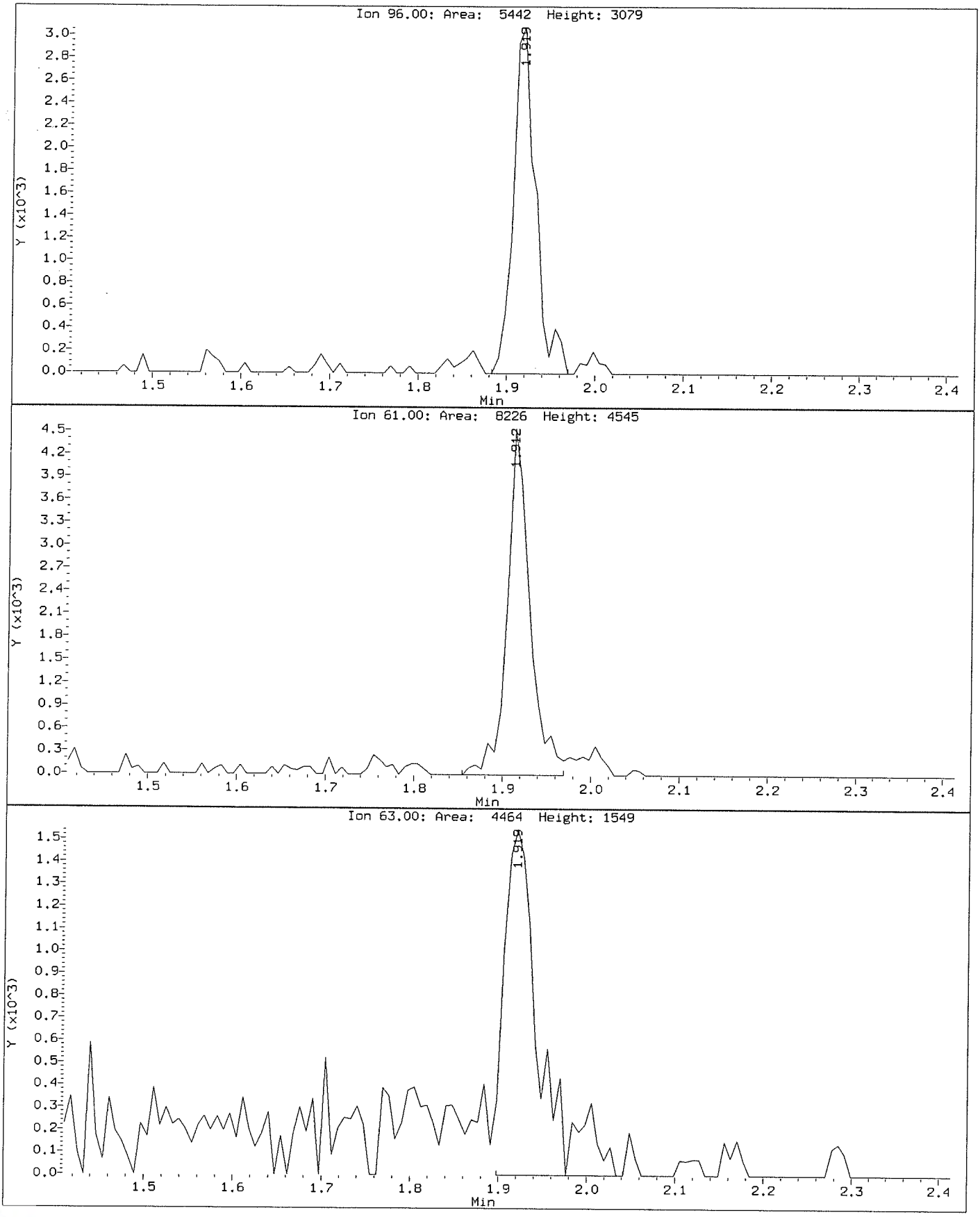


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Date : 02-APR-2021 11:56
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

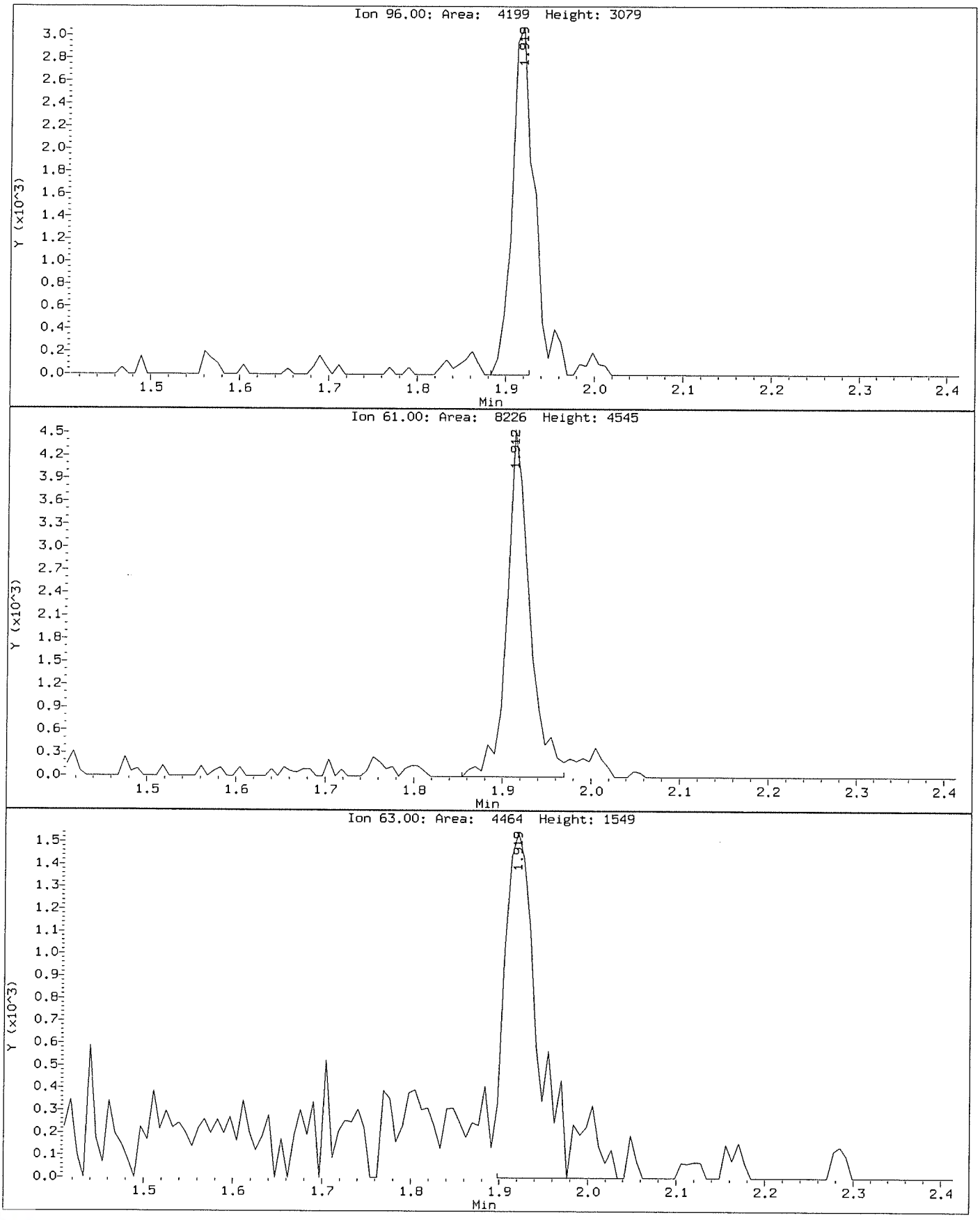
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Instrument: voa6.i
Client Sample ID: VSTD001

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



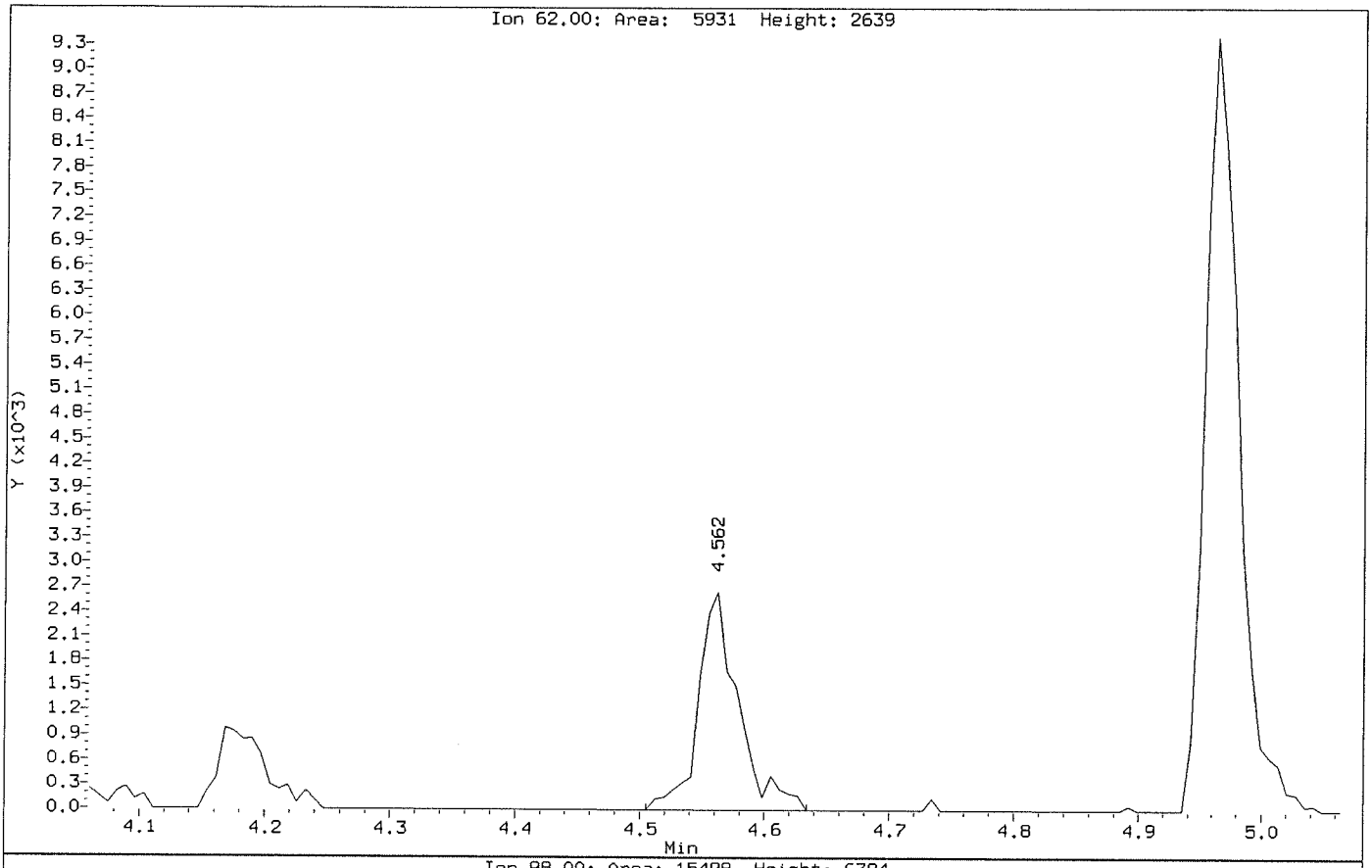
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

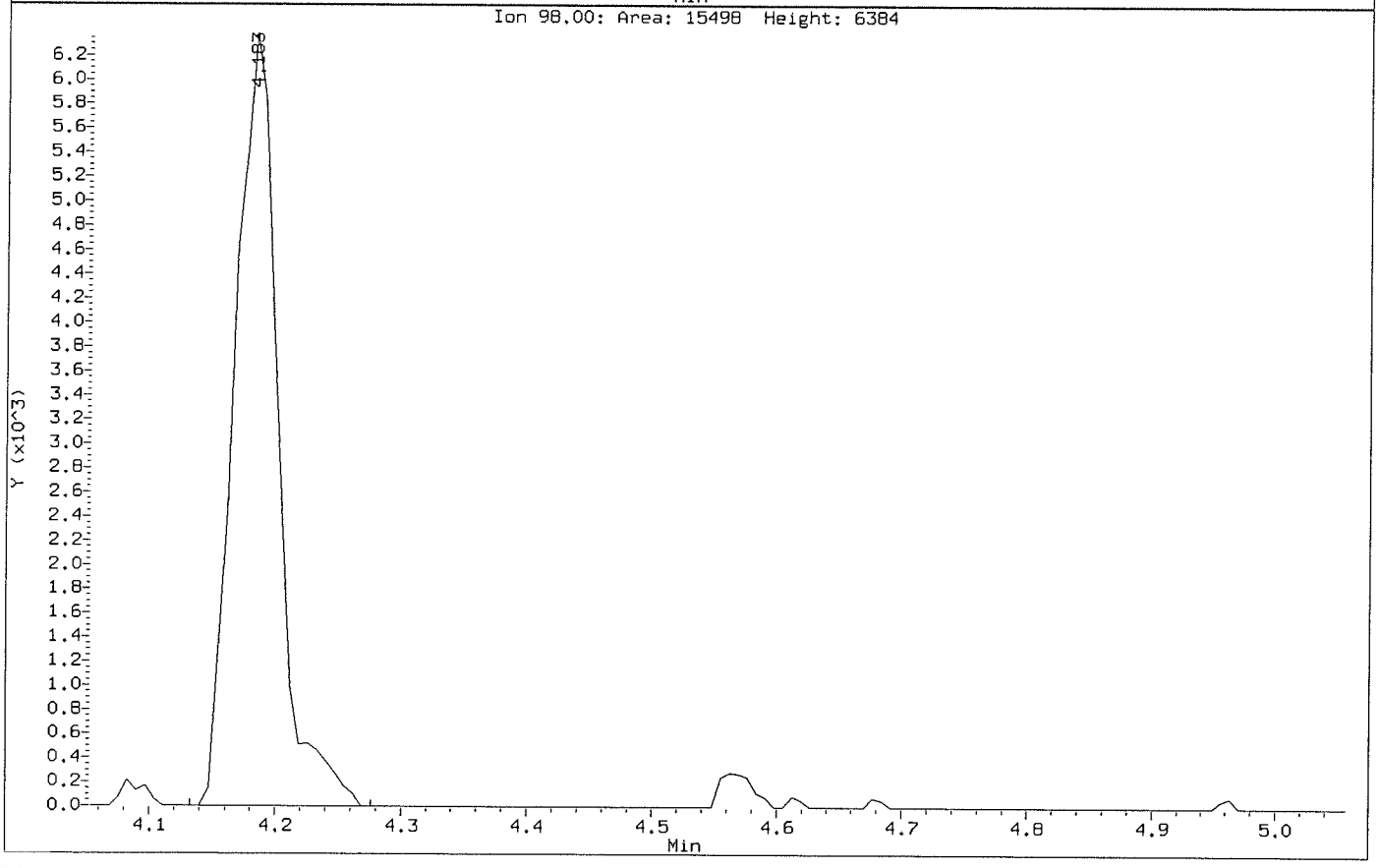
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

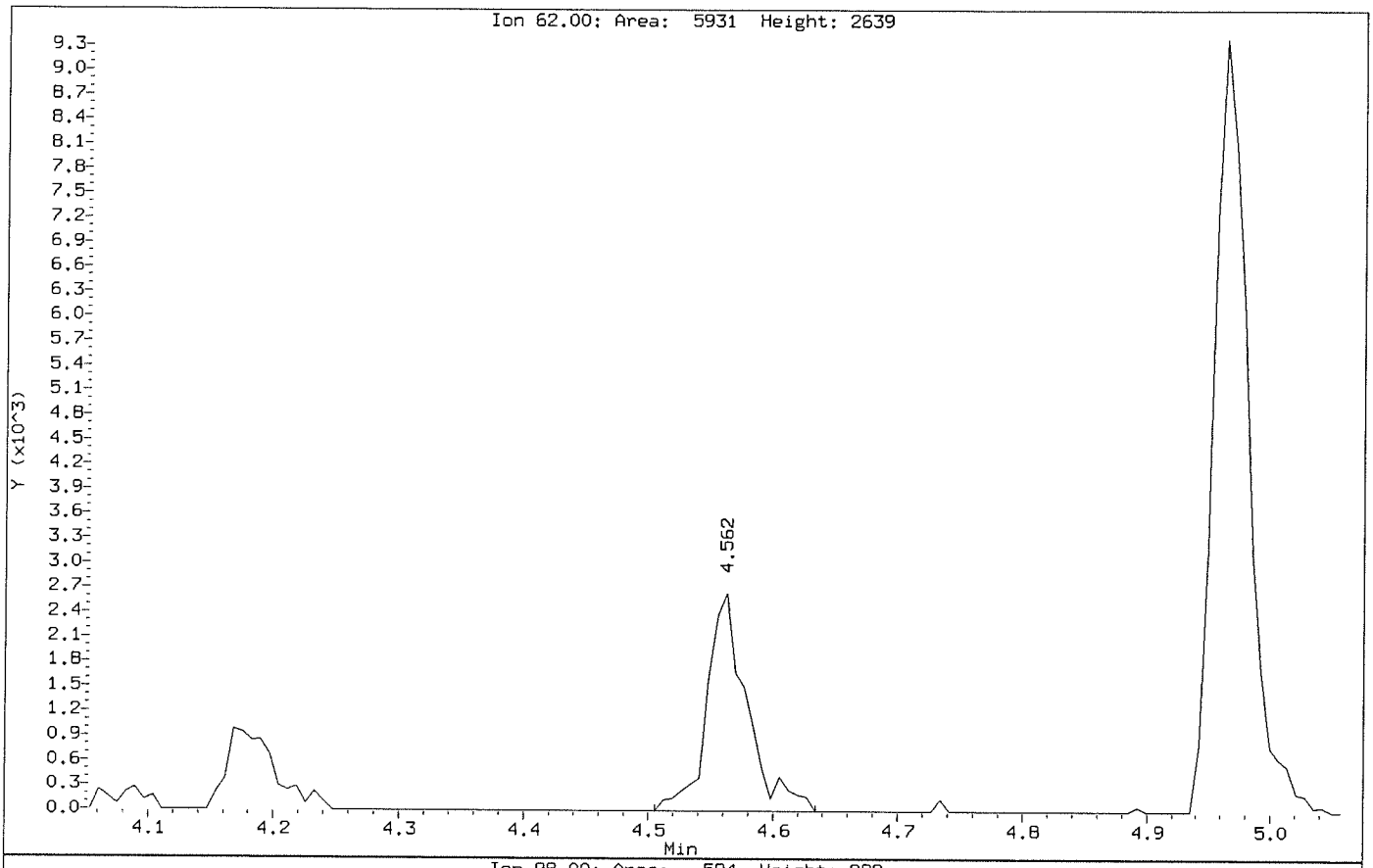
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

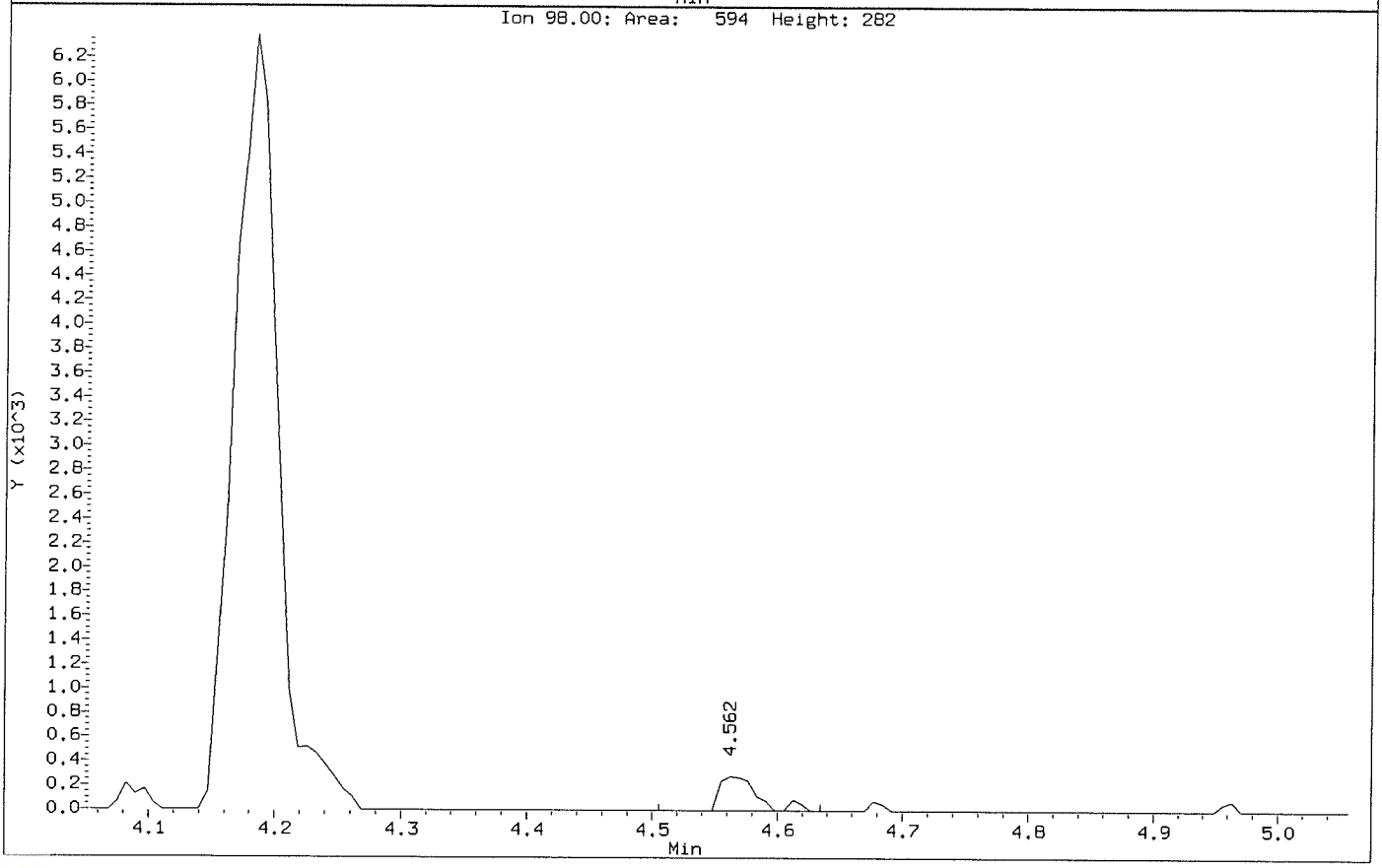




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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

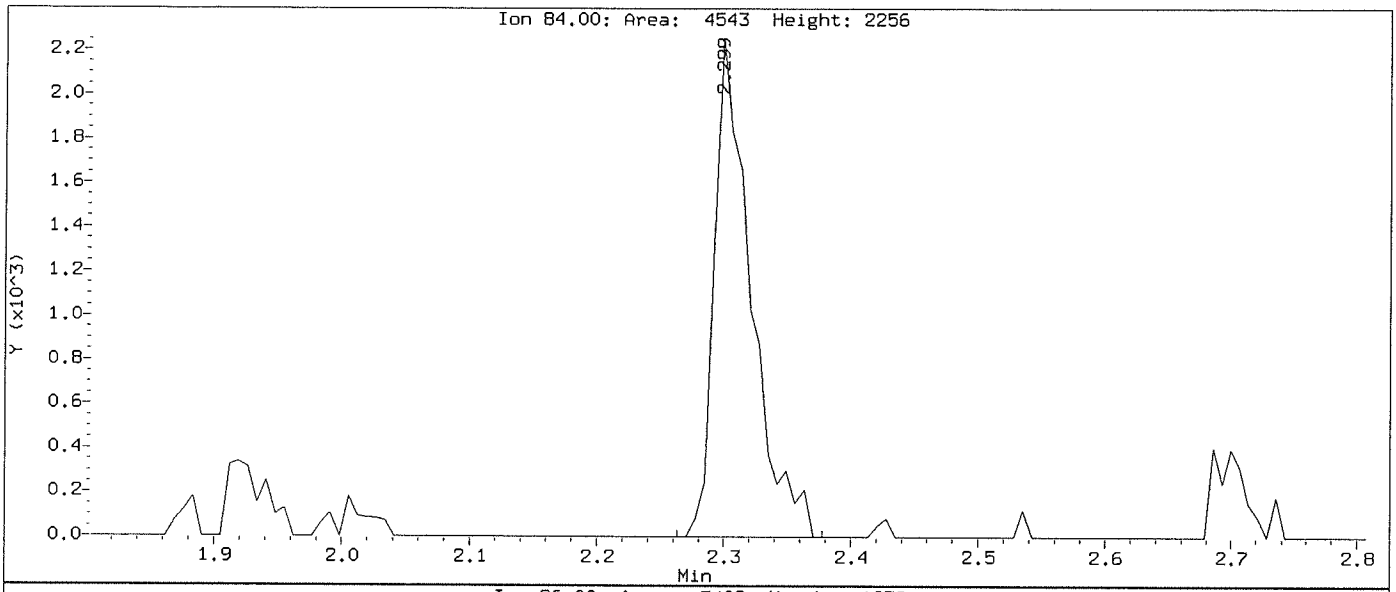
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

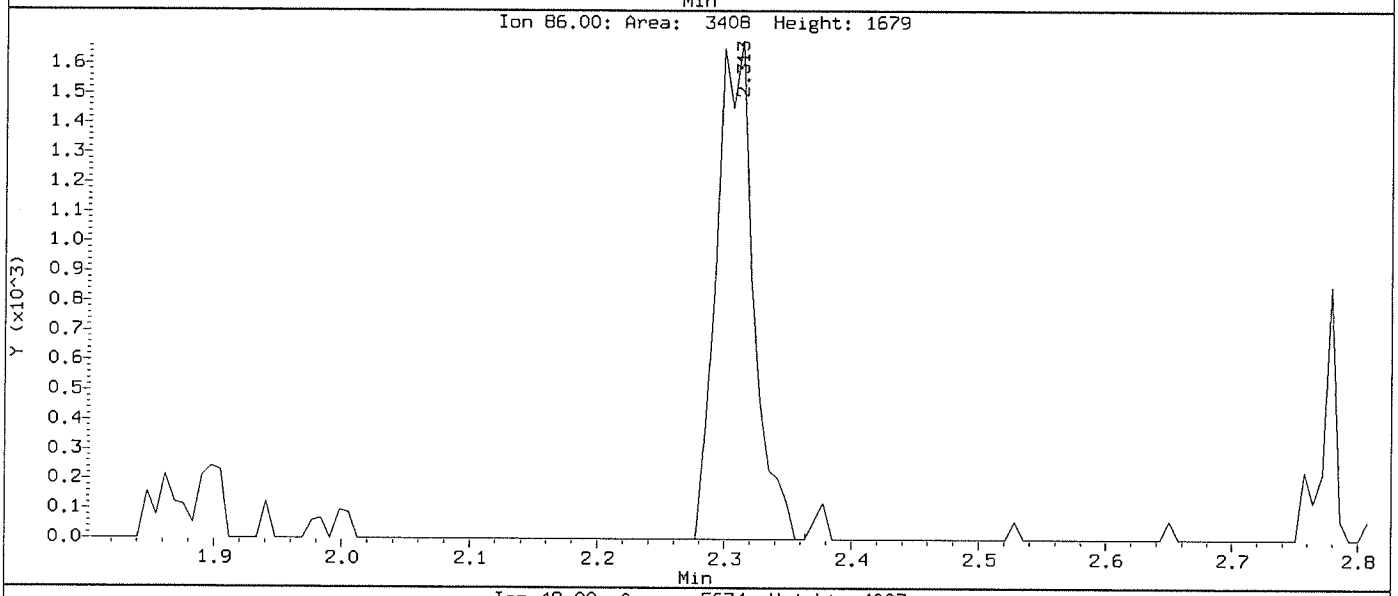


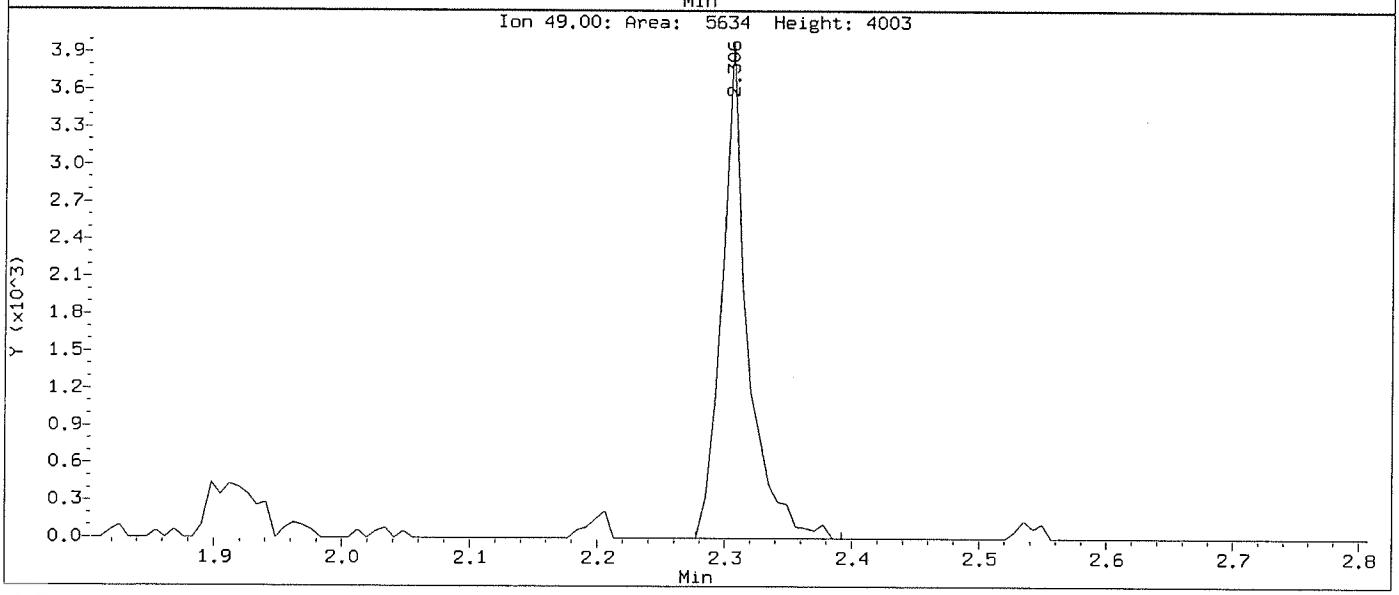


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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

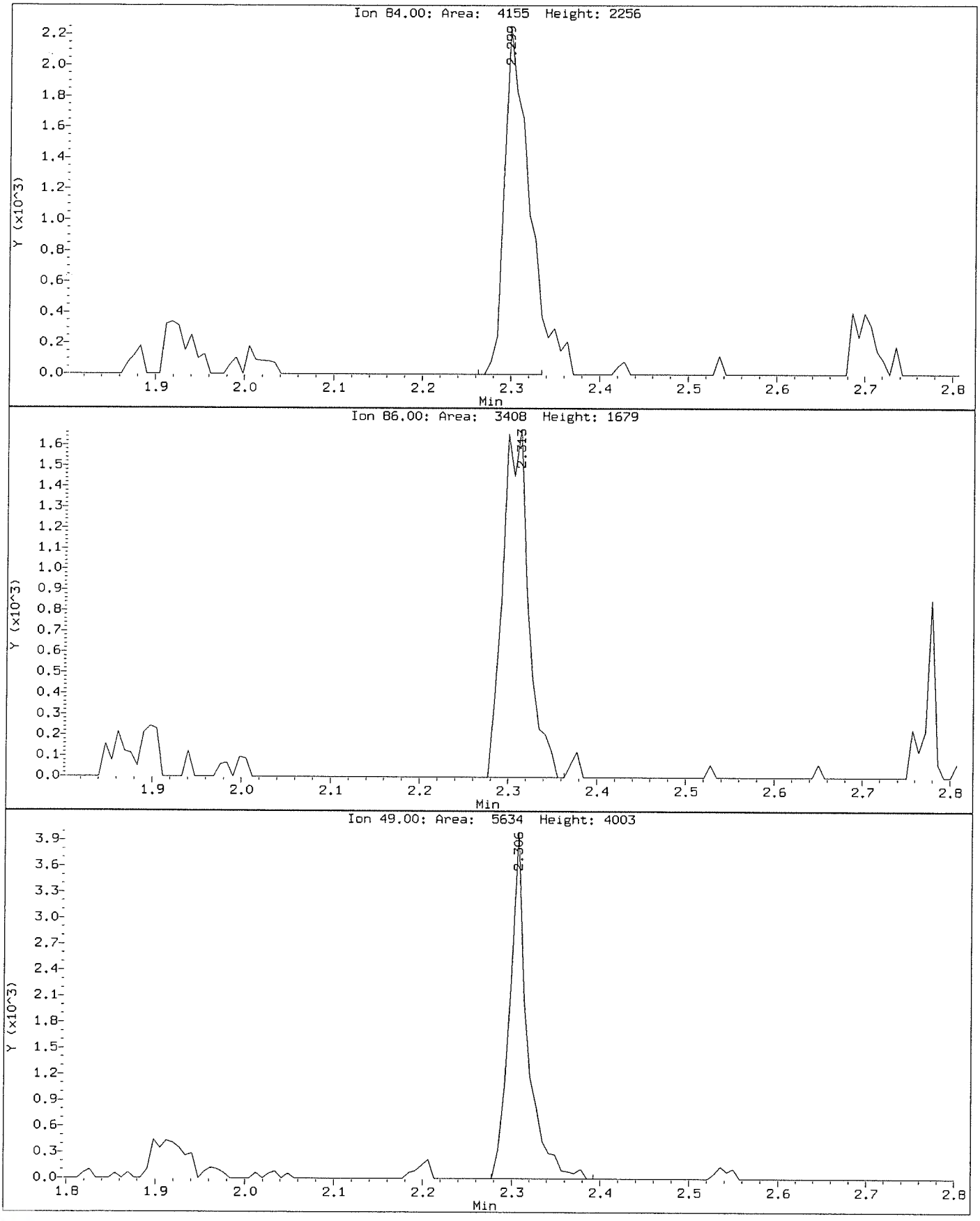






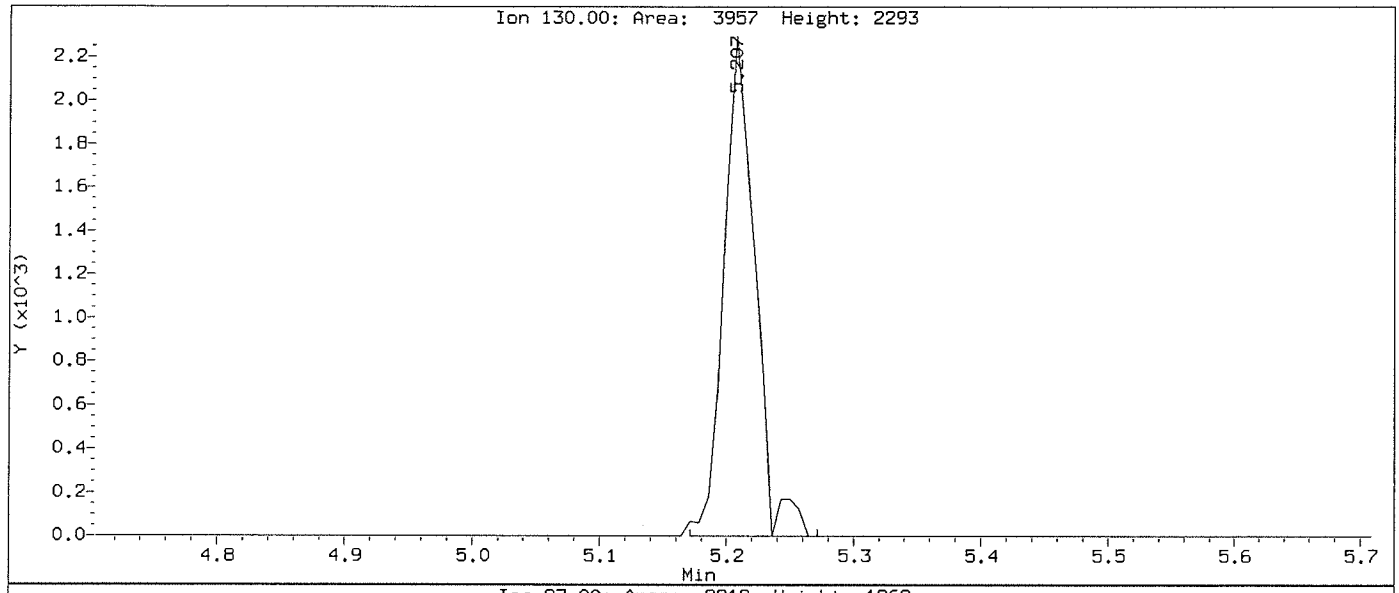
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

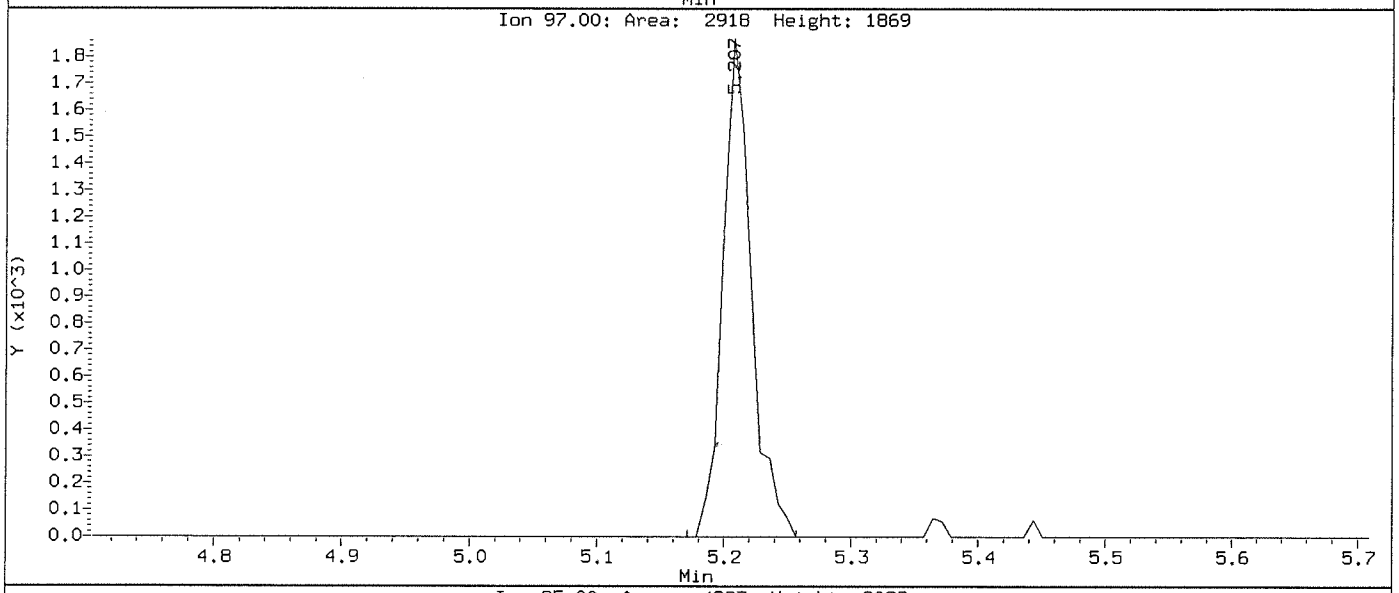
Compound: Methylene Chloride
CAS Number: 75-09-2

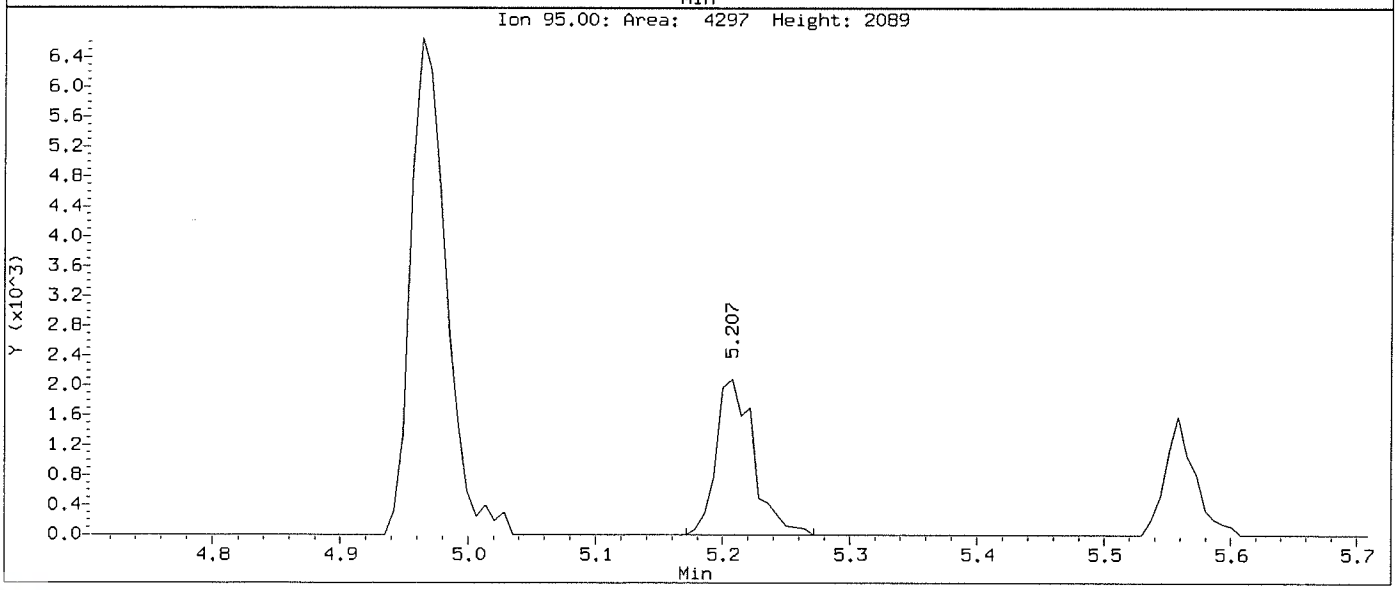


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

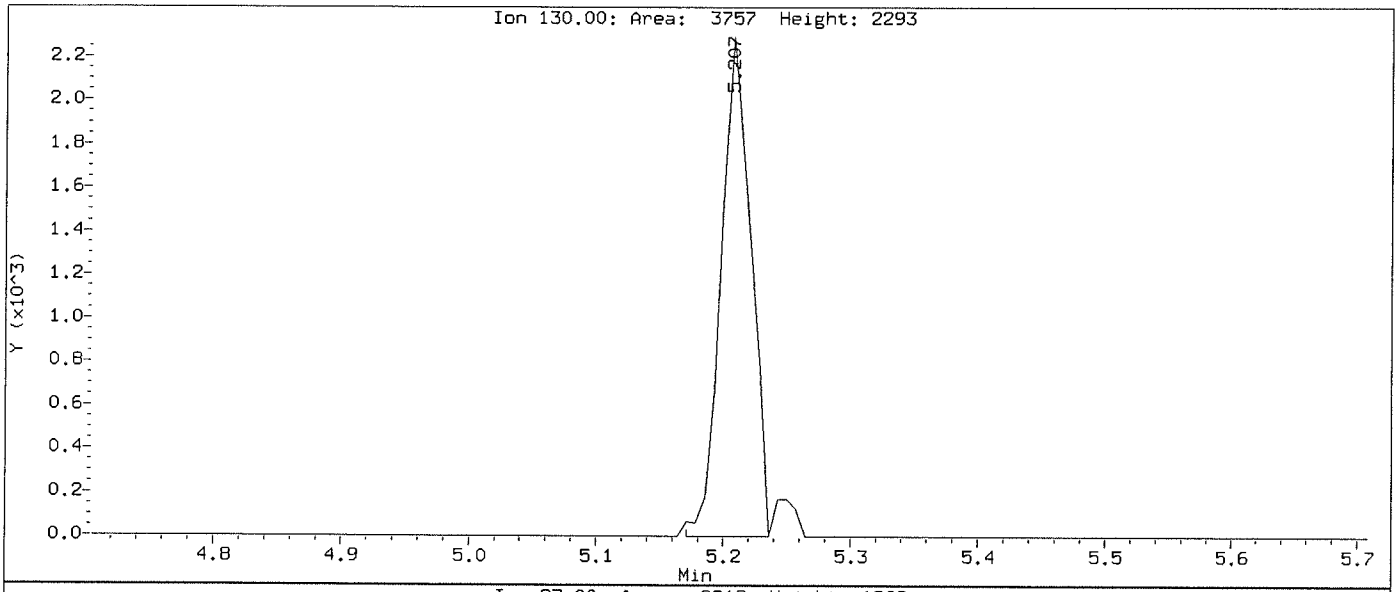


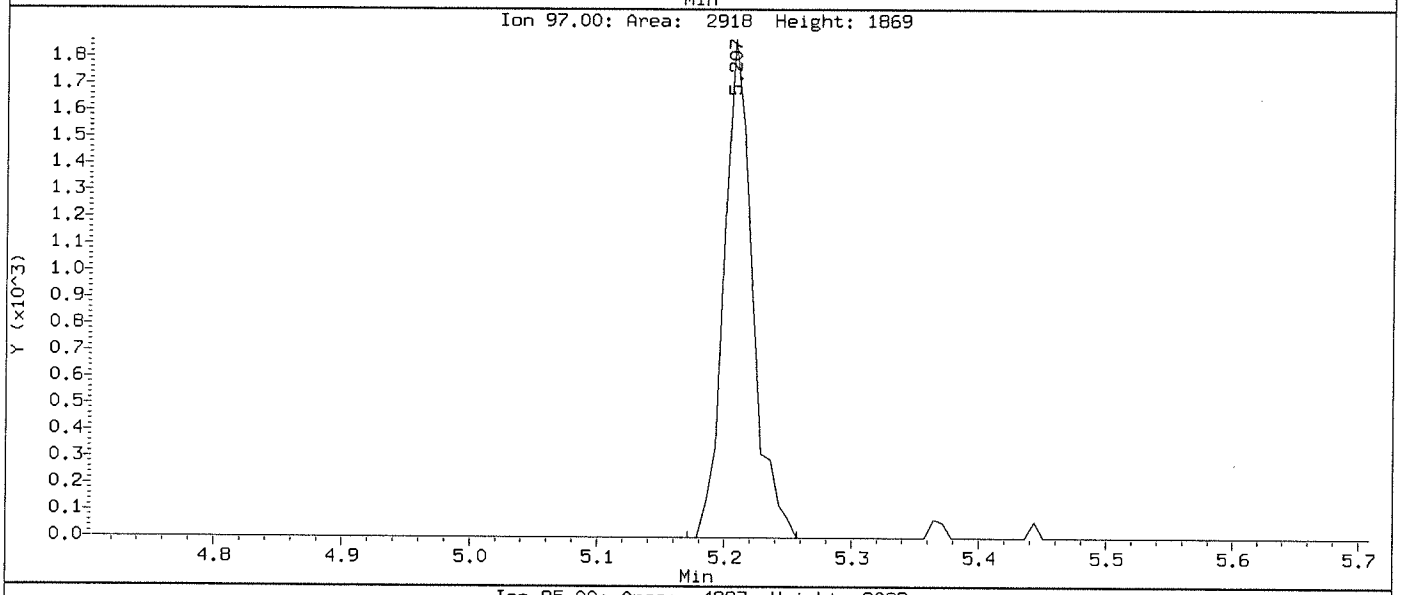


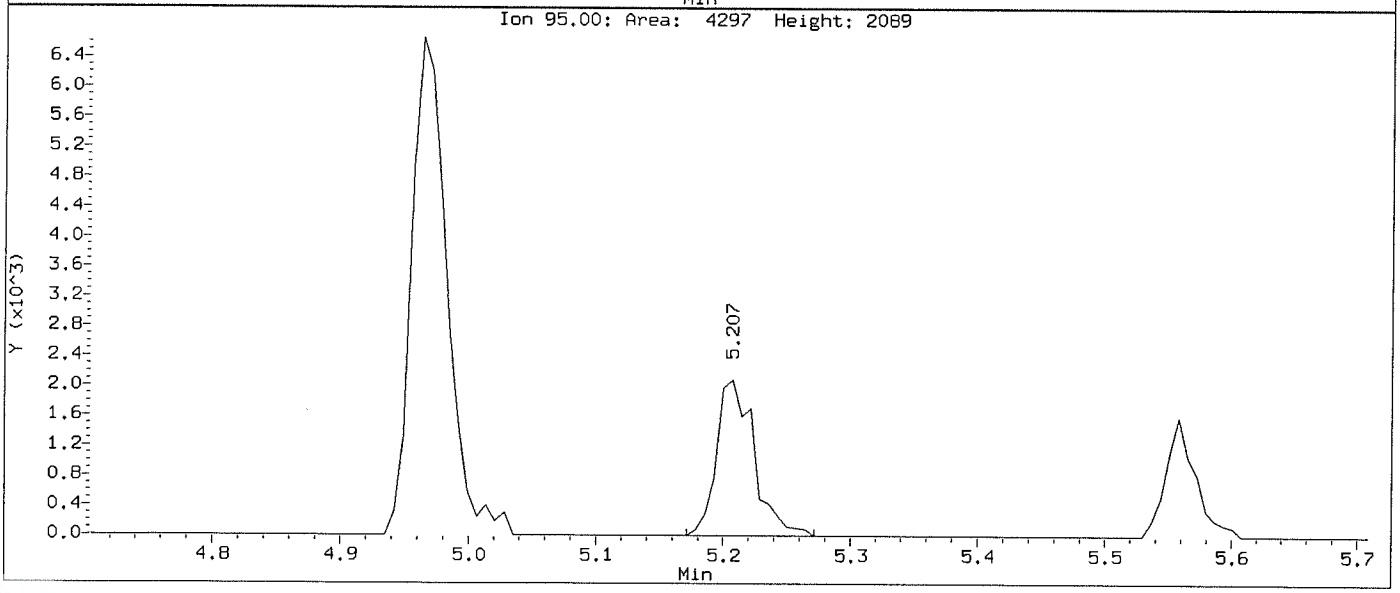


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

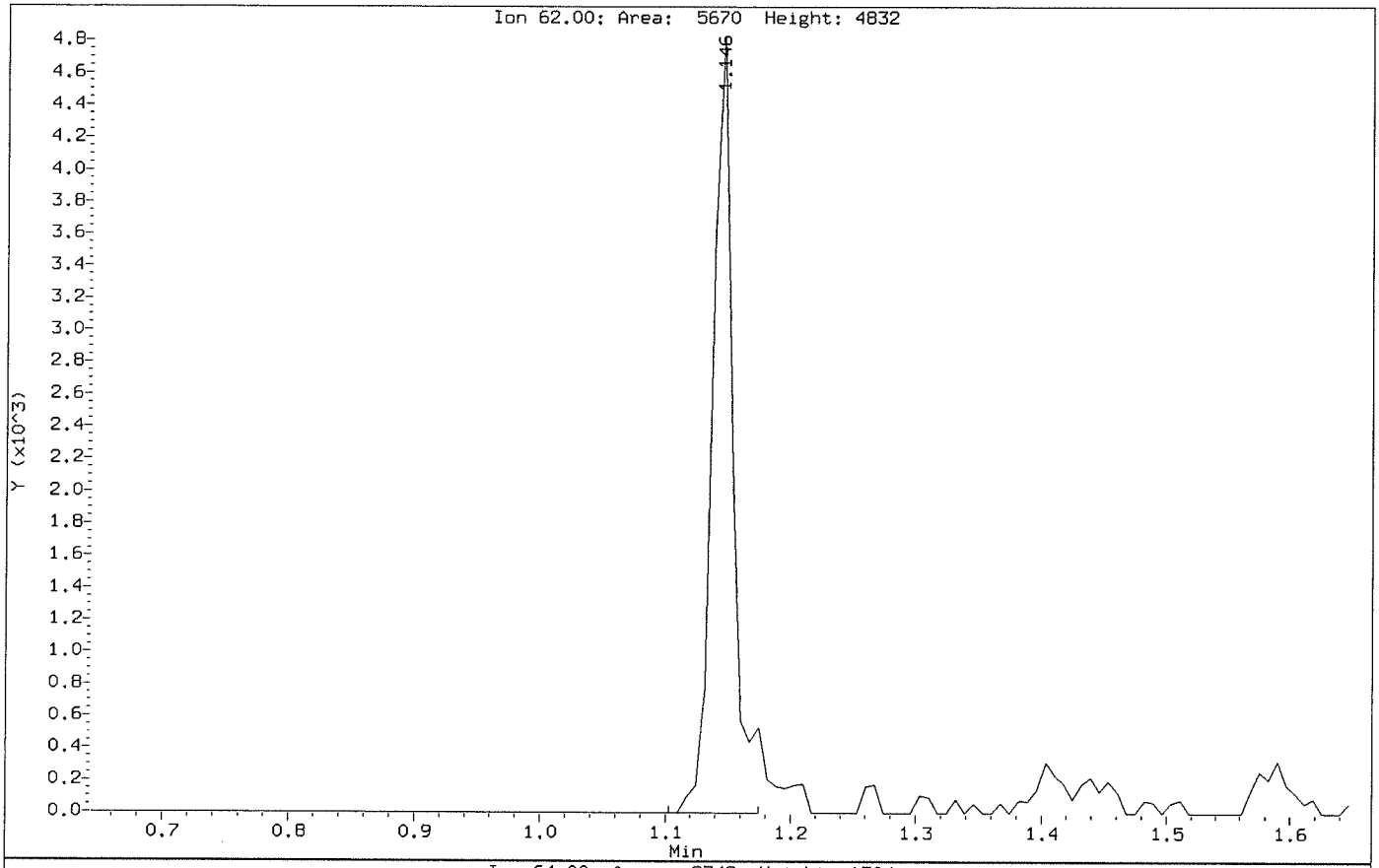


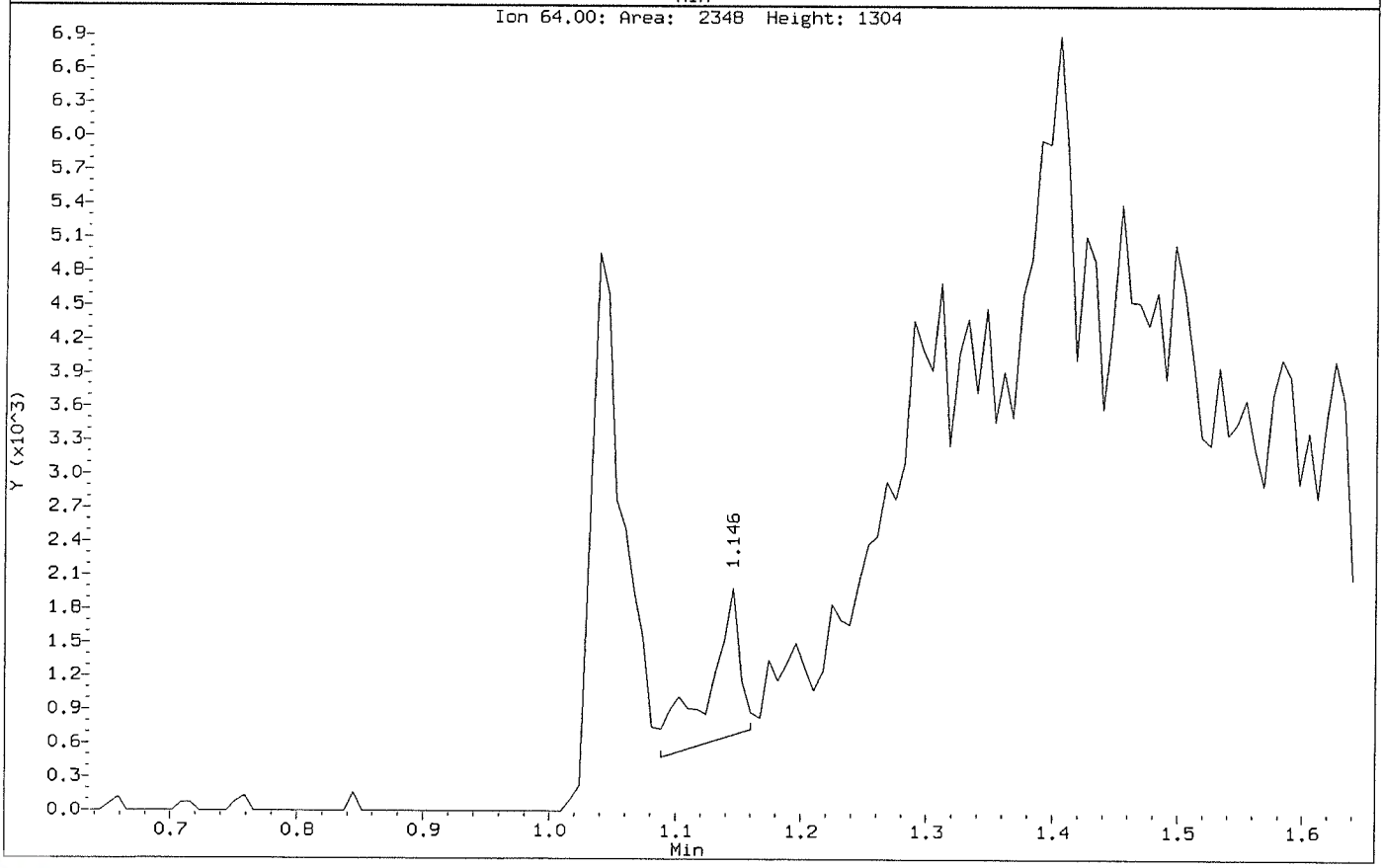




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

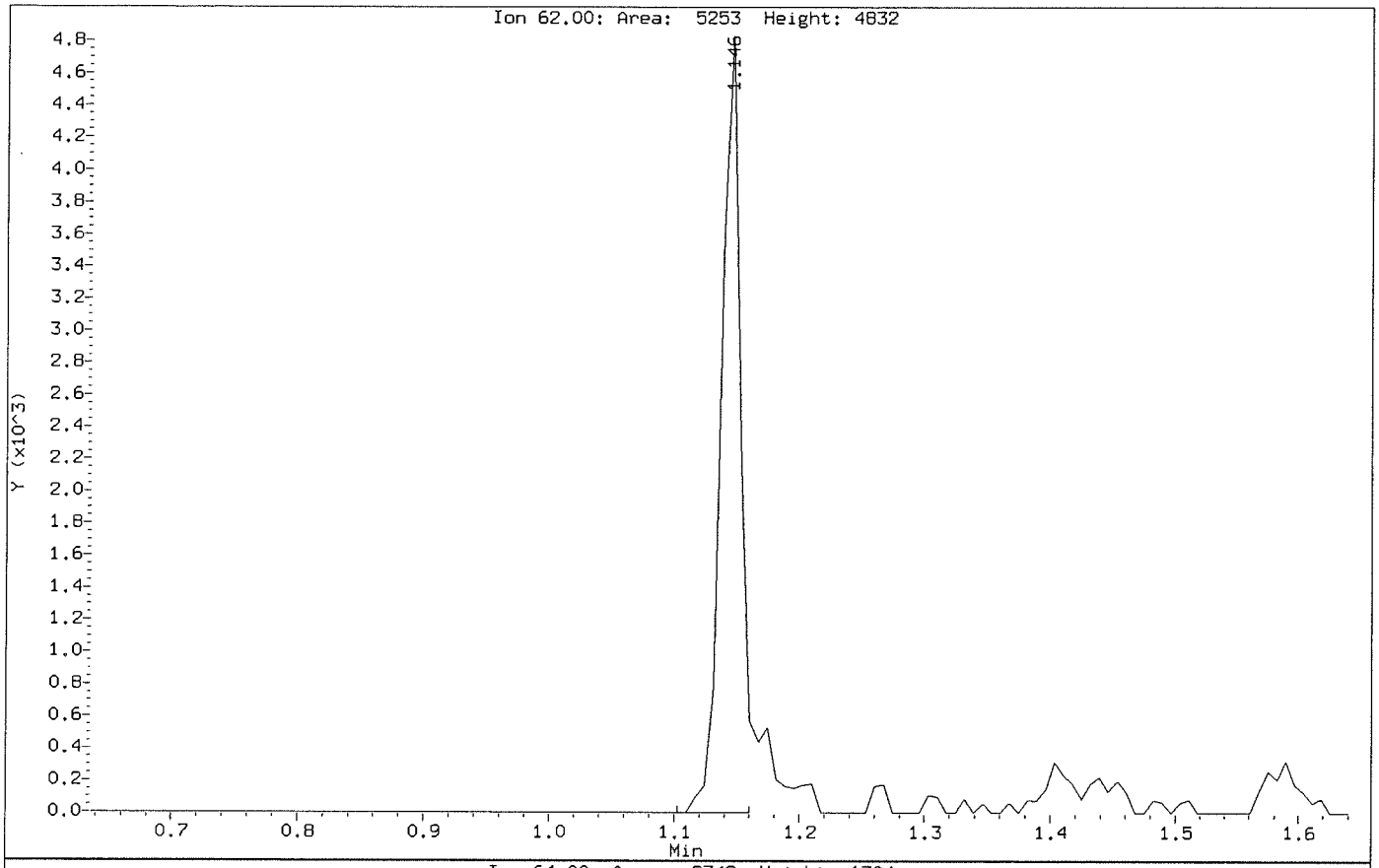
Compound: Vinyl Chloride
CAS Number: 75-01-4

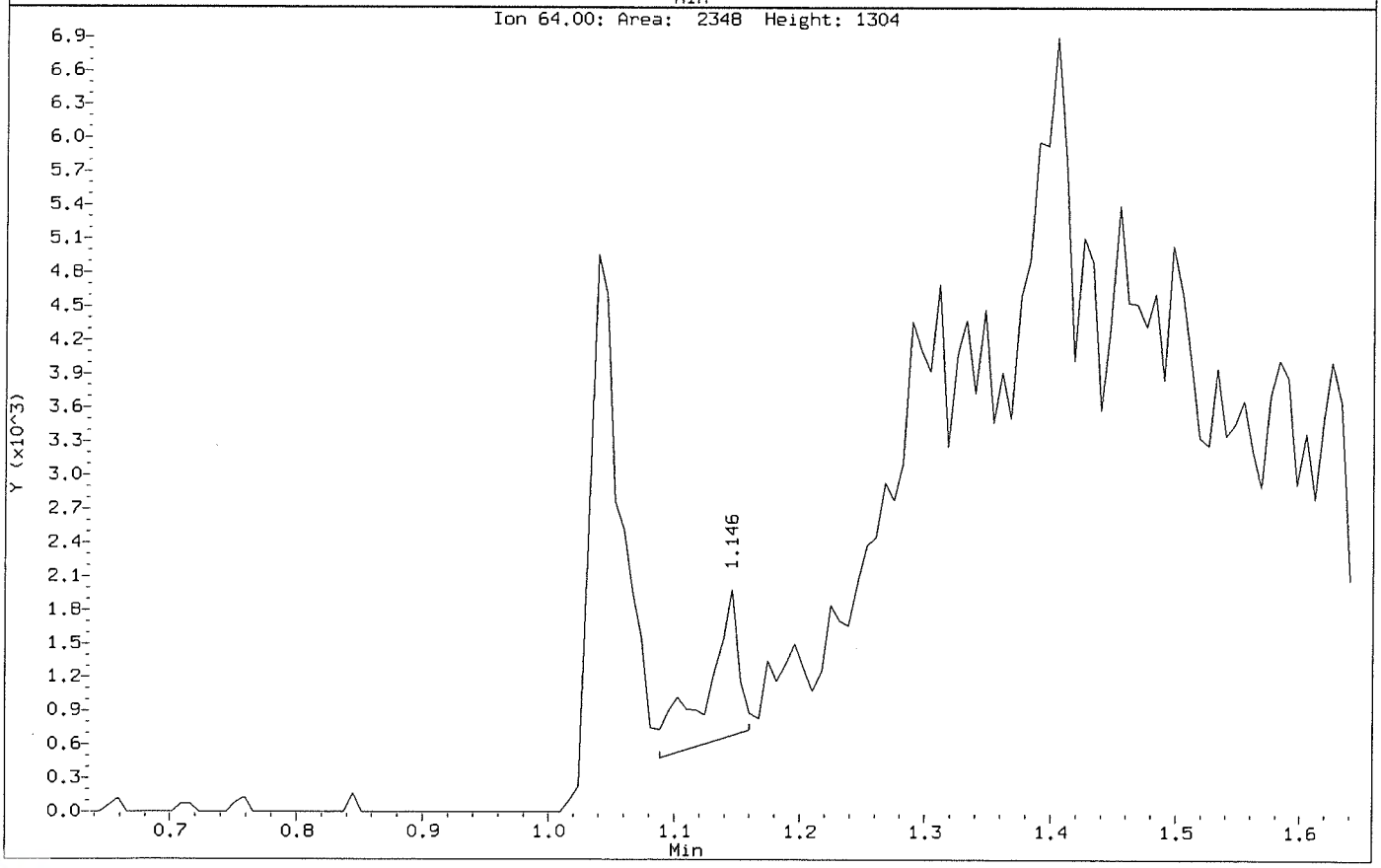




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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





ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-APR-2021 12:17
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:56 Cal File: X040204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

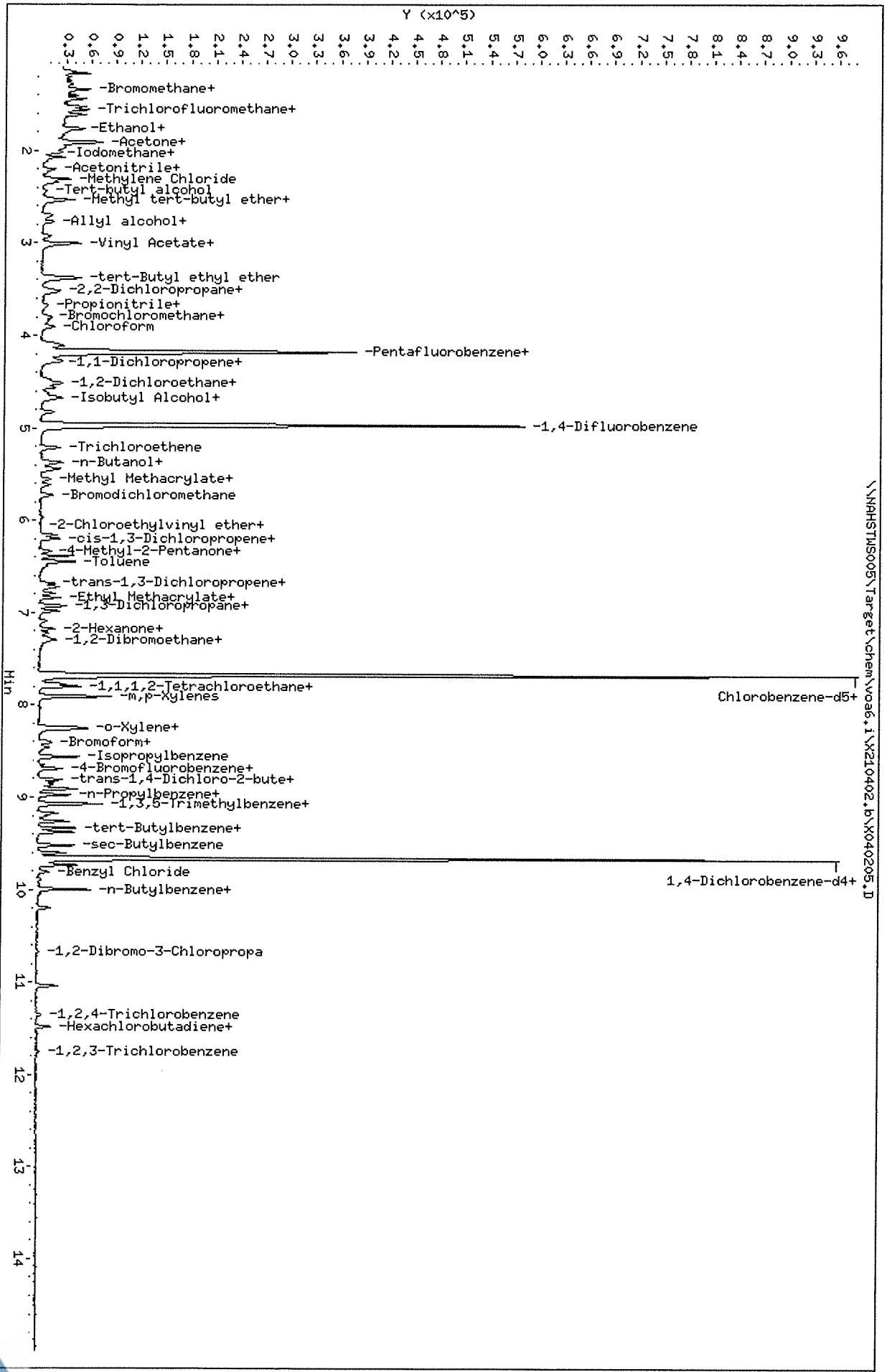
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278535	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	469682	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	424642	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	187429	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	6870	2.00000	2.50
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7506	2.00000	2.37
$	48 Toluene-d8	98	6.388	6.388	(0.833)	22274	2.00000	3.81
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7732	2.00000	3.48
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5102	2.00000	2.06(a)
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	8383	2.00000	2.11(aM)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	9508	2.00000	1.91(aM)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6948	2.00000	2.04
	17 Methylene Chloride	84	2.305	2.305	(0.551)	7271	2.00000	3.81(a)
	38 Trichloroethene	130	5.206	5.206	(1.048)	6830	2.00000	2.12
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	8442	2.00000	2.02(M)

QC Flag Legend

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

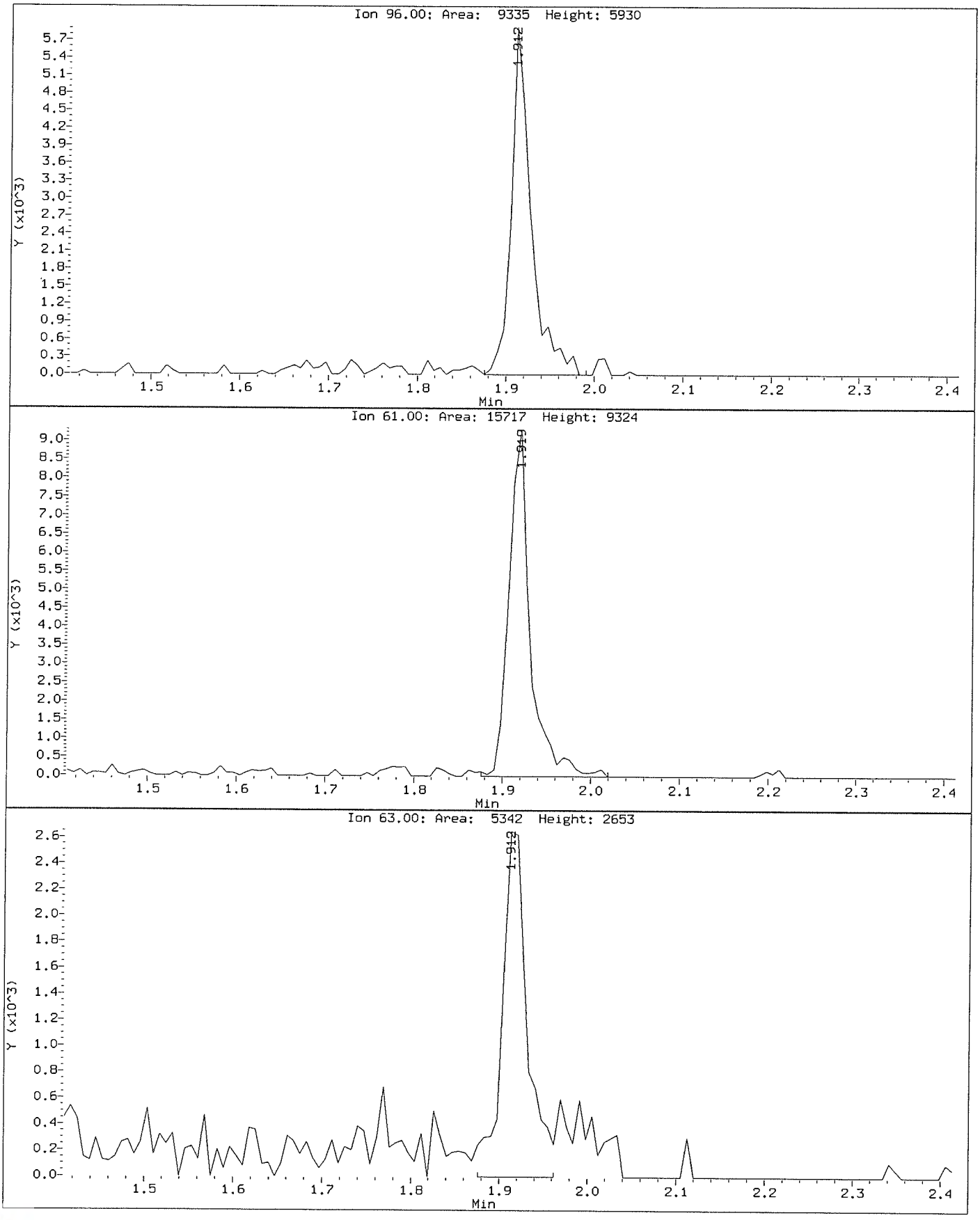


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Date : 02-APR-2021 12:17
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

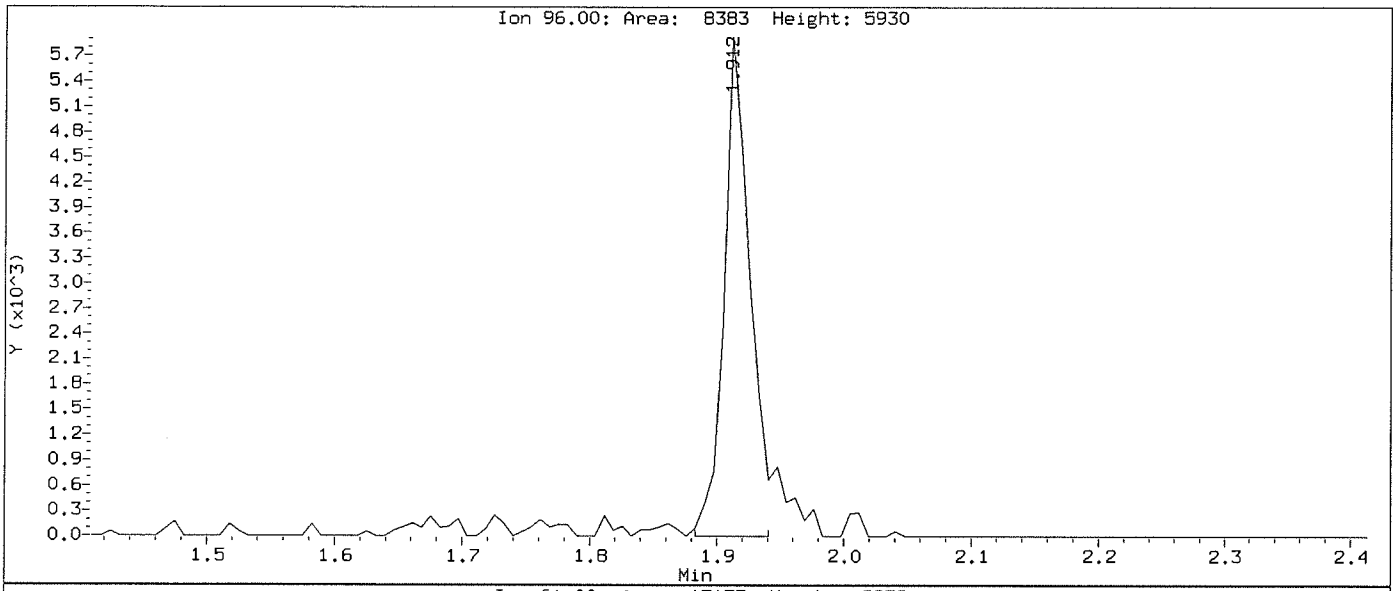
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

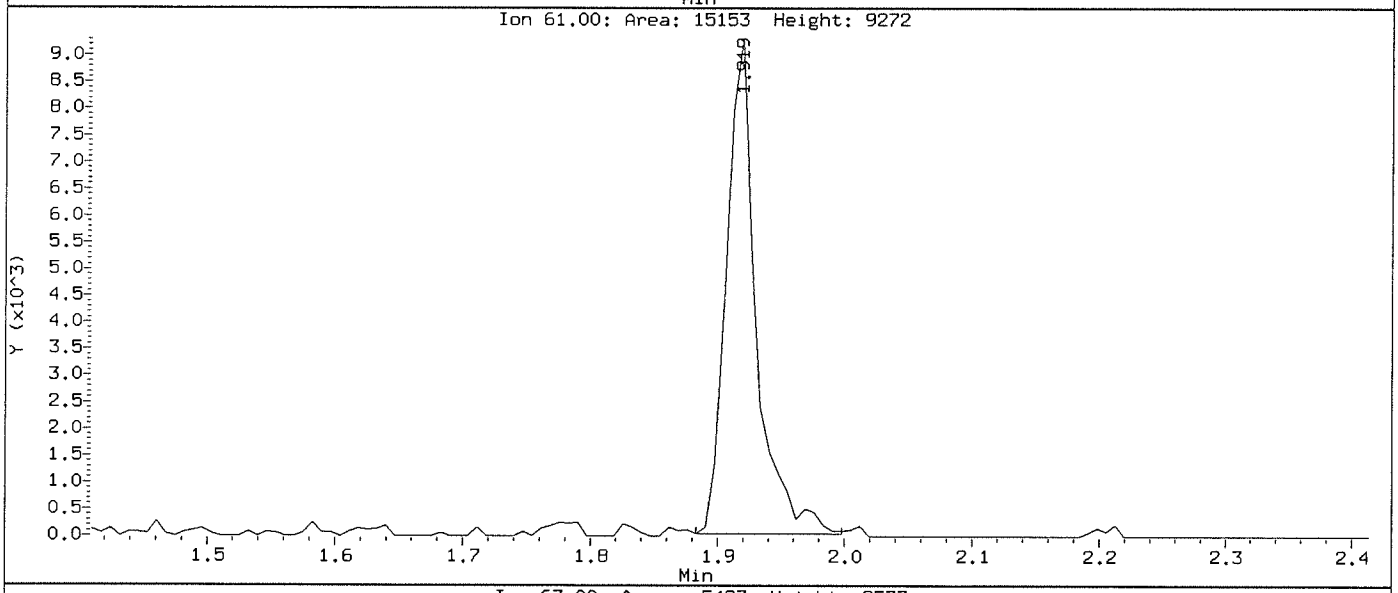
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

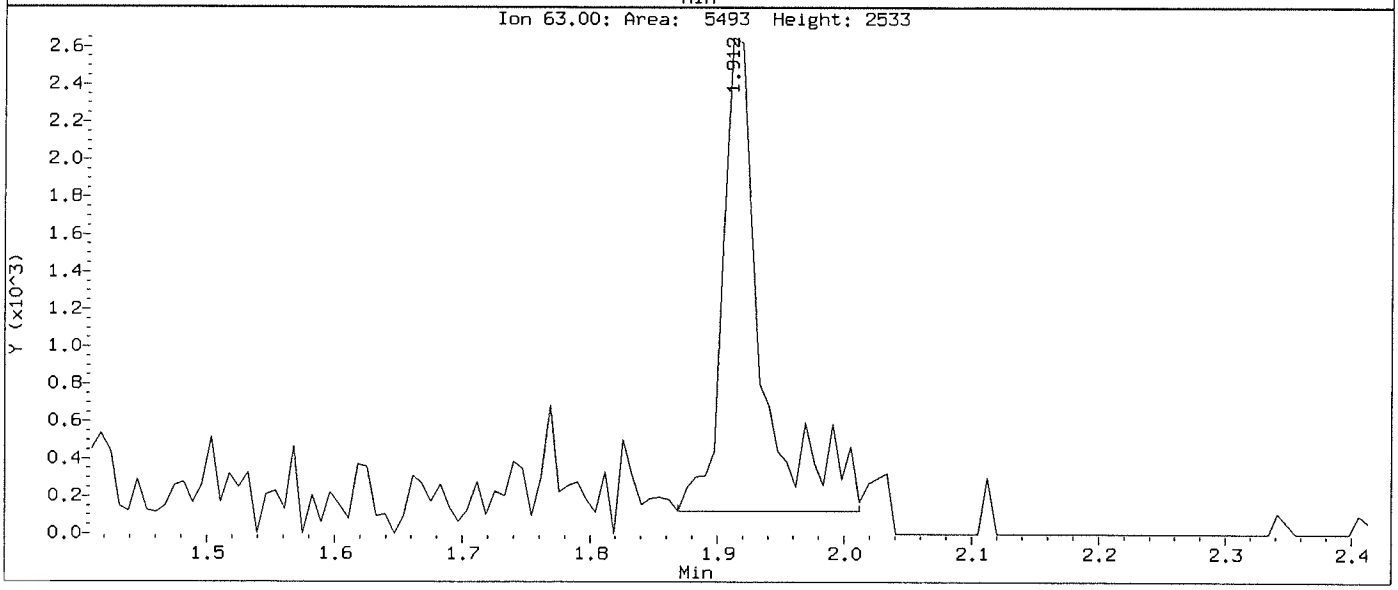


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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

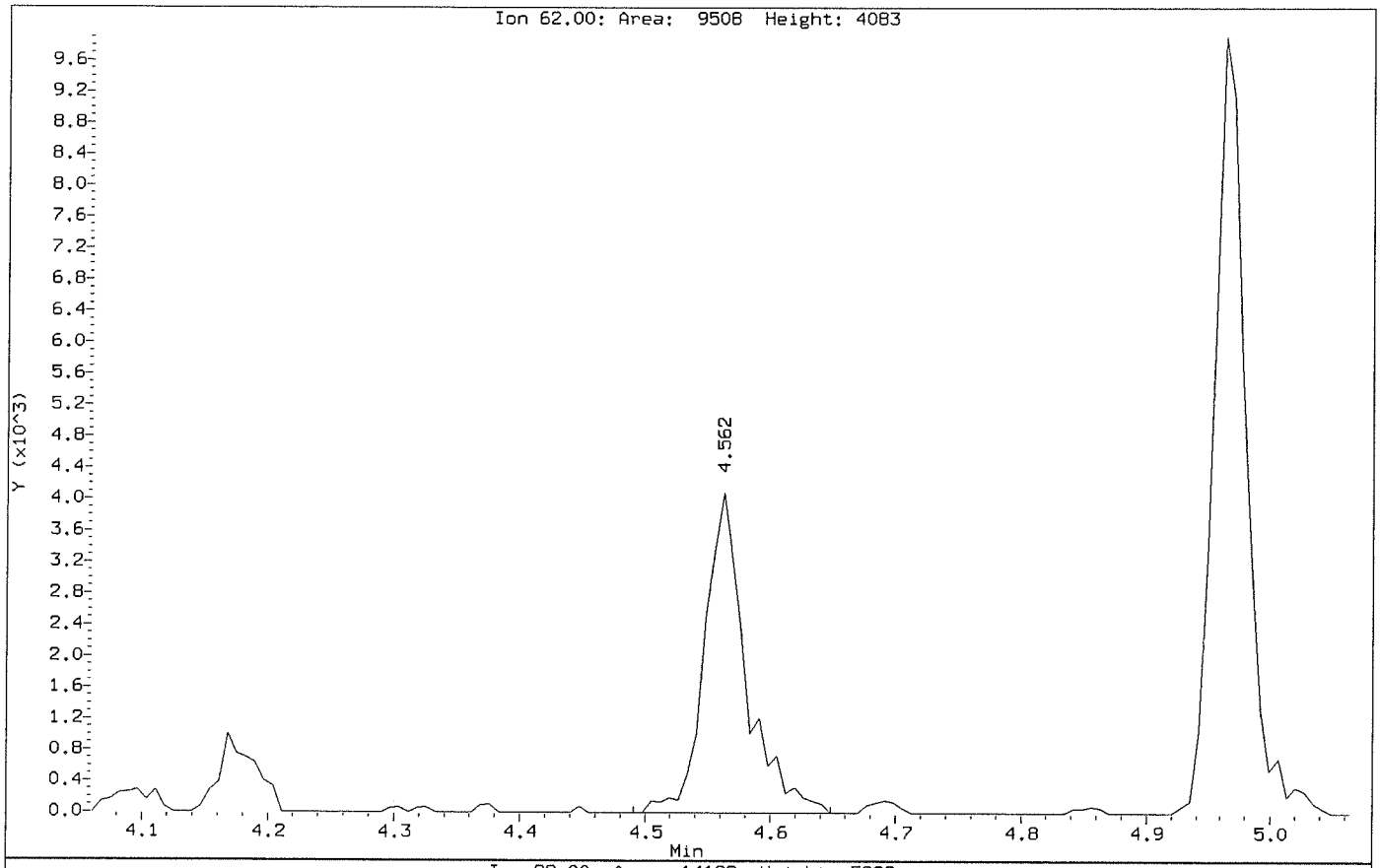


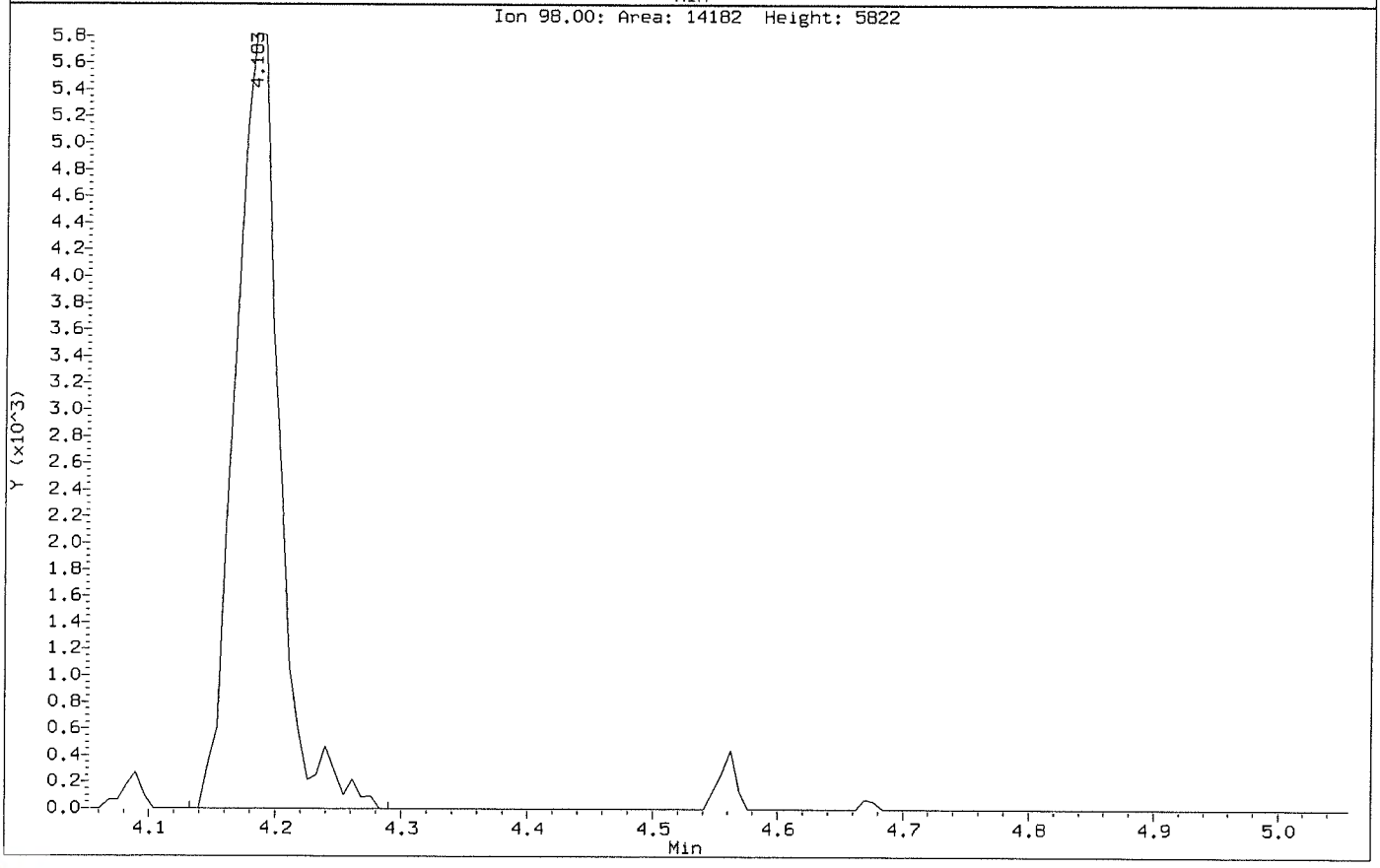




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

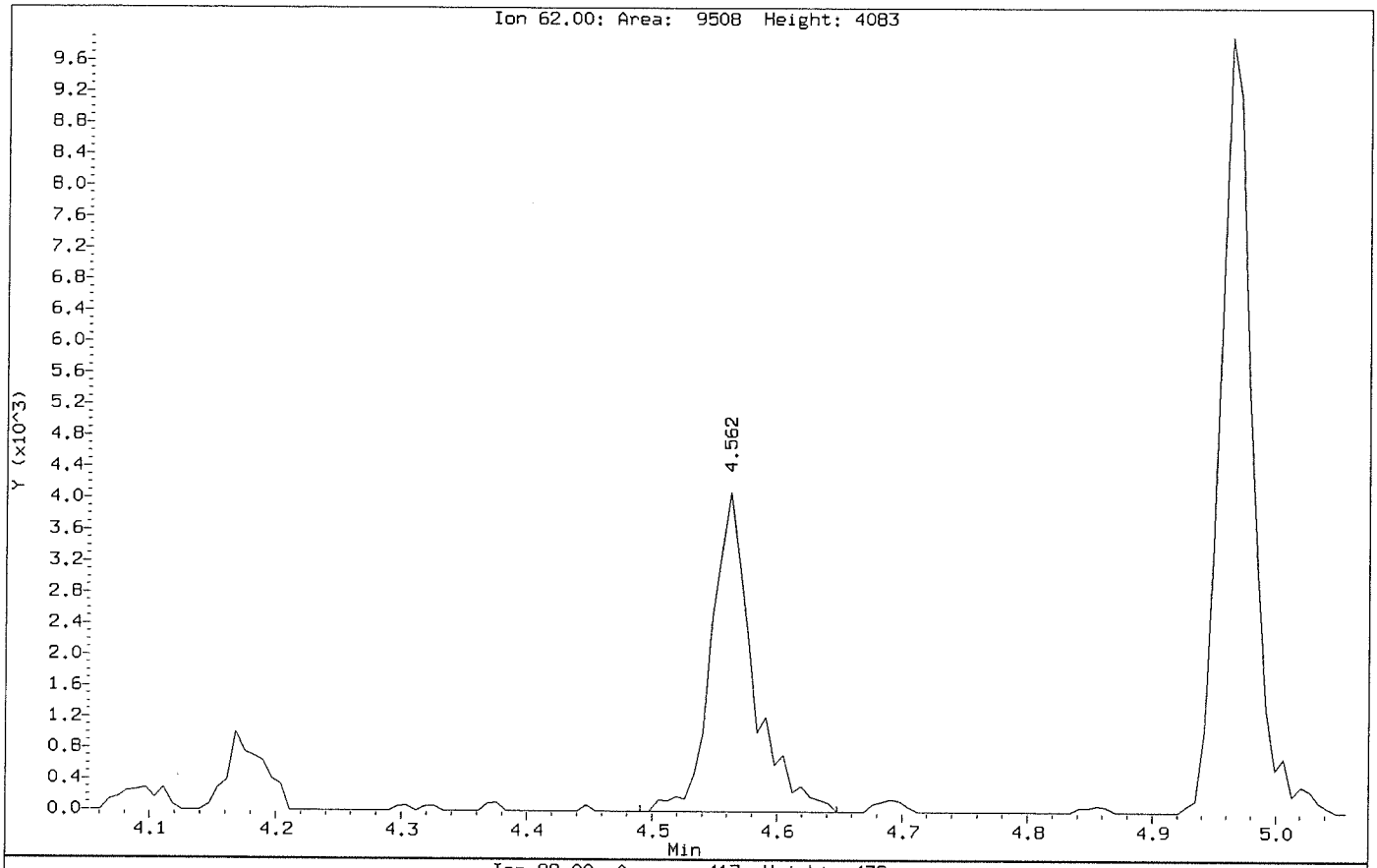
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

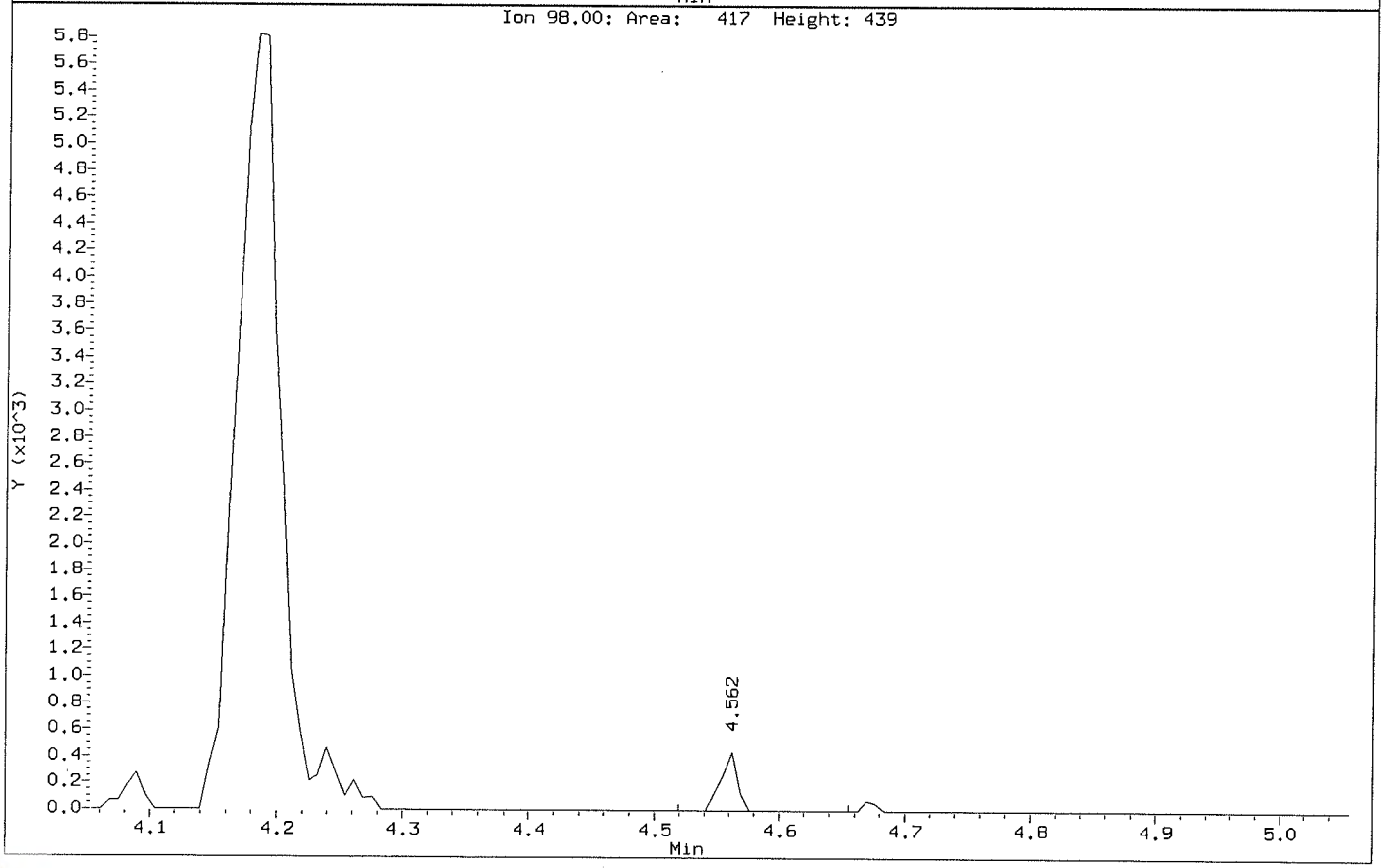




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

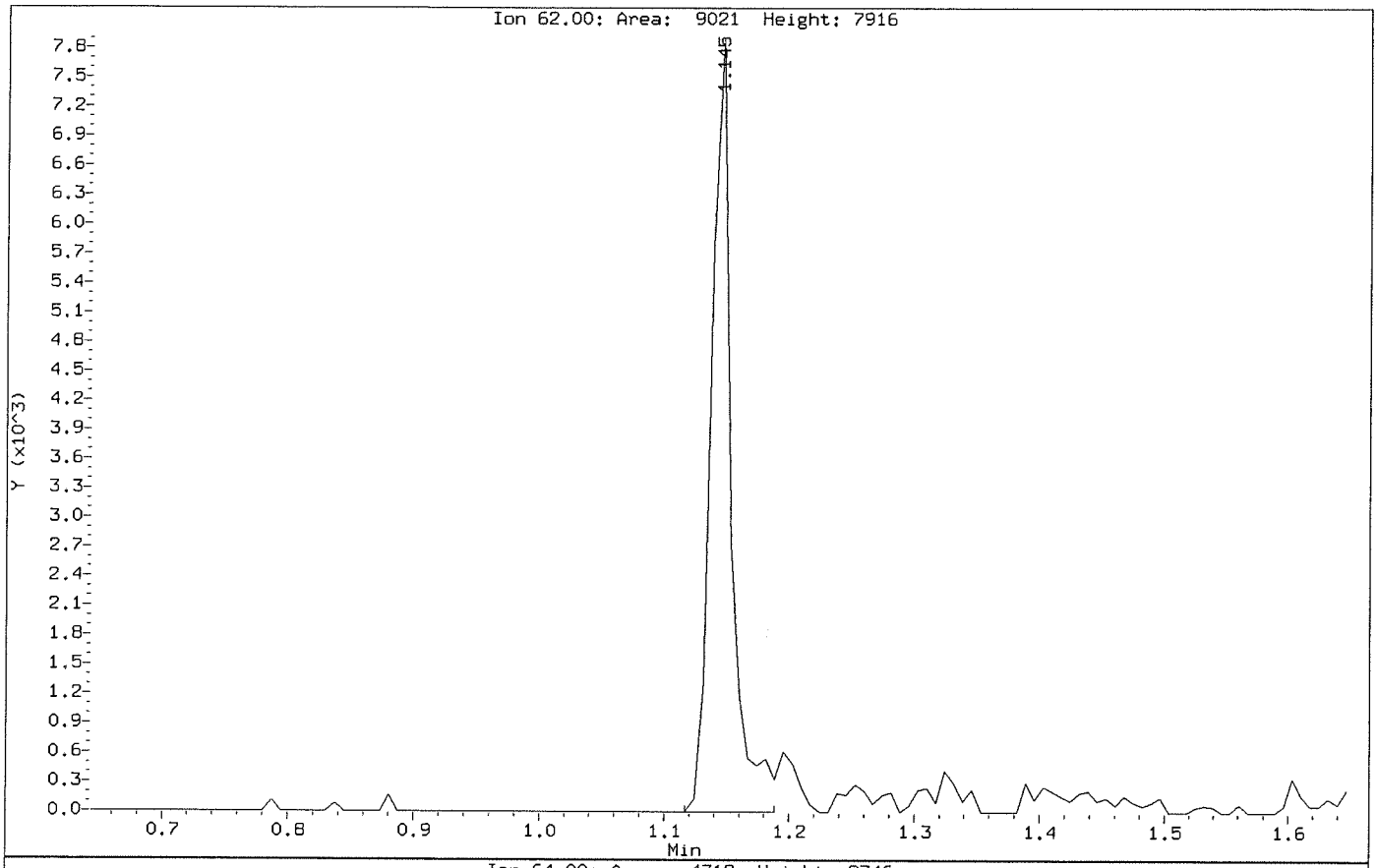
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

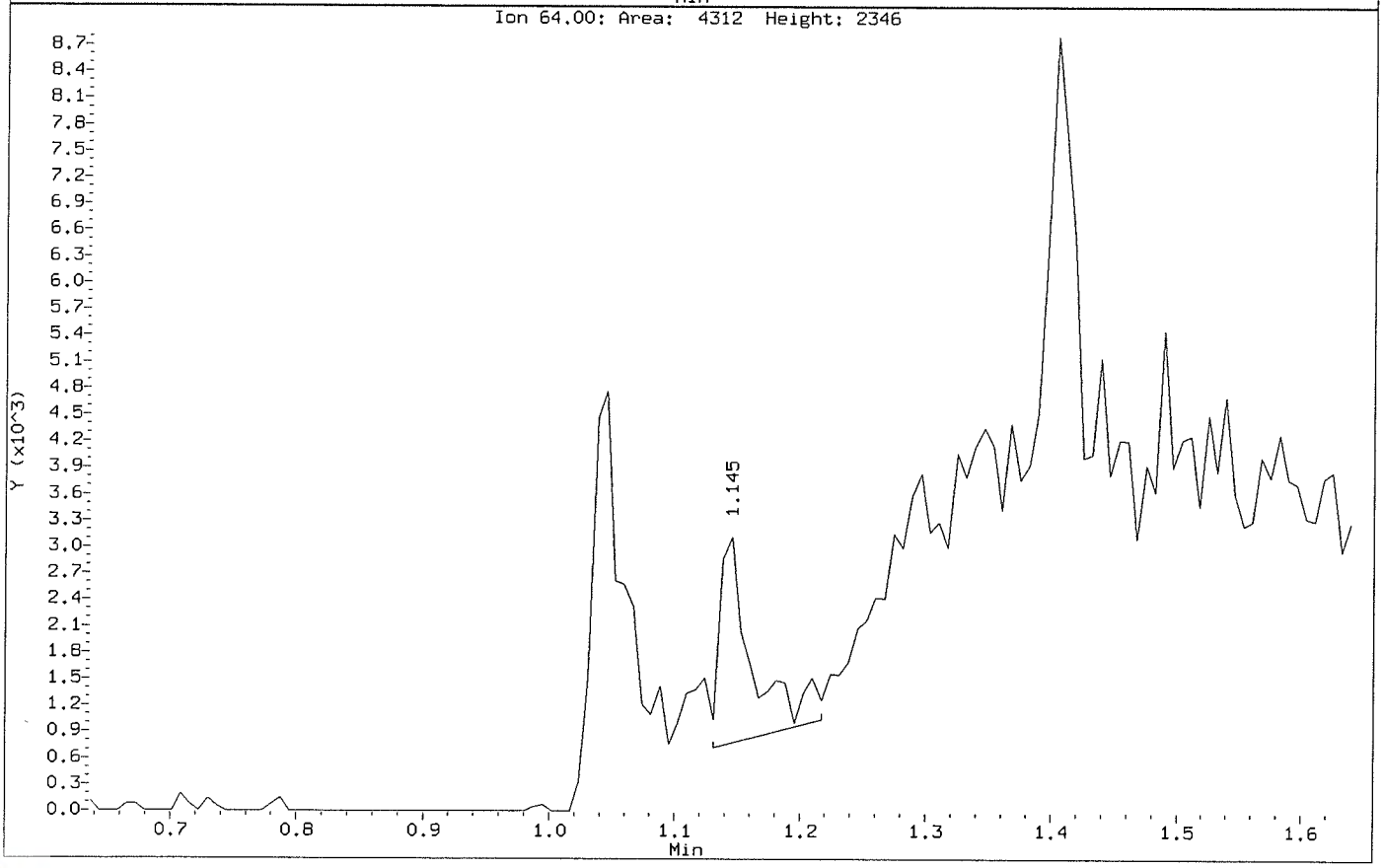




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

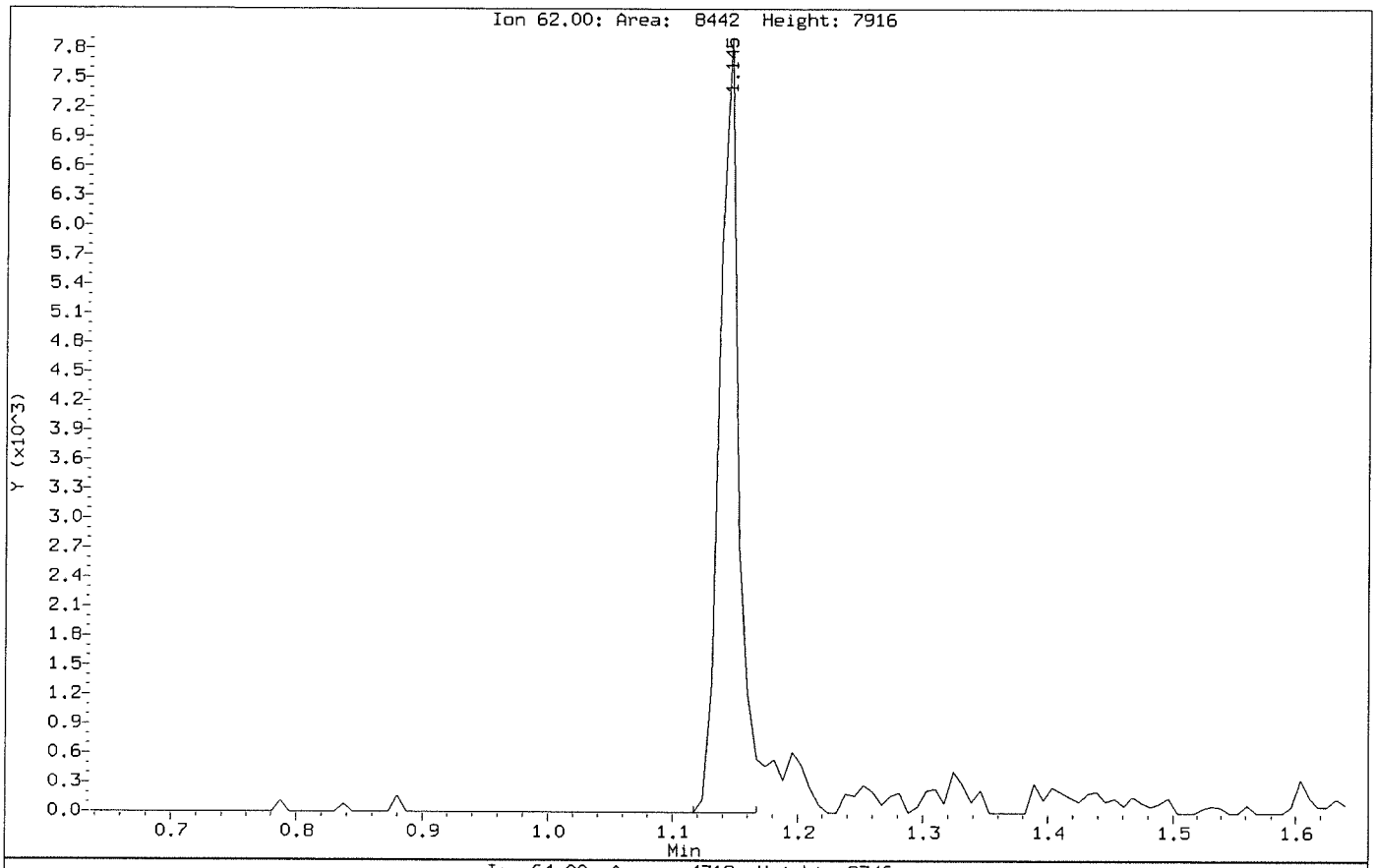
Compound: Vinyl Chloride
CAS Number: 75-01-4

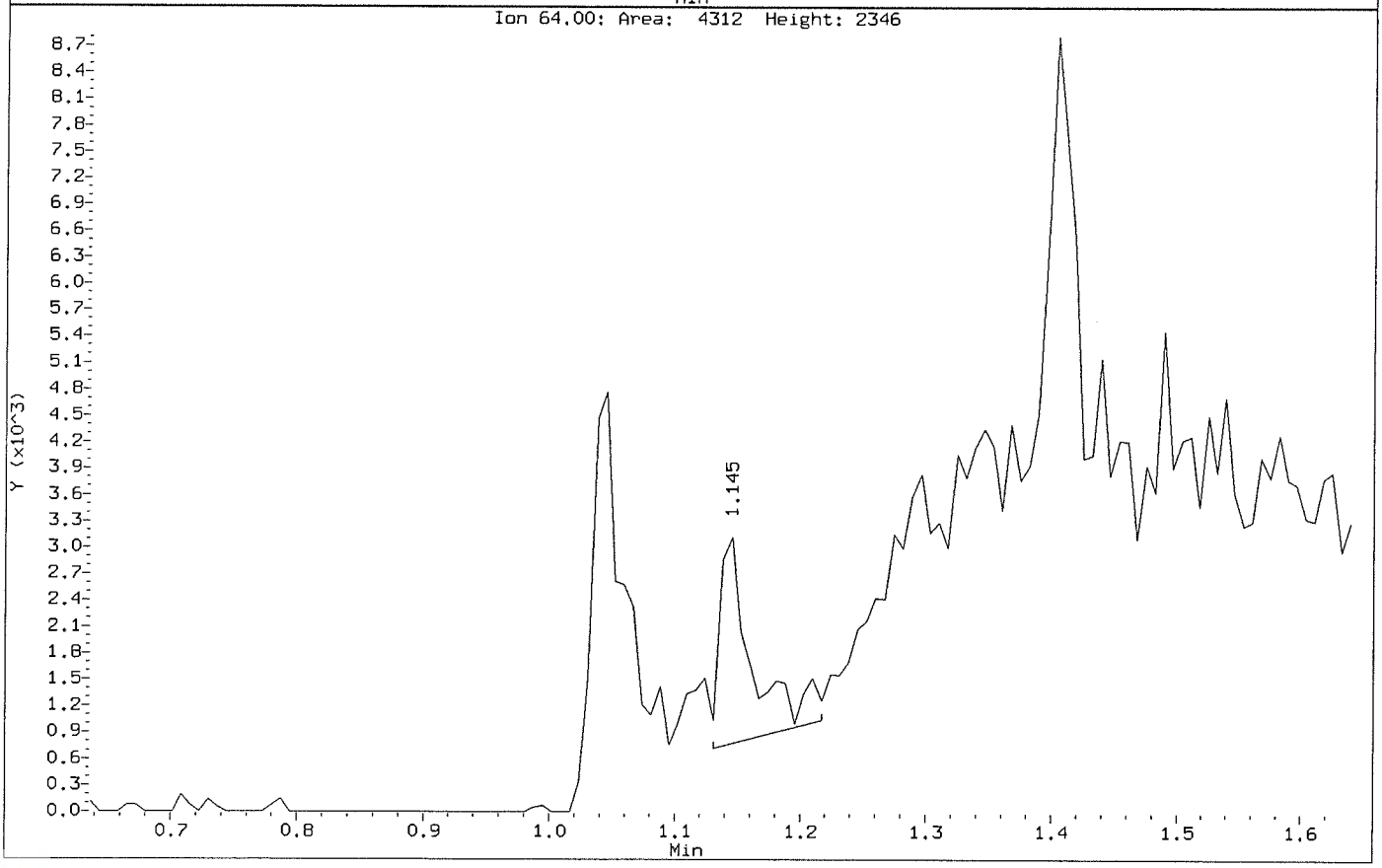




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D Page 1
Report Date: 04-May-2021 11:39

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-APR-2021 12:38
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:17 Cal File: X040205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

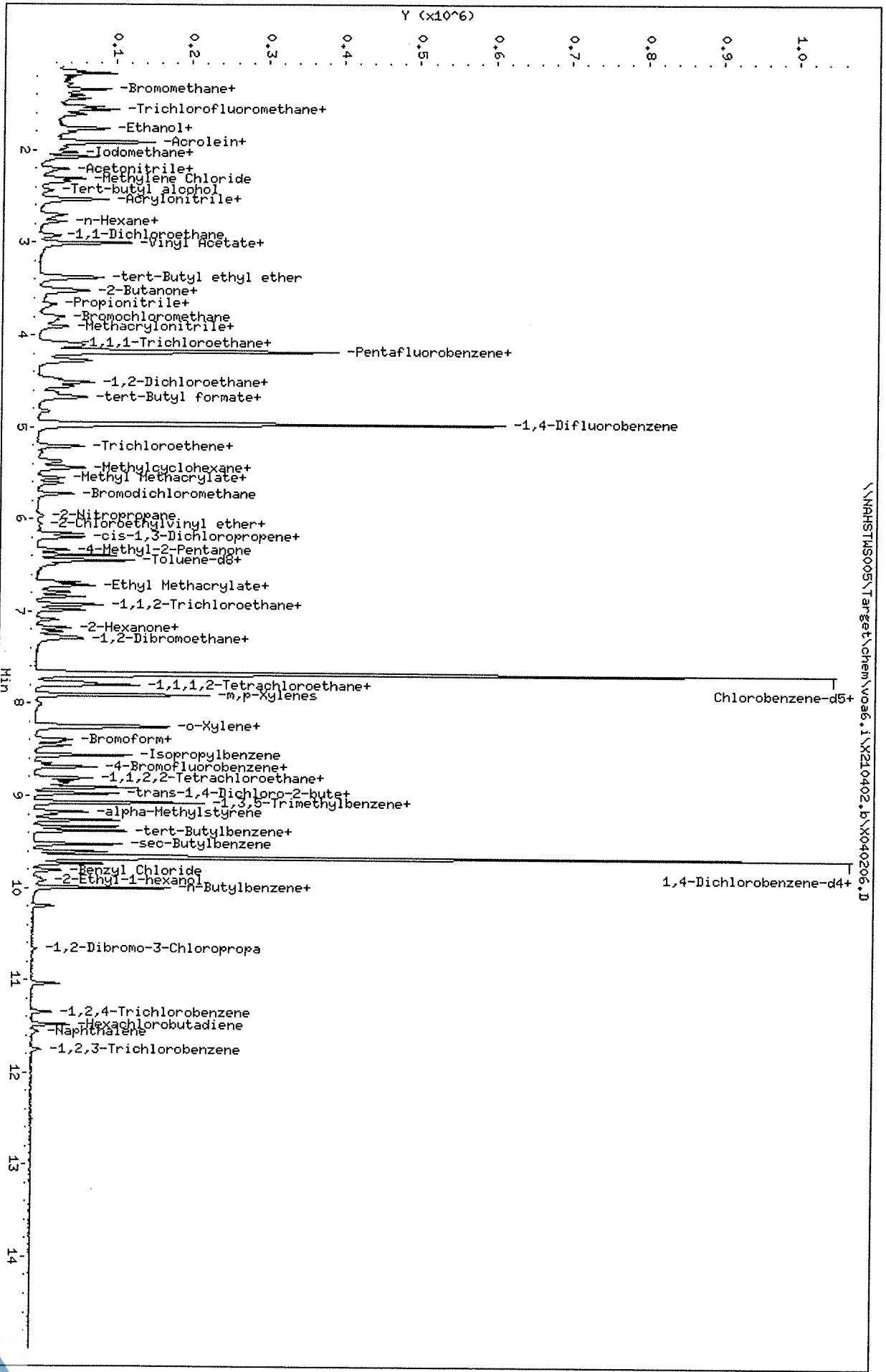
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	291823	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	482057	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	440939	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	205433	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	17824	5.00000	5.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	20809	5.00000	5.48
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	56112	5.00000	6.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	19193	5.00000	6.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	14112	5.00000	5.50
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	22632	5.00000	5.44
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	25538	5.00000	5.00
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17639	5.00000	4.94
17 Methylene Chloride	84	2.306	2.306	(0.551)	17205	5.00000	6.75
38 Trichloroethene	130	5.207	5.207	(1.049)	18140	5.00000	5.49
5 Vinyl Chloride	62	1.145	1.145	(0.274)	22066	5.00000	5.04(M)

QC Flag Legend

M - Compound response manually integrated.

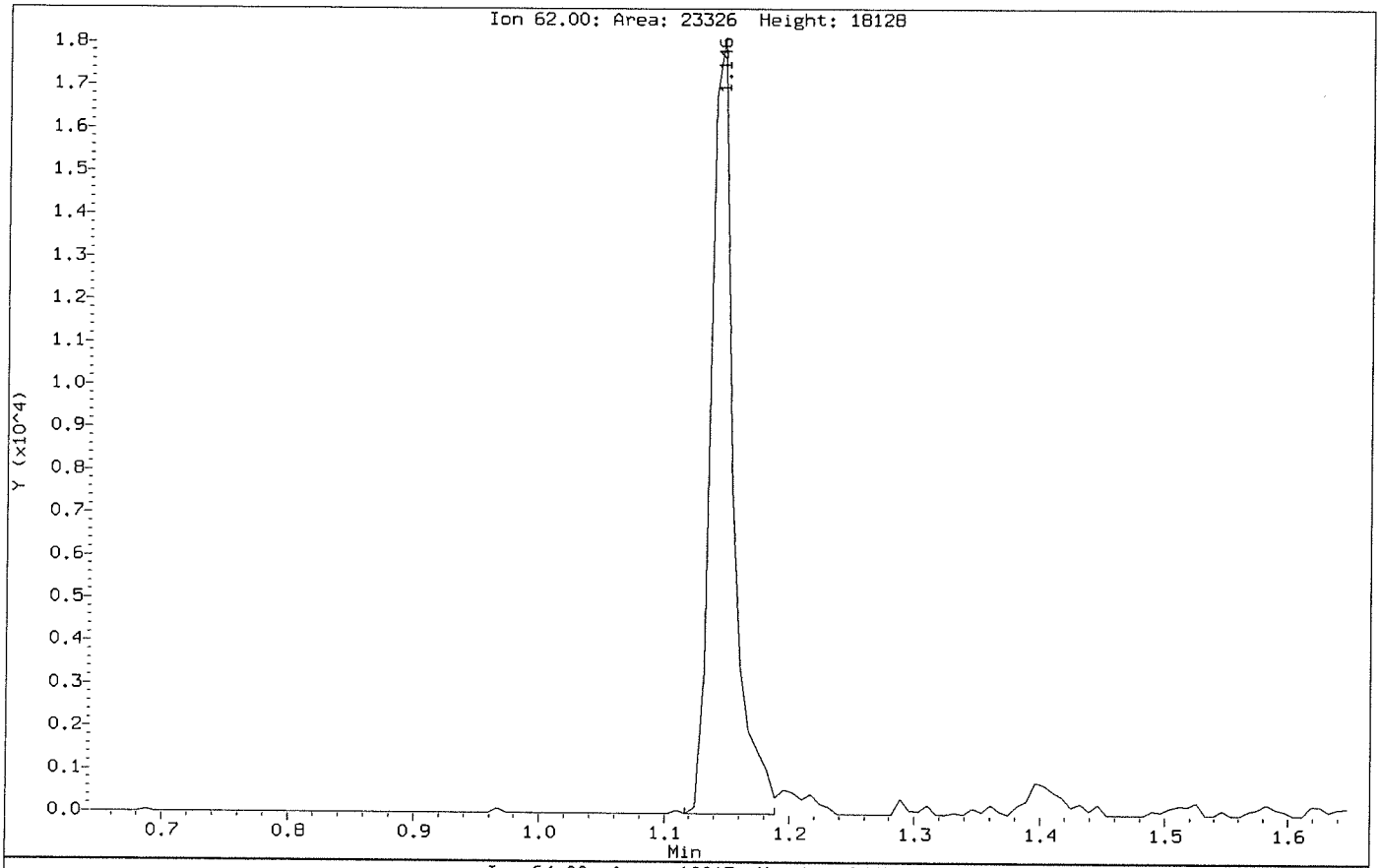


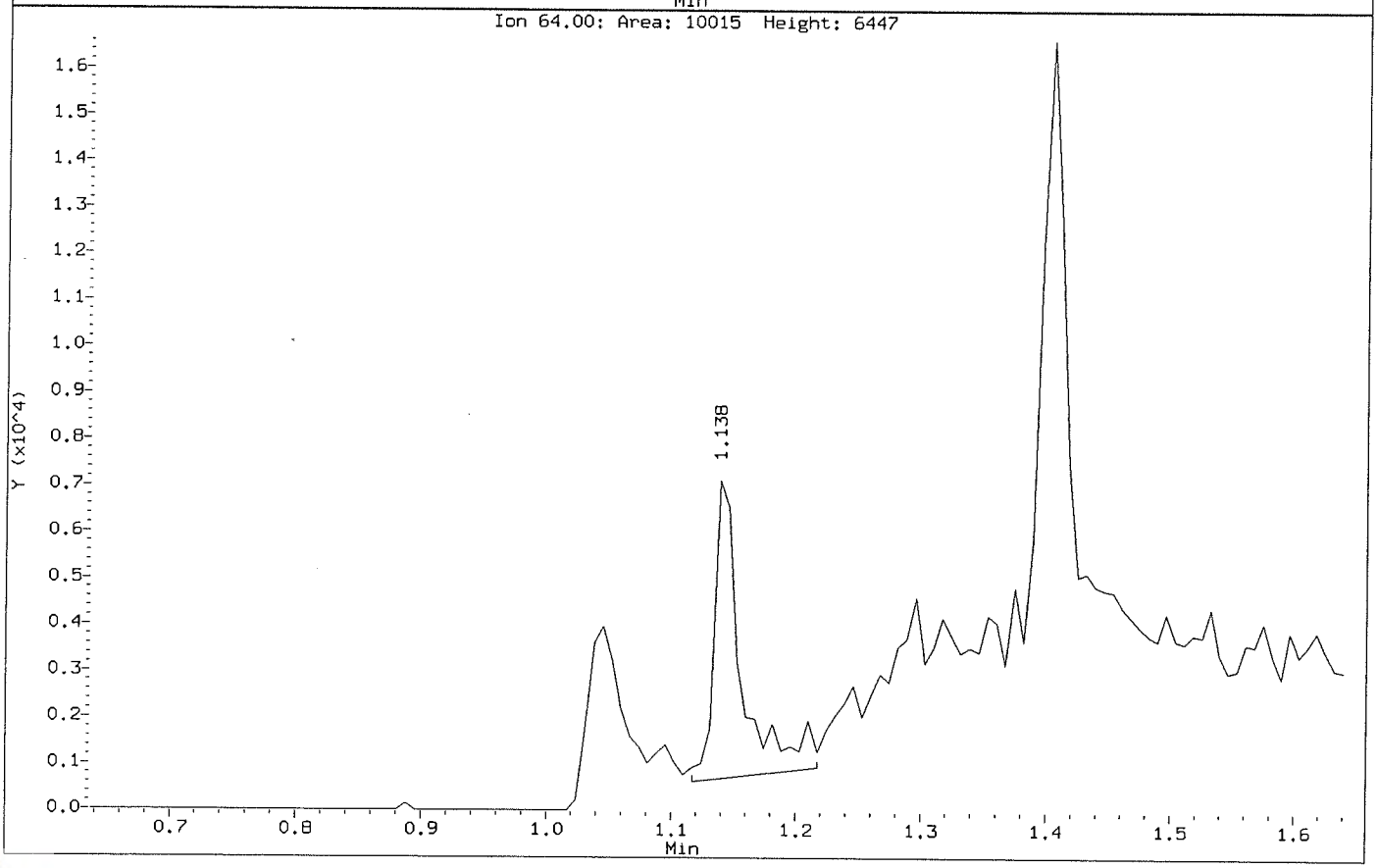
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Date : 02-APR-2021 12:38
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

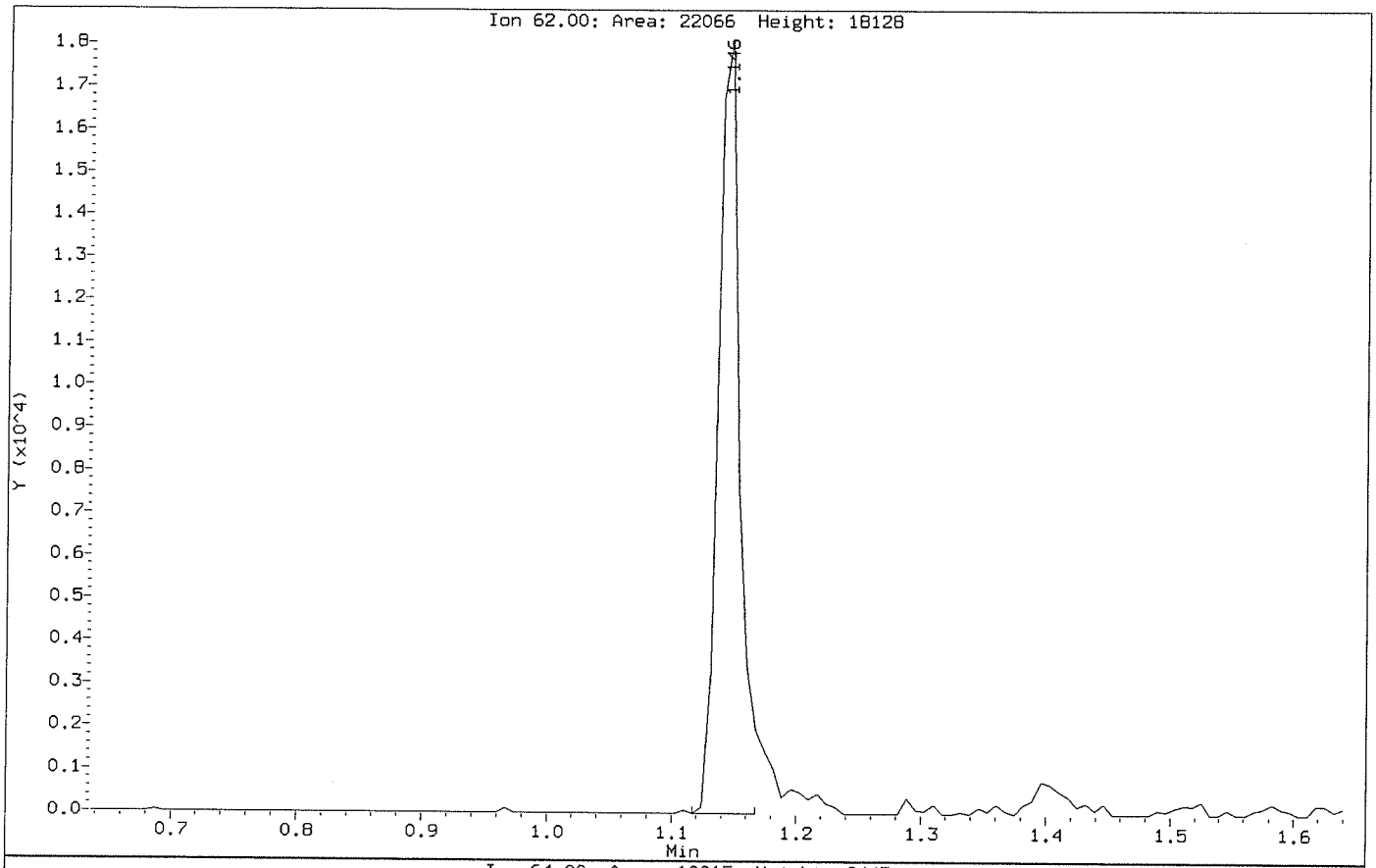
Compound: Vinyl Chloride
CAS Number: 75-01-4

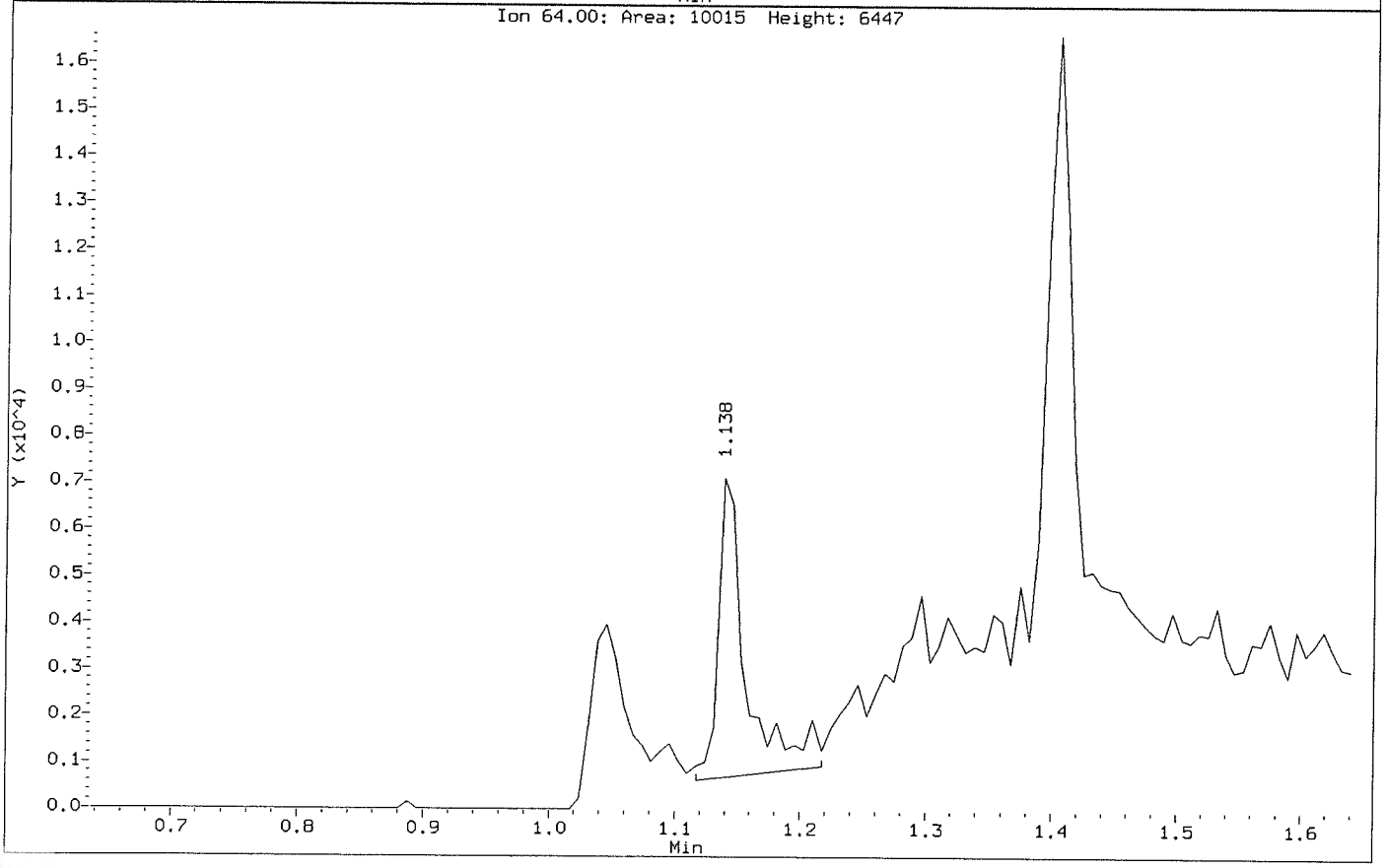




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

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





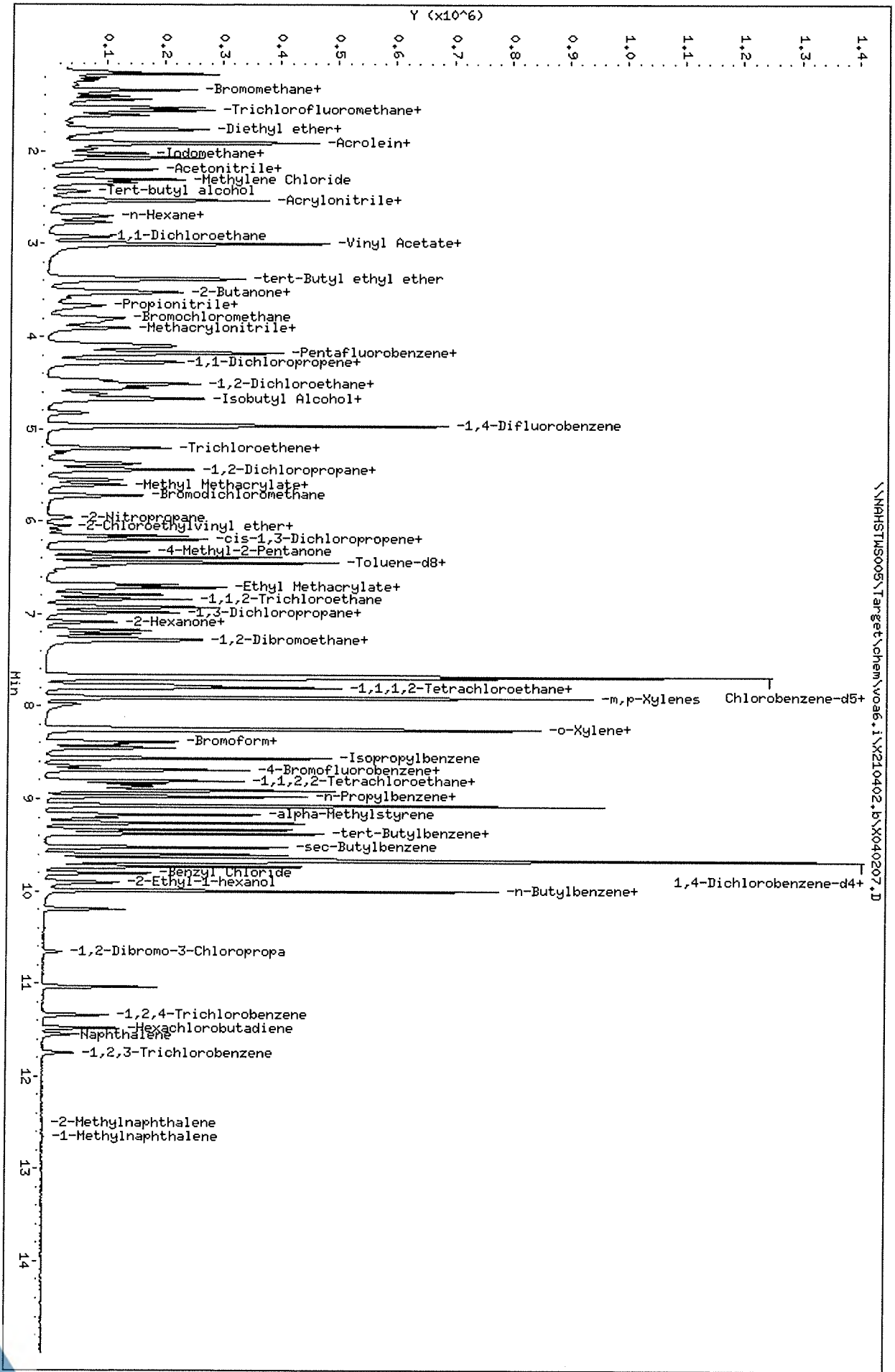
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-APR-2021 12:59
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:38 Cal File: X040206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	303845	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	500849	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	505360	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244406	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	68668	20.0000	19.46
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	80475	20.0000	19.07
$	48 Toluene-d8	98	6.388	6.388	(0.833)	218999	20.0000	18.08
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	81621	20.0000	17.93
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	50828	20.0000	17.31
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	80105	20.0000	18.51
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	95203	20.0000	17.95
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	65903	20.0000	17.74
	17 Methylene Chloride	84	2.305	2.305	(0.551)	63925	20.0000	20.29
	38 Trichloroethene	130	5.206	5.206	(1.049)	61652	20.0000	17.98
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	89514	20.0000	19.65



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Date : 02-APR-2021 12:59
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

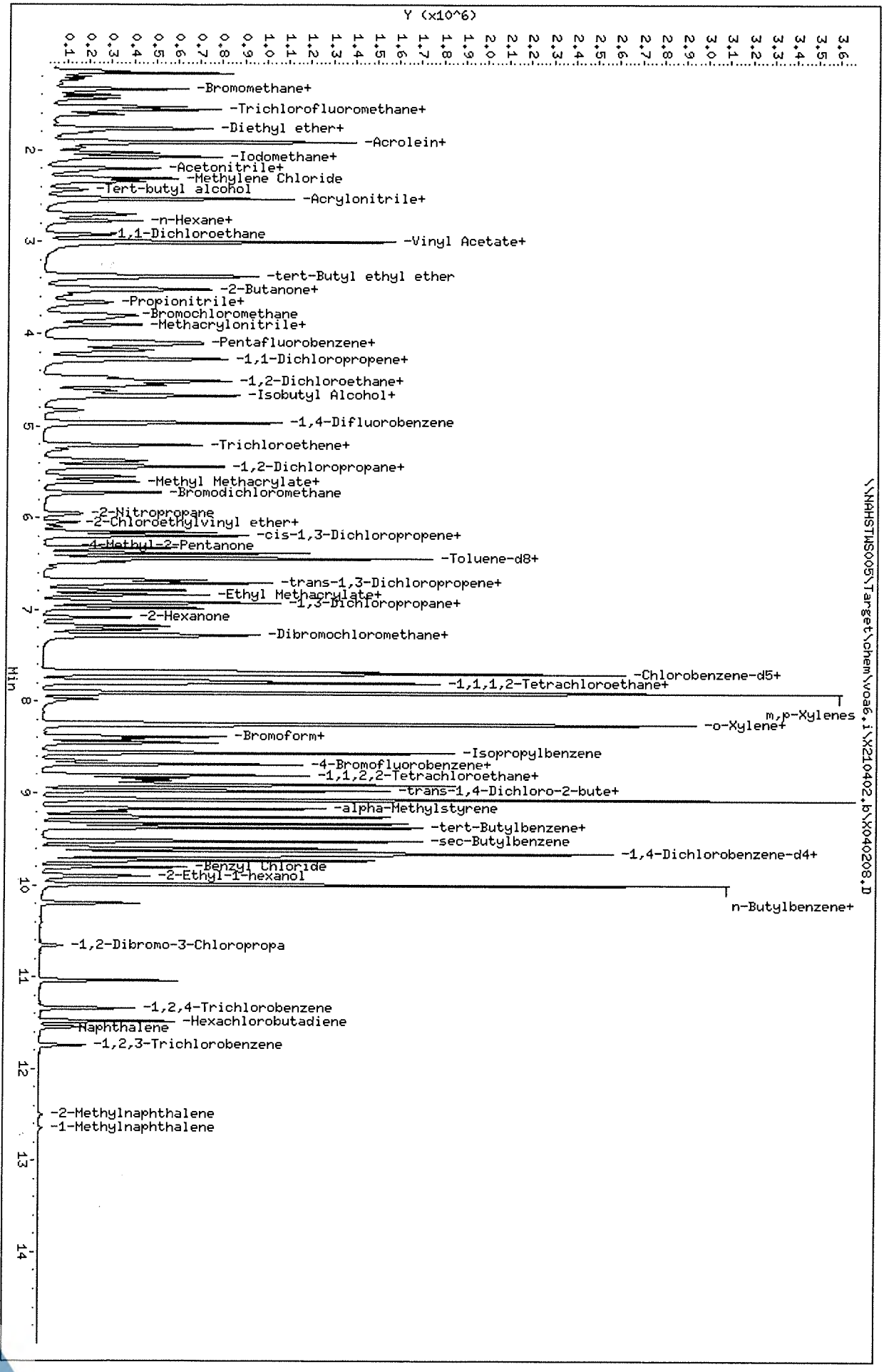
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 02-APR-2021 13:20
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:59 Cal File: X040207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	359684	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	598485	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	588191	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	309539	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	201590	50.0000	47.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243778	50.0000	48.06
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	658700	50.0000	43.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	267013	50.0000	47.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	155825	50.0000	45.60
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	240341	50.0000	46.92
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	309702	50.0000	48.88
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	208514	50.0000	47.42
17 Methylene Chloride	84	2.305	2.305	(0.551)	173954	50.0000	44.72
38 Trichloroethene	130	5.206	5.206	(1.049)	206412	50.0000	50.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	256013	50.0000	47.47



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Date : 02-APR-2021 13:20
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

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

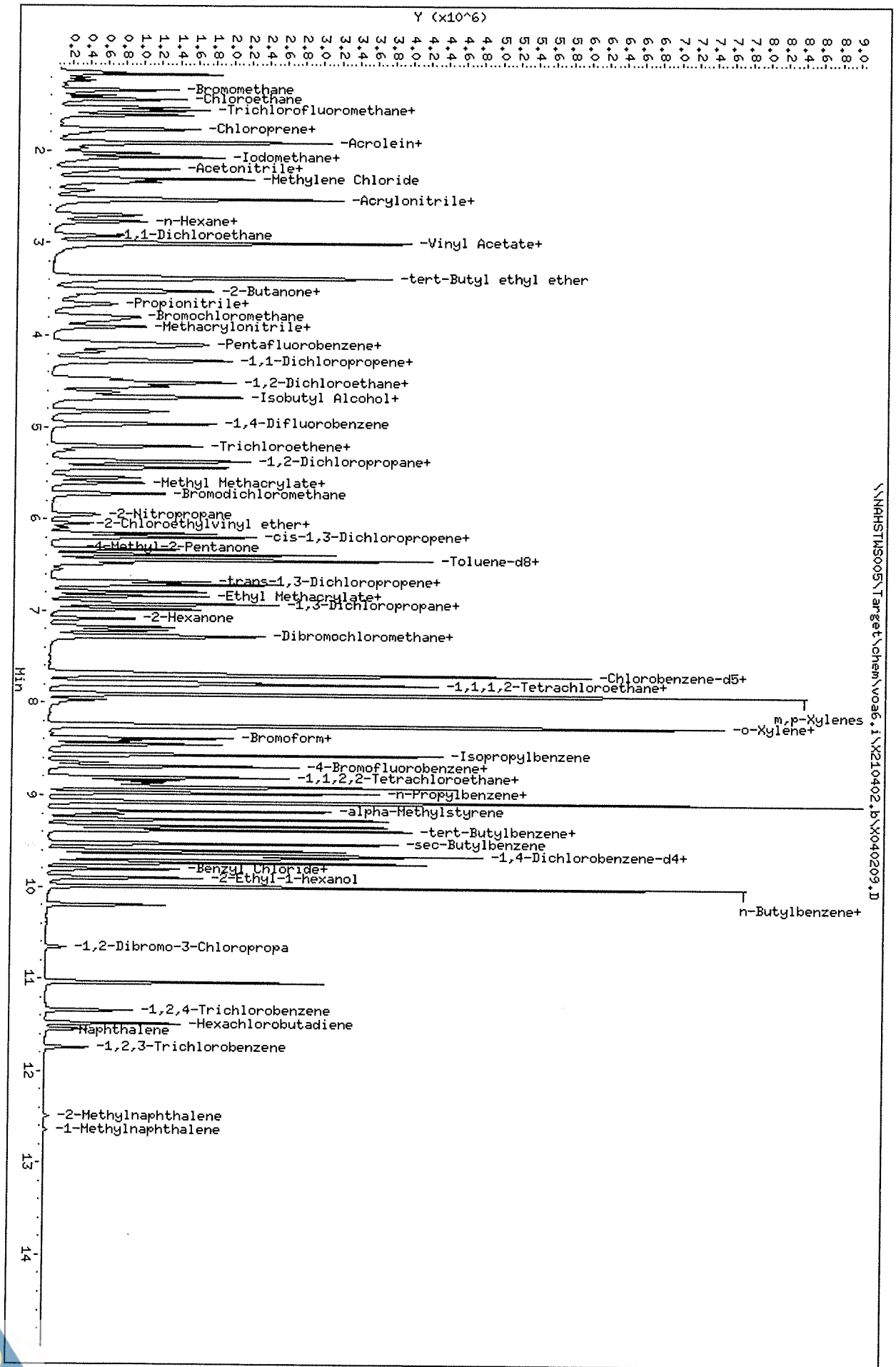
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-APR-2021 13:41
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	397825	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	683502	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	652649	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	339759	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	476731	100.000	101.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	568806	100.000	100.86
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1733824	100.000	101.37
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	624362	100.000	98.11
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	366869	100.000	96.76
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	544587	100.000	96.14
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	718135	100.000	99.26
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	487101	100.000	100.16
17 Methylene Chloride	84	2.305	2.305	(0.551)	420832	100.000	96.06
38 Trichloroethene	130	5.206	5.206	(1.049)	478548	100.000	102.27
5 Vinyl Chloride	62	1.145	1.145	(0.274)	541798	100.000	90.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Date : 02-APR-2021 13:41
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D Page 1
Report Date: 04-May-2021 11:39

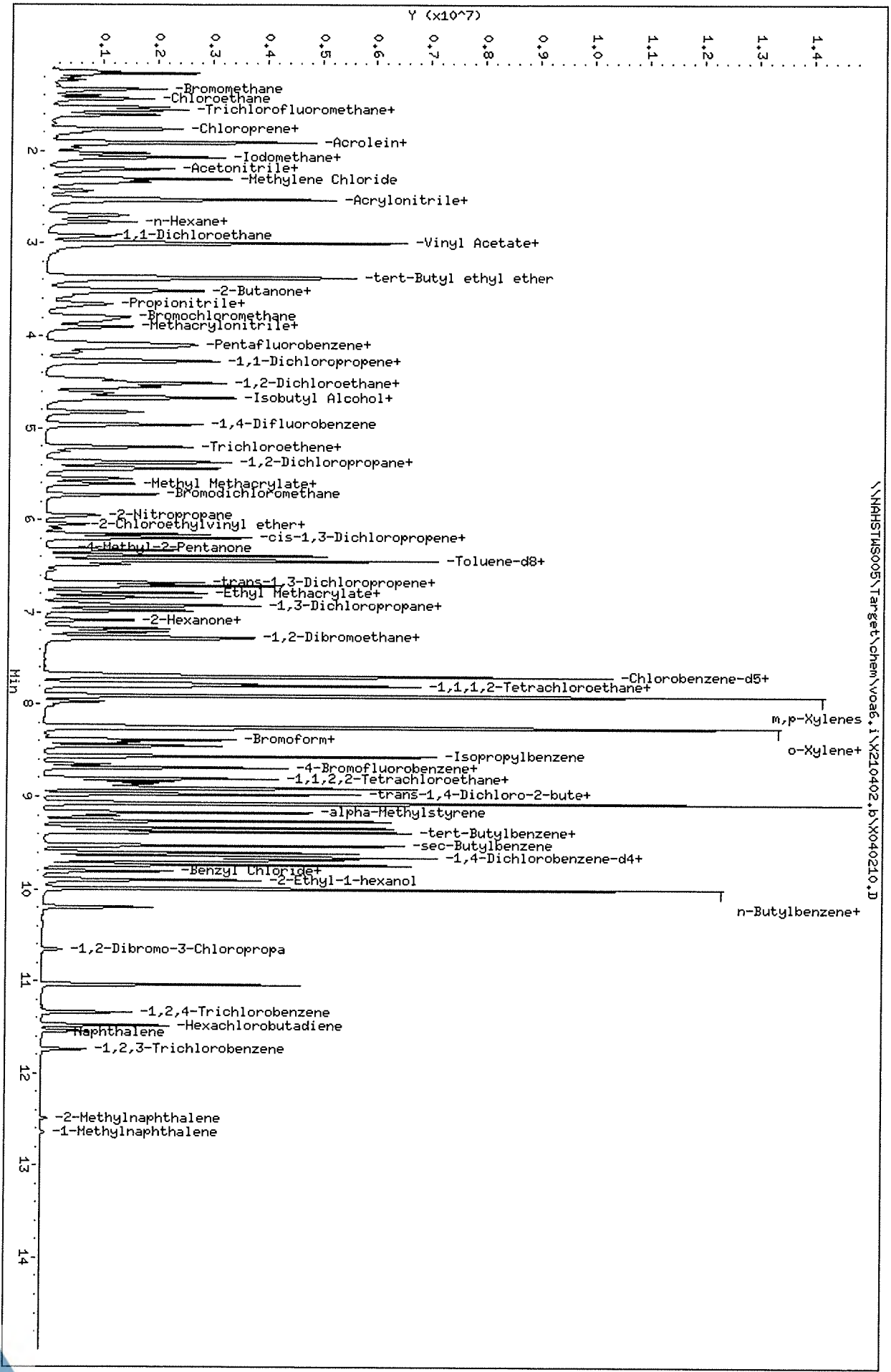
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-APR-2021 14:02
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:41 Cal File: X040209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432906	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	745206	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	707197	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	375287	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	758989	150.000	148.06
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	919399	150.000	149.58
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2714142	150.000	145.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1011725	150.000	145.90
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	595658	150.000	144.99
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	861197	150.000	139.71
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	1146217	150.000	145.31
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	789545	150.000	149.19
17 Methylene Chloride	84	2.298	2.298	(0.550)	703062	150.000	146.68
38 Trichloroethene	130	5.207	5.207	(1.049)	752757	150.000	147.55
5 Vinyl Chloride	62	1.138	1.138	(0.272)	862204	150.000	132.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Date : 02-APR-2021 14:02
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\X210402.b\X040211.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-APR-2021 14:23
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:02 Cal File: X040210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

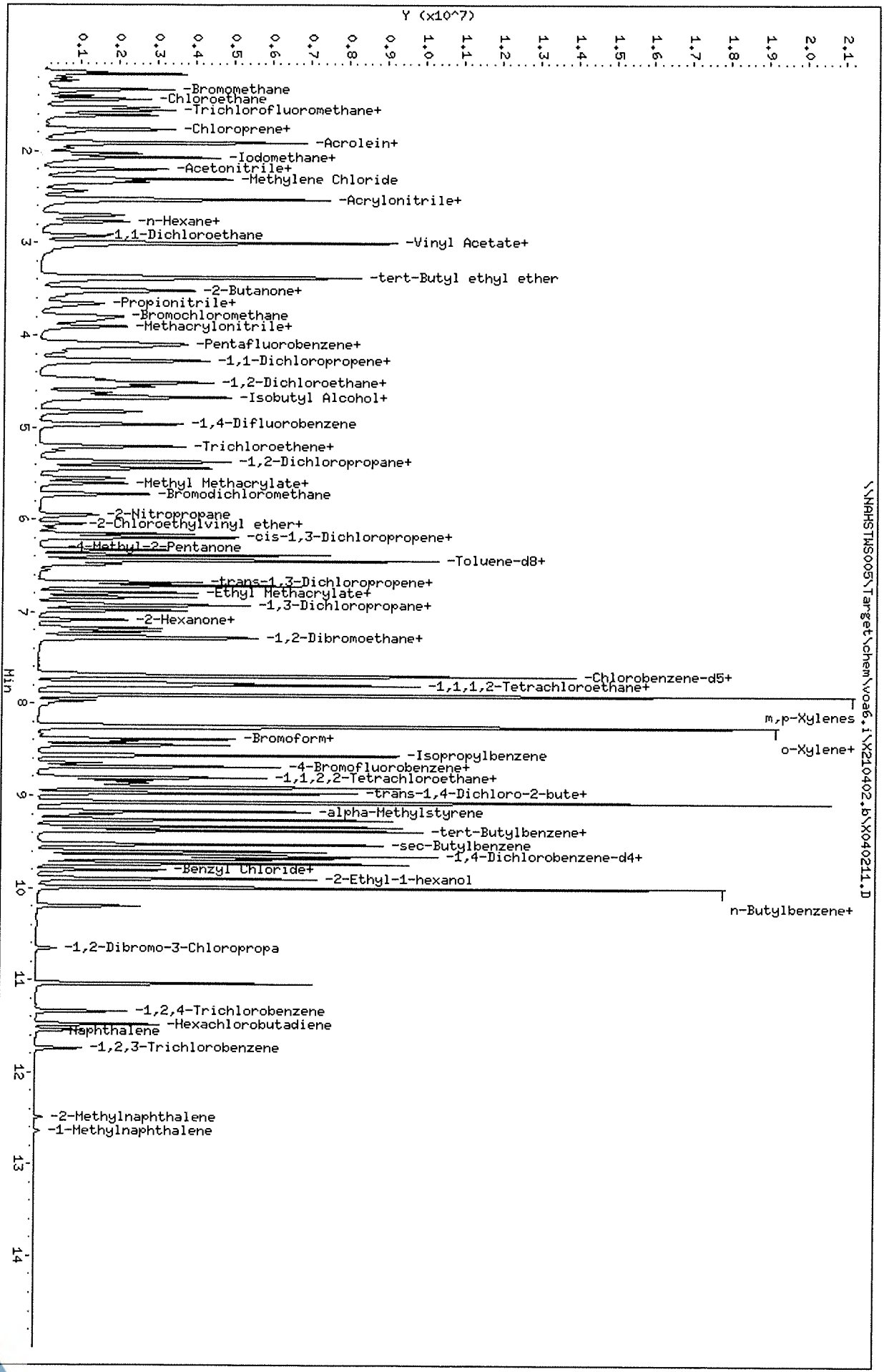
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	444815	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	788136	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	732576	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	399401	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1061294	200.000	201.33(A)
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	1266674	200.000	200.40(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	3949224	200.000	203.80(A)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1473828	200.000	204.50(A)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	832139	200.000	195.54
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1249794	200.000	197.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	1584950	200.000	189.99
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	1123271	200.000	206.57(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	1013494	200.000	205.19(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	1061444	200.000	196.73
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1159290	200.000	173.84

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Date : 02-APR-2021 14:23
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\X210402.b\X040214.D Page 1
Report Date: 04-May-2021 11:39

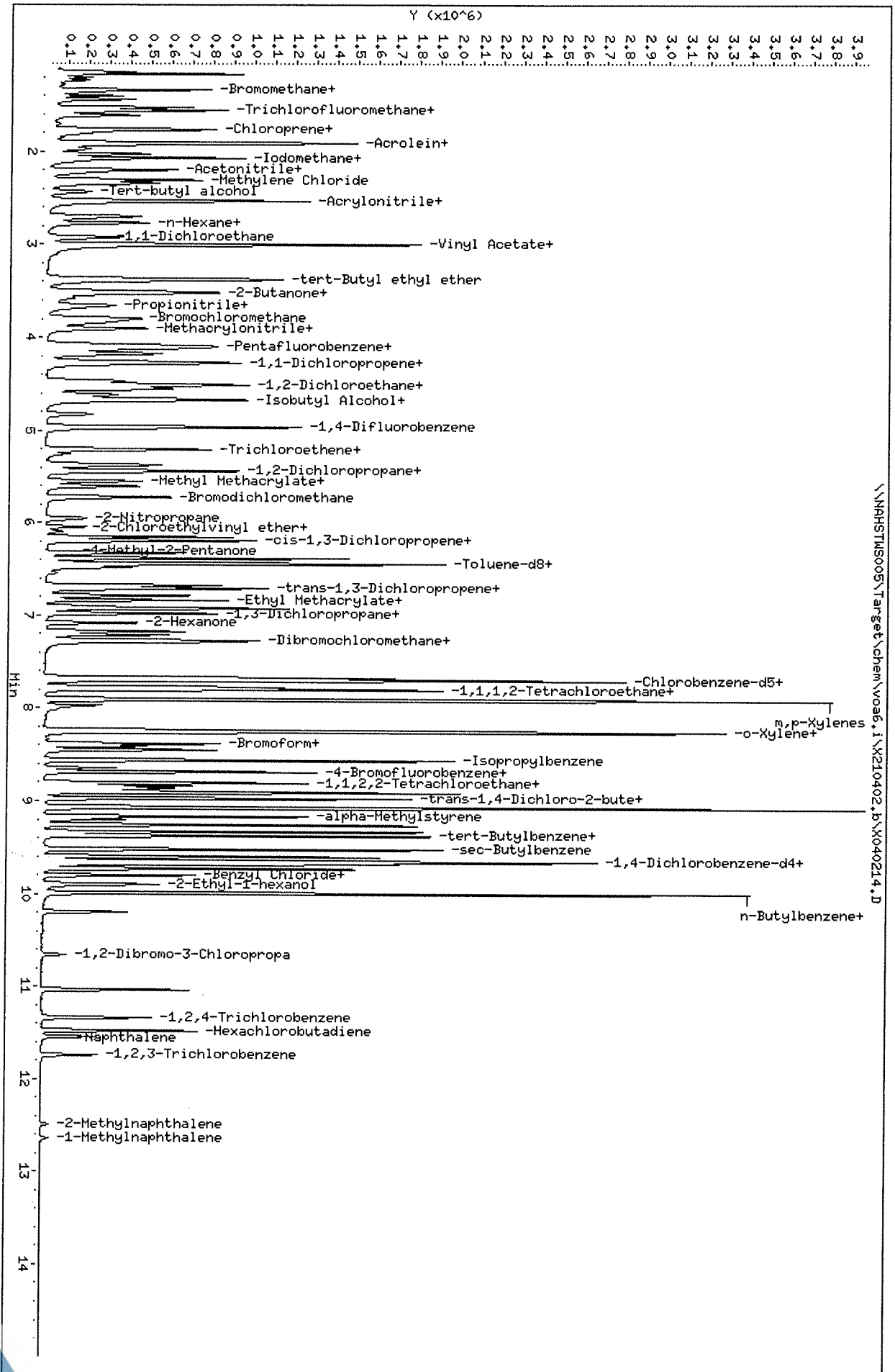
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-APR-2021 15:26
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	403237	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	674704	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	639311	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	322985	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	233448	49.1812	49.18
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	278339	48.9433	48.94
$	48 Toluene-d8	98	6.388	6.388	(0.833)	812891	49.4873	49.48
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	292882	47.8435	47.84
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178830	48.1535	48.15
	11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	265347	46.2152	46.21
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	339122	47.4855	47.48
	27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	228412	46.3383	46.33
	17 Methylene Chloride	84	2.305	2.305	(0.551)	198869	45.5779	45.57
	38 Trichloroethene	130	5.206	5.206	(1.049)	232943	50.4339	50.43
	5 Vinyl Chloride	62	1.145	1.138	(0.274)	279152	46.1765	46.17



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Date : 02-APR-2021 15:26
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: 44545 **Analyst:** Presenta Cabascango

Date: 04-25-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-25-2021 11:39 am	1.00	50 mL	50 mL	X042501.D	Liquid	Y	NA
2	CCV	CCV	04-25-2021 12:00 pm	1.00	50 mL	50 mL	X042502a.D	Liquid	Y	NA
3	CCV	CCV	04-25-2021 12:21 pm	1.00	50 mL	50 mL	X042503.D	Liquid	Y	NA
4	CCB	SAMP	04-25-2021 12:42 pm	1.00	50 mL	50 mL	X042504.D	Liquid	Y	NA
5	VLCSW-210425	LCS	04-25-2021 01:03 pm	1.00	50 mL	50 mL	X042505.D	Liquid	Y	NA
6	BLANK	SAMP	04-25-2021 01:24 pm	1.00	50 mL	50 mL	X042506.D	Liquid	Y	NA
7	VBLKW-210425	MBLK	04-25-2021 01:45 pm	1.00	50 mL	50 mL	X042507.D	Liquid	Y	NA
8	HS21041197-03	SAMP	04-25-2021 02:06 pm	1.00	50 mL	50 mL	X042508.D	Liquid	Y	NA
9	HS21041255-09	SAMP	04-25-2021 02:27 pm	1.00	50 mL	50 mL	X042509.D	Liquid	Y	NA
10	HS21041169-03	SAMP	04-25-2021 02:48 pm	1.00	50 mL	50 mL	X042510.D	Liquid	Y	NA
11	HS21041169-03MS	MS	04-25-2021 03:09 pm	1.00	50 mL	50 mL	X042511.D	Liquid	Y	NA
12	HS21041169-03MSD	MSD	04-25-2021 03:30 pm	1.00	50 mL	50 mL	X042512.D	Liquid	Y	NA
13	BLANK	SAMP	04-25-2021 03:51 pm	1.00	50 mL	50 mL	X042513.D	Liquid	Y	NA
14	HS21041169-04	SAMP	04-25-2021 04:12 pm	1.00	50 mL	50 mL	X042514.D	Liquid	Y	NA
15	HS21041169-05	SAMP	04-25-2021 04:33 pm	1.00	50 mL	50 mL	X042515.D	Liquid	Y	NA
16	HS21041255-01	SAMP	04-25-2021 04:54 pm	1.00	50 mL	50 mL	X042516.D	Liquid	Y	NA
17	HS21041255-02	SAMP	04-25-2021 05:16 pm	1.00	50 mL	50 mL	X042517.D	Liquid	Y	NA
18	HS21041255-03	SAMP	04-25-2021 05:37 pm	1.00	50 mL	50 mL	X042518.D	Liquid	Y	NA
19	HS21041255-04	SAMP	04-25-2021 05:58 pm	1.00	50 mL	50 mL	X042519.D	Liquid	Y	NA
20	HS21041255-05	SAMP	04-25-2021 06:19 pm	1.00	50 mL	50 mL	X042520.D	Liquid	Y	NA
21	HS21041255-06	SAMP	04-25-2021 06:40 pm	1.00	50 mL	50 mL	X042521.D	Liquid	Y	NA
22	HS21041197-01	SAMP	04-25-2021 07:01 pm	5.00	10 mL	50 mL	X042522.D	Liquid	Y	NA
23	HS21041197-01n/r	SAMP	04-25-2021 07:22 pm	25.00	2 mL	50 mL	X042523.D	Liquid	Y	NA
24	HS21041169-02	SAMP	04-25-2021 07:43 pm	5.00	10 mL	50 mL	X042524.D	Liquid	Y	NA
25	HS21041169-02	SAMP	04-25-2021 08:04 pm	50.00	1 mL	50 mL	X042525.D	Liquid	Y	NA
26	HS21041197-02	SAMP	04-25-2021 08:25 pm	10.00	5 mL	50 mL	X042526.D	Liquid	Y	NA
27	HS21041197-02	SAMP	04-25-2021 08:46 pm	100.0(	500 µL	50 mL	X042527.D	Liquid	Y	NA
28	HS21041169-01	SAMP	04-25-2021 09:07 pm	25.00	2 mL	50 mL	X042528.D	Liquid	Y	NA
29	HS21041169-01	SAMP	04-25-2021 09:28 pm	250.0(	200 µL	50 mL	X042529.D	Liquid	Y	NA
30	HS21041255-07	SAMP	04-25-2021 09:49 pm	25.00	2 mL	50 mL	X042530.D	Liquid	Y	NA
31	CCV-END	CCV	04-25-2021 10:10 pm	1.00	50 mL	50 mL	X042531.D	Liquid	Y	NA
32	BLANK	SAMP	04-25-2021 10:31 pm	1.00	50 mL	50 mL	X042540.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-210425	101	108	102	101	0
02	VBLKW-210425	92	95	107	93	0
03	HS21041197-03	91	92	108	96	0
04	HS21041169-03MS	96	97	104	98	0
05	HS21041169-03MSD	94	97	105	96	0
06	HS21041197-01	92	100	106	94	0
07	HS21041197-02	94	99	106	92	0
08	HS21041197-02	95	100	105	94	0
09						
10						
11						
12						
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16						
17						
18						
19						
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21						
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23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(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-210425

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Lab File ID: X042507 Lab Sample ID: VBLKW-210425

Date Analyzed: 04/25/21 Time Analyzed: 1345

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-210425	VLCSW-210425	X042505	1303
02	HS21041197-03	HS21041197-03	X042508	1406
03	HS21041169-03MS	HS21041169-03MS	X042511	1509
04	HS21041169-03MSD	HS21041169-03MSD	X042512	1530
05	HS21041197-01	HS21041197-01	X042522	1901
06	HS21041197-02	HS21041197-02	X042526	2025
07	HS21041197-02	HS21041197-02	X042527	2046
08				
09				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Lab File ID: X042501 BFB Injection Date: 04/25/21

Instrument ID: VOA6 BFB Injection Time: 1139

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	22.3
75	30.0 - 60.0% of mass 95	56.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	1.0 (1.2)1
174	Greater than 50.0% of mass 95	81.8
175	5.0 - 9.0% of mass 174	5.9 (7.2)1
176	95.0 - 101.0% of mass 174	78.1 (95.4)1
177	5.0 - 9.0% of mass 176	4.9 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X042503	04/25/21	1221
02	VLCSW-210425	VLCSW-210425	X042505	04/25/21	1303
03	VBLKW-210425	VBLKW-210425	X042507	04/25/21	1345
04	HS21041197-03	HS21041197-03	X042508	04/25/21	1406
05	HS21041169-03MS	HS21041169-03MS	X042511	04/25/21	1509
06	HS21041169-03MSD	HS21041169-03MSD	X042512	04/25/21	1530
07	HS21041197-01	HS21041197-01	X042522	04/25/21	1901
08	HS21041197-02	HS21041197-02	X042526	04/25/21	2025
09	HS21041197-02	HS21041197-02	X042527	04/25/21	2046
10	CCV-END	CCV-END	X042531	04/25/21	2210
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: VOA6 Calibration Date: 04/25/21 Time: 1221

Lab File ID: X042503 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.8280354	0.8280354	0.1	-10.40	20.00	AVRG
Methylene Chloride	57.297245	50.000000	0.6242575	0.1	-14.59	20.00	LINR
1,1-Dichloroethene	0.7120000	0.7147956	0.7147956	0.1	-0.39	20.00	AVRG
1,2-Dichloroethane	0.5290000	0.5508112	0.5508112	0.1	-4.12	20.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6825380	0.6825380	0.1	-11.71	20.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3171430	0.3171430	0.1	-9.36	20.00	AVRG
Trichloroethene	0.3420000	0.3679817	0.3679817	0.2	-7.60	20.00	AVRG
Dibromofluoromethane	53.640148	50.000000	0.6318893	0.1	-7.28	20.00	LINR
1,2-Dichloroethane-d4	55.879879	50.000000	0.7890655	0.1	-11.76	20.00	LINR
Toluene-d8	53.815176	50.000000	1.3870398	0.1	-7.63	20.00	LINR
4-Bromofluorobenzene	52.501946	50.000000	0.5043215	0.1	-5.00	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: VOA6 Calibration Date: 04/25/21 Time: 2210

Lab File ID: X042531 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.7031073	0.7031073	0.1	6.25	50.00	AVRG
Methylene Chloride	51.955790	50.000000	0.5645157	0.1	-3.91	50.00	LINR
1,1-Dichloroethene	0.7120000	0.5911592	0.5911592	0.1	16.97	50.00	AVRG
1,2-Dichloroethane	0.5290000	0.5414416	0.5414416	0.1	-2.35	50.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6681950	0.6681950	0.1	-9.36	50.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3131566	0.3131566	0.1	-7.98	50.00	AVRG
Trichloroethene	0.3420000	0.3303263	0.3303263	0.2	3.41	50.00	AVRG
Dibromofluoromethane	56.042985	50.000000	0.6604253	0.1	-12.08	50.00	LINR
1,2-Dichloroethane-d4	56.857934	50.000000	0.8029968	0.1	-13.72	50.00	LINR
Toluene-d8	53.141034	50.000000	1.3690442	0.1	-6.28	50.00	LINR
4-Bromofluorobenzene	52.754391	50.000000	0.5068252	0.1	-5.51	50.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Lab File ID (Standard): X042503 Date Analyzed: 04/25/21

Instrument ID: VOA6 Time Analyzed: 1221

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	387196	4.18	659117	4.96	647569	7.67
	UPPER LIMIT	774392	4.68	1318234	5.46	1295138	8.17
	LOWER LIMIT	193598	3.68	329559	4.46	323785	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-210425	370971	4.18	630750	4.96	560862	7.67
02	VBLKW-210425	437353	4.18	701141	4.96	633260	7.67
03	HS21041197-03	429687	4.18	696571	4.97	630764	7.67
04	HS21041169-03MS	469498	4.18	782500	4.96	704947	7.67
05	HS21041169-03MSD	473565	4.18	775320	4.96	690187	7.67
06	HS21041197-01	400074	4.18	644670	4.96	562381	7.67
07	HS21041197-02	388168	4.18	633093	4.96	542922	7.67
08	HS21041197-02	381377	4.18	616998	4.97	533807	7.67
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Lab File ID (Standard): X042503 Date Analyzed: 04/25/21

Instrument ID: VOA6 Time Analyzed: 1221

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	312518	9.66				
	UPPER LIMIT	625036	10.16				
	LOWER LIMIT	156259	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-210425	271891	9.66				
02	VBLKW-210425	267239	9.66				
03	HS21041197-03	270927	9.66				
04	HS21041169-03MS	338538	9.66				
05	HS21041169-03MSD	321970	9.66				
06	HS21041197-01	235688	9.66				
07	HS21041197-02	230899	9.66				
08	HS21041197-02	218161	9.66				
09							
10							
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14							
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16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

Client ID: BFB

Instrument: voa6.i

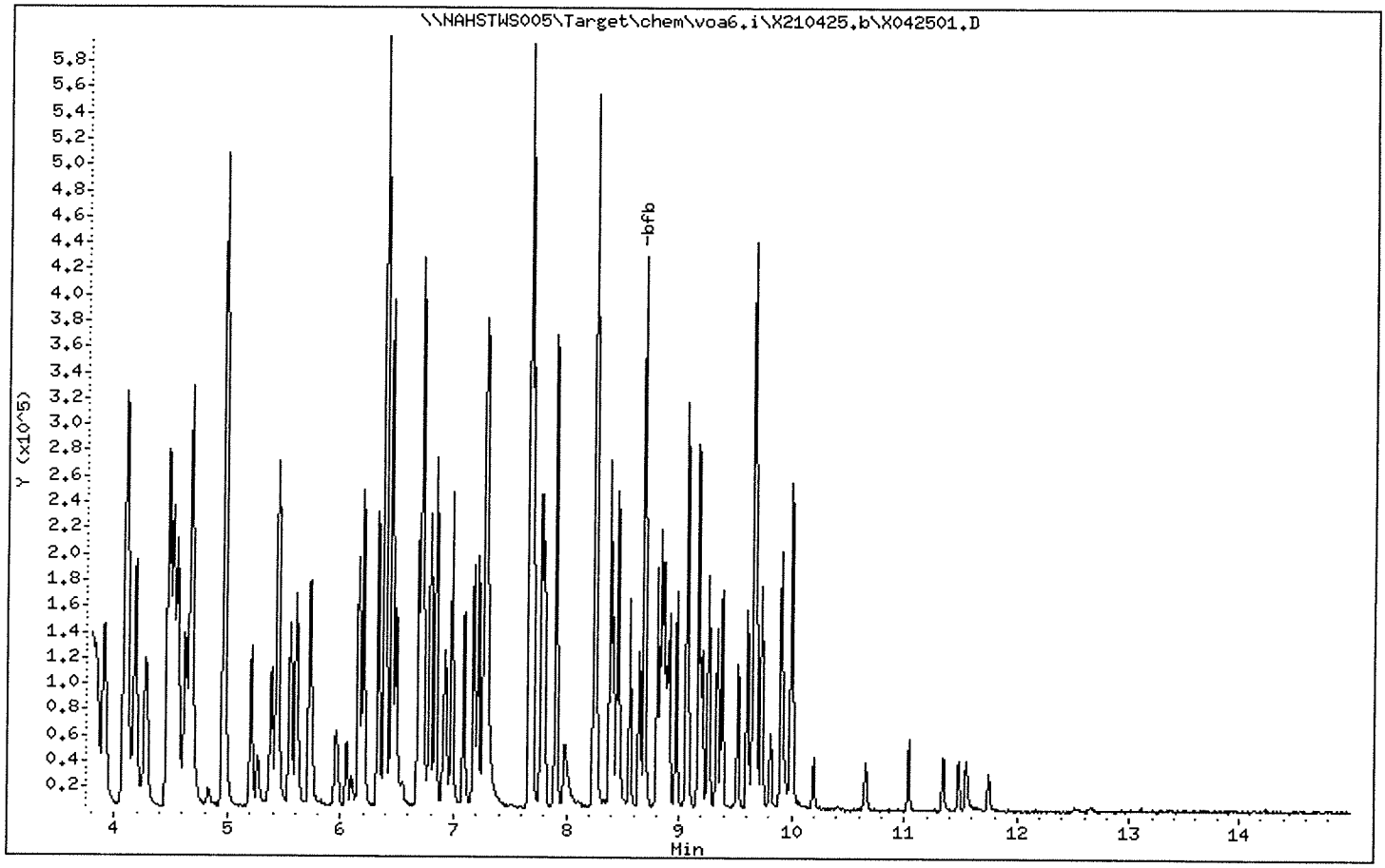
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

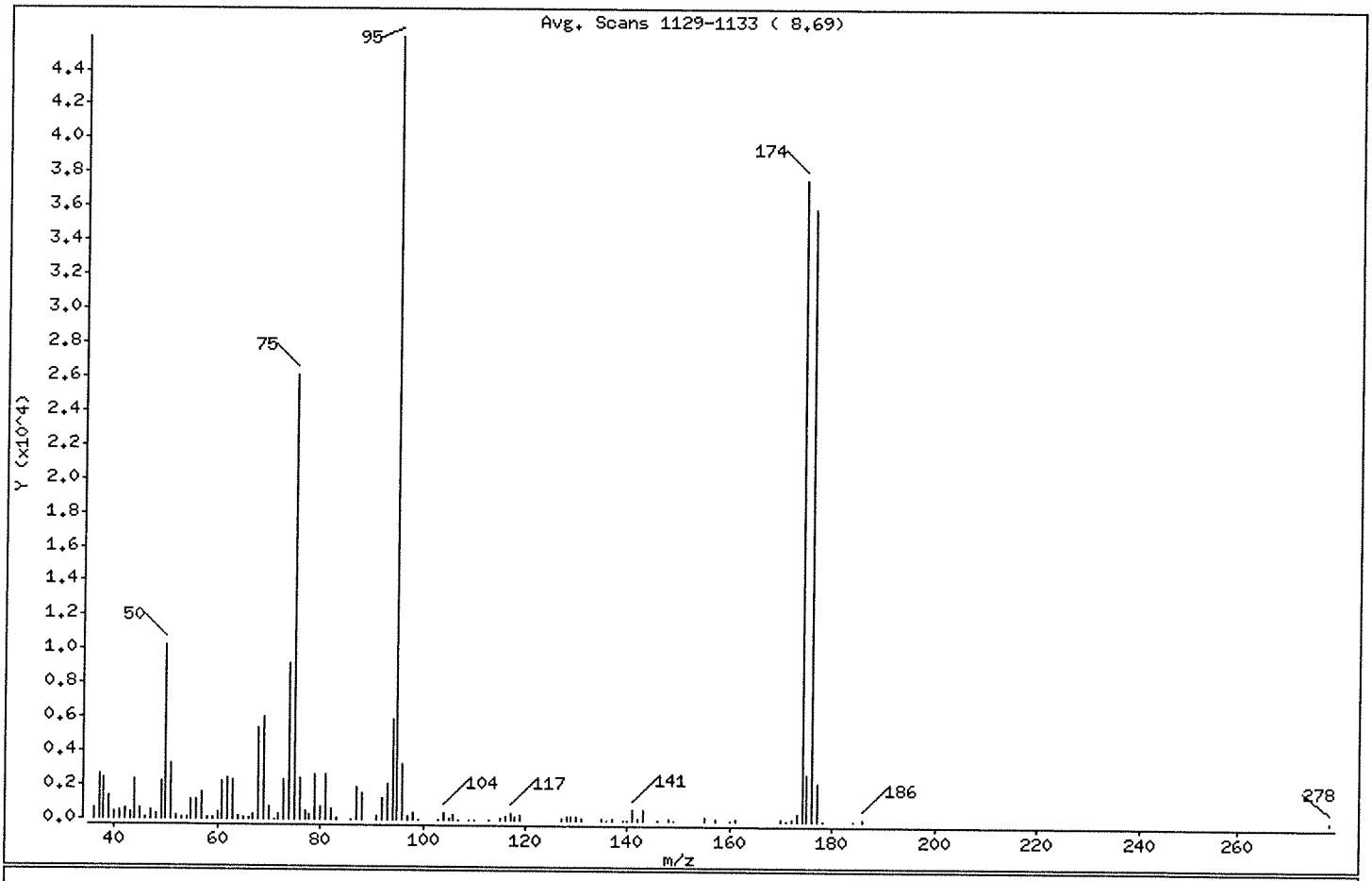
Volume Injected (uL): 2.0

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	22.33
75	30.00 - 60.00% of mass 95	56.74
96	5.00 - 9.00% of mass 95	7.11
173	Less than 2.00% of mass 174	0.99 (1.22)
174	Greater than 50.00% of mass 95	81.83
175	5.00 - 9.00% of mass 174	5.90 (7.21)
176	95.00 - 101.00% of mass 174	78.10 (95.45)
177	5.00 - 9.00% of mass 176	4.91 (6.29)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

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: X042501.D
Spectrum: Avg. Scans 1129-1133 (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	609	63.00	2316	94.00	5951	139.00	16
37.00	2672	64.00	209	95.00	45960	140.00	16
38.00	2443	65.00	136	96.00	3267	141.00	679
39.00	1363	66.00	81	97.00	238	142.00	70
40.00	429	67.00	272	98.00	372	143.00	672
41.00	526	68.00	5430	99.00	32	146.00	14
42.00	652	69.00	6073	103.00	37	148.00	89
43.00	453	70.00	748	104.00	379	149.00	42
44.00	2296	71.00	39	105.00	110	155.00	164
45.00	619	72.00	352	106.00	315	157.00	72
46.00	82	73.00	2300	107.00	14	160.00	10
47.00	521	74.00	9185	109.00	17	161.00	94
48.00	333	75.00	26080	110.00	45	170.00	97
49.00	2209	76.00	2385	113.00	34	171.00	44
50.00	10265	77.00	498	115.00	88	172.00	87
51.00	3313	78.00	349	116.00	222	173.00	457
52.00	207	79.00	2620	117.00	457	174.00	37608
53.00	100	80.00	741	118.00	182	175.00	2712
54.00	101	81.00	2642	119.00	297	176.00	35896
55.00	1161	82.00	644	127.00	117	177.00	2257
56.00	1123	83.00	132	128.00	195	178.00	37
57.00	1554	86.00	11	129.00	167	184.00	12
58.00	112	87.00	1909	130.00	198	186.00	124
59.00	86	88.00	1587	131.00	82	278.00	94
60.00	409	91.00	255	135.00	155		
61.00	2270	92.00	1229	136.00	11		
62.00	2435	93.00	2125	137.00	102		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042503.D Page 1
Report Date: 24-May-2021 12:24

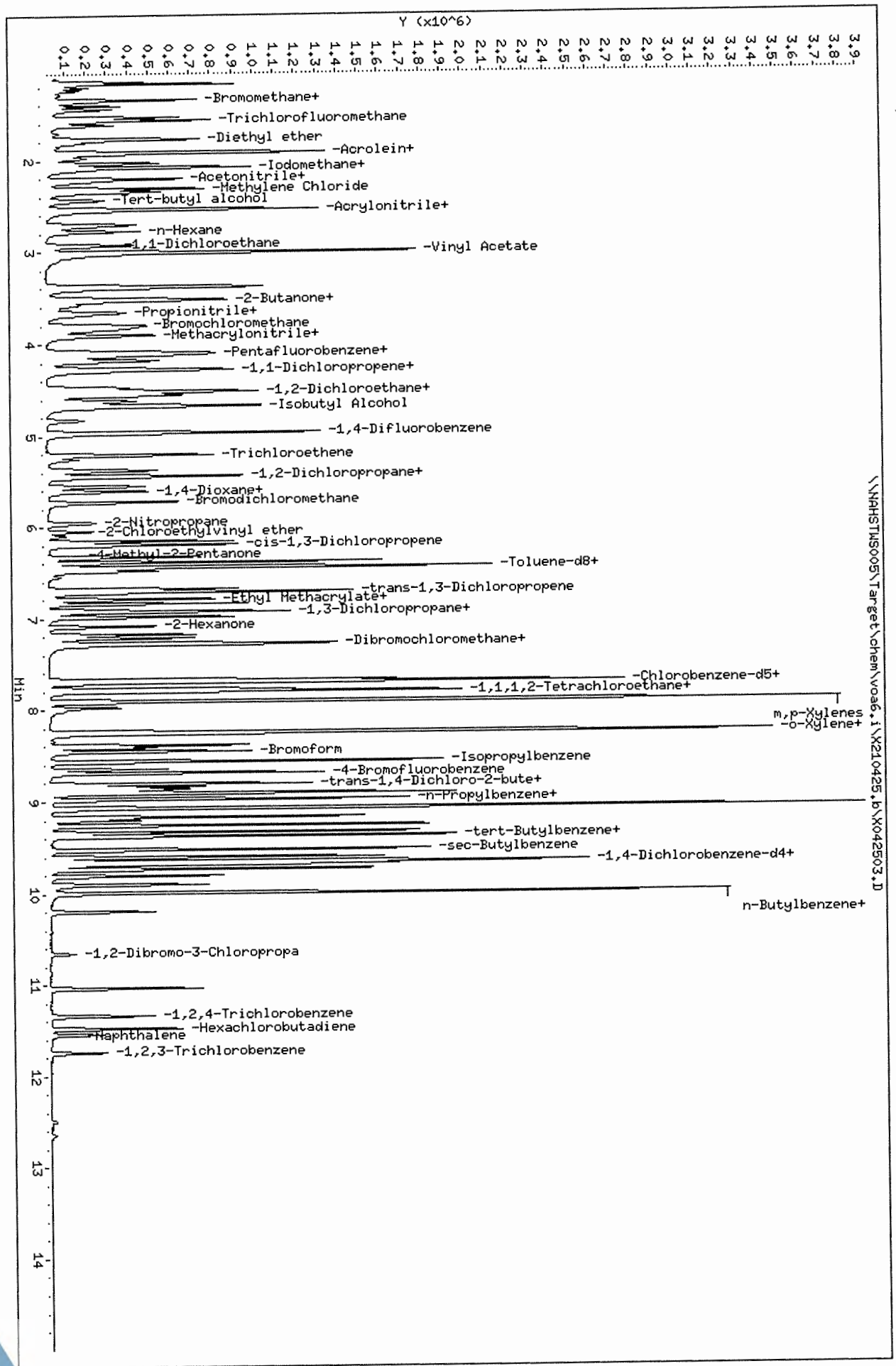
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042503.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 25-APR-2021 12:21
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:24 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	387196	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	659117	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	647569	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	312518	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	244665	50.0000	53.64
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	305523	50.0000	55.87
$	48 Toluene-d8	98	6.388	6.388	(0.833)	898204	50.0000	53.81
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	326583	50.0000	52.50
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	205372	50.0000	54.59
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	276766	50.0000	50.20
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	363049	50.0000	52.03
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	264276	50.0000	55.83
	17 Methylene Chloride	84	2.305	2.305	(0.551)	241710	50.0000	57.29
	38 Trichloroethene	130	5.206	5.206	(1.049)	242543	50.0000	53.75
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	320612	50.0000	55.23



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042503.D
Date : 25-APR-2021 12:21
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\X210425.b\X042505.D Page 1
Report Date: 24-May-2021 12:24

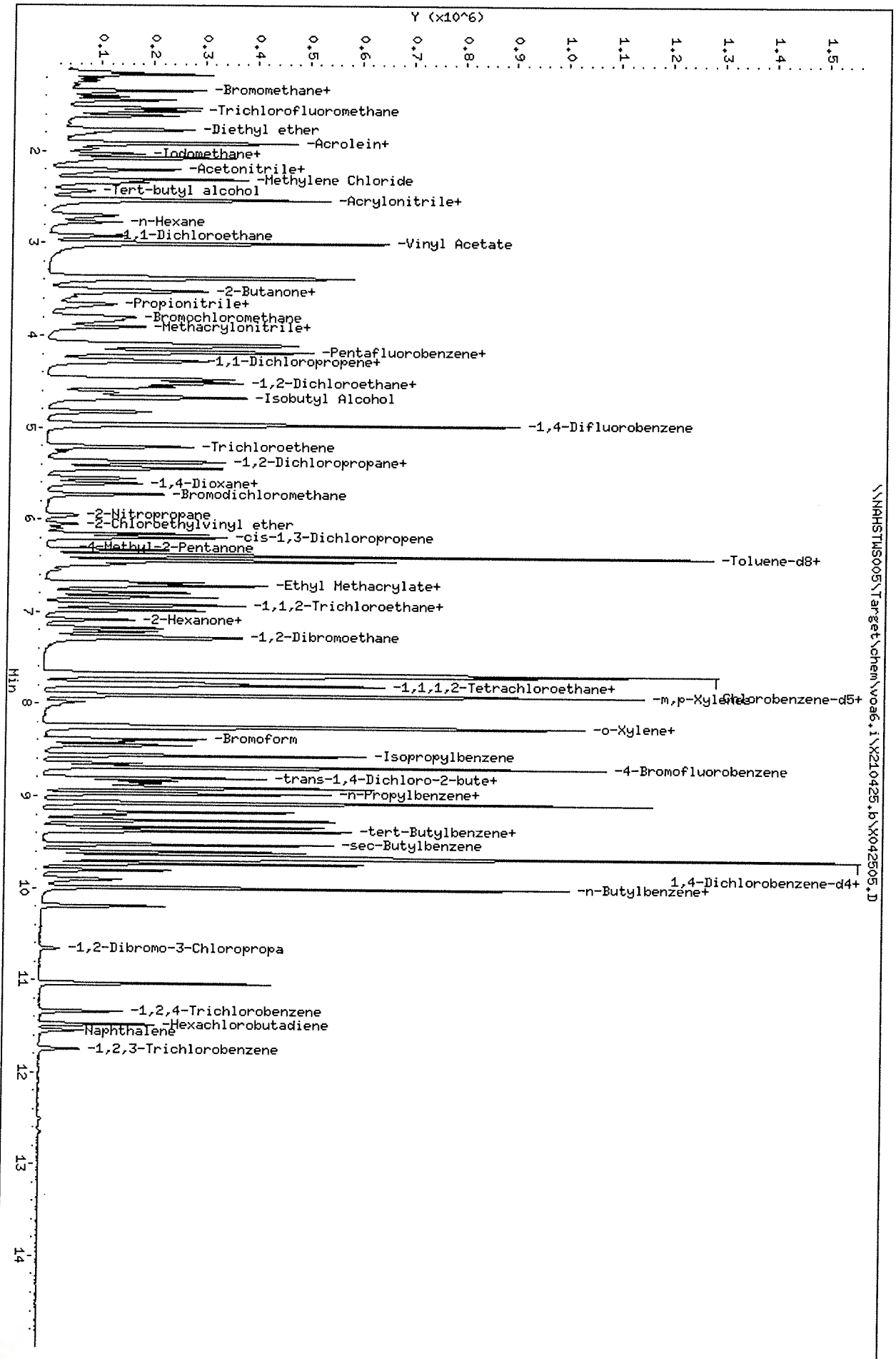
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042505.D
Lab Smp Id: VLCSW-210425 Client Smp ID: VLCSW-210425
Inj Date : 25-APR-2021 13:03
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210425;VLCSW-210425;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:24 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

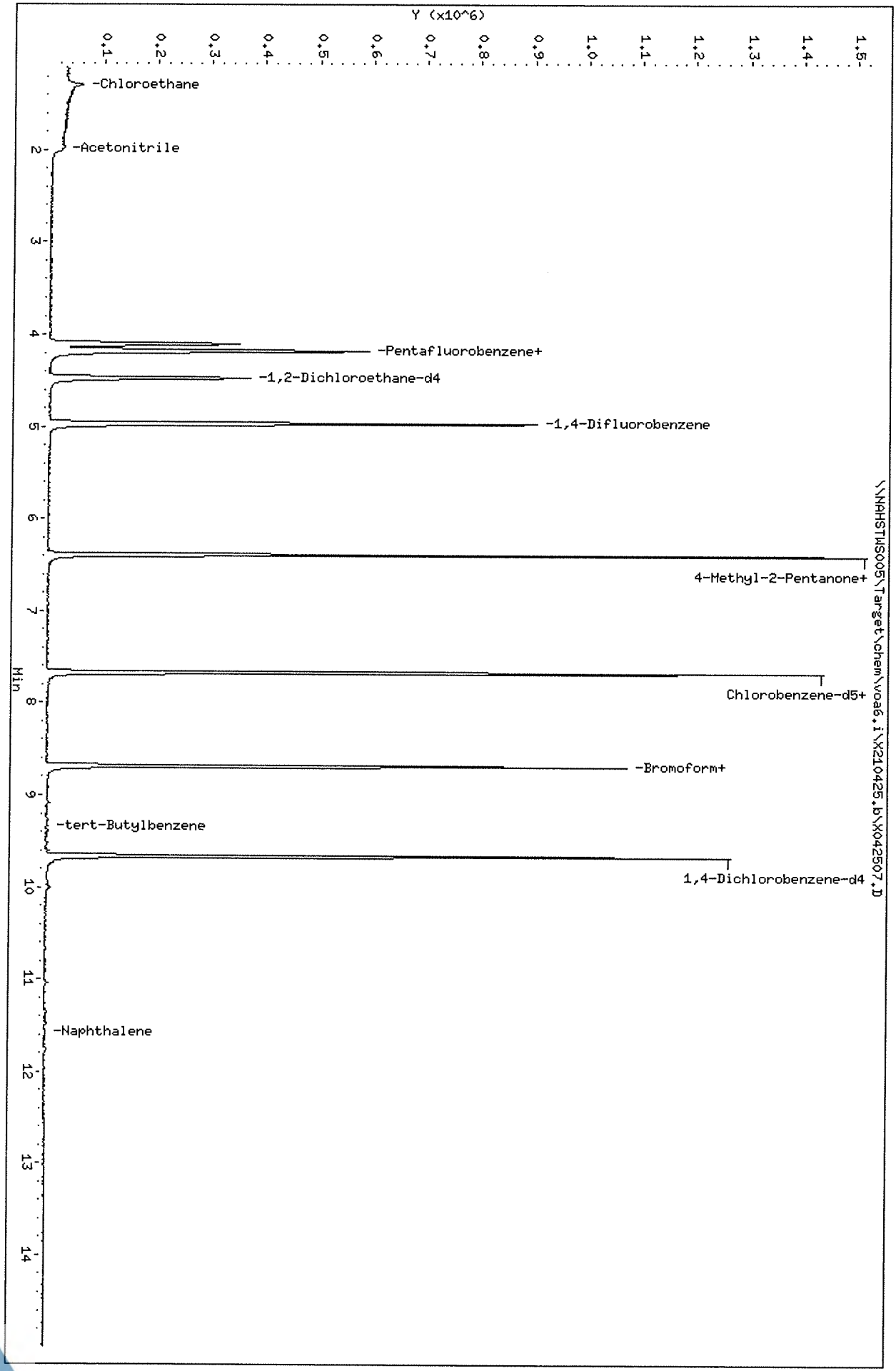
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	370971	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	630750	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	560862	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271891	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	220250	50.4255	50.42
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	282300	53.9078	53.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	739757	51.2650	51.26
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	270825	50.3392	50.33
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	71617	21.9816	21.98
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	92480	17.5081	17.50
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	136127	20.3895	20.38
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	95628	21.0876	21.08
17 Methylene Chloride	84	2.306	2.305	(0.551)	81778	21.1926	21.19
38 Trichloroethene	130	5.207	5.206	(1.049)	86023	19.9225	19.92
5 Vinyl Chloride	62	1.145	1.145	(0.274)	104413	18.7739	18.77



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042505.D
Date : 25-APR-2021 13:03
Client ID: VLCSW-210425
Sample Info: VLCSW-210425;VLCSW-210425;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\X210425.b\X042507.D
Date : 25-APR-2021 13:45
Client ID: VBLKW-210425
Sample Info: VBLKW-210425;VBLKW-210425;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\X210425.b\X042508.D Page 1
Report Date: 24-May-2021 12:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042508.D
Lab Smp Id: HS21041197-03 Client Smp ID: HS21041197-03
Inj Date : 25-APR-2021 14:06
Operator : PC Inst ID: voa6.i
Smp Info : HS21041197-03;HS21041197-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:25 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

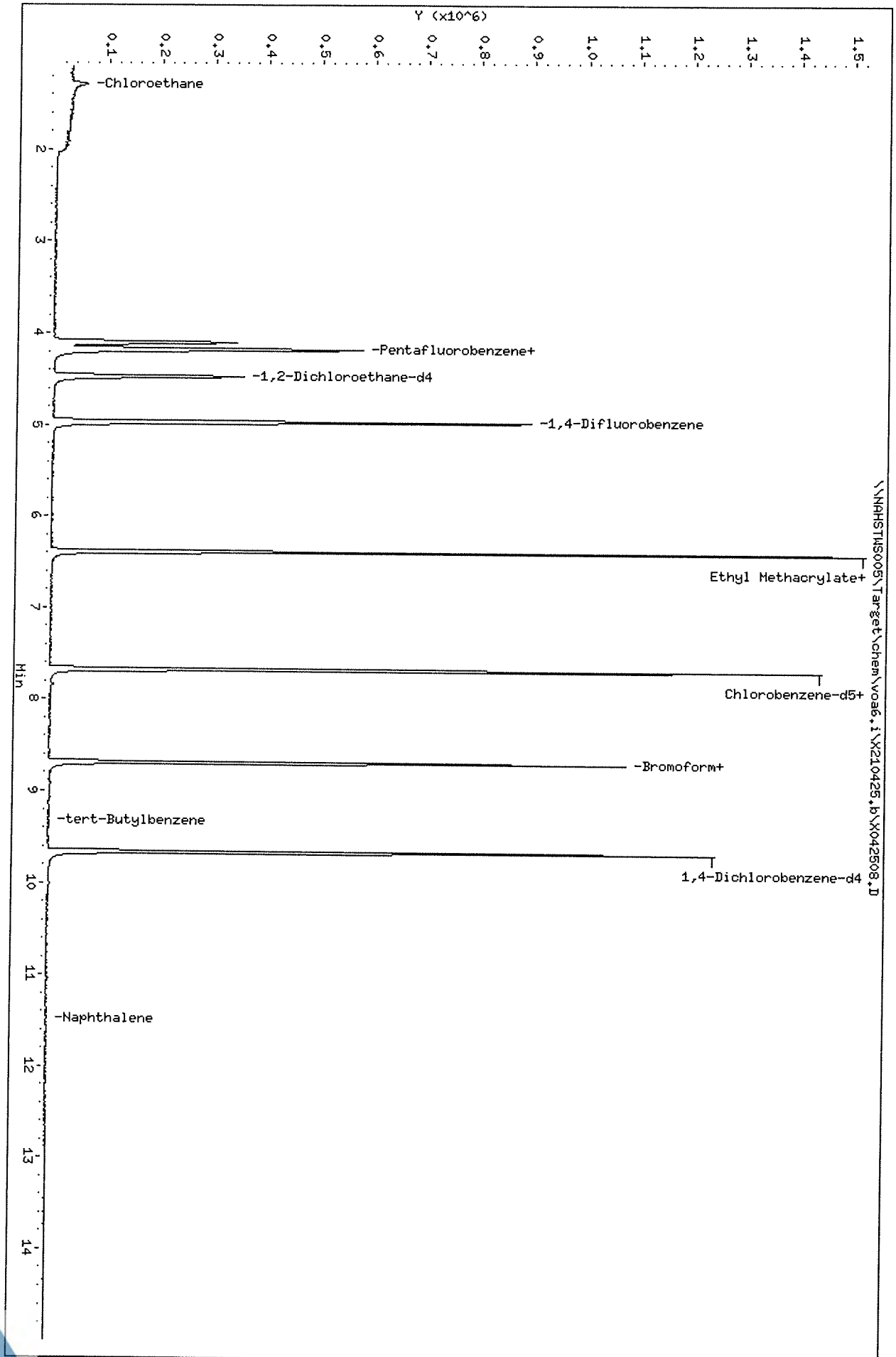
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	429687	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	696571	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	630764	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	270927	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	229169	45.3419	45.34
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	279858	46.2085	46.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	878166	54.0095	54.00
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	288903	47.8334	47.83

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042508.D
Date : 25-APR-2021 14:06
Client ID: HS21041197-03
Sample Info: HS21041197-03;HS21041197-03;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042511.D Page 1
Report Date: 24-May-2021 12:24

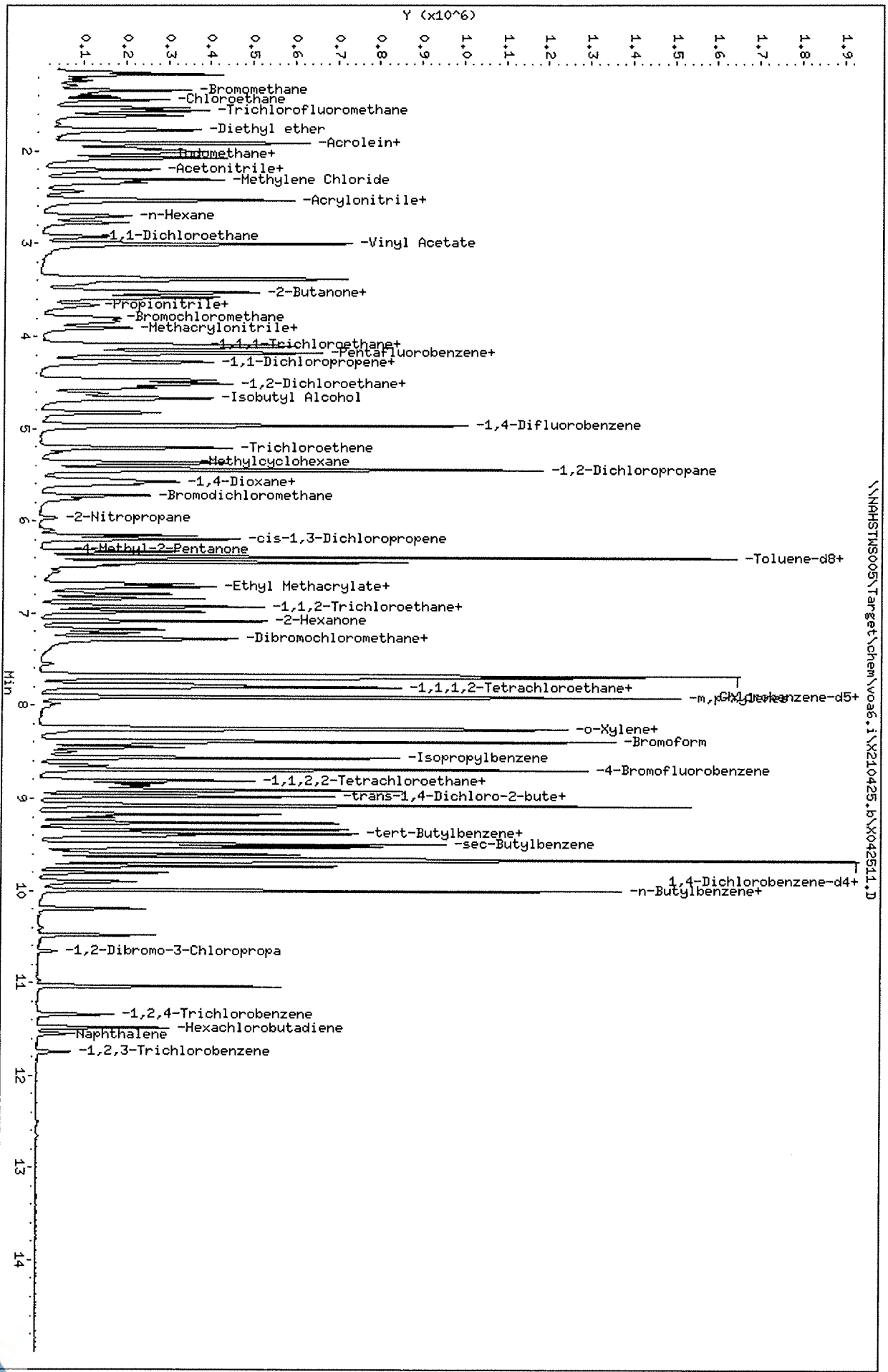
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042511.D
Lab Smp Id: HS21041169-03MS Client Smp ID: HS21041169-03MS
Inj Date : 25-APR-2021 15:09
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-03MS;HS21041169-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:24 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	469498	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	782500	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	704947	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	338538	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	264192	47.8151	47.81
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	320681	48.4356	48.43
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	946083	52.1303	52.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	329390	48.7645	48.76
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	81483	19.8980	19.89
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	120032	17.9554	17.95
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	155418	18.7644	18.76
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	185030	32.2396	32.23
17 Methylene Chloride	84	2.306	2.305	(0.551)	88491	18.3348	18.33
38 Trichloroethene	130	5.207	5.206	(1.049)	130607	24.3820	24.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	159292	22.6309	22.63



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042511.D
Date : 25-APR-2021 15:09
Client ID: HS21041169-03MS
Sample Info: HS21041169-03MS;HS21041169-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D Page 1
Report Date: 24-May-2021 12:24

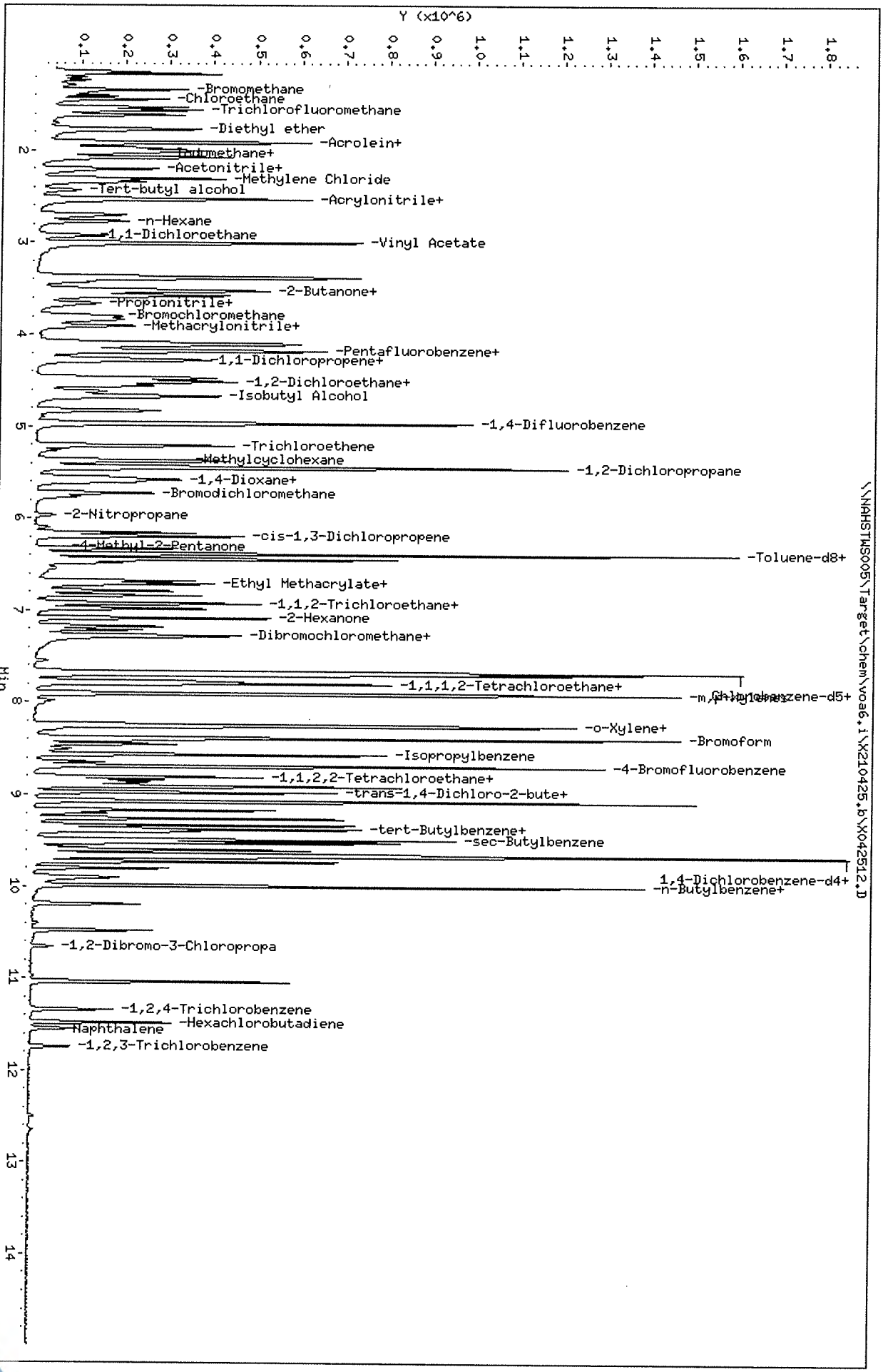
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D
Lab Smp Id: HS21041169-03MSD Client Smp ID: HS21041169-03MSD
Inj Date : 25-APR-2021 15:30
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-03MSD;HS21041169-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:24 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	473565	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	775320	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	690187	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	321970	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	261275	46.8896	46.88
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	325472	48.7340	48.73
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	929988	52.3318	52.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	316478	47.8857	47.88
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	81375	20.2966	20.29
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	115466	17.1240	17.12
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	154789	18.8616	18.86
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	189160	32.6762	32.67
17 Methylene Chloride	84	2.305	2.305	(0.551)	90016	18.4780	18.47
38 Trichloroethene	130	5.206	5.206	(1.049)	125104	23.5709	23.57
5 Vinyl Chloride	62	1.145	1.145	(0.274)	155188	21.8585	21.85



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D
Date : 25-APR-2021 15:30
Client ID: HS21041169-03MSD
Sample Info: HS21041169-03MSD;HS21041169-03MSD;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\X210425.b\X042522.D Page 1
Report Date: 24-May-2021 12:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042522.D
Lab Smp Id: HS21041197-01 Client Smp ID: HS21041197-01
Inj Date : 25-APR-2021 19:01
Operator : PC Inst ID: voa6.i
Smp Info : HS21041197-01;HS21041197-01;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:25 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 21
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

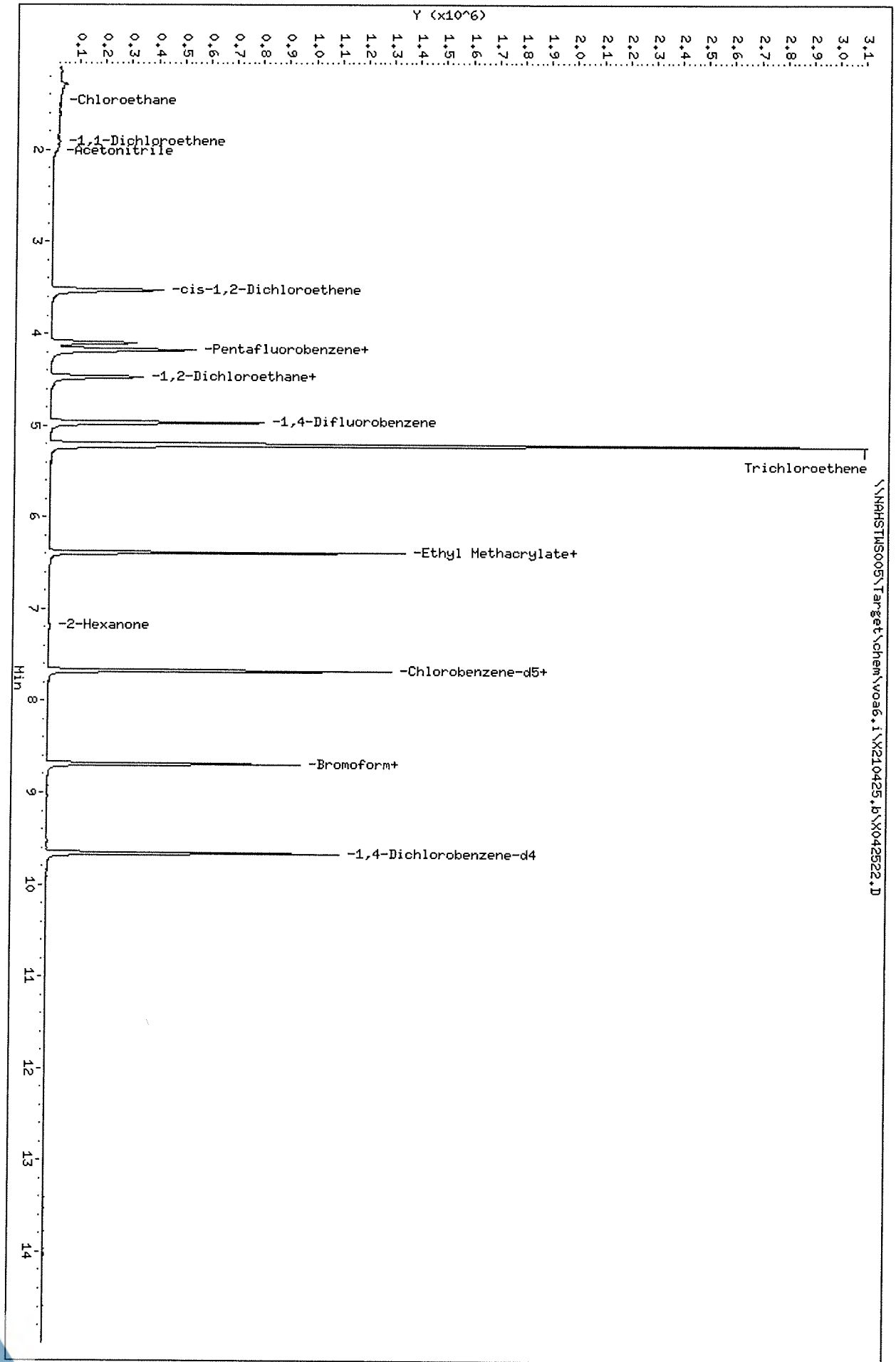
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	400074	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	644670	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	562381	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	235688	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	217216	46.1503	46.15
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	282243	50.0115	50.01
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	769471	53.1108	53.11
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	252054	46.8422	46.84
11 1,1-Dichloroethene	96	1.911	1.919	(0.457)	3154	0.55367	2.76(a)
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	7702	1.12872	5.64(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	206882	42.3023	211.51
38 Trichloroethene	130	5.206	5.206	(1.049)	879786	199.355	996.77
5 Vinyl Chloride	62	1.145	1.145	(0.274)	6524	1.08771	5.43

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042522.D
Date : 25-APR-2021 19:01
Client ID: HS21041197-01
Sample Info: HS21041197-01;HS21041197-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042522.D

Date : 25-APR-2021 19:01

Client ID: HS21041197-01

Instrument: voa6.i

Sample Info: HS21041197-01;HS21041197-01;;;

Purge Volume: 5.0

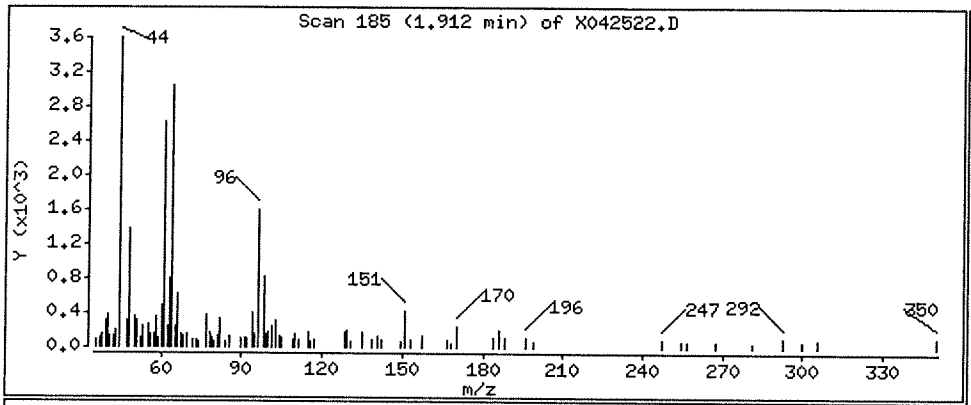
Operator: PC

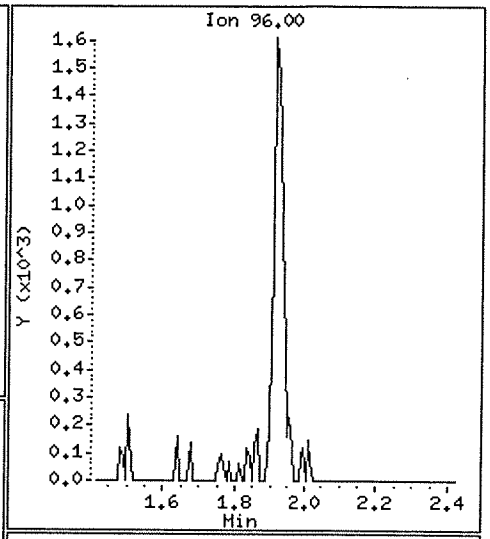
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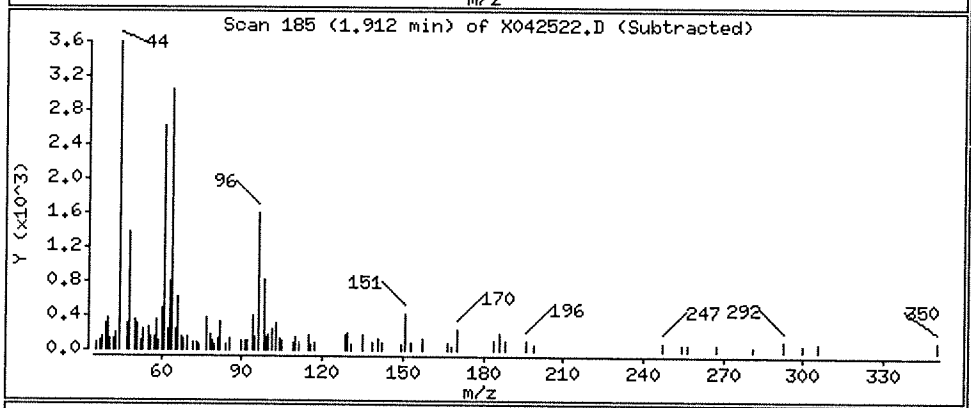
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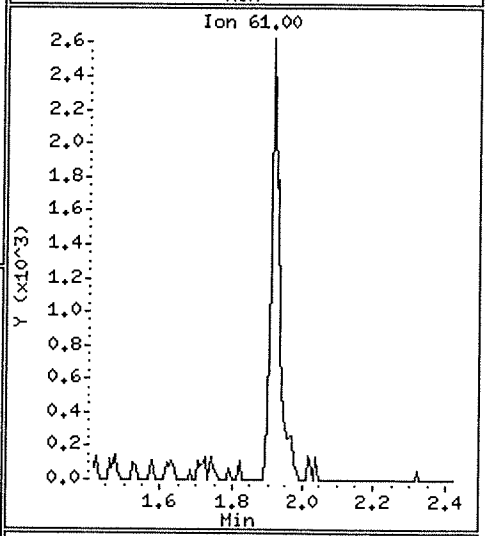
11 1,1-Dichloroethene

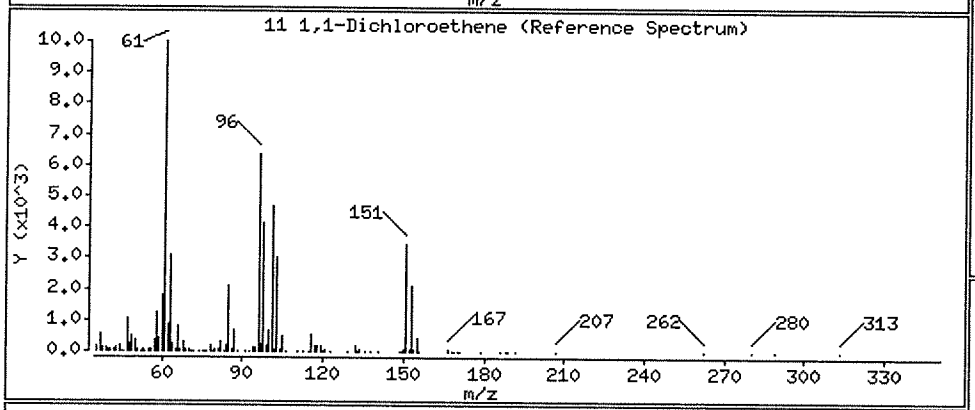
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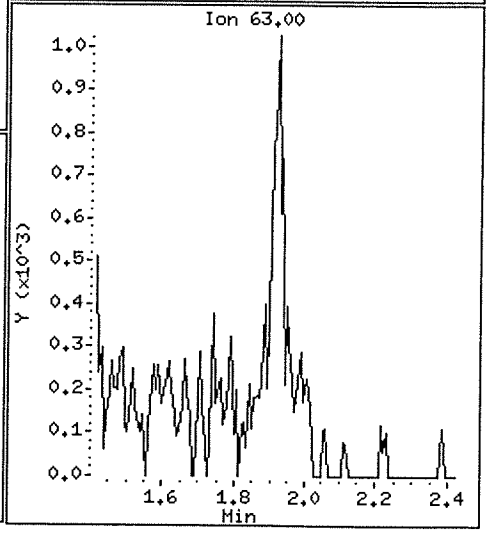


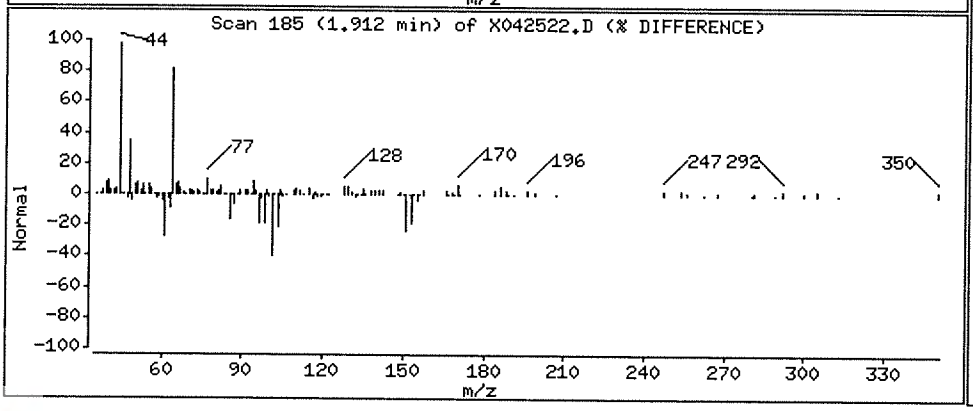












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042522.D

Date : 25-APR-2021 19:01

Client ID: HS21041197-01

Instrument: voa6.i

Sample Info: HS21041197-01;HS21041197-01;;;

Purge Volume: 5.0

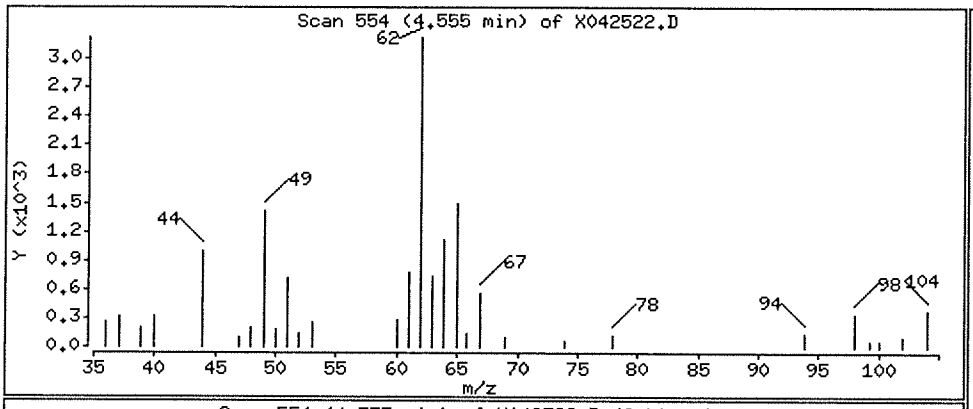
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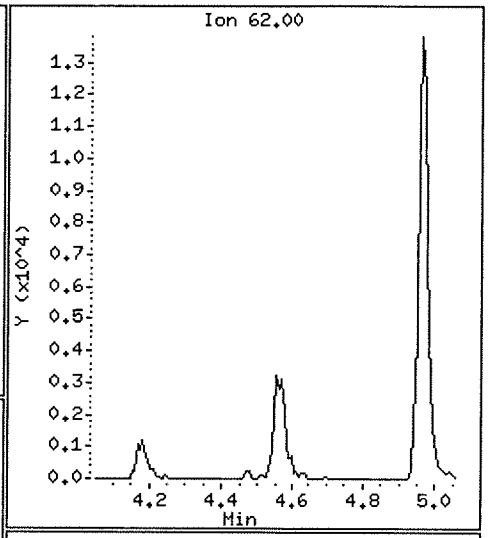
Column phase: DB624

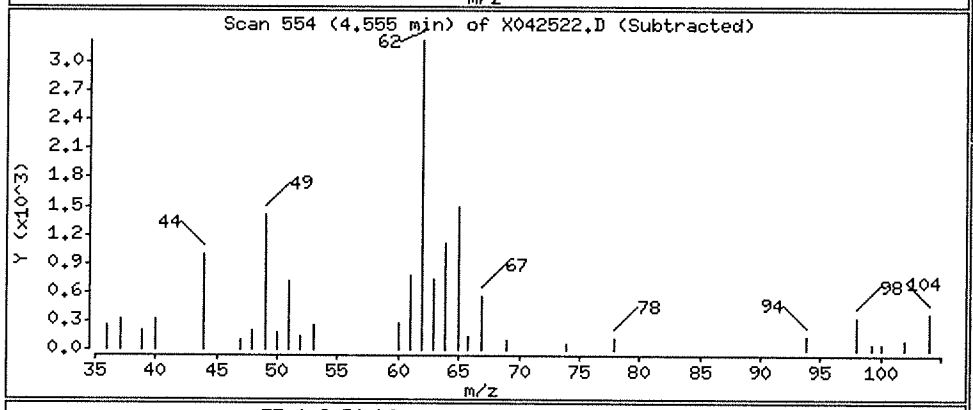
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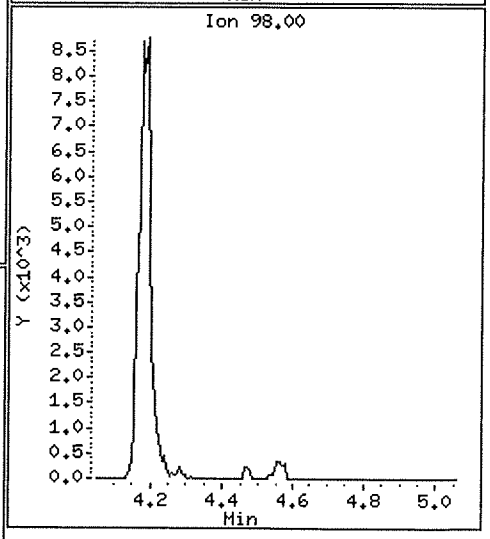
33 1,2-Dichloroethane

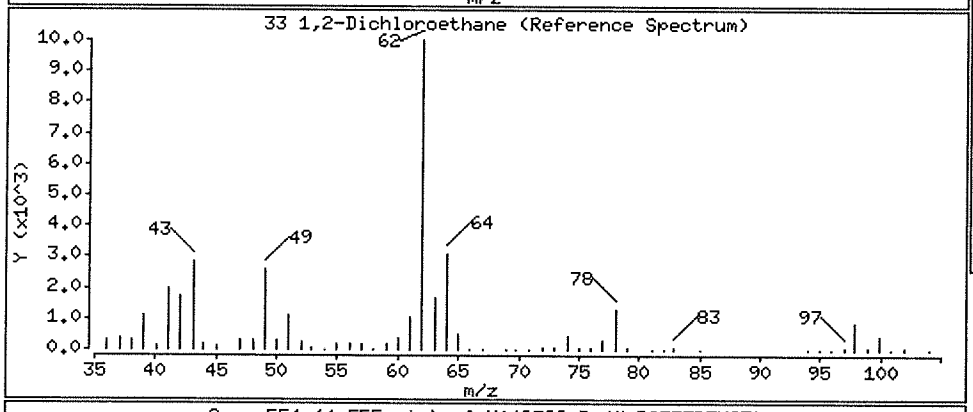
Concentration: 5.64 ug/l

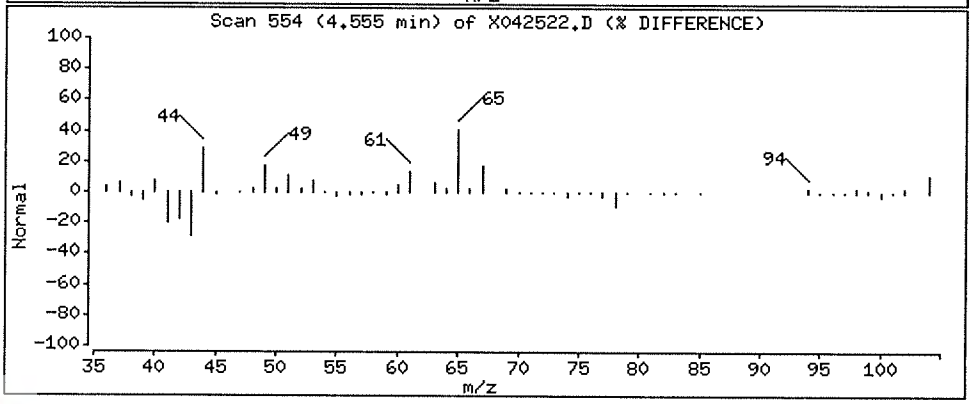












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042522.D

Date : 25-APR-2021 19:01

Client ID: HS21041197-01

Instrument: voa6.i

Sample Info: HS21041197-01;HS21041197-01;;;

Purge Volume: 5.0

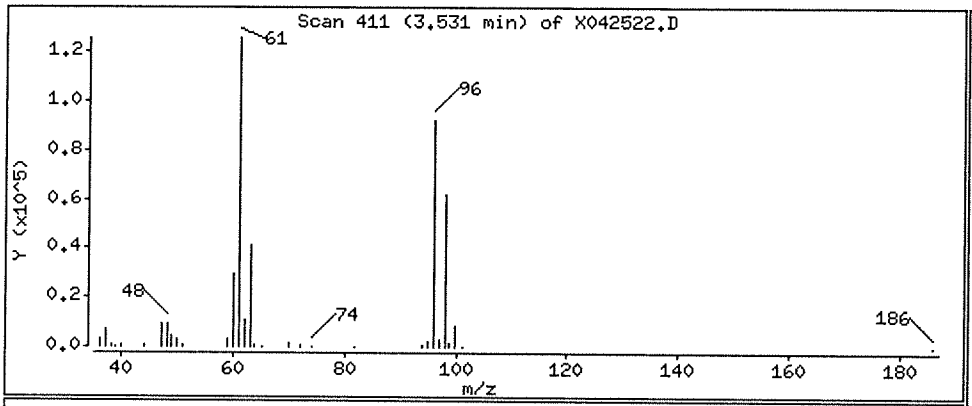
Operator: PC

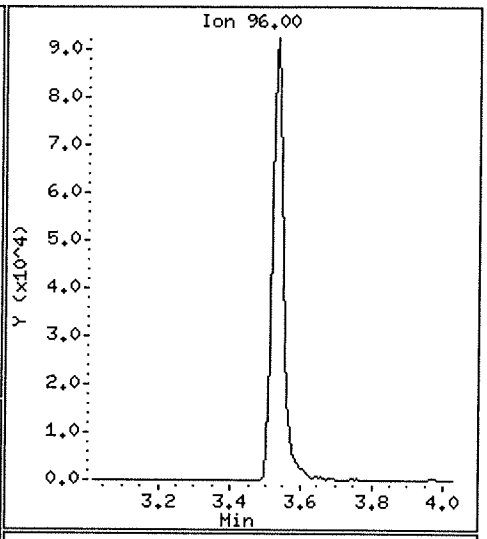
Column phase: DB624

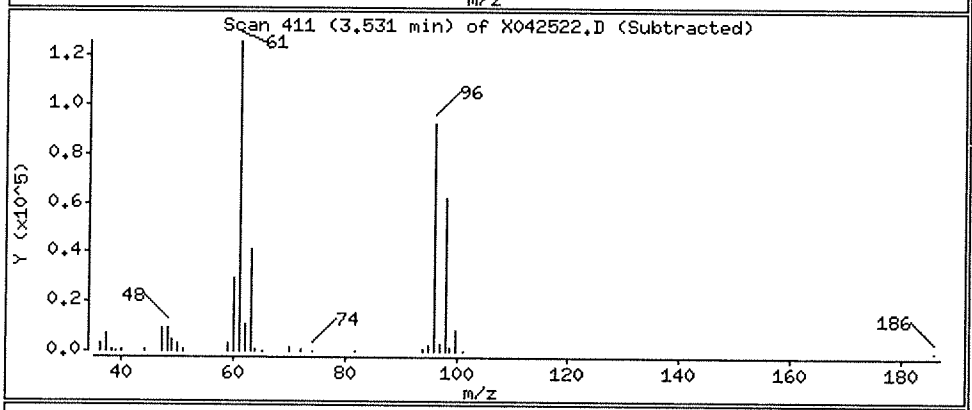
Column diameter: 0.18

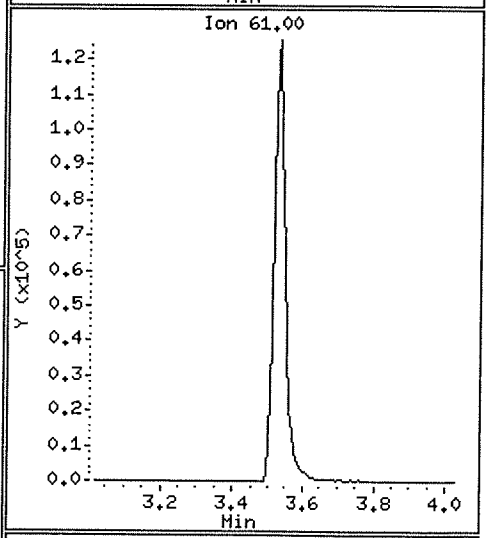
27 cis-1,2-Dichloroethene

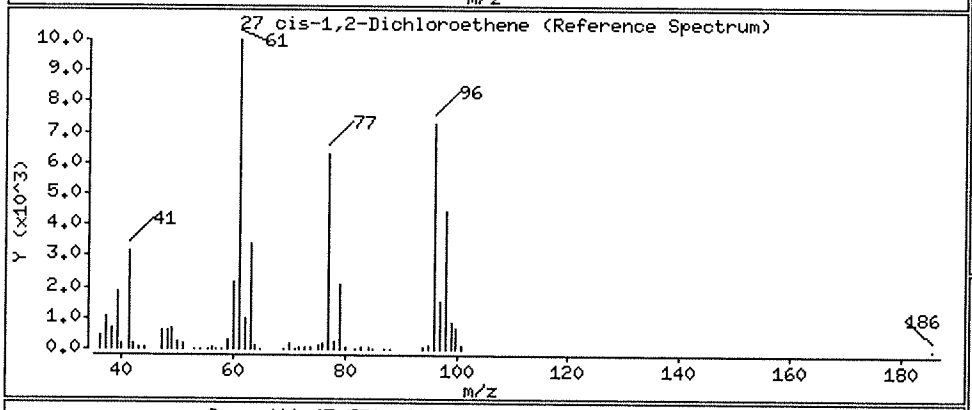
Concentration: 211.51 ug/l

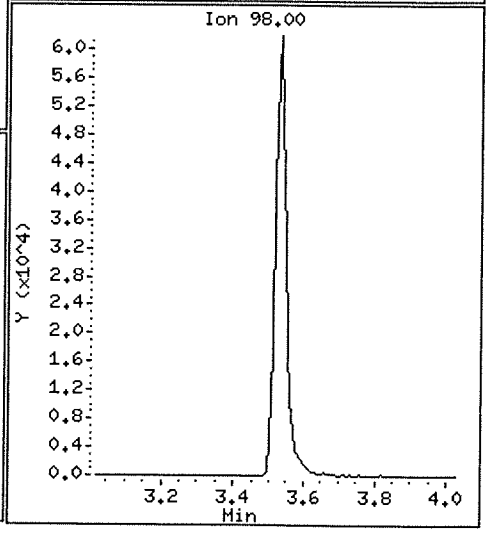


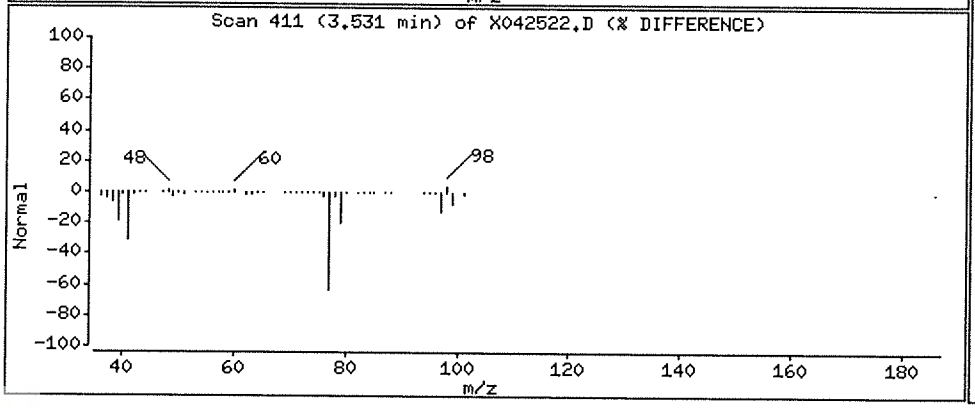












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042522.D

Date : 25-APR-2021 19:01

Client ID: HS21041197-01

Instrument: voa6.i

Sample Info: HS21041197-01;HS21041197-01;;;

Purge Volume: 5.0

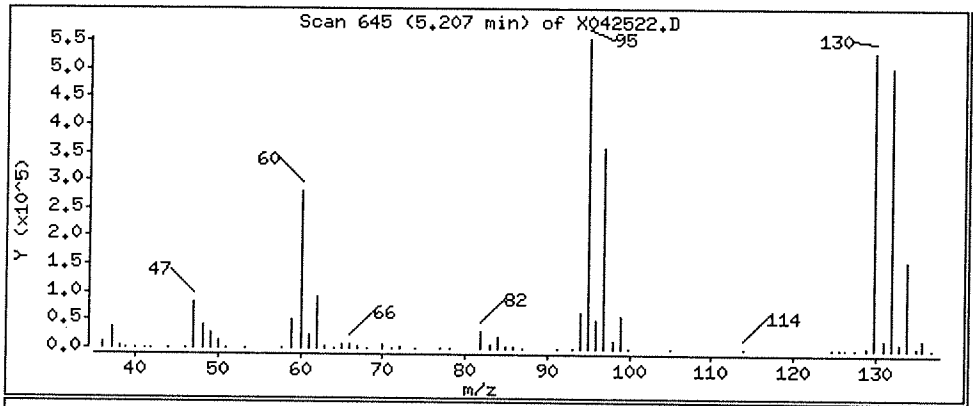
Operator: PC

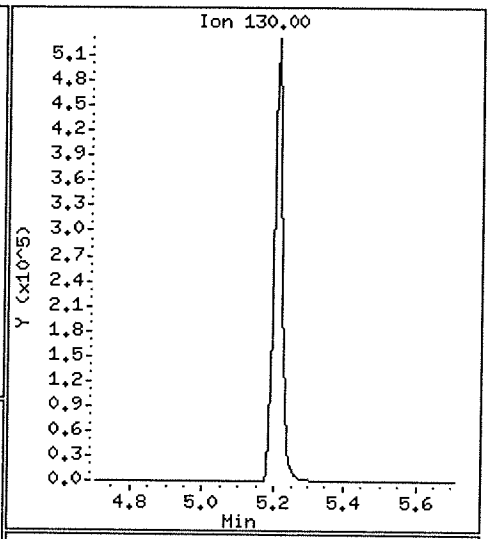
Column phase: DB624

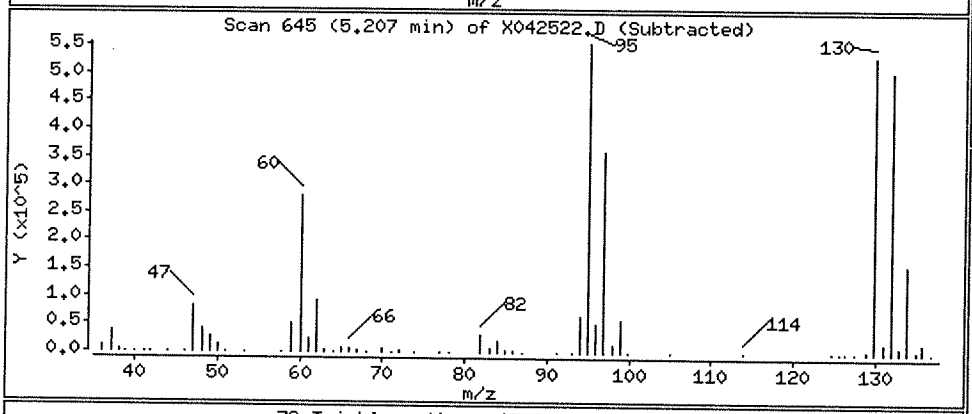
Column diameter: 0.18

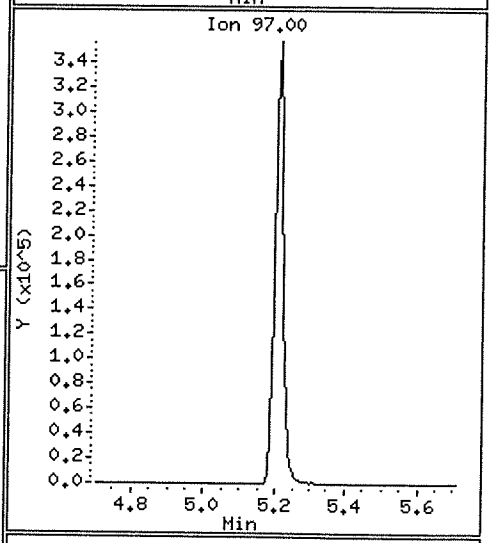
38 Trichloroethene

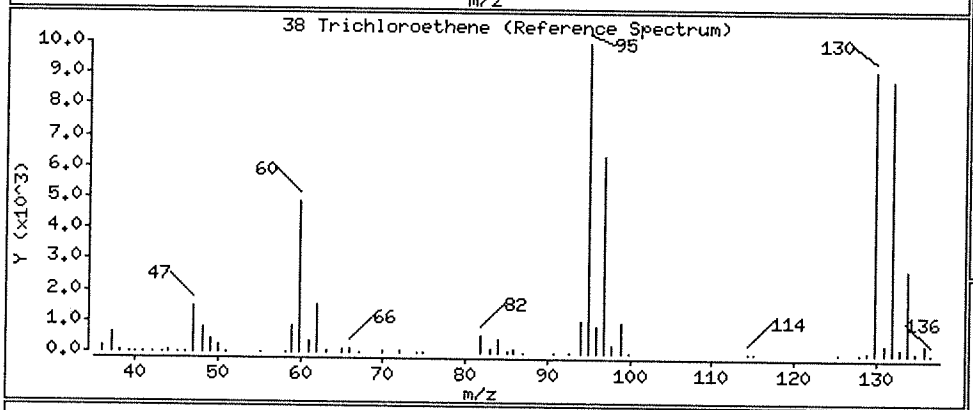
Concentration: 996.77 ug/l

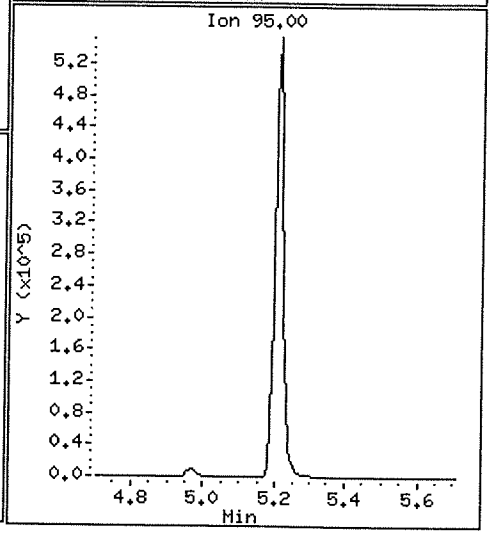


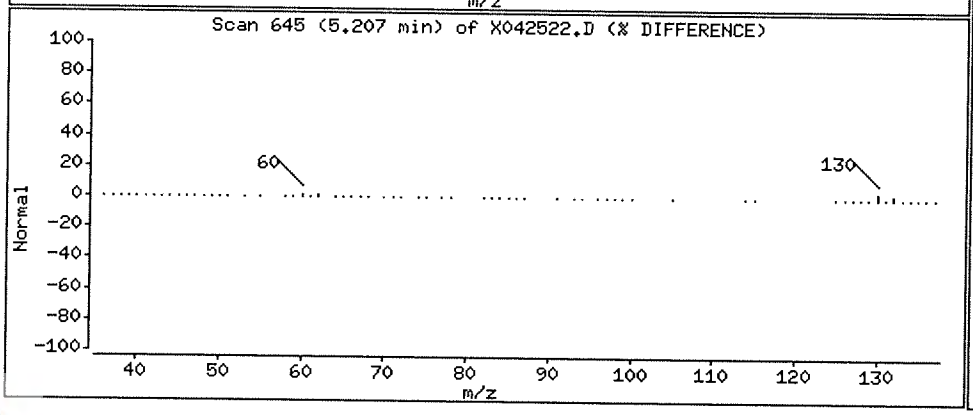












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042522.D

Date : 25-APR-2021 19:01

Client ID: HS21041197-01

Instrument: voa6.i

Sample Info: HS21041197-01;HS21041197-01;;;

Purge Volume: 5.0

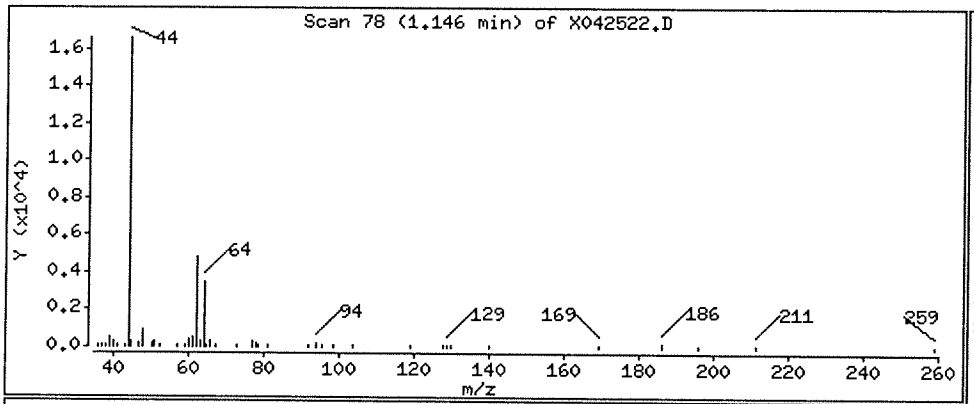
Operator: PC

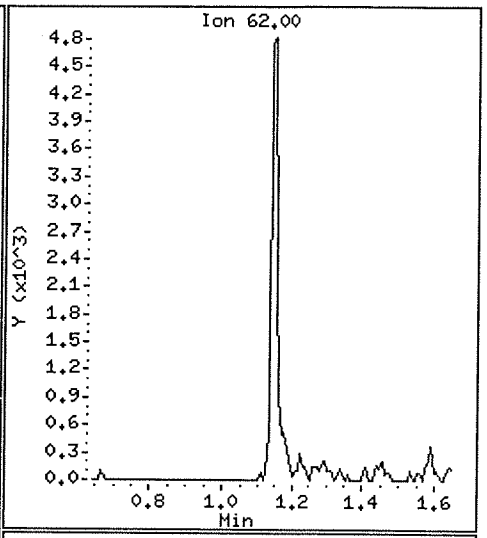
Column phase: DB624

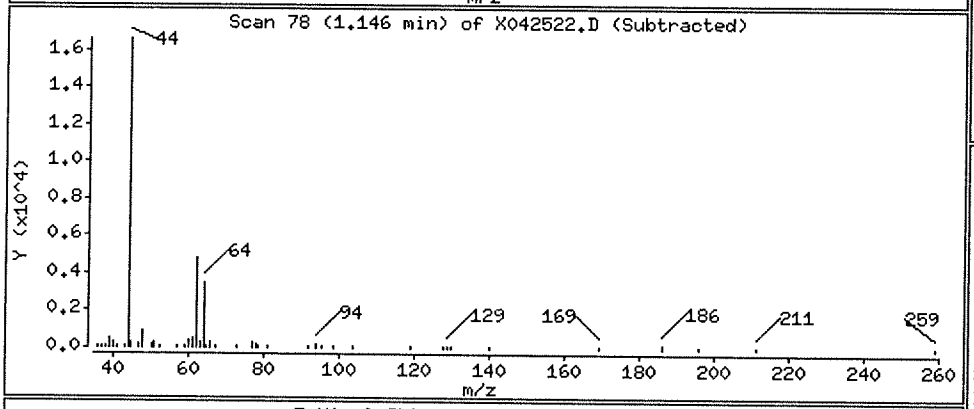
Column diameter: 0.18

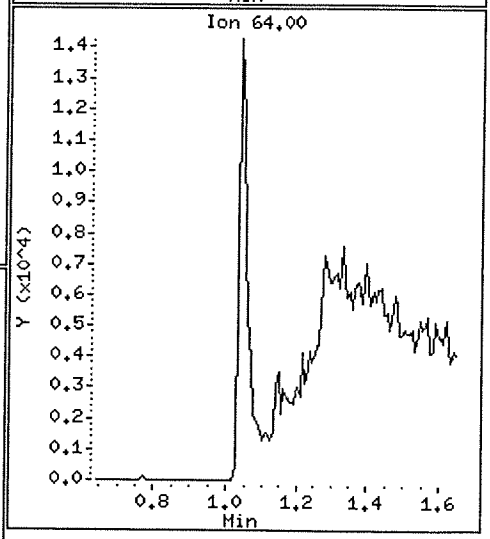
5 Vinyl Chloride

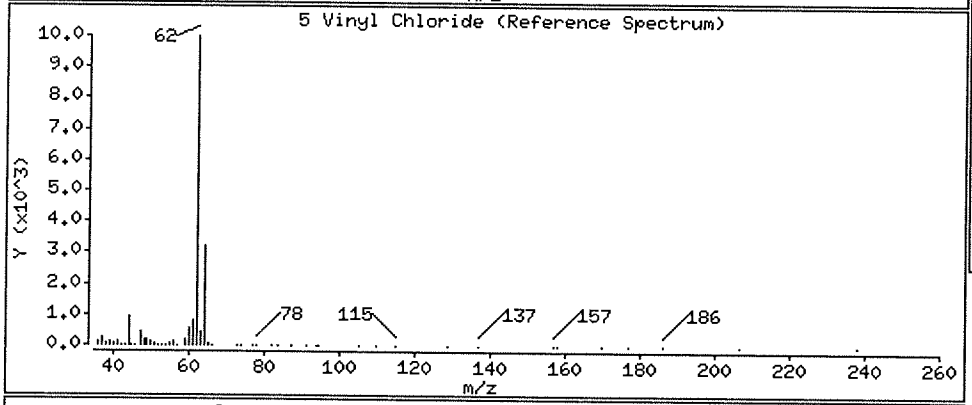
Concentration: 5.43 ug/l

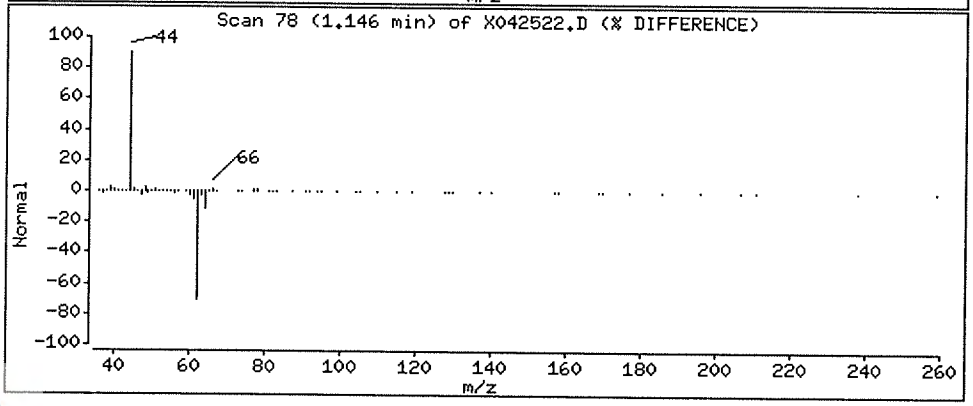












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D Page 1
Report Date: 24-May-2021 12:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D
Lab Smp Id: HS21041197-02 Client Smp ID: HS21041197-02
Inj Date : 25-APR-2021 20:25
Operator : PC Inst ID: voa6.i
Smp Info : HS21041197-02;HS21041197-02;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:25 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 25
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

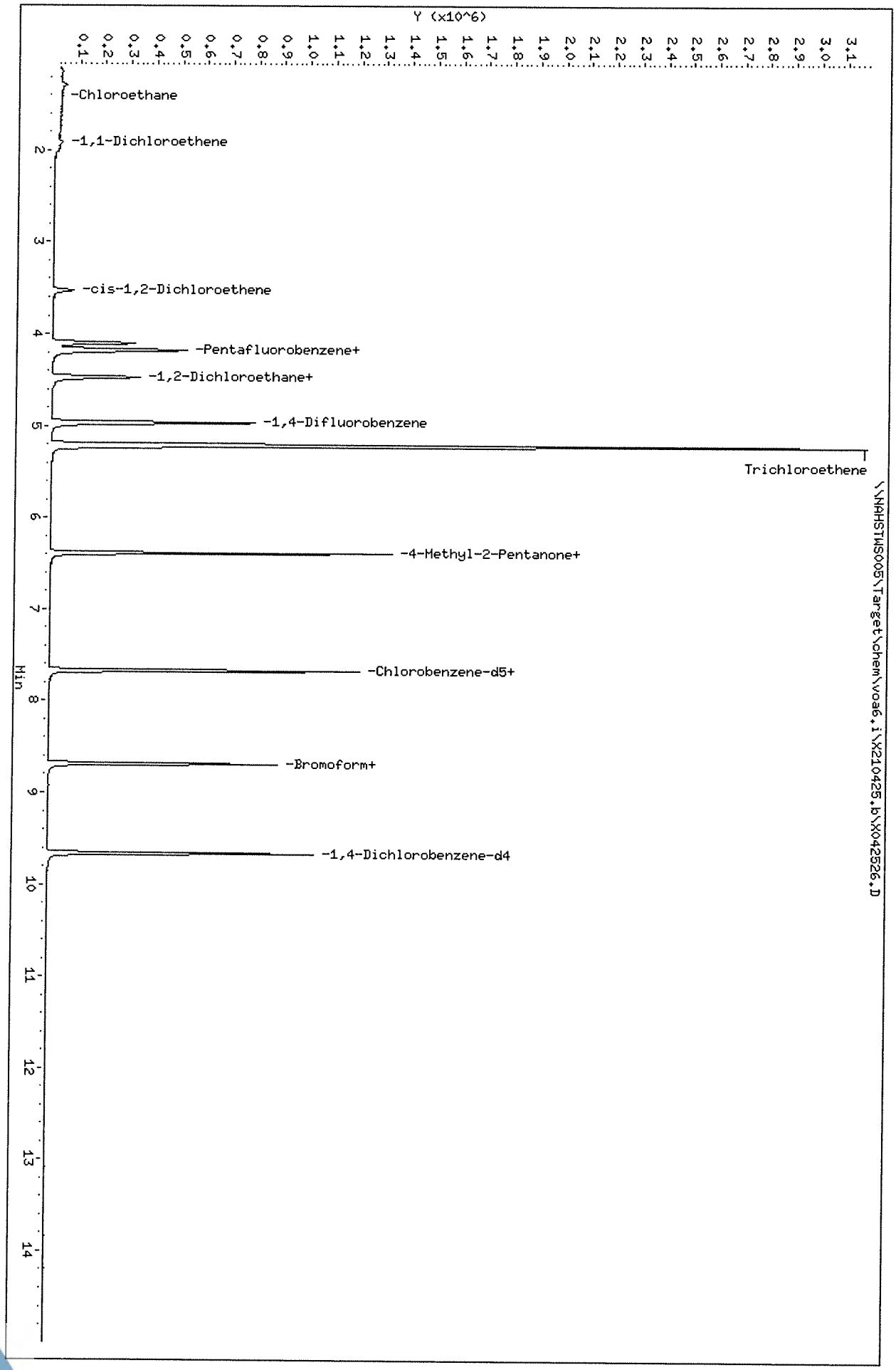
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	388168	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	633093	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	542922	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	230899	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	214967	47.0647	47.06
$	35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	270987	49.4949	49.49
$	48 Toluene-d8	98	6.388	6.388	(0.833)	744929	53.2545	53.25
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	239025	46.0422	46.04
	11 1,1-Dichloroethene	96	1.911	1.919	(0.457)	2969	0.53718	5.37(a)
	33 1,2-Dichloroethane	62	4.562	4.555	(0.919)	4912	0.73301	7.33(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	35828	7.55065	75.50
	38 Trichloroethene	130	5.206	5.206	(1.049)	909016	209.744	2097.44(A)
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	4761	0.81812	8.18

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D
Date : 25-APR-2021 20:25
Client ID: HS21041197-02
Sample Info: HS21041197-02;HS21041197-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D

Date : 25-APR-2021 20:25

Client ID: HS21041197-02

Instrument: voa6.i

Sample Info: HS21041197-02;HS21041197-02;;;

Purge Volume: 5.0

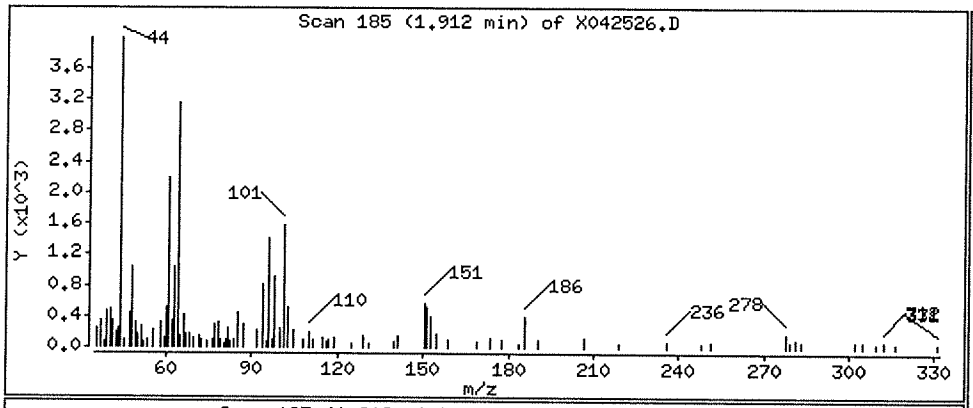
Operator: PC

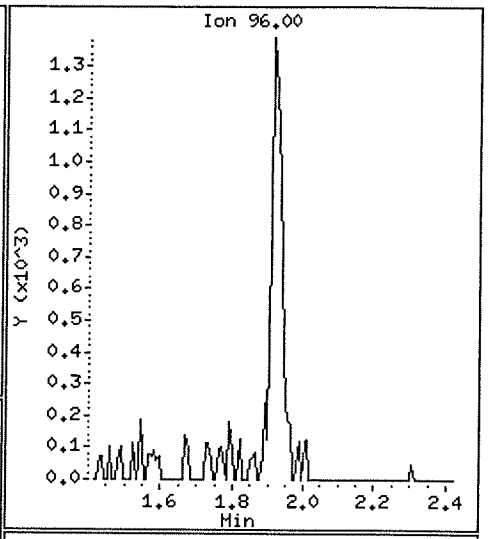
Column phase: DB624

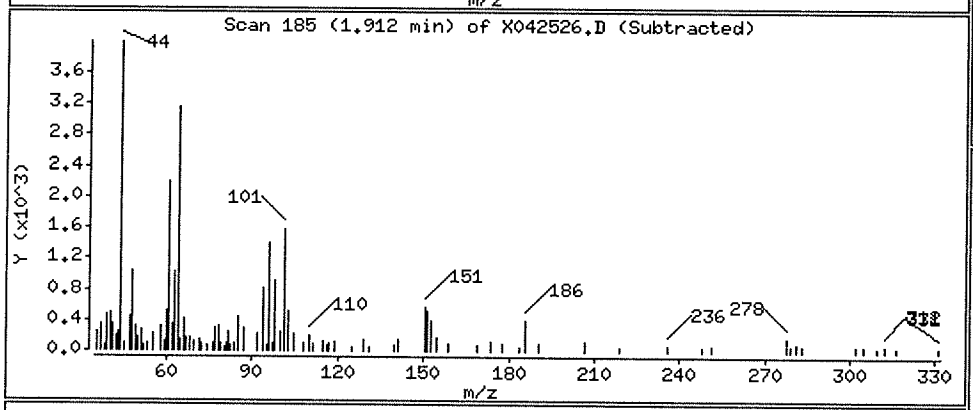
Column diameter: 0.18

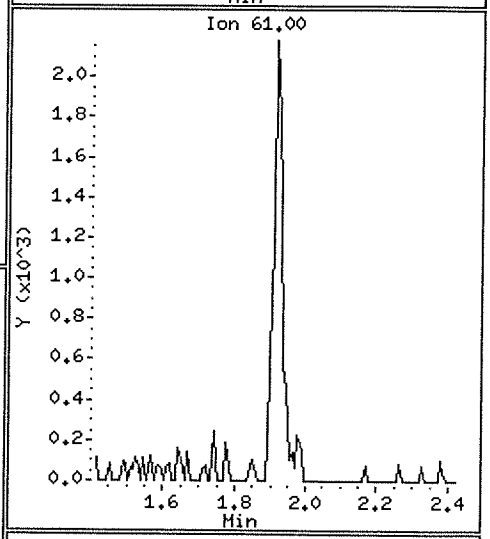
11 1,1-Dichloroethene

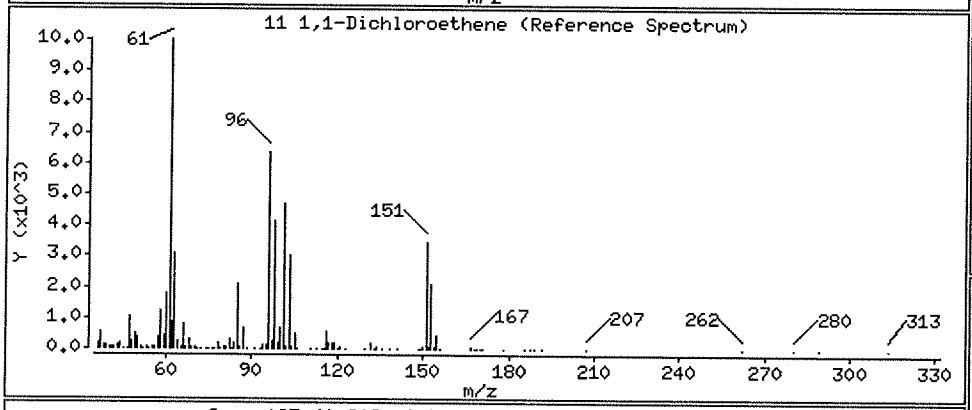
Concentration: 5.37 ug/l

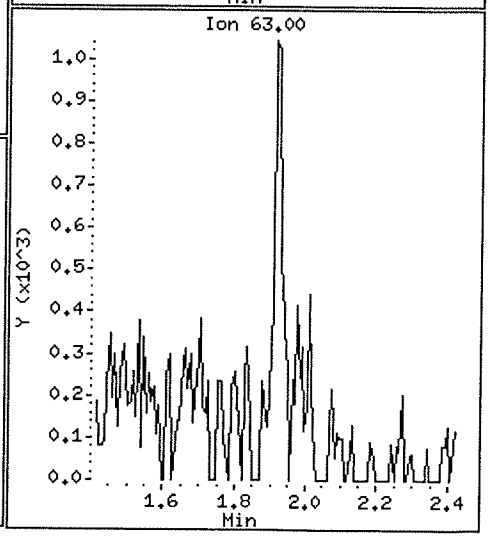


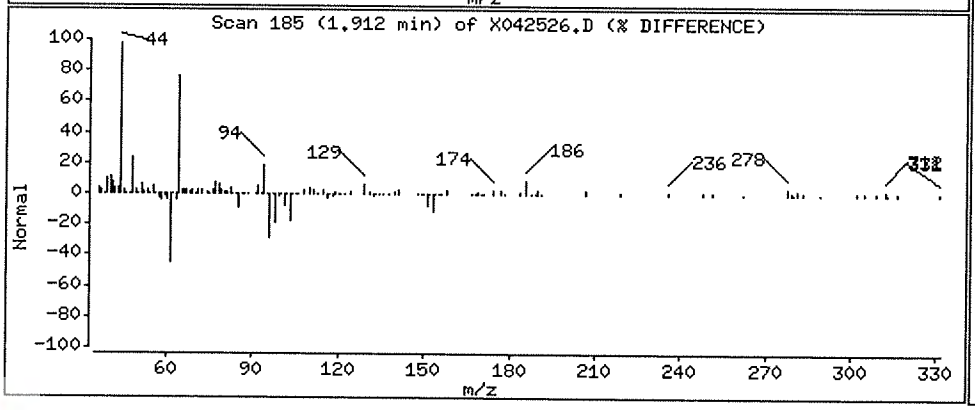












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D

Date : 25-APR-2021 20:25

Client ID: HS21041197-02

Instrument: voa6.i

Sample Info: HS21041197-02;HS21041197-02;;;

Purge Volume: 5.0

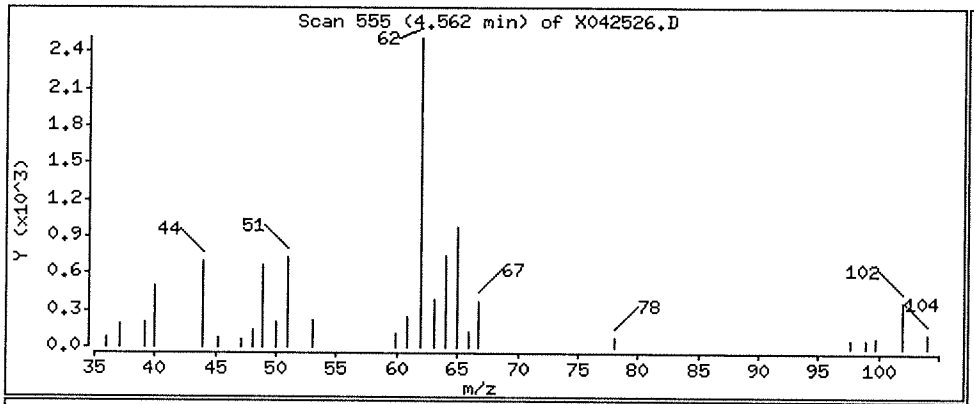
Operator: PC

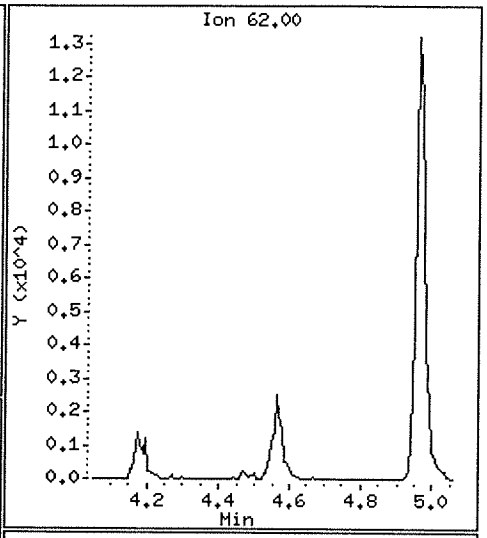
Column phase: DB624

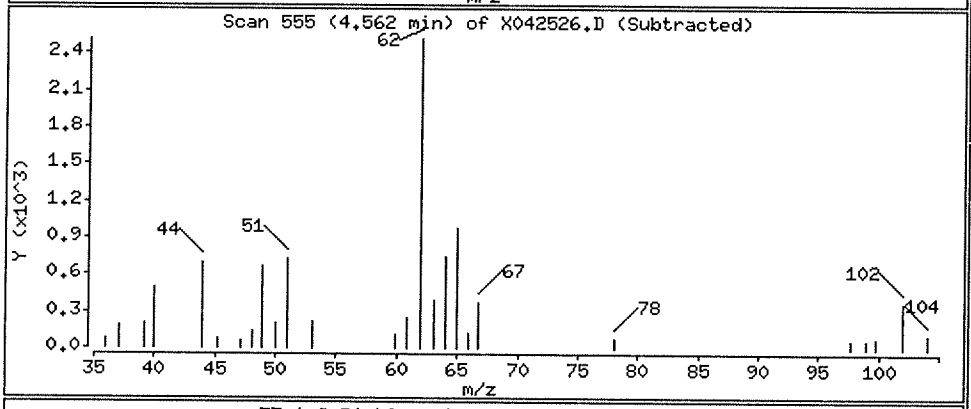
Column diameter: 0.18

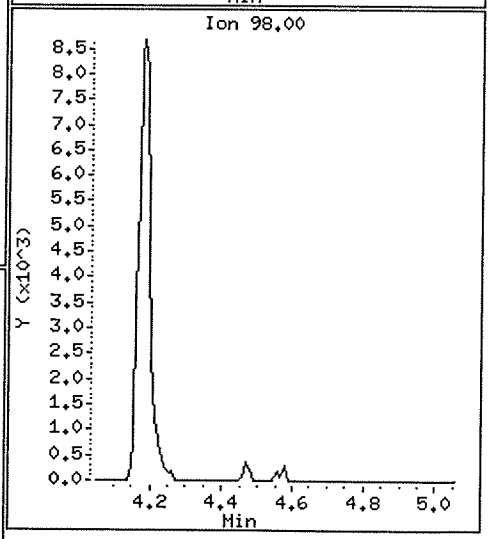
33 1,2-Dichloroethane

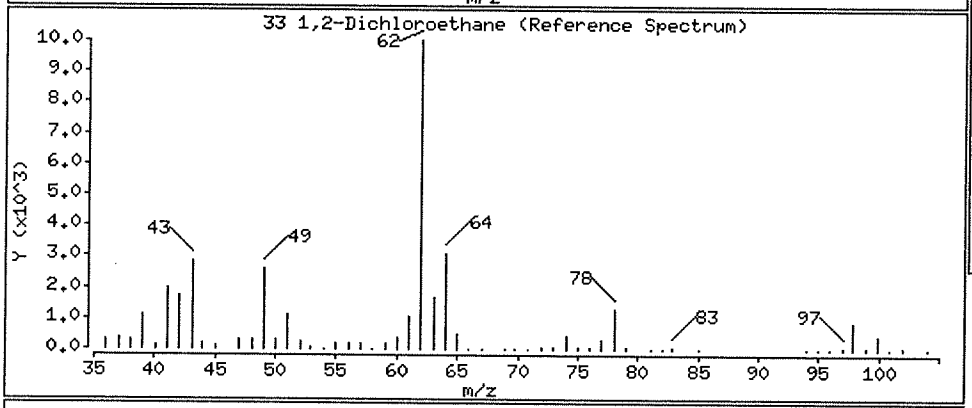
Concentration: 7.33 ug/l

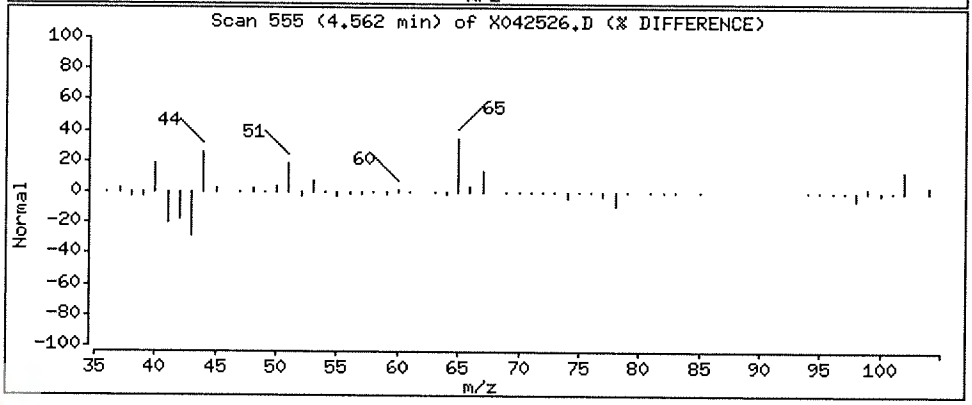












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D

Date : 25-APR-2021 20:25

Client ID: HS21041197-02

Instrument: voa6.i

Sample Info: HS21041197-02;HS21041197-02;;;

Purge Volume: 5.0

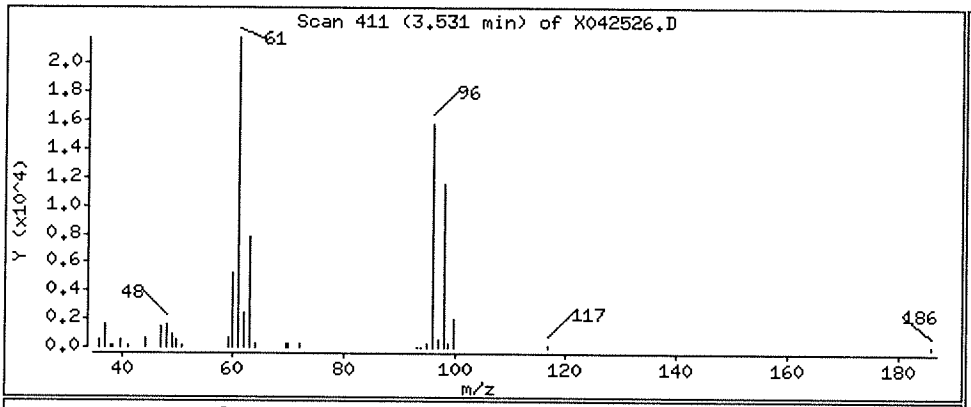
Operator: PC

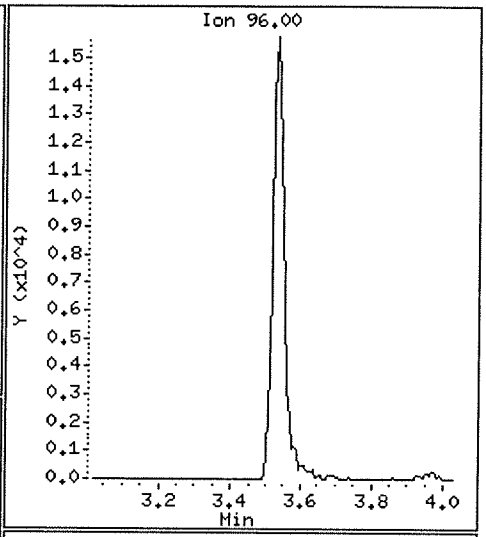
Column phase: DB624

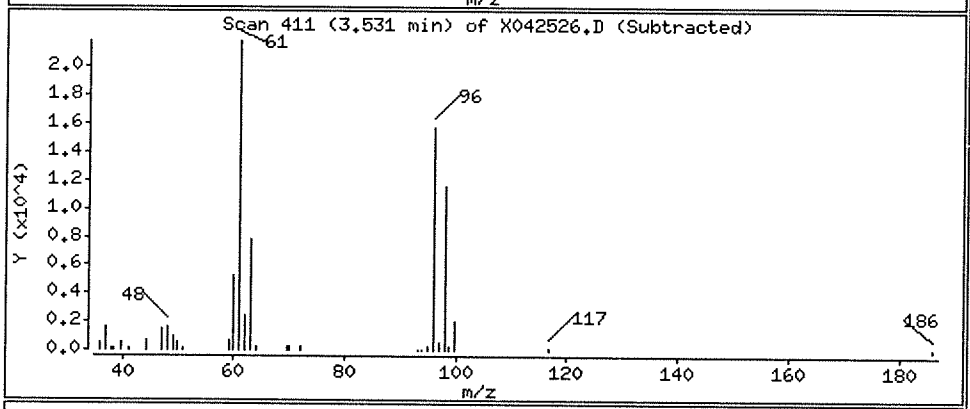
Column diameter: 0.18

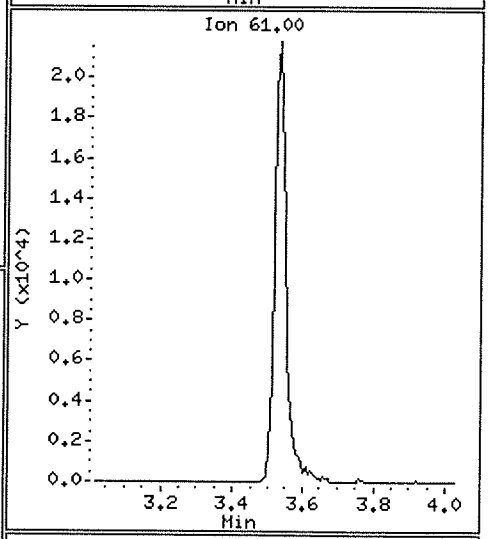
27 cis-1,2-Dichloroethene

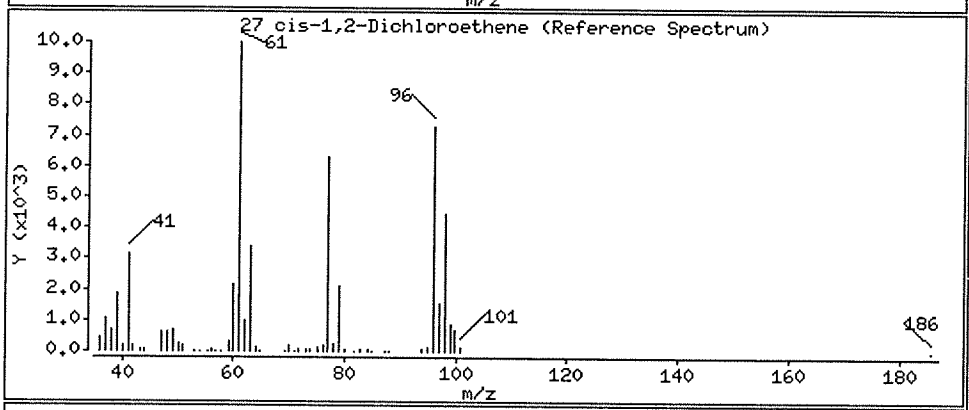
Concentration: 75.50 ug/l

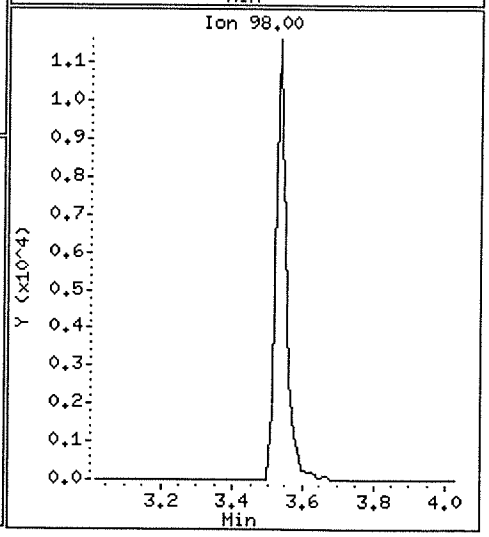


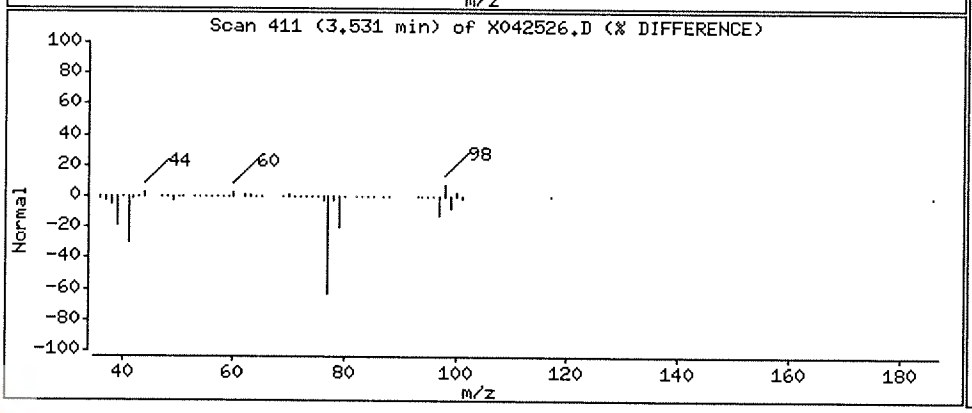












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D

Date : 25-APR-2021 20:25

Client ID: HS21041197-02

Instrument: voa6.i

Sample Info: HS21041197-02;HS21041197-02;;;

Purge Volume: 5.0

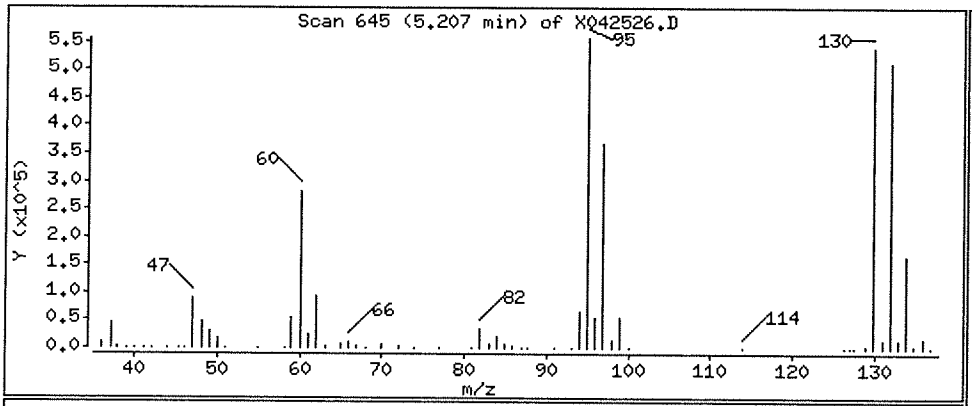
Operator: PC

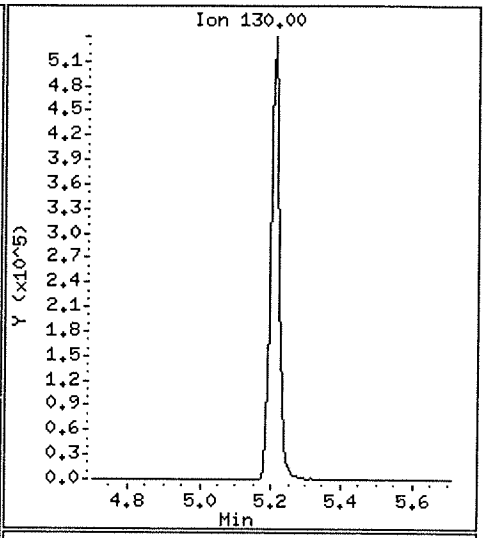
Column phase: DB624

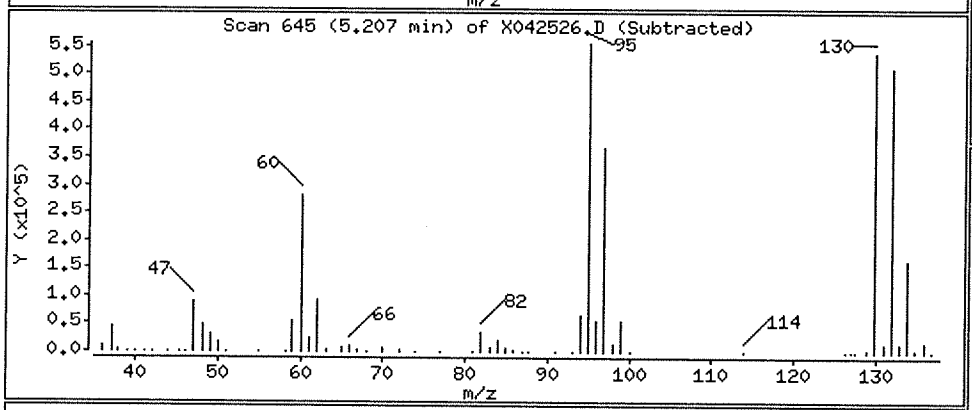
Column diameter: 0.18

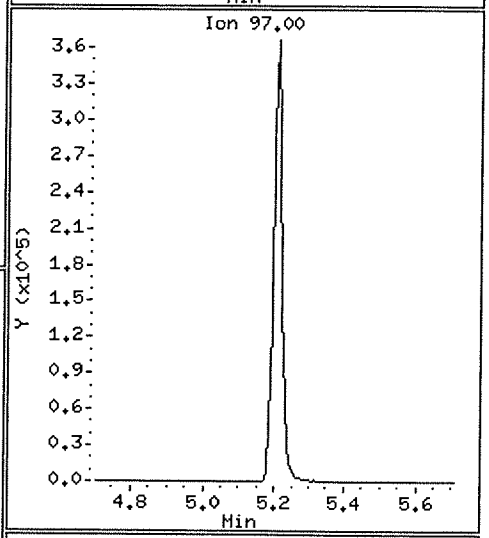
38 Trichloroethene

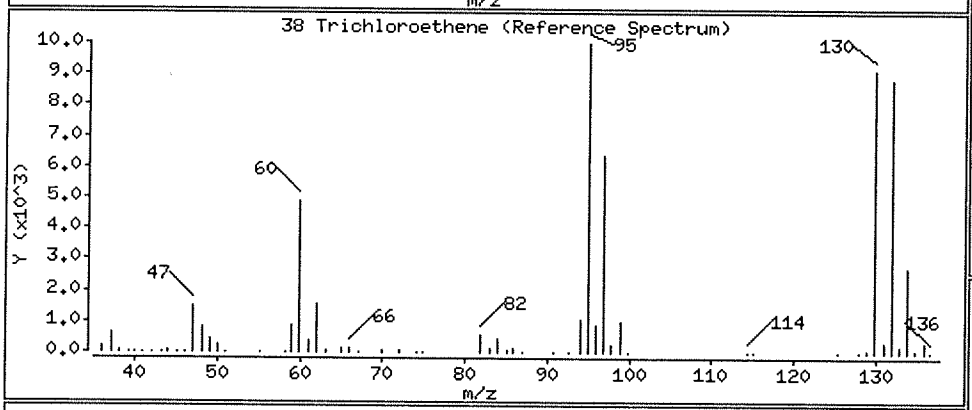
Concentration: 2097.44 ug/l

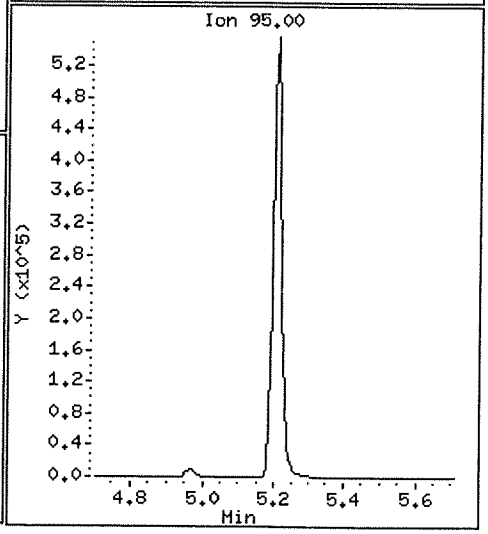


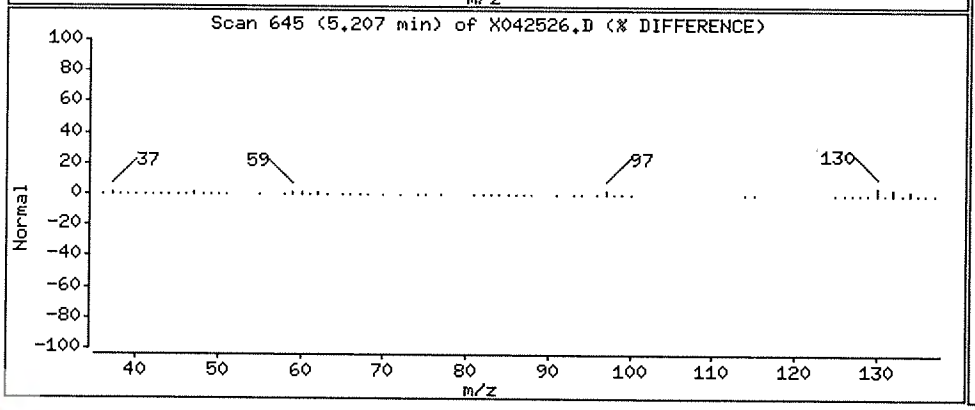












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042526.D

Date : 25-APR-2021 20:25

Client ID: HS21041197-02

Instrument: voa6.i

Sample Info: HS21041197-02;HS21041197-02;;;

Purge Volume: 5.0

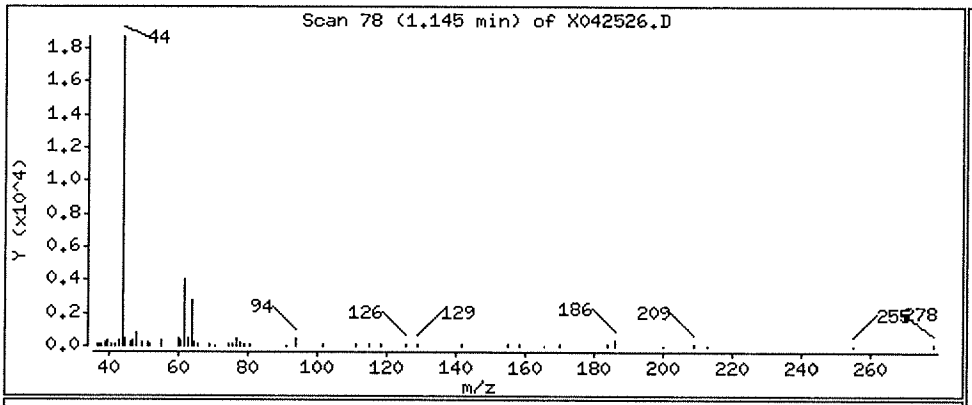
Operator: PC

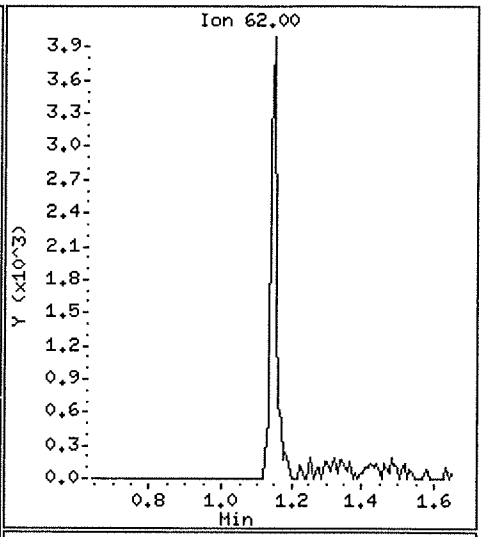
Column phase: DB624

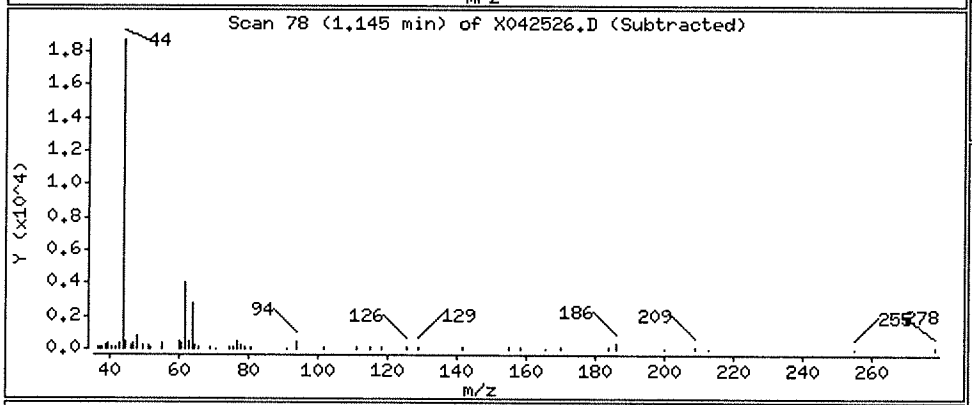
Column diameter: 0.18

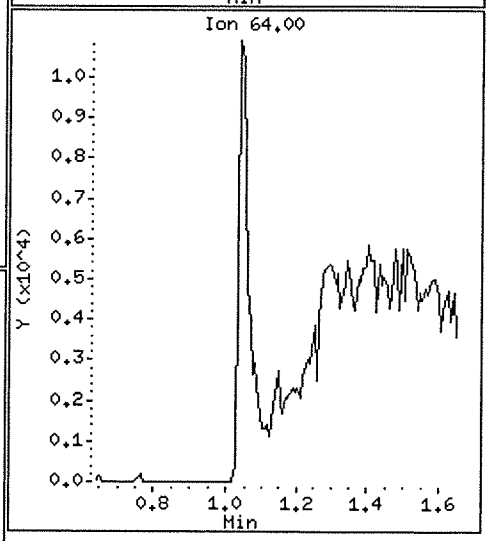
5 Vinyl Chloride

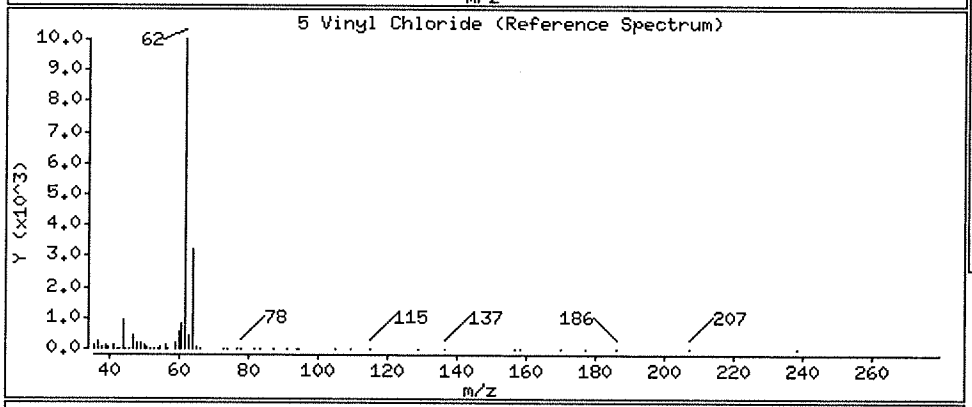
Concentration: 8.18 ug/l

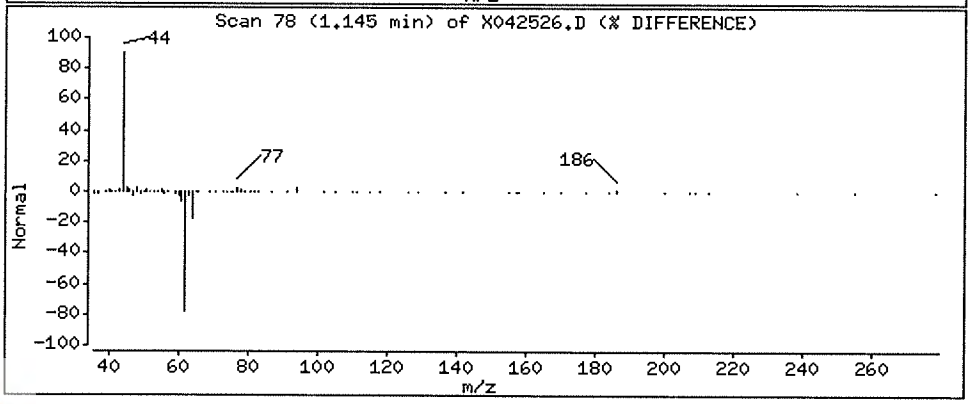












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042527.D Page 1
Report Date: 24-May-2021 12:25

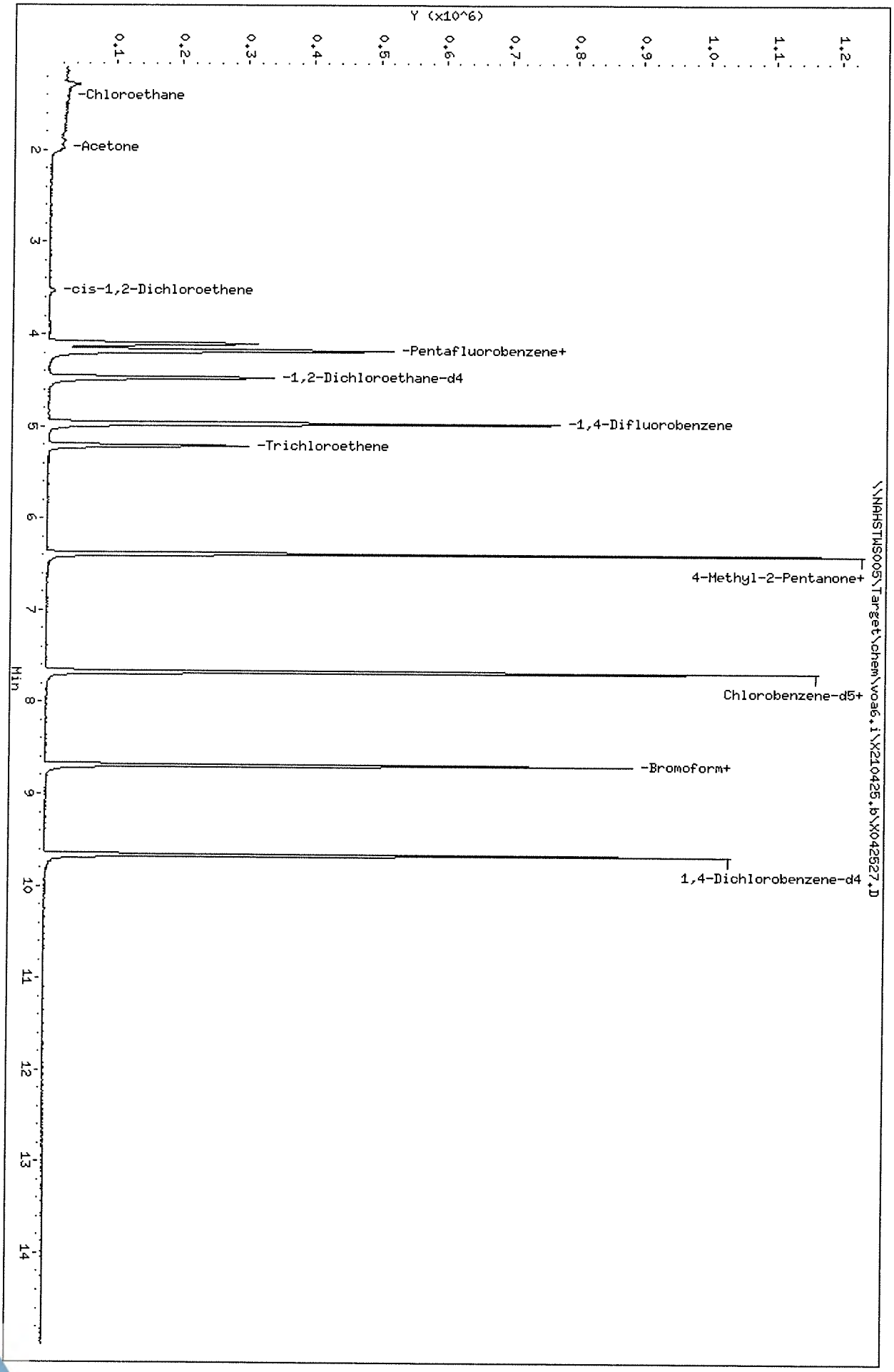
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042527.D
Lab Smp Id: HS21041197-02 Client Smp ID: HS21041197-02
Inj Date : 25-APR-2021 20:46
Operator : PC Inst ID: voa6.i
Smp Info : HS21041197-02;HS21041197-02;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:25 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 26
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	381377	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	616998	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	533807	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	218161	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	213499	47.5709	47.57
$	35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	267984	49.8148	49.81
$	48 Toluene-d8	98	6.388	6.388	(0.833)	724611	52.7063	52.70
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	240611	47.0998	47.09
	27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	4143	0.88867	88.86
	38 Trichloroethene	130	5.207	5.206	(1.048)	89266	21.1343	2113.43



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042527.D
Date : 25-APR-2021 20:46
Client ID: HS21041197-02
Sample Info: HS21041197-02;HS21041197-02;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042527.D

Date : 25-APR-2021 20:46

Client ID: HS21041197-02

Instrument: voa6.i

Sample Info: HS21041197-02;HS21041197-02;;;

Purge Volume: 5.0

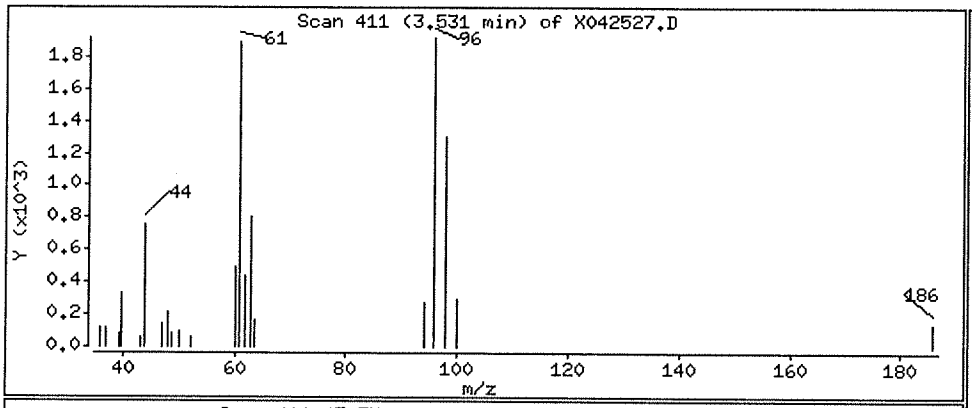
Operator: PC

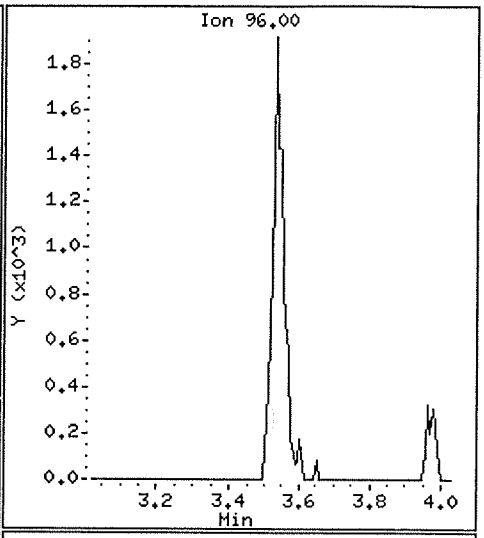
Column phase: DB624

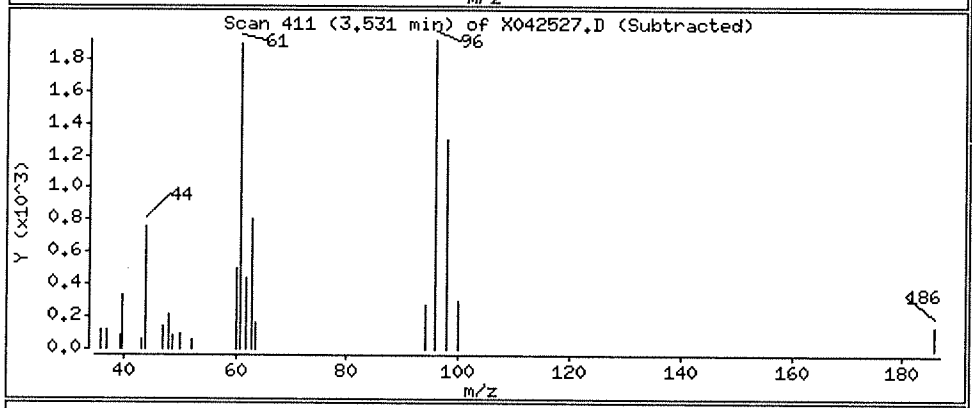
Column diameter: 0.18

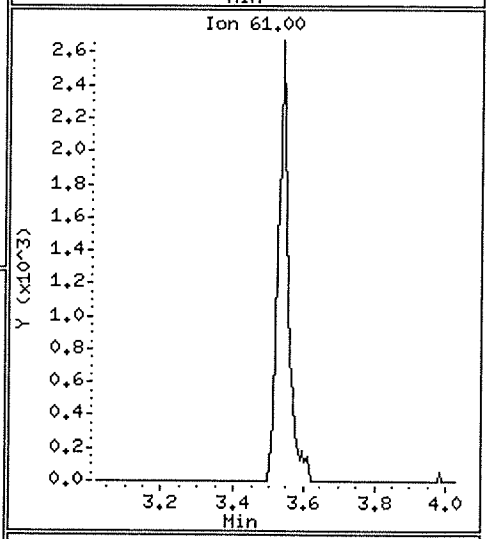
27 cis-1,2-Dichloroethene

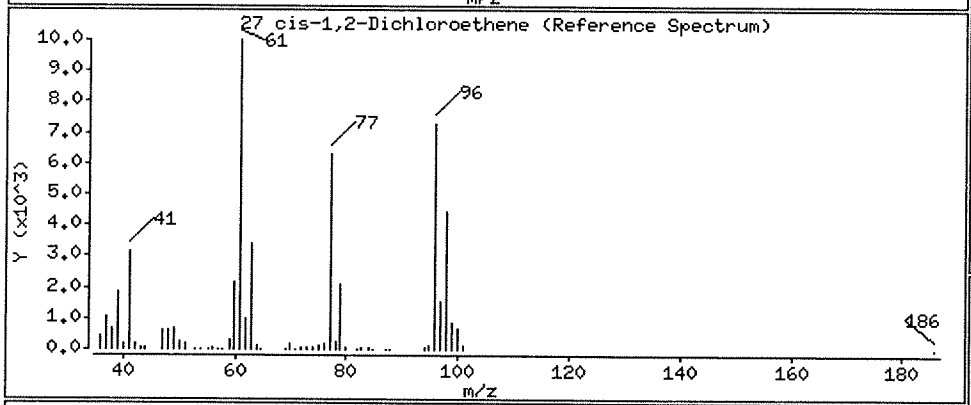
Concentration: 88.86 ug/l

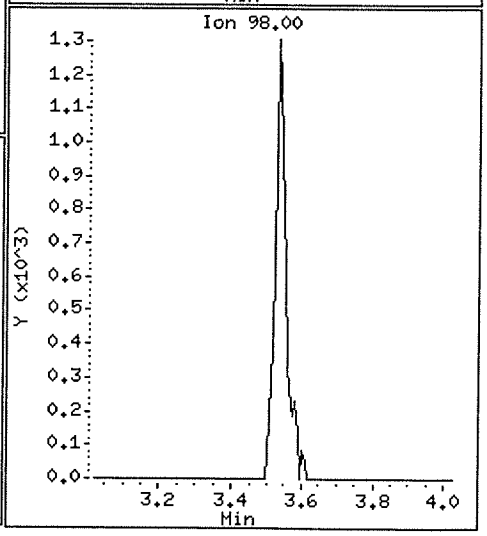


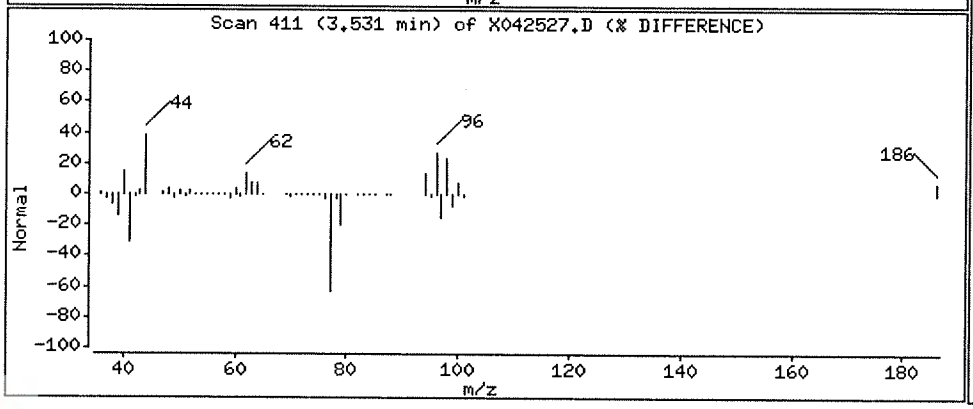












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042527.D

Date : 25-APR-2021 20:46

Client ID: HS21041197-02

Instrument: voa6.i

Sample Info: HS21041197-02;HS21041197-02;;;

Purge Volume: 5.0

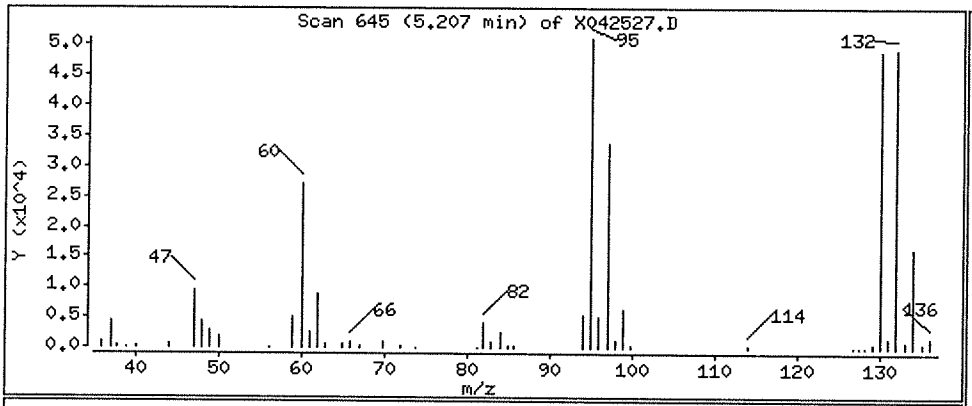
Operator: PC

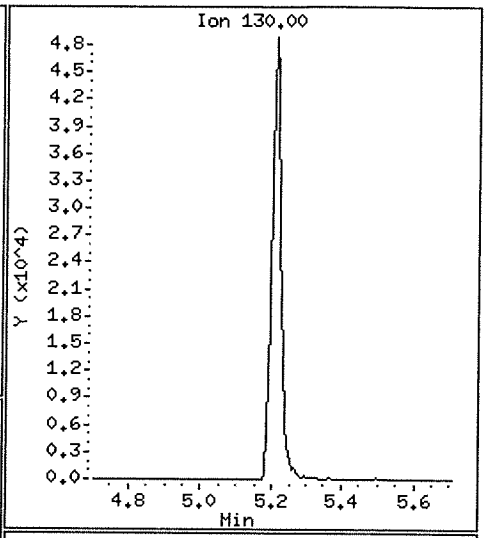
Column phase: DB624

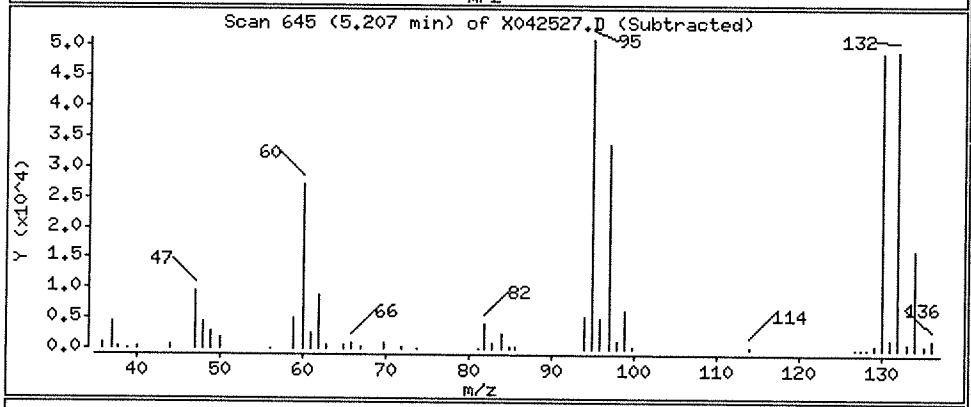
Column diameter: 0.18

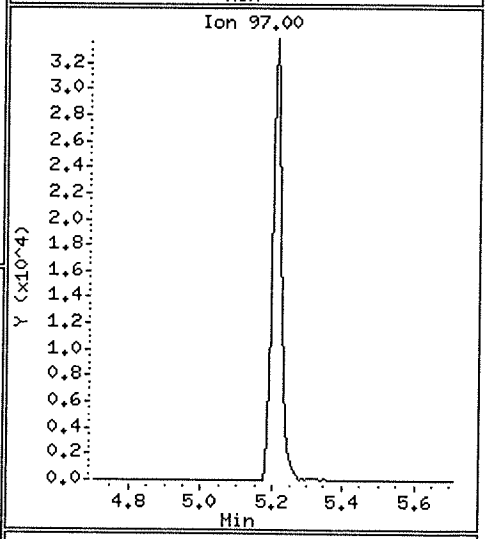
38 Trichloroethene

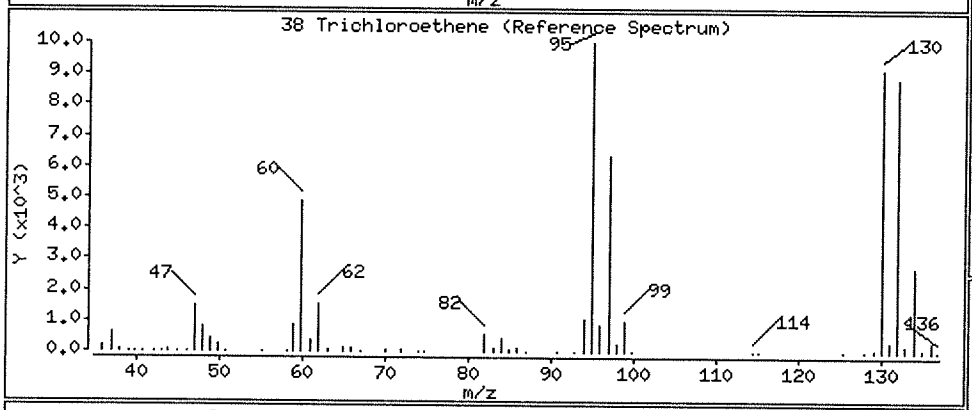
Concentration: 2113.43 ug/l

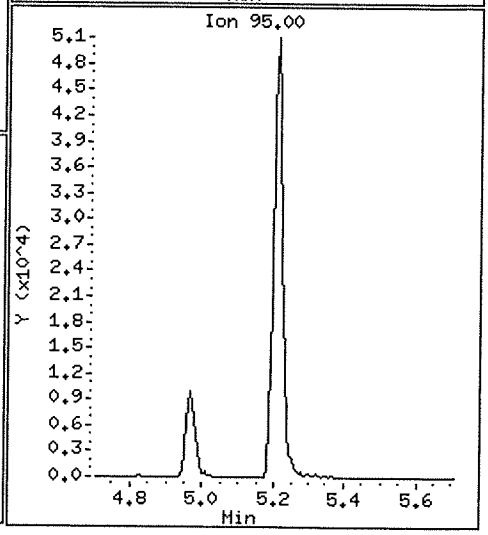


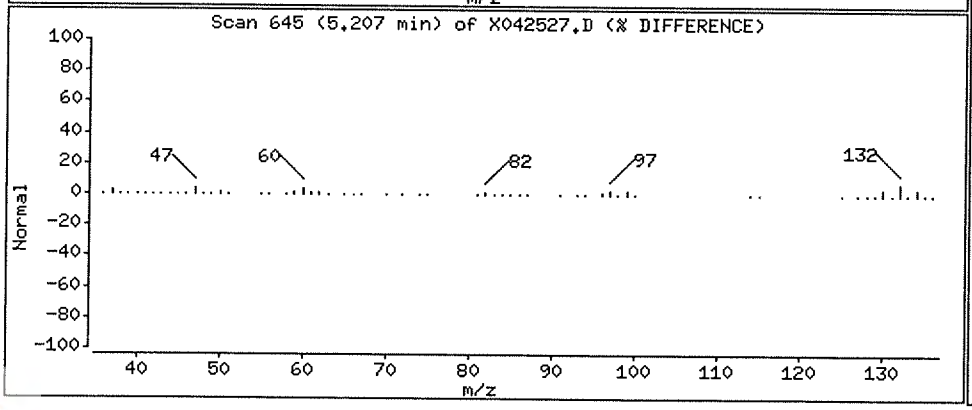












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D Page 1
Report Date: 24-May-2021 12:24

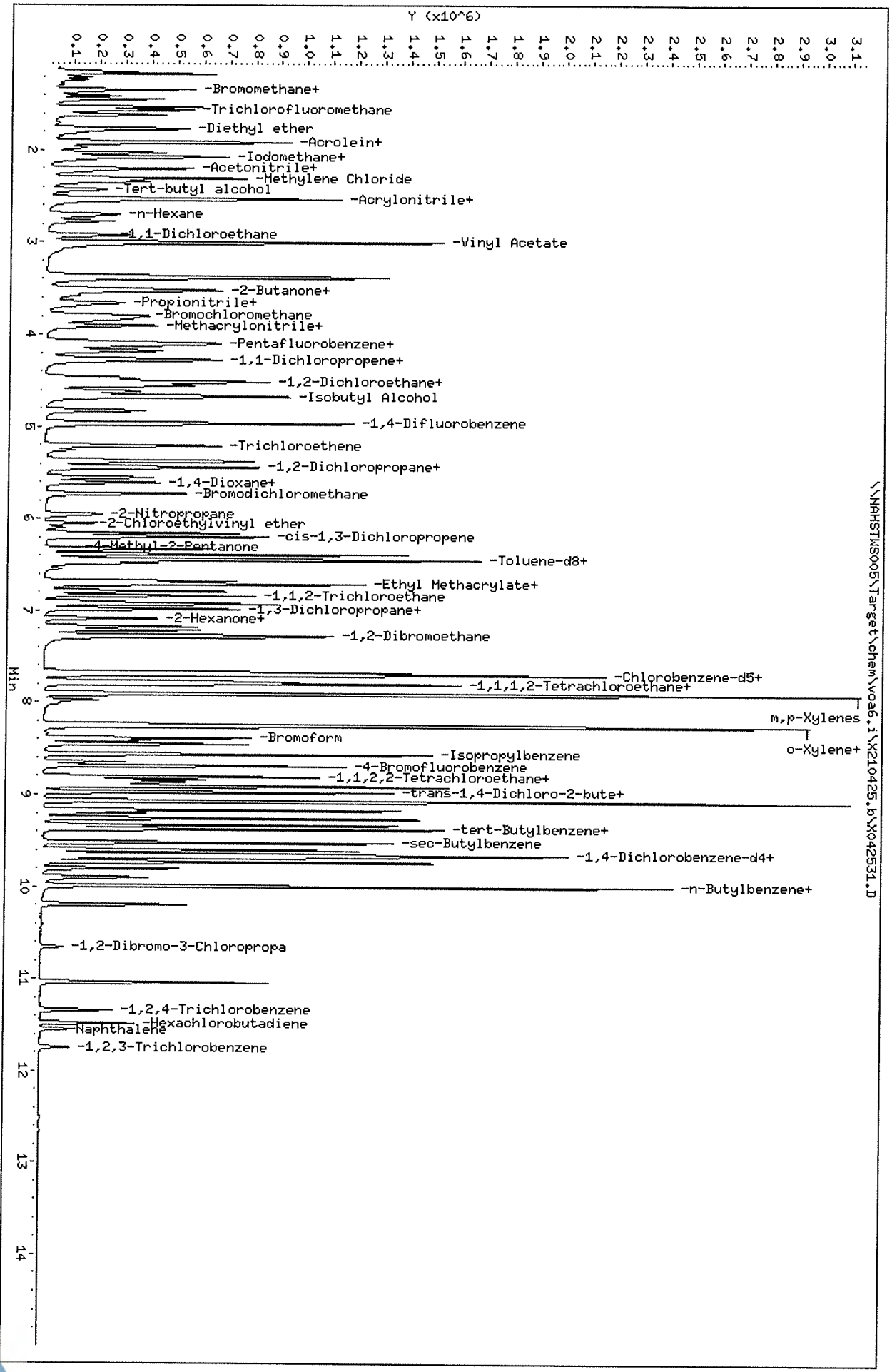
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 25-APR-2021 22:10
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\X210425.b\8260W.m
Meth Date : 24-May-2021 12:24 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	320604	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	588285	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	569948	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271739	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	211735	50.0000	56.04
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	257444	50.0000	56.85
$	48 Toluene-d8	98	6.388	6.388	(0.833)	780284	50.0000	53.14
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	288864	50.0000	52.75
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178483	50.0000	53.90
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	189528	50.0000	41.51
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	318522	50.0000	51.15
	27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	214226	50.0000	54.66
	17 Methylene Chloride	84	2.305	2.305	(0.551)	180986	50.0000	51.95
	38 Trichloroethene	130	5.206	5.206	(1.049)	194326	50.0000	48.25
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	225419	50.0000	46.89



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D
Date : 25-APR-2021 22:10
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

HS21041197 RSK175 Raw Data

ALS WO# HS21041197

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.090	114	75-125
Methane	9.647	9.597	99	75-125
Ethane	18.043	19.657	109	75-125
Propane	26.463	27.238	103	75-125
N-Butane	34.955	36.010	103	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	535.608	567.359	564.985	516.024	665.282	425.678
Methane	968.912	978.238	1019.699	880.798	960.713	930.704
Ethane	602.493	670.177	658.908	597.201	808.513	817.630
Propane	500	1279	2602	4785	18294	38286
N-Butane	438	936	2034	3864	18446	42817

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104119

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	828.858	AVRG		586.256273		21.932	
Methane	1081.580	AVRG		974.377787		6.550	
Ethane	999.335	AVRG		736.322546		19.885	
Propane	96509	2ORDR	0.97987006	1.529e-003	-4.58e-009	0.9991365	0
N-Butane	114164	2ORDR	2.46870151	1.834e-003	-5.54e-009	0.9980766	0

FORM VI GASES

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

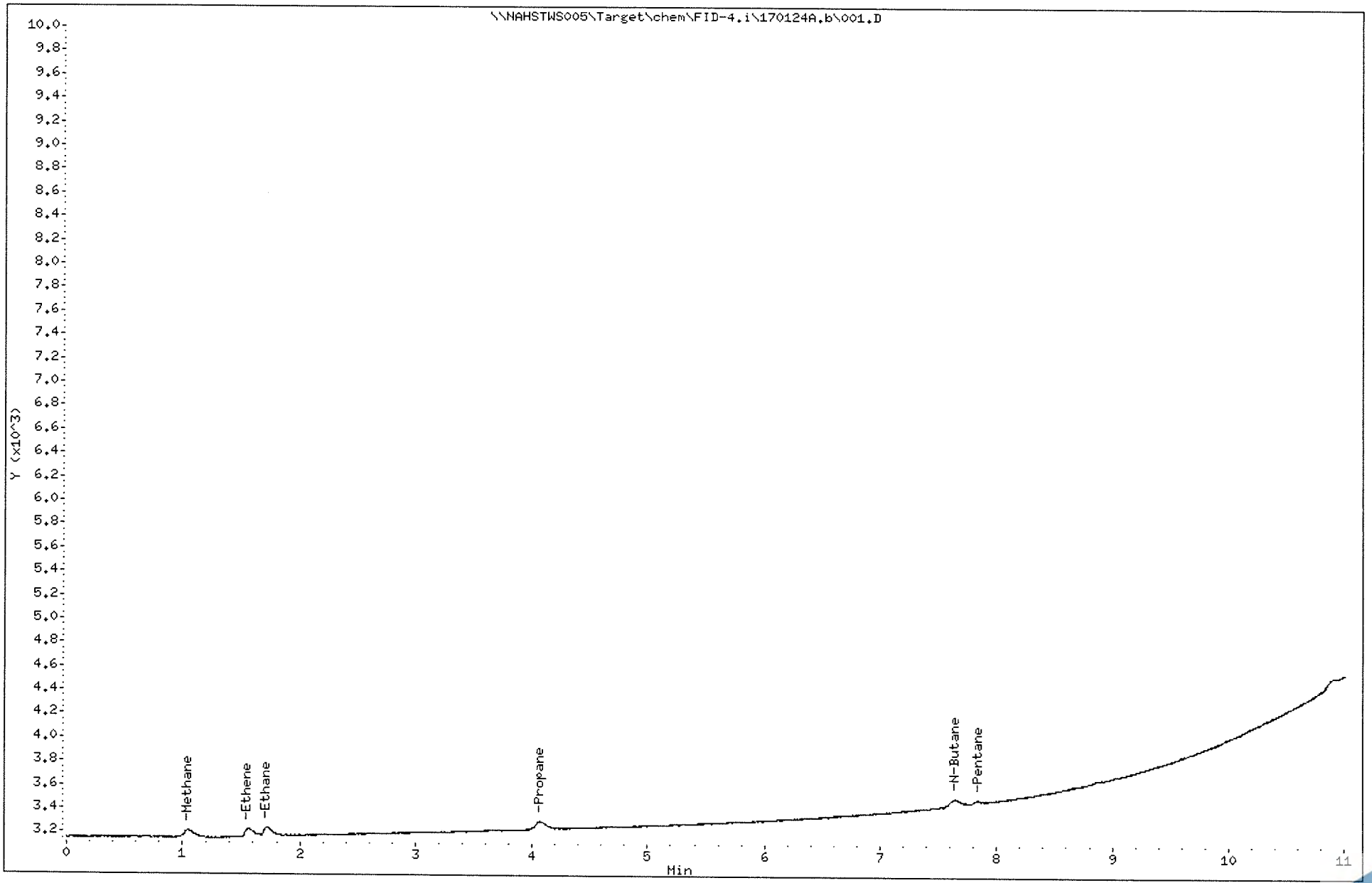
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

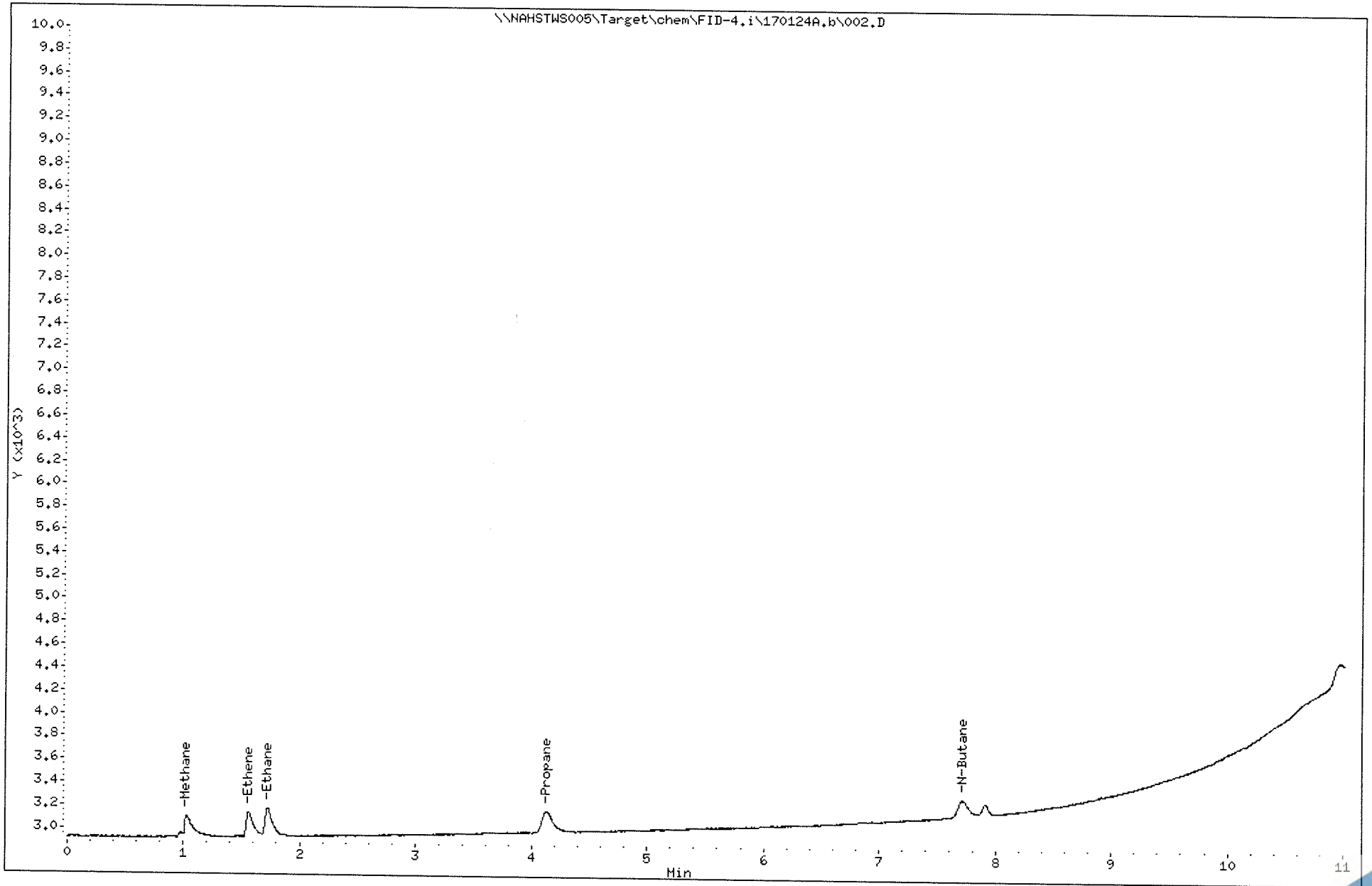
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

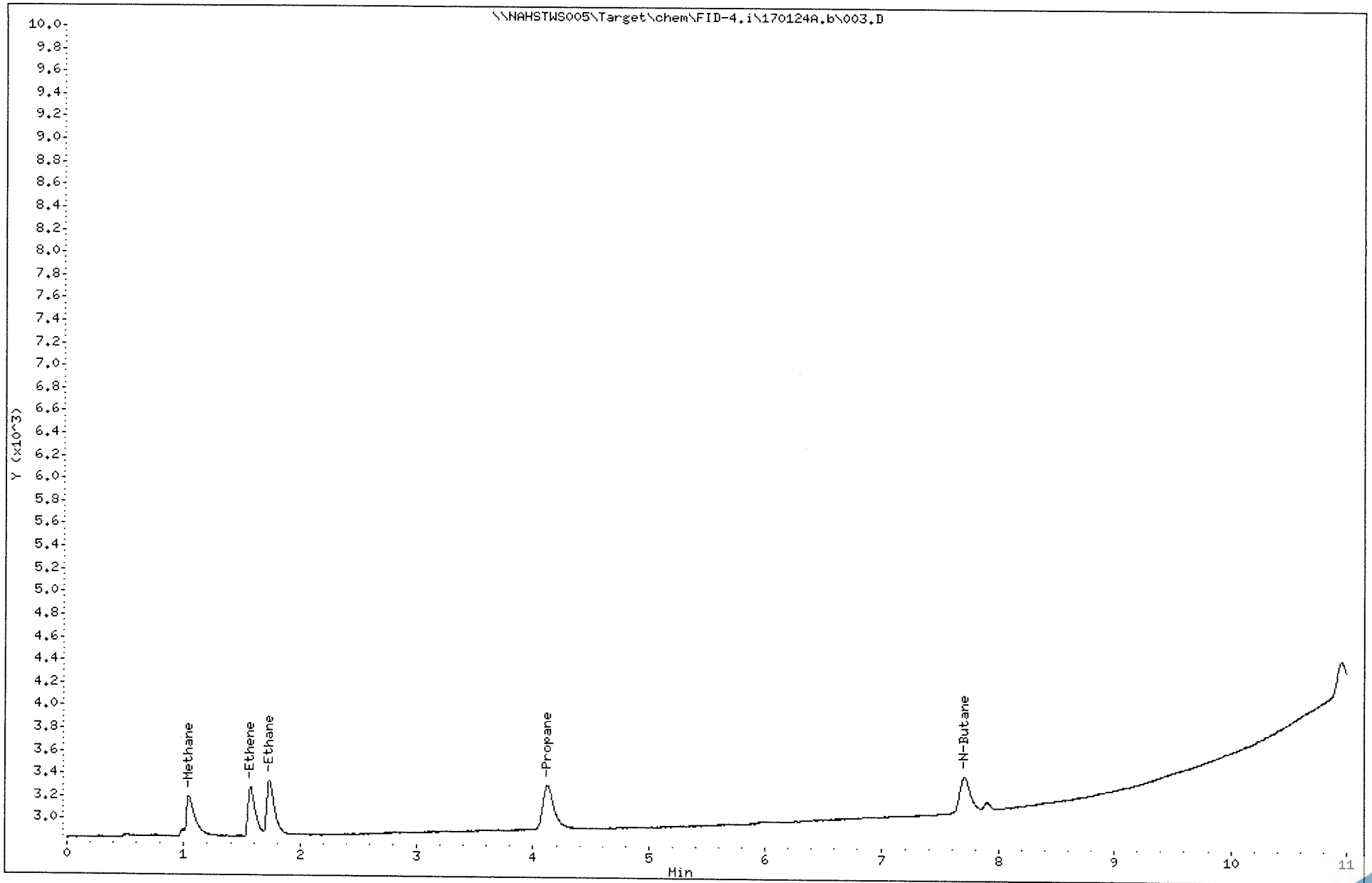
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864	13.9820	9.473(M)

QC Flag Legend

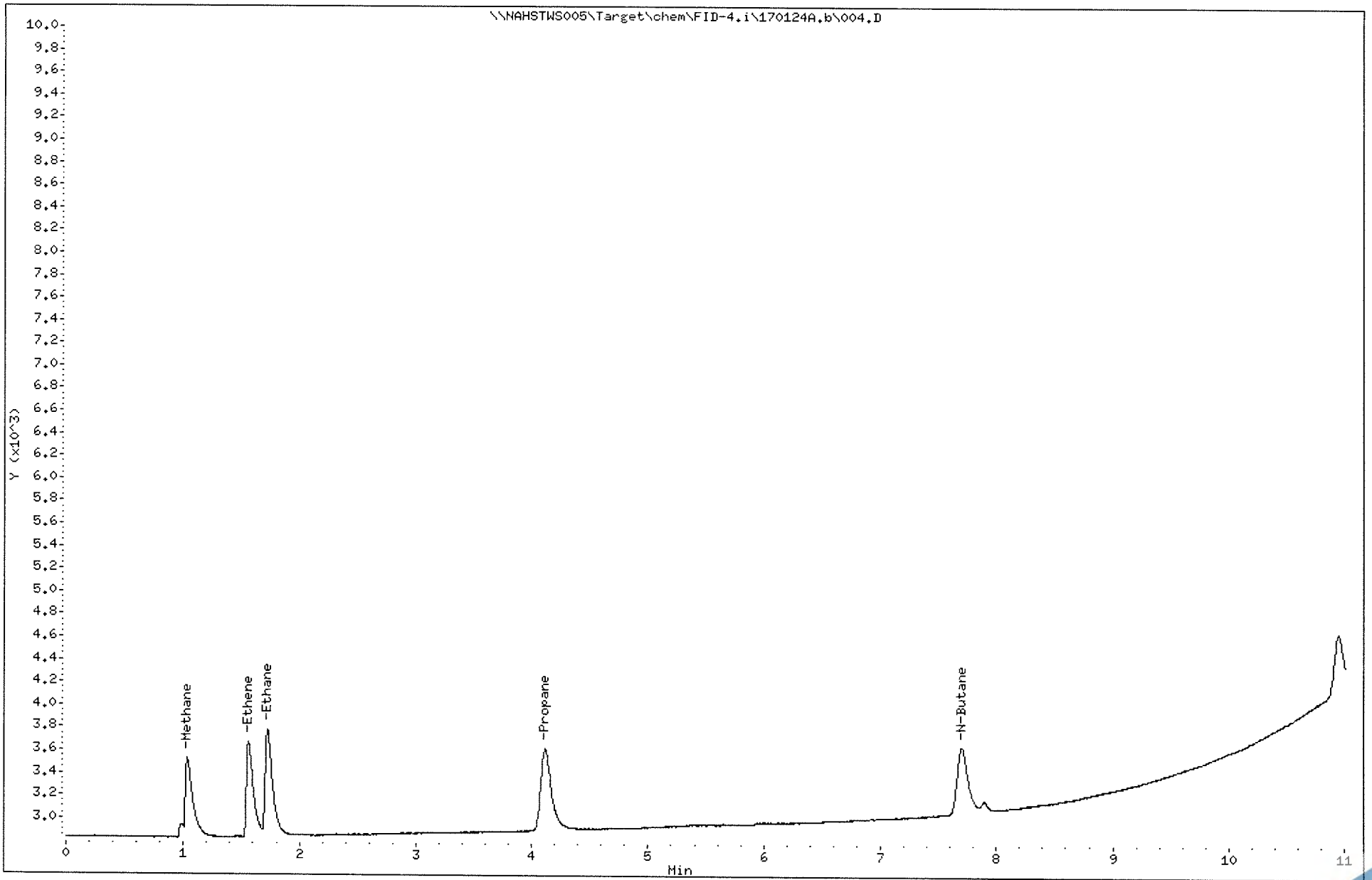
M - Compound response manually integrated.

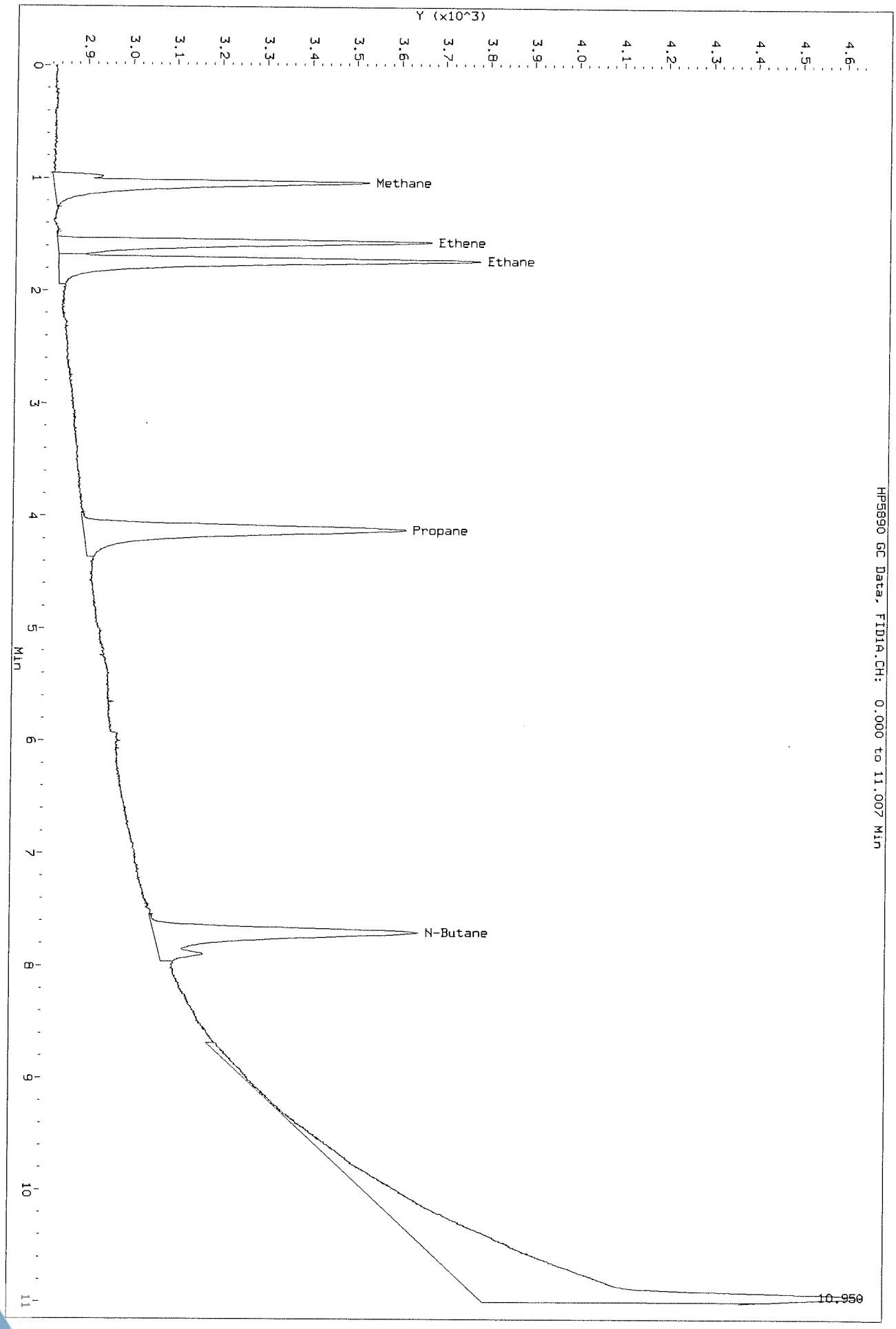
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

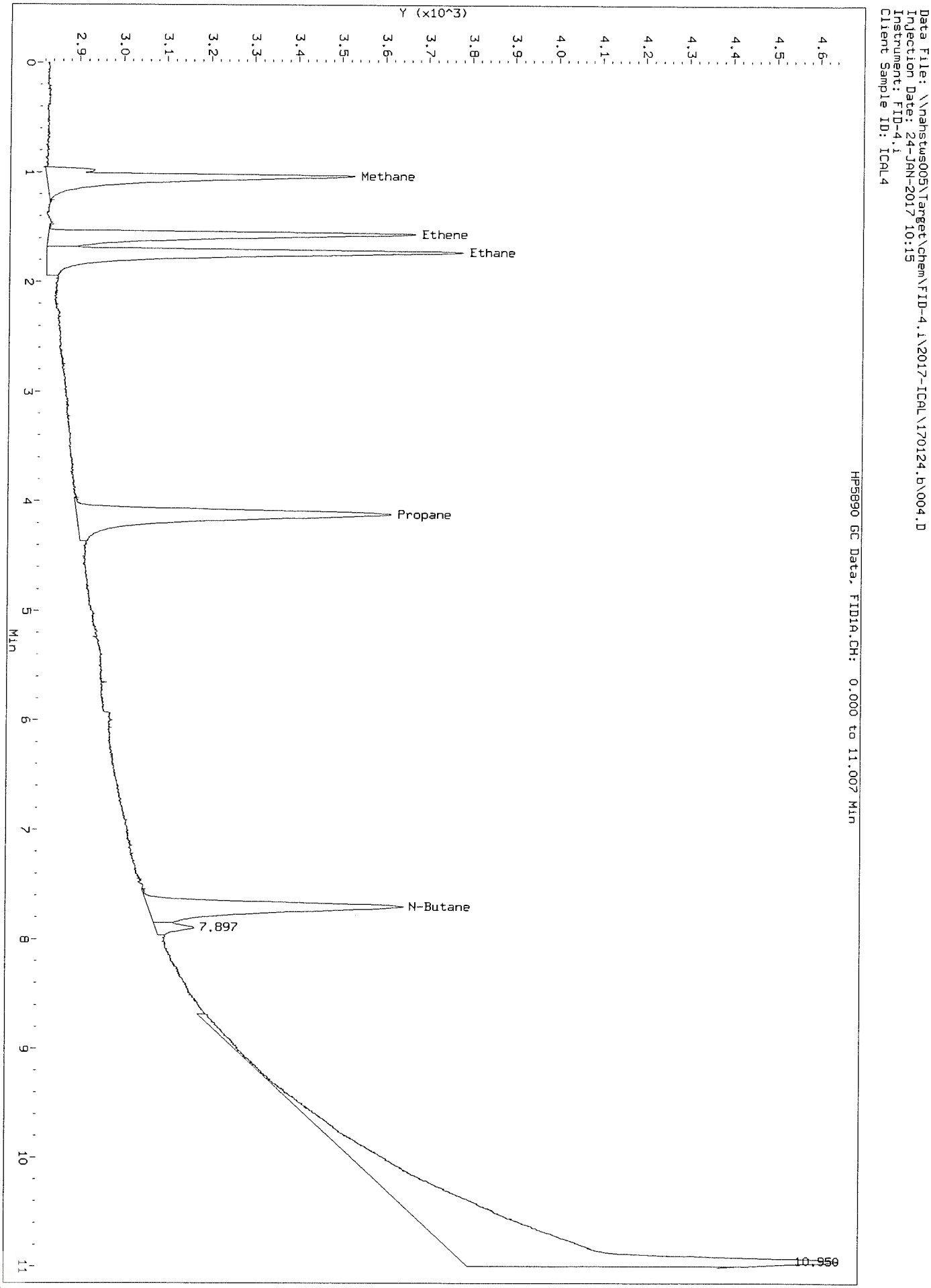
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
10.950


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
7.897
10.950

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

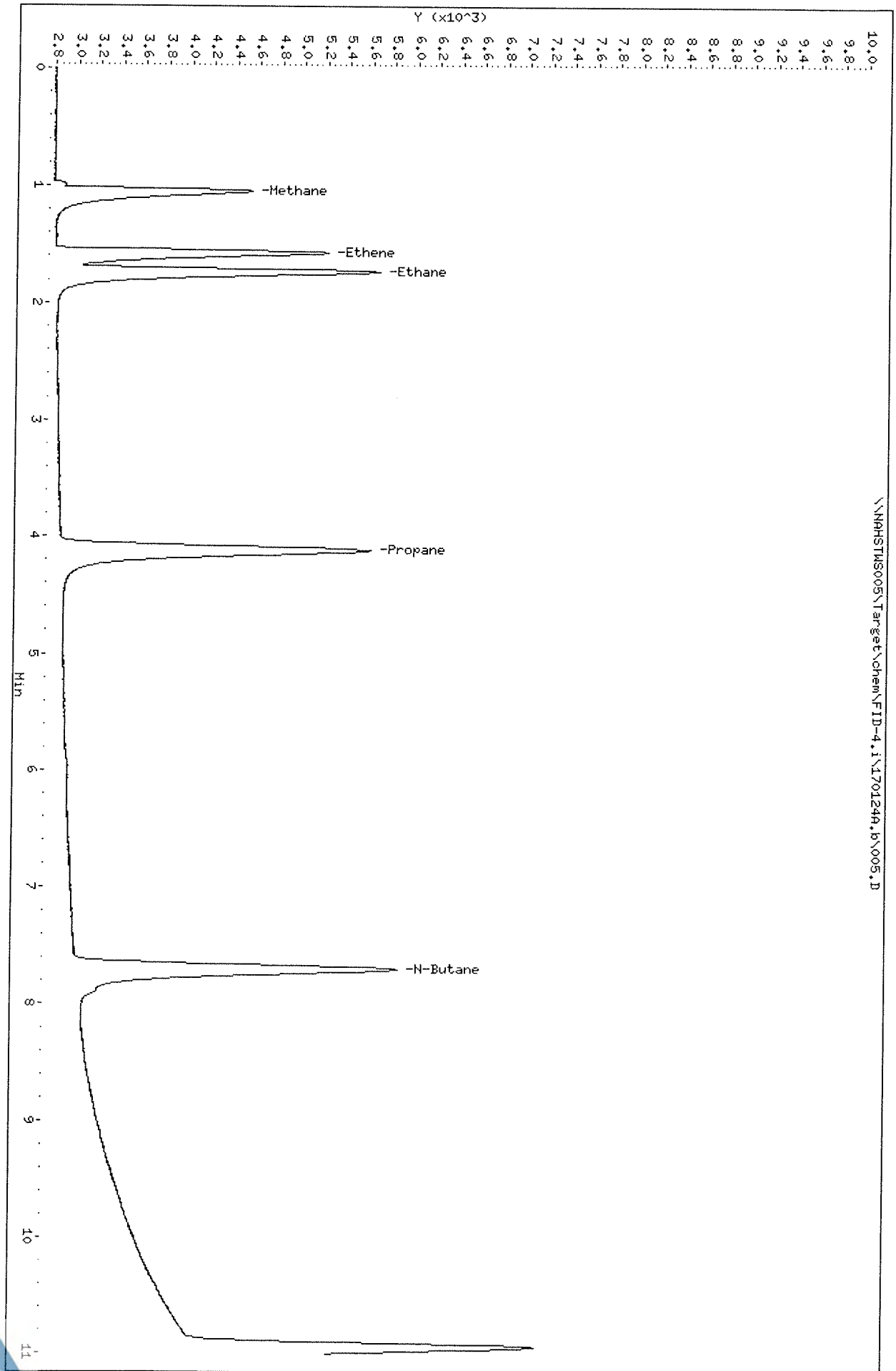
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

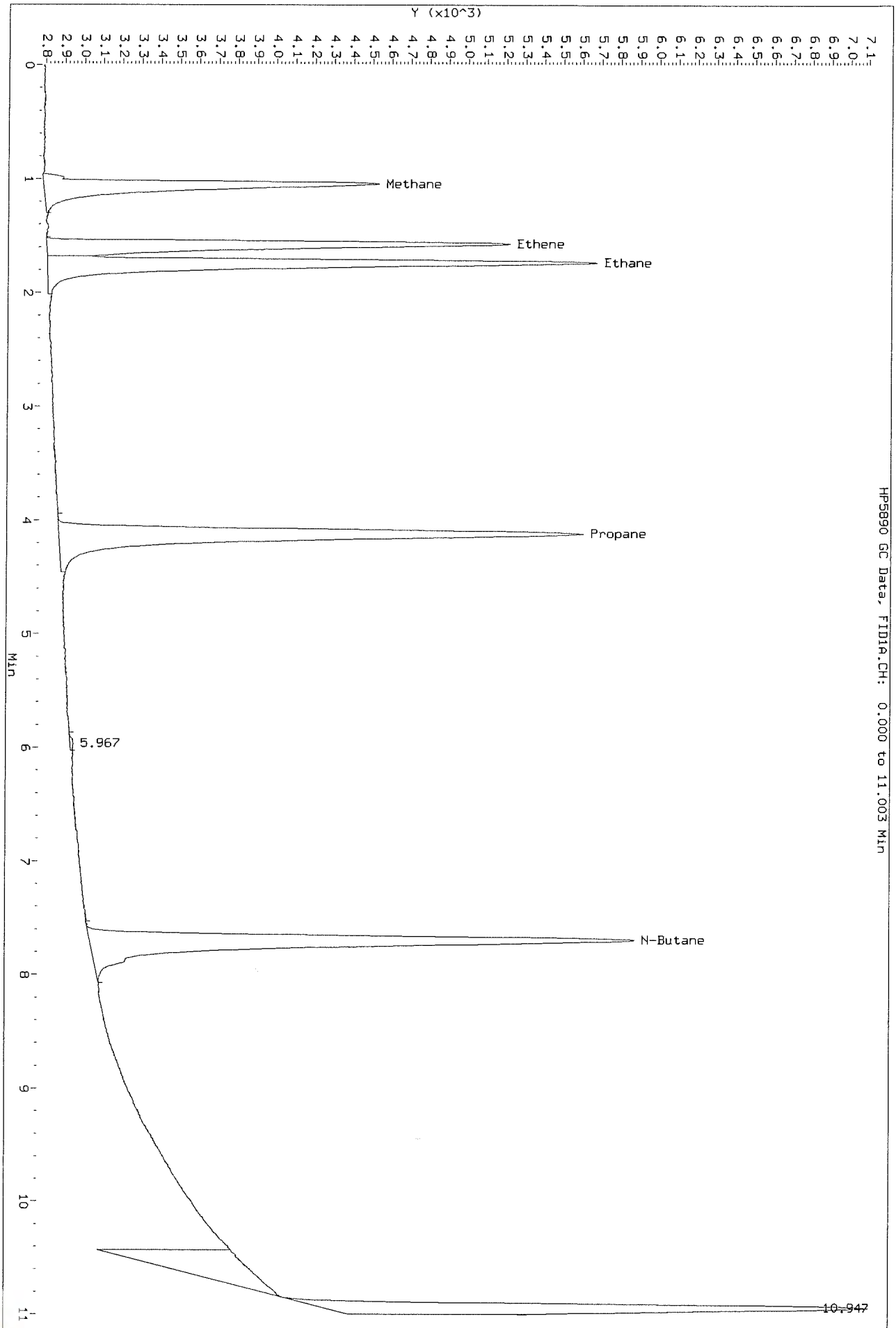
QC Flag Legend

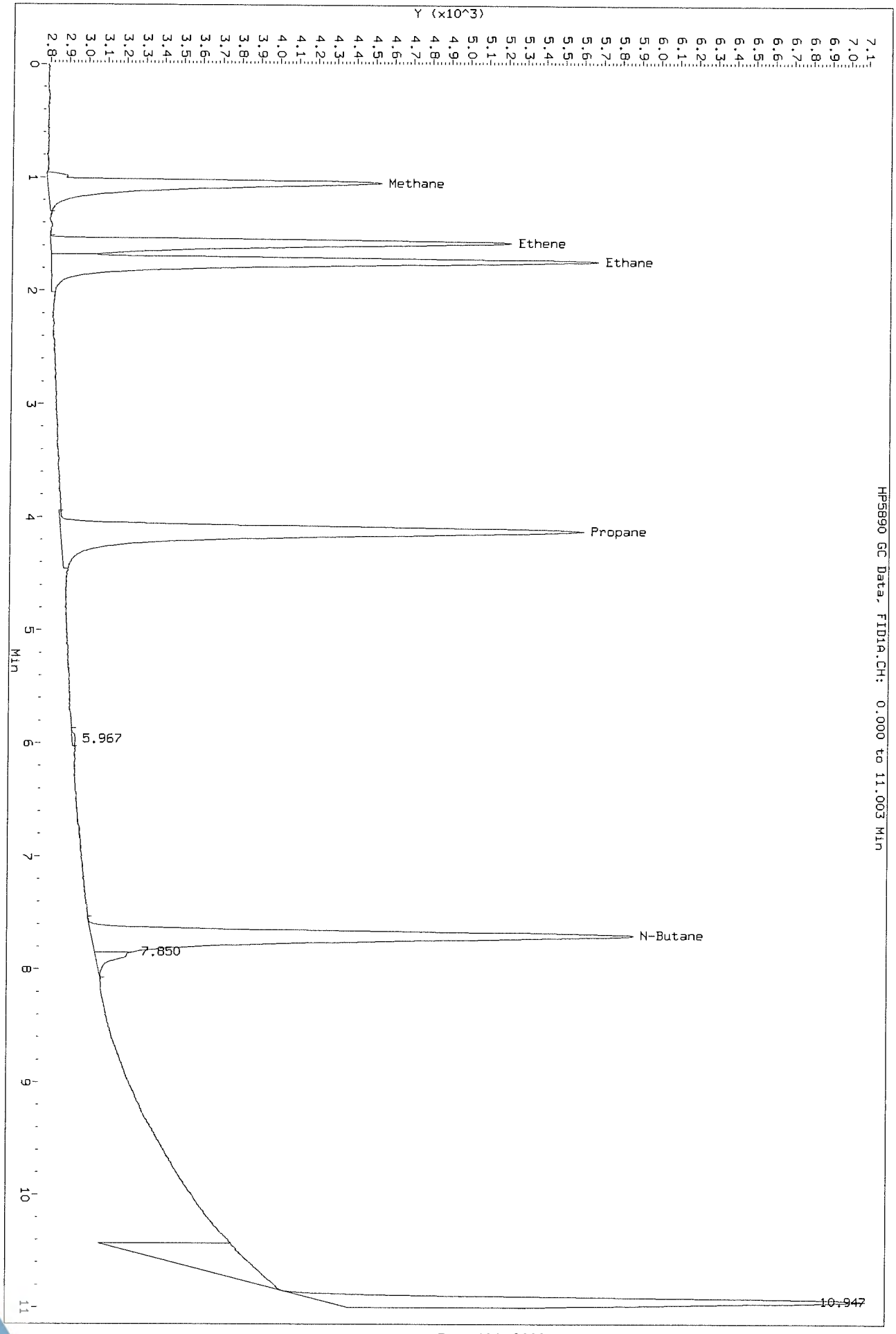
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;
Column phase: Rtx-PLOT

Instrument: FID-4.i
Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FIDiA.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
10.947


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
7.850
10.947

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

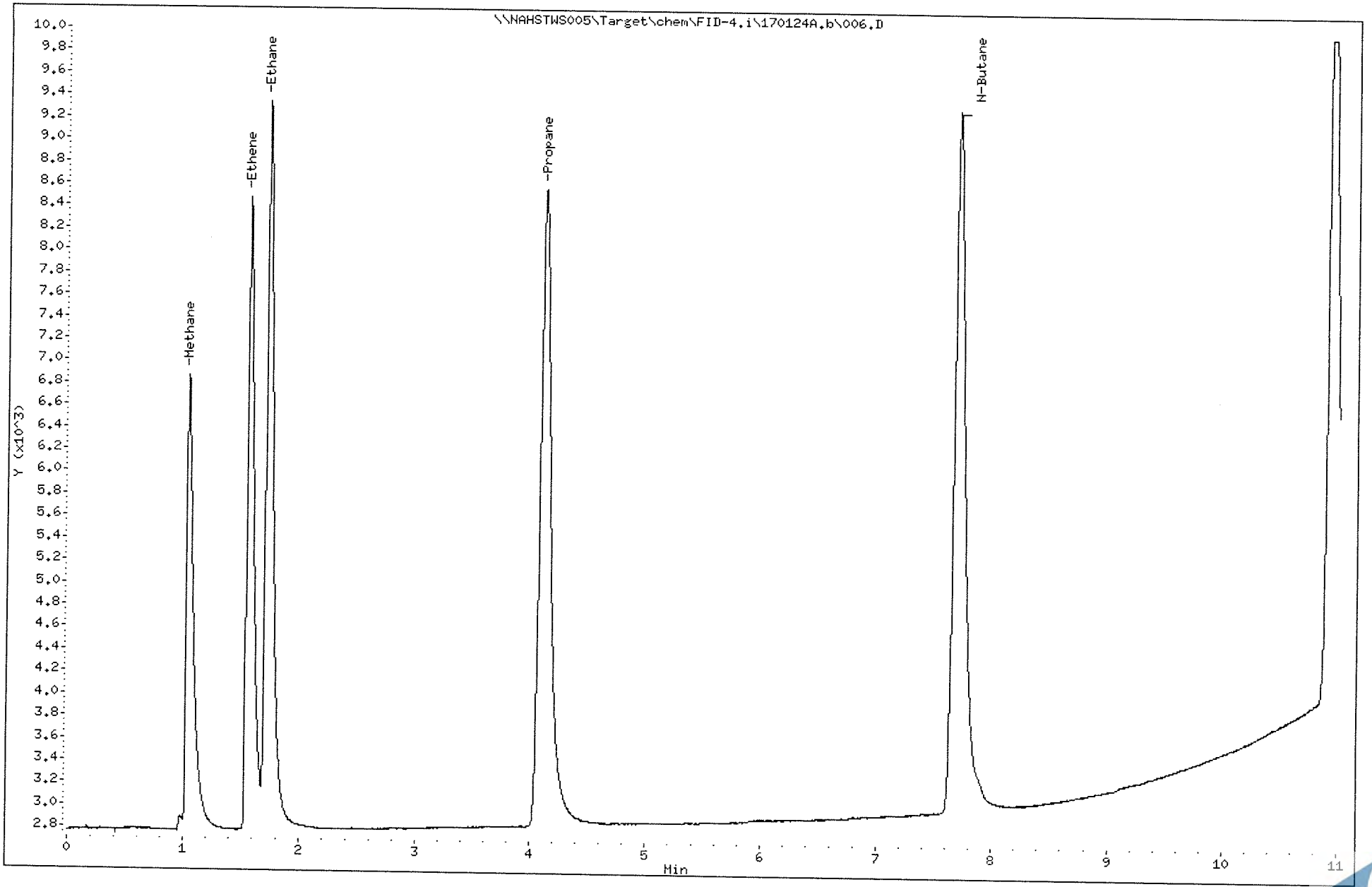
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

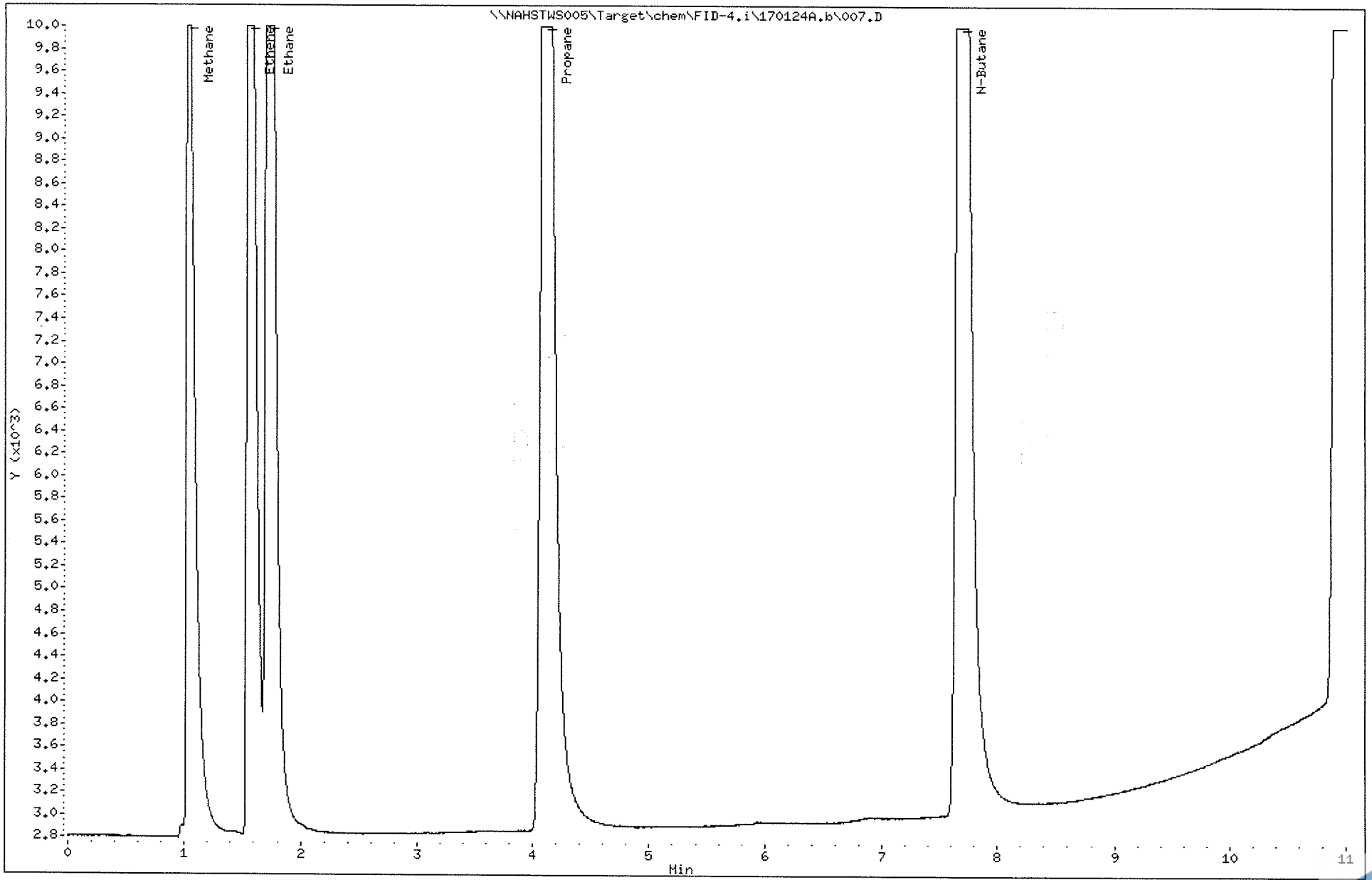
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

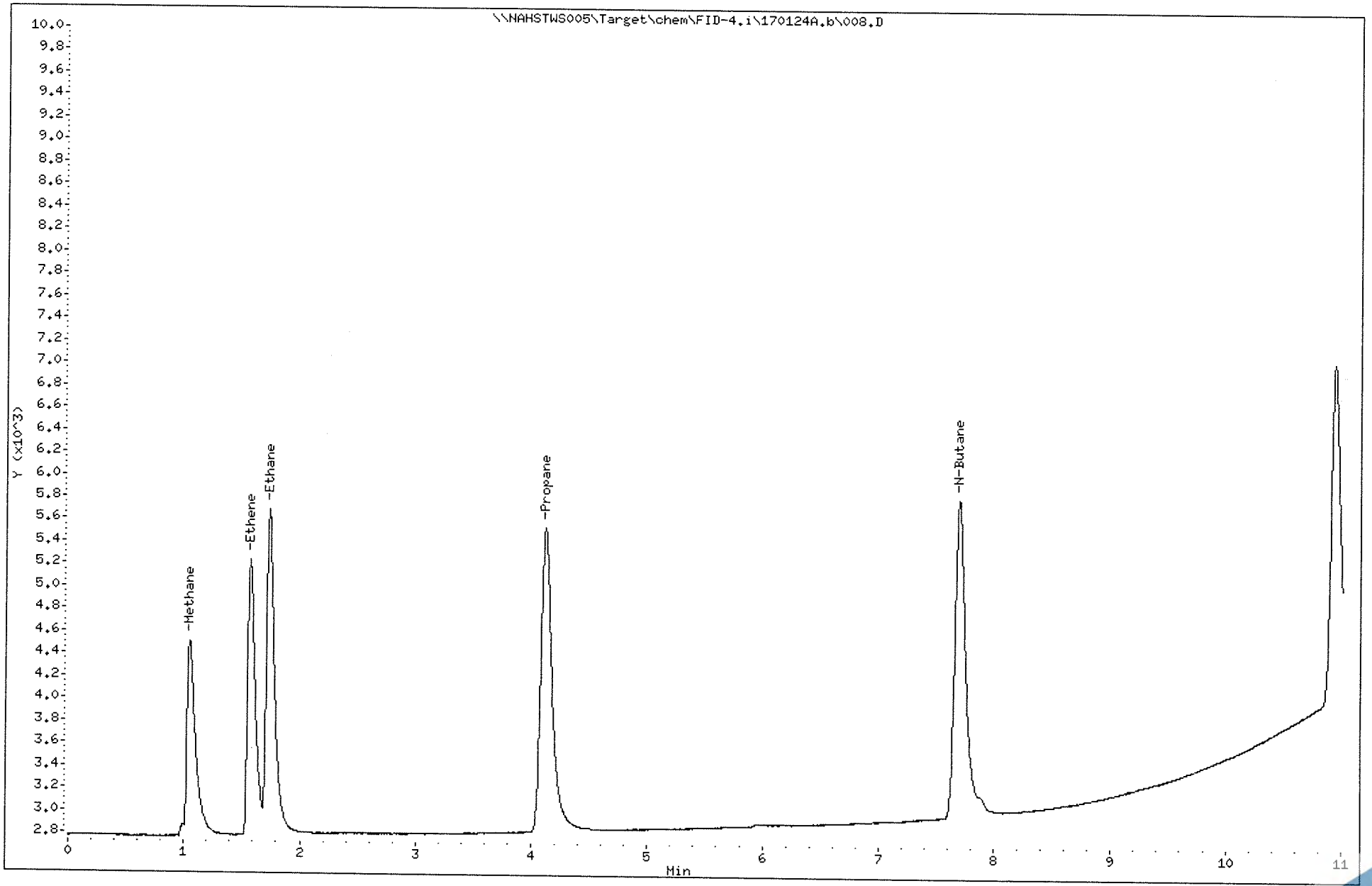
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 44621 **Analyst:** Purvi Lad

Date: 04-27-2021 **Reviewer:**

Method: rsk175 dod **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	04-27-2021 09:31 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-210427	MBLK	04-27-2021 09:48 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-210427	LCS	04-27-2021 09:57 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	LCSD-210427	LCSD	04-27-2021 10:08 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS21041132-05	SAMP	04-27-2021 10:23 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	HS21041132-05DUP	SAMP	04-27-2021 10:35 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	HS21041102-01	SAMP	04-27-2021 10:58 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	HS21041102-02	SAMP	04-27-2021 11:11 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	HS21041102-03	SAMP	04-27-2021 11:23 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	HS21041102-04	SAMP	04-27-2021 11:35 am	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	RSK-CCV	CCV	04-27-2021 11:46 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS21041102-05	SAMP	04-27-2021 12:01 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS21041102-07	SAMP	04-27-2021 12:15 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS21041102-08	SAMP	04-27-2021 12:27 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	HS21041102-09	SAMP	04-27-2021 12:38 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA
16	HS21041102-10	SAMP	04-27-2021 12:48 pm	1.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS21041102-08	SAMP	04-27-2021 12:58 pm	25.00	0.00 mL	0.00 mL	017.D	Liquid	Y	NA
18	HS21041102-09	SAMP	04-27-2021 01:08 pm	10.00	0.00 mL	0.00 mL	018.D	Liquid	Y	NA
19	HS21041102-10	SAMP	04-27-2021 01:58 pm	100.0(	0.00 mL	0.00 mL	019.D	Liquid	Y	NA
20	HS21041276-09	SAMP	04-27-2021 02:15 pm	1.00	0.00 mL	0.00 mL	020.D	Liquid	Y	NA
21	HS21041276-10	SAMP	04-27-2021 02:22 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	NA
22	RSK-CCV	CCV	04-27-2021 02:34 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS21041276-13	SAMP	04-27-2021 02:44 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	NA
24	HS21041276-16	SAMP	04-27-2021 02:59 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	NA
25	HS21041276-19	SAMP	04-27-2021 03:07 pm	1.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA
26	HS21041276-25	SAMP	04-27-2021 03:24 pm	1.00	0.00 mL	0.00 mL	026.D	Liquid	Y	NA
27	HS21041276-10	SAMP	04-27-2021 03:38 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	NA
28	HS21041197-01	SAMP	04-27-2021 03:50 pm	1.00	0.00 mL	0.00 mL	028.D	Liquid	Y	NA
29	HS21041255-05	SAMP	04-27-2021 04:00 pm	1.00	0.00 mL	0.00 mL	029.D	Liquid	Y	NA
30	HS21041255-07	SAMP	04-27-2021 04:08 pm	1.00	0.00 mL	0.00 mL	030.D	Liquid	Y	NA
31	HS21041197-01	SAMP	04-27-2021 04:22 pm	1.00	0.00 mL	0.00 mL	031.D	Liquid	Y	NA
32	HS21041255-05	SAMP	04-27-2021 04:49 pm	200.0(	0.00 mL	0.00 mL	032.D	Liquid	Y	NA
33	RSK-CCV	CCV	04-27-2021 05:02 pm	1.00	0.00 mL	0.00 mL	033.D	Liquid	Y	NA

Chemical	Value
pH Paper	300107057-07
CCV/LC/LSD/MS/MSD	300107043-11

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 0931

Lab File ID: 001 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	859.39145	0.01	-19.44	20.00	AVRG
Methane	974.99200	959.46927	0.01	1.59	20.00	AVRG
Ethene	585.76000	633.41246	0.01	-8.14	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 1146

Lab File ID: 011 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	816.21682	0.01	-13.44	20.00	AVRG
Methane	974.99200	928.78615	0.01	4.74	20.00	AVRG
Ethene	585.76000	608.24926	0.01	-3.84	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 1434

Lab File ID: 022 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	807.73707	0.01	-12.26	20.00	AVRG
Methane	974.99200	936.24961	0.01	3.97	20.00	AVRG
Ethene	585.76000	611.45401	0.01	-4.39	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041197

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 1702

Lab File ID: 033 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	803.46949	0.01	-11.67	20.00	AVRG
Methane	974.99200	948.58505	0.01	2.71	20.00	AVRG
Ethene	585.76000	595.84570	0.01	-1.72	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D Page 1
Report Date: 20-May-2021 12:38

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 09:31
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.460	0.000	9256	9.64700	9.493
2 Ethene	0.703	0.703	0.000	10673	16.8500	18.220(M)
3 Ethane	0.783	0.783	0.000	15506	18.0430	21.551

QC Flag Legend

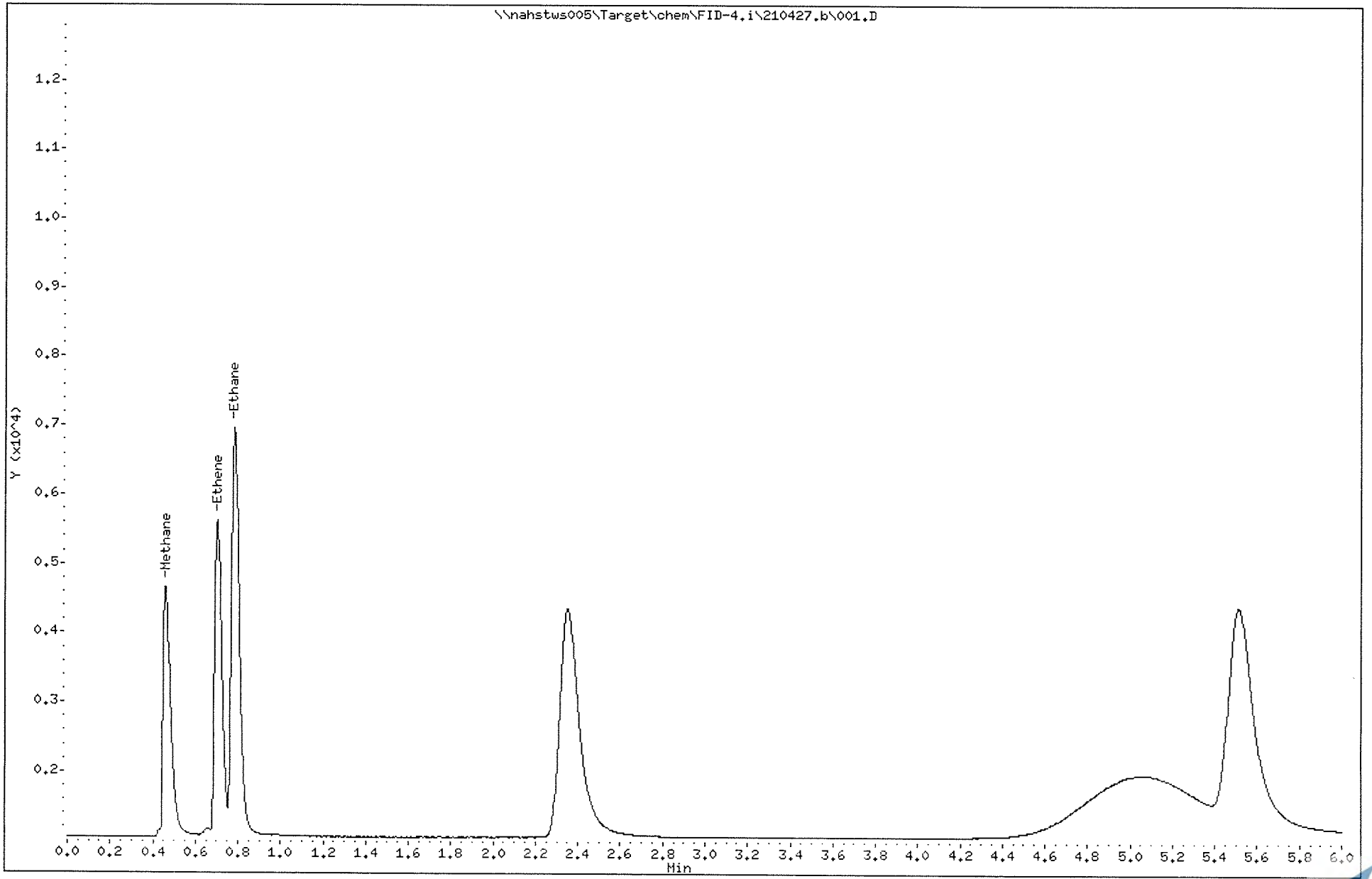
M - Compound response manually integrated.

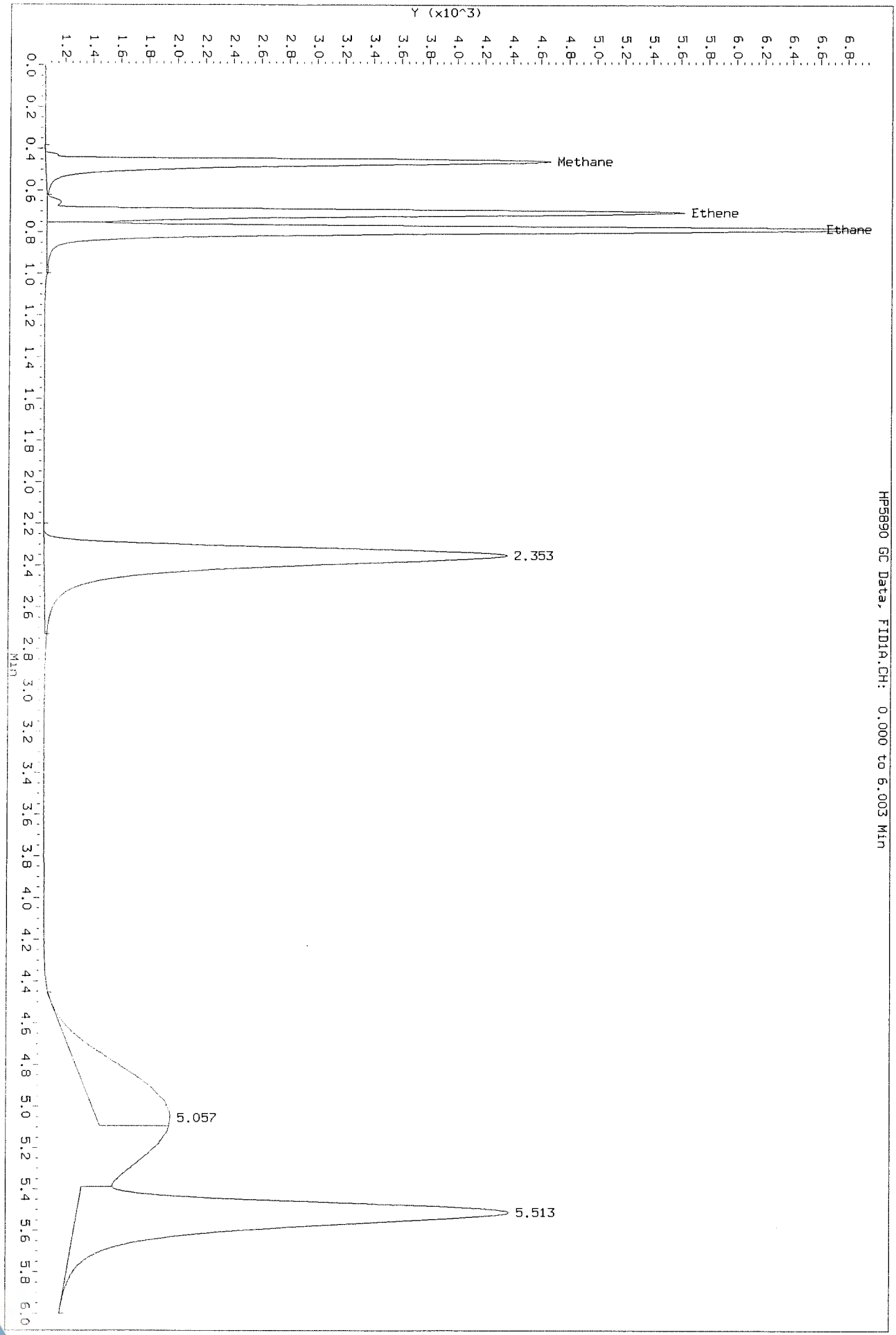
Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Date : 27-APR-2021 09:31
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

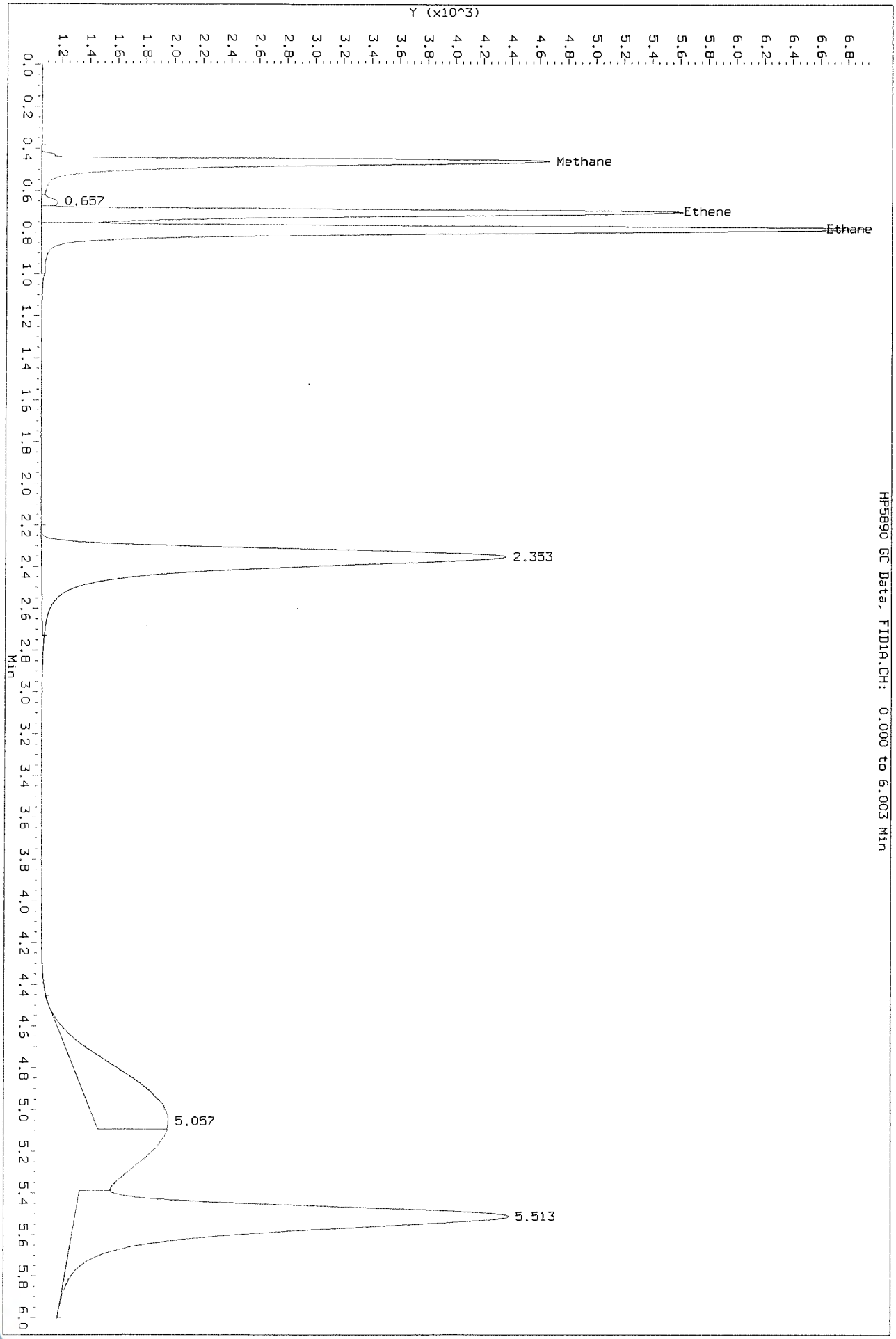
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\001.D
Injection Date: 27-APR-2021 09:31
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.353
5.057
5.513


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Injection Date: 27-APR-2021 09:31
Instrument: FID-4.i
Client Sample ID: RSK-CCV
Y (x10^3)
Methane
0.657
Ethene
Ethane
2.353
5.057
5.513
Min
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\002.D
Lab Smp Id: MBLK-210427 Client Smp ID: MBLK-210427
Inj Date : 27-APR-2021 09:48
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-210427;MBLK-210427;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\002.D

Date : 27-APR-2021 09:48

Client ID: MBLK-210427

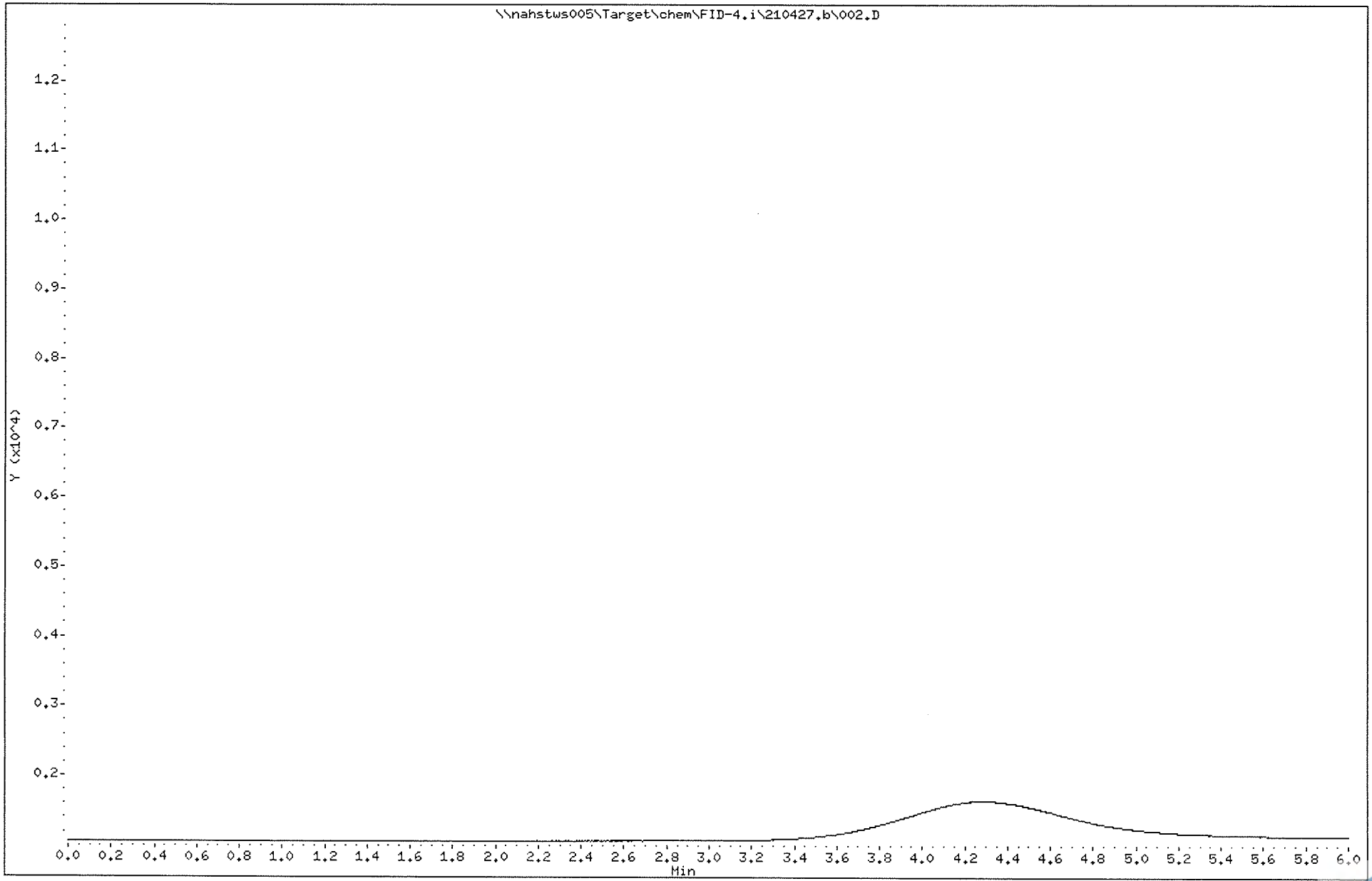
Instrument: FID-4.i

Sample Info: MBLK-210427;MBLK-210427;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\003.D Page 1
Report Date: 20-May-2021 12:38

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\003.D
Lab Smp Id: LCS-210427 Client Smp ID: LCS-210427
Inj Date : 27-APR-2021 09:57
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-210427;LCS-210427;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.463	0.460	0.003	9127	9.36110	9.361
2 Ethene	0.706	0.703	0.003	10755	18.3607	18.360
3 Ethane	0.786	0.783	0.003	15384	21.3818	21.381

01163576

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\003.D

Date : 27-APR-2021 09:57

Client ID: LCS-210427

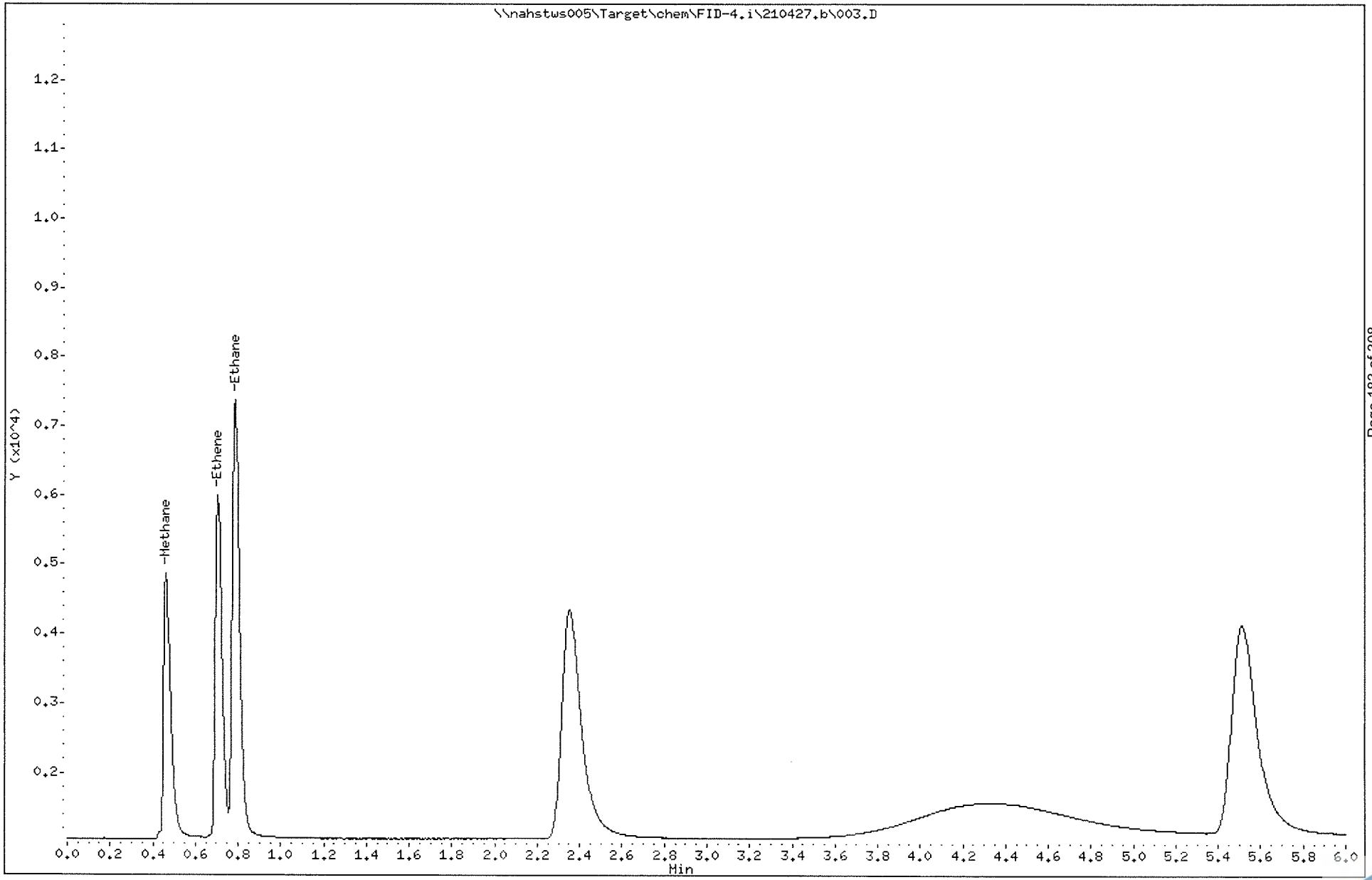
Instrument: FID-4.i

Sample Info: LCS-210427;LCS-210427;3;;LCS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\004.D Page 1
Report Date: 20-May-2021 12:38

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\004.D
Lab Smp Id: LCSD-210427 Client Smp ID: LCSD-210427
Inj Date : 27-APR-2021 10:08
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-210427;LCSD-210427;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.470	0.460	0.010	9552	9.79700	9.797
2 Ethene	0.713	0.703	0.010	10416	17.7820	17.782(M)
3 Ethane	0.793	0.783	0.010	15025	20.8829	20.882

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\004.D

Date : 27-APR-2021 10:08

Client ID: LCSD-210427

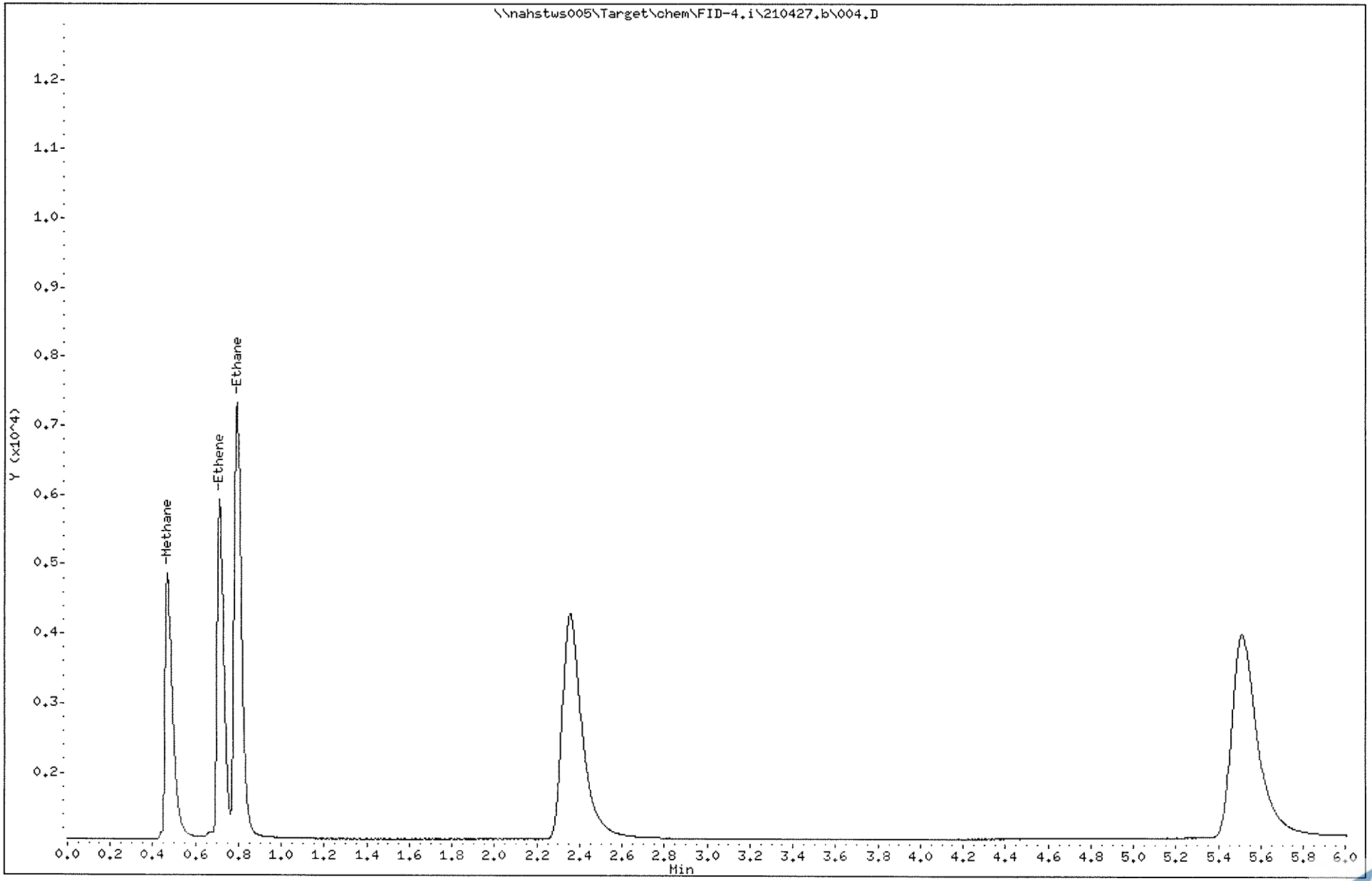
Instrument: FID-4.i

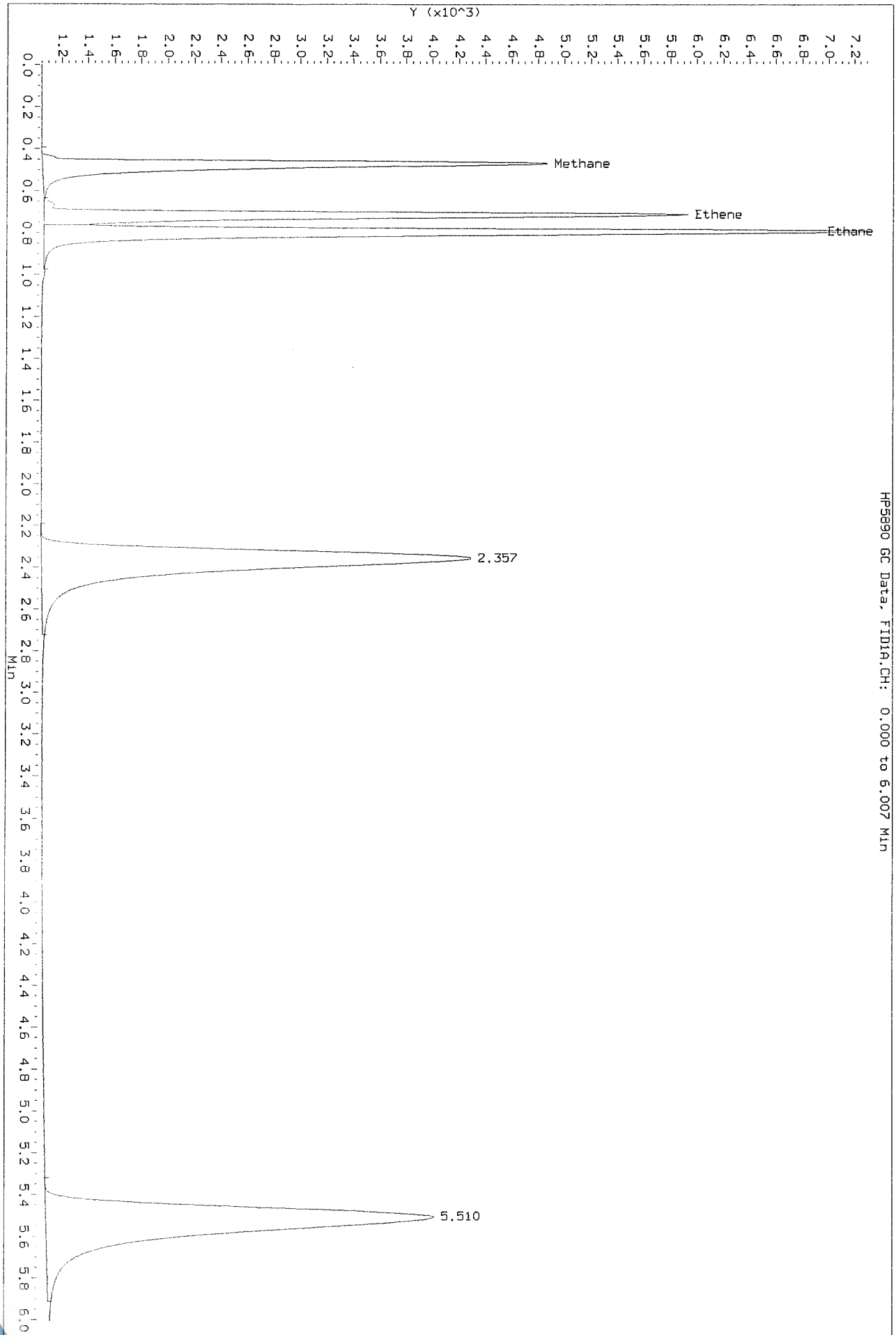
Sample Info: LCSD-210427;LCSD-210427;3;;LCSD

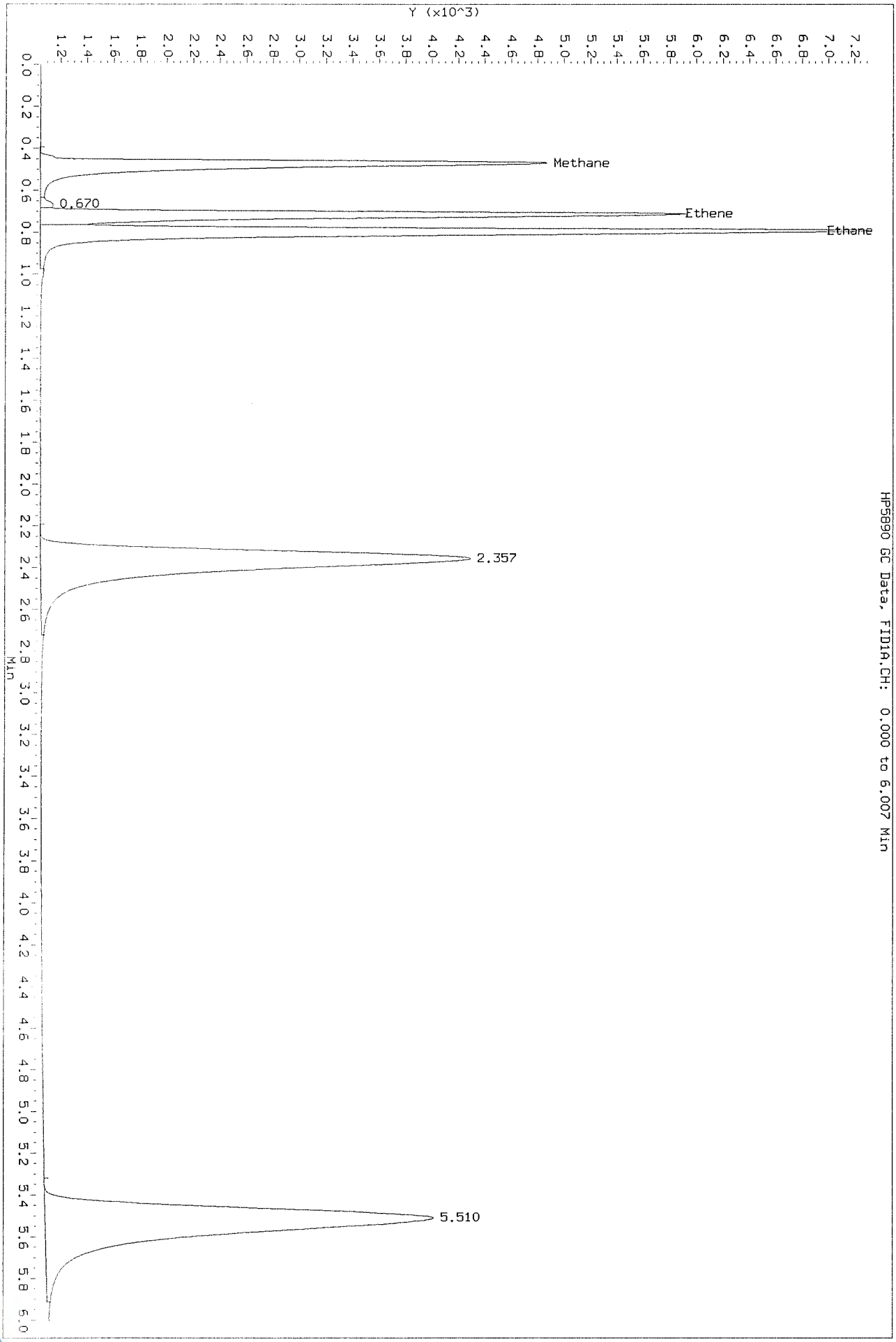
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\004.D
Injection Date: 27-APR-2021 10:08
Instrument: FID-4.i
Client Sample ID: LCSD-210427
HP5890 GC Data, FIDiA.CH: 0.000 to 6.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.357
5.510


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\004.D
Injection Date: 27-APR-2021 10:08
Instrument: FID-4.i
Client Sample ID: LCSD-210427
HP5890 GC Data, FID1A.CH: 0.000 to 6.007 Min
Y (x10^3)
Min
Methane
0.670
Ethene
Ethane
2.357
5.510

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 11:46
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.463	0.463	0.000	8960	9.64700	9.189
2 Ethene	0.710	0.710	0.000	10249	16.8500	17.496
3 Ethane	0.790	0.790	0.000	14727	18.0430	20.468

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\011.D

Date : 27-APR-2021 11:46

Client ID: RSK-CCV

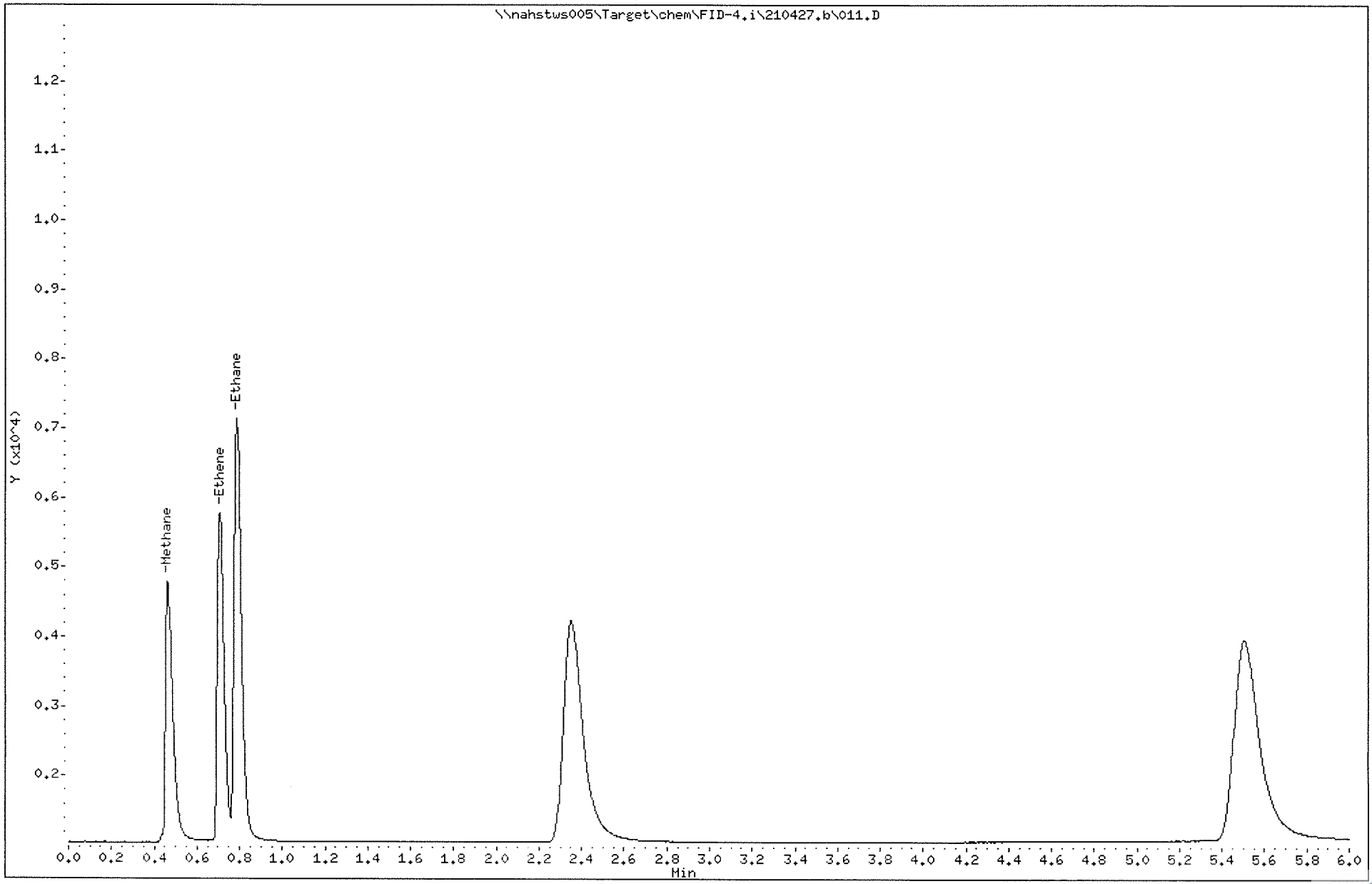
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 14:34
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.466	0.466	0.000	9032	9.64700	9.263
2 Ethene	0.710	0.710	0.000	10303	16.8500	17.589
3 Ethane	0.790	0.790	0.000	14574	18.0430	20.256

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\022.D

Date : 27-APR-2021 14:34

Client ID: RSK-CCV

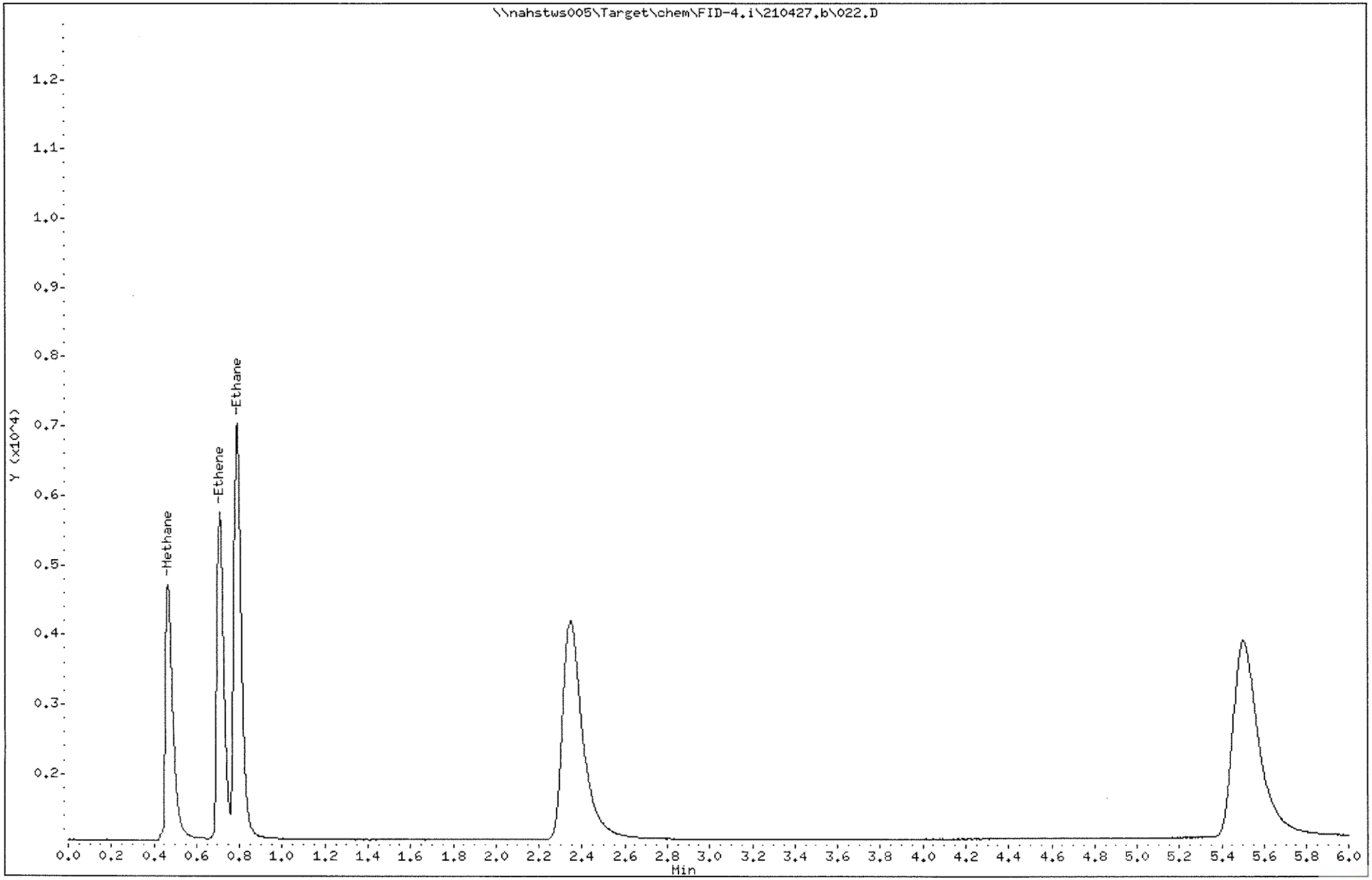
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\028.D Page 1
Report Date: 20-May-2021 12:56

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\028.D
Lab Smp Id: HS21041197-01 Client Smp ID: HS21041197-01
Inj Date : 27-APR-2021 15:50
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041197-01;HS21041197-01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.456	0.466	-0.010	97593	100.096	100.096(AM)
2 Ethene	0.713	0.710	0.003	734	1.25307	1.253(M)

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\028.D

Date : 27-APR-2021 15:50

Client ID: HS21041197-01

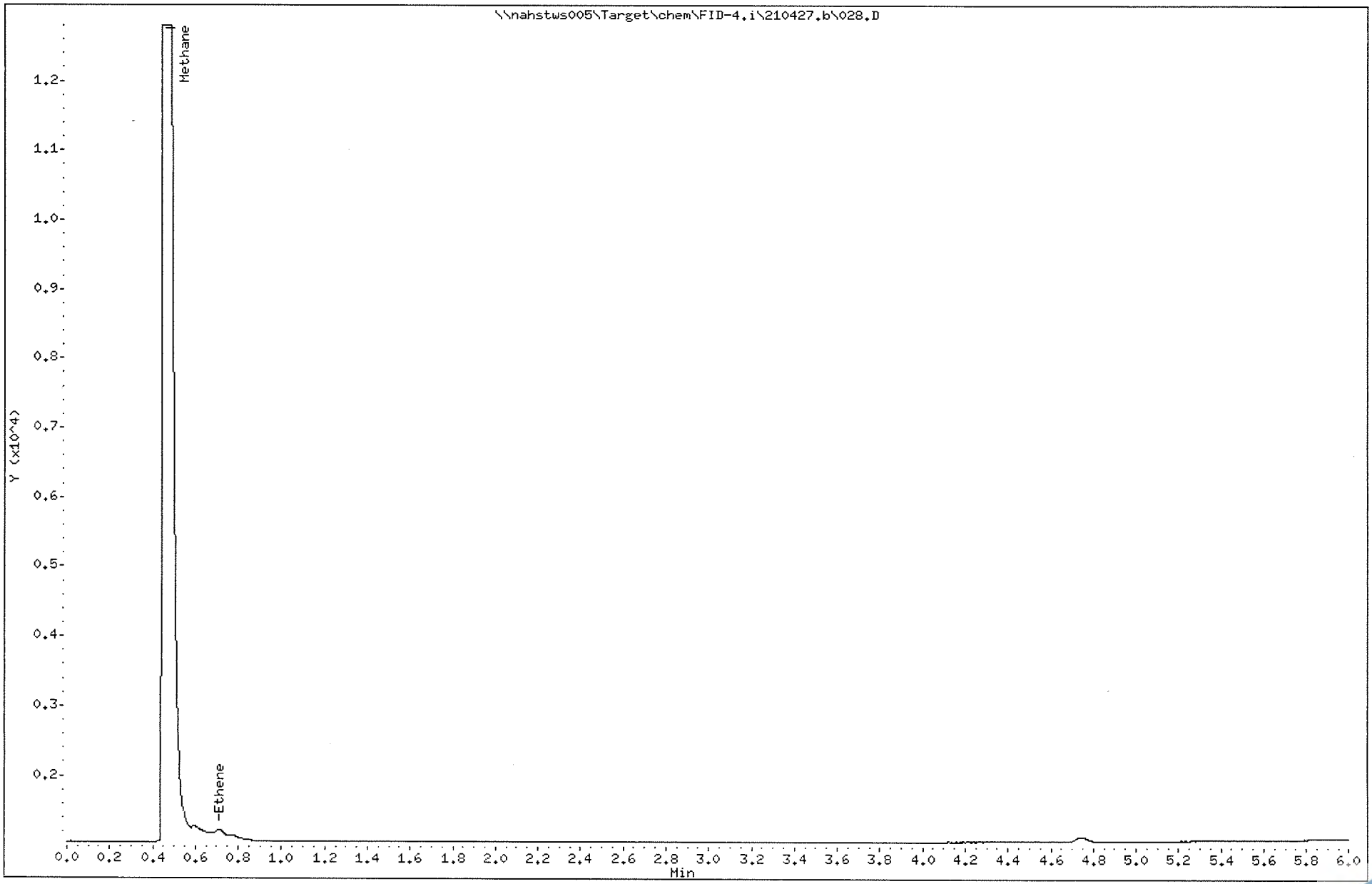
Instrument: FID-4.i

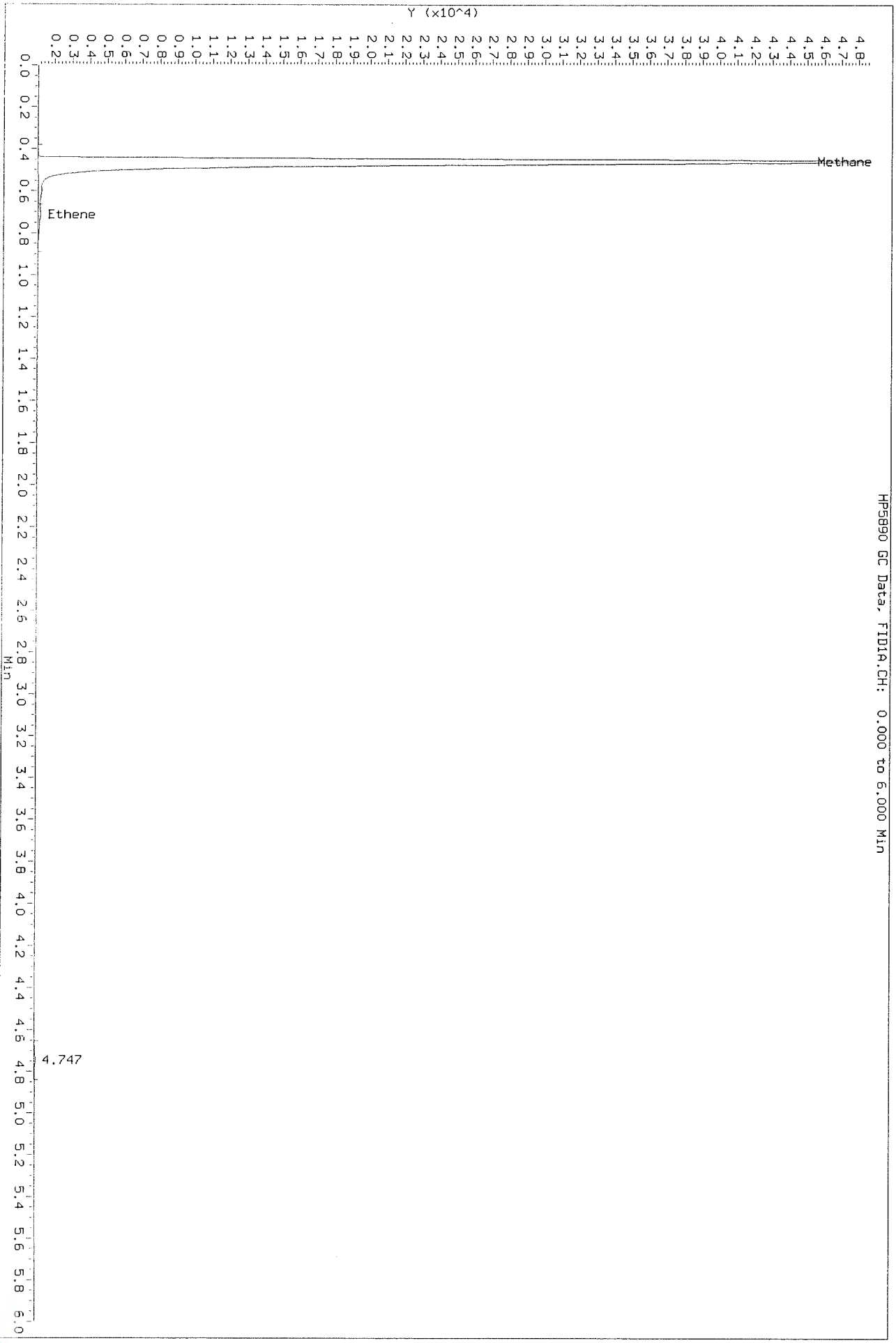
Sample Info: HS21041197-01;HS21041197-01

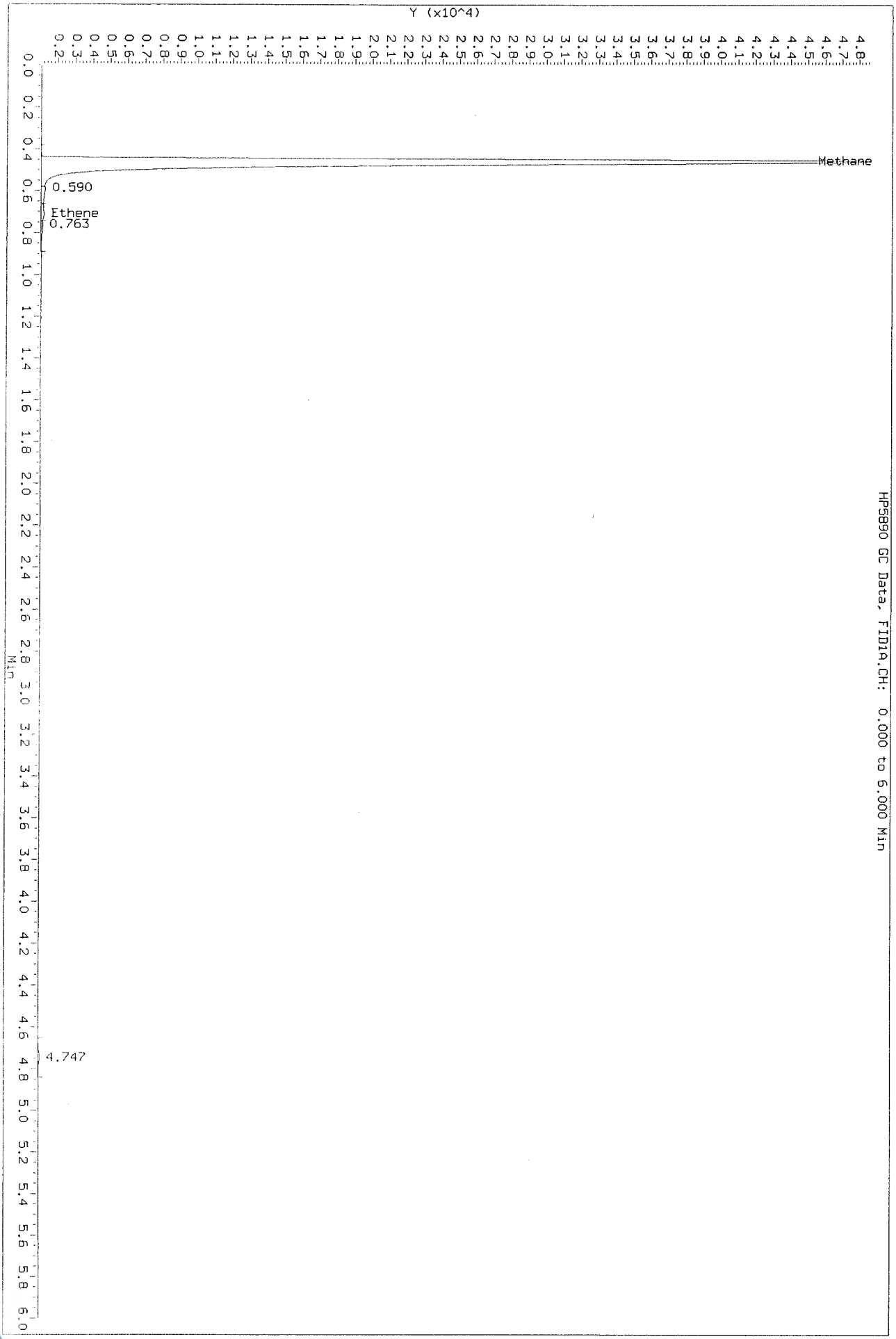
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\028.D
Injection Date: 27-APR-2021 15:50
Instrument: FID-4.i
Client Sample ID: HS21041197-01
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^4)
Methane
Ethene
4.747
Min


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\028.D
Injection Date: 27-APR-2021 15:50
Instrument: FID-4.i
Client Sample ID: HS21041197-01
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^4)
Min
Methane
0.590
Ethene
0.763
4.747

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\031.D
Lab Smp Id: HS21041197-01 Client Smp ID: HS21041197-01
Inj Date : 27-APR-2021 16:22
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041197-01;HS21041197-01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 31
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.476	0.466	0.010	9327	9.56623	9.566(M)

QC Flag Legend

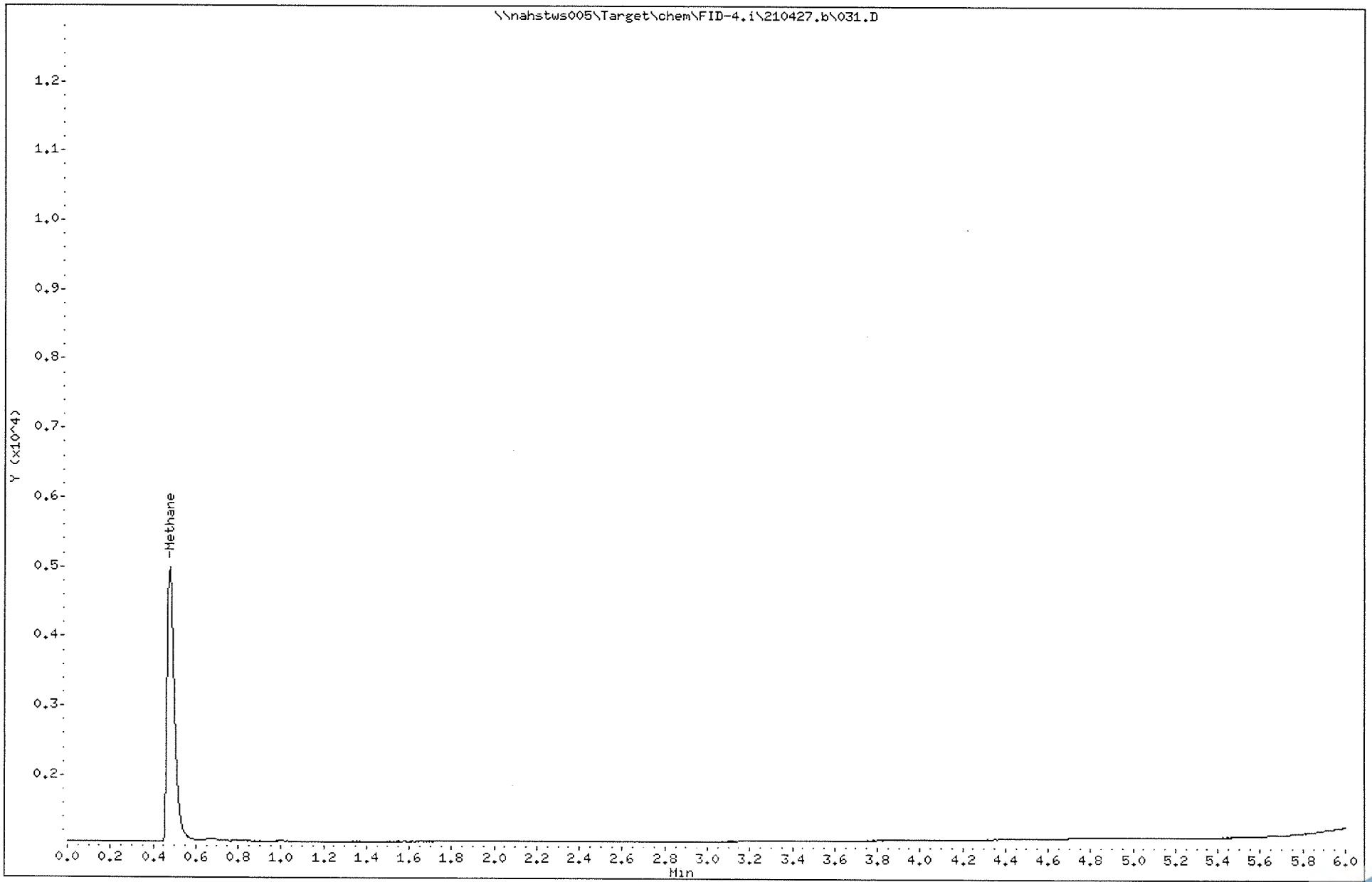
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\031.D
Date : 27-APR-2021 16:22
Client ID: HS21041197-01
Sample Info: HS21041197-01;HS21041197-01

Column phase: Rtx-PLOT

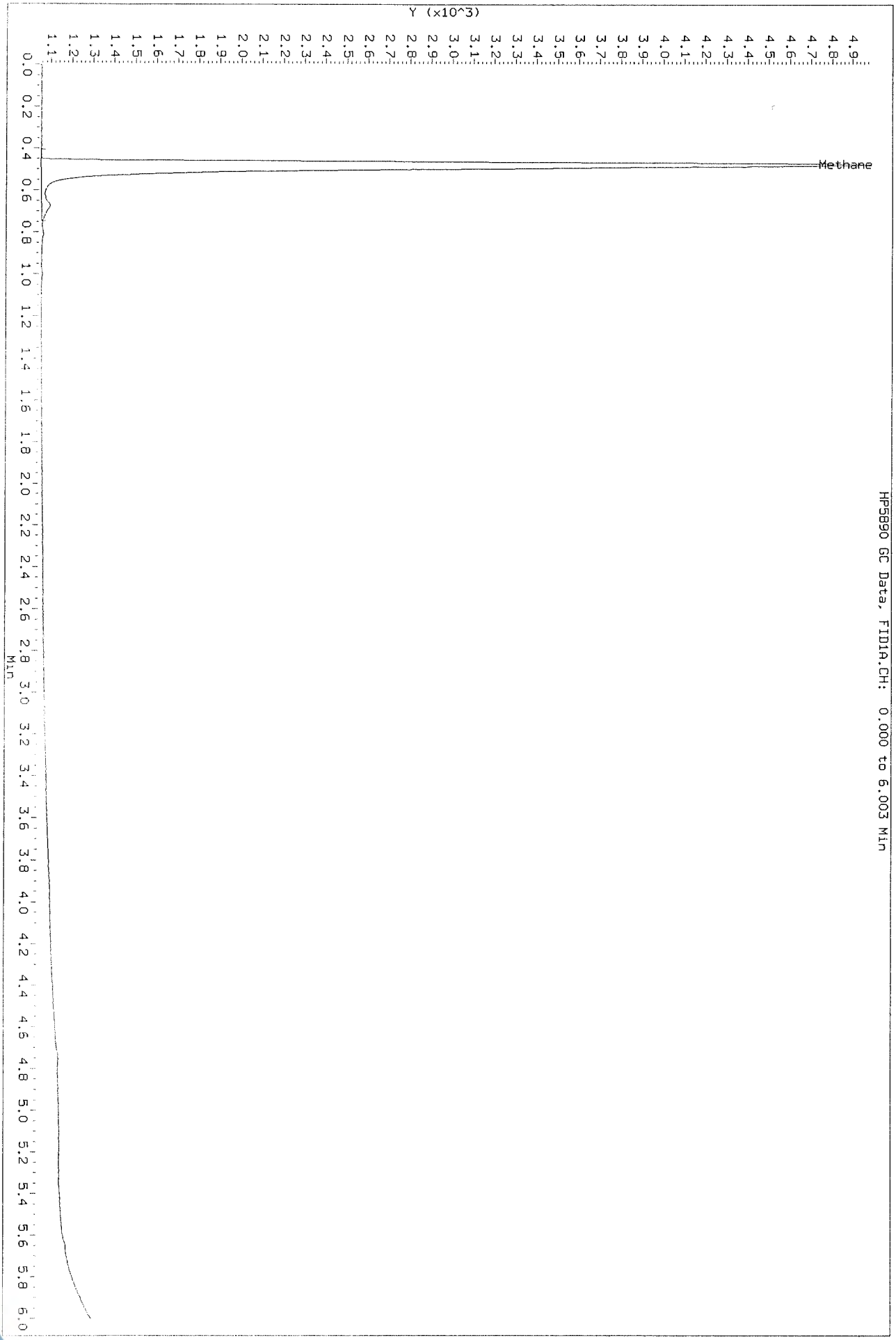
Instrument: FID-4.i

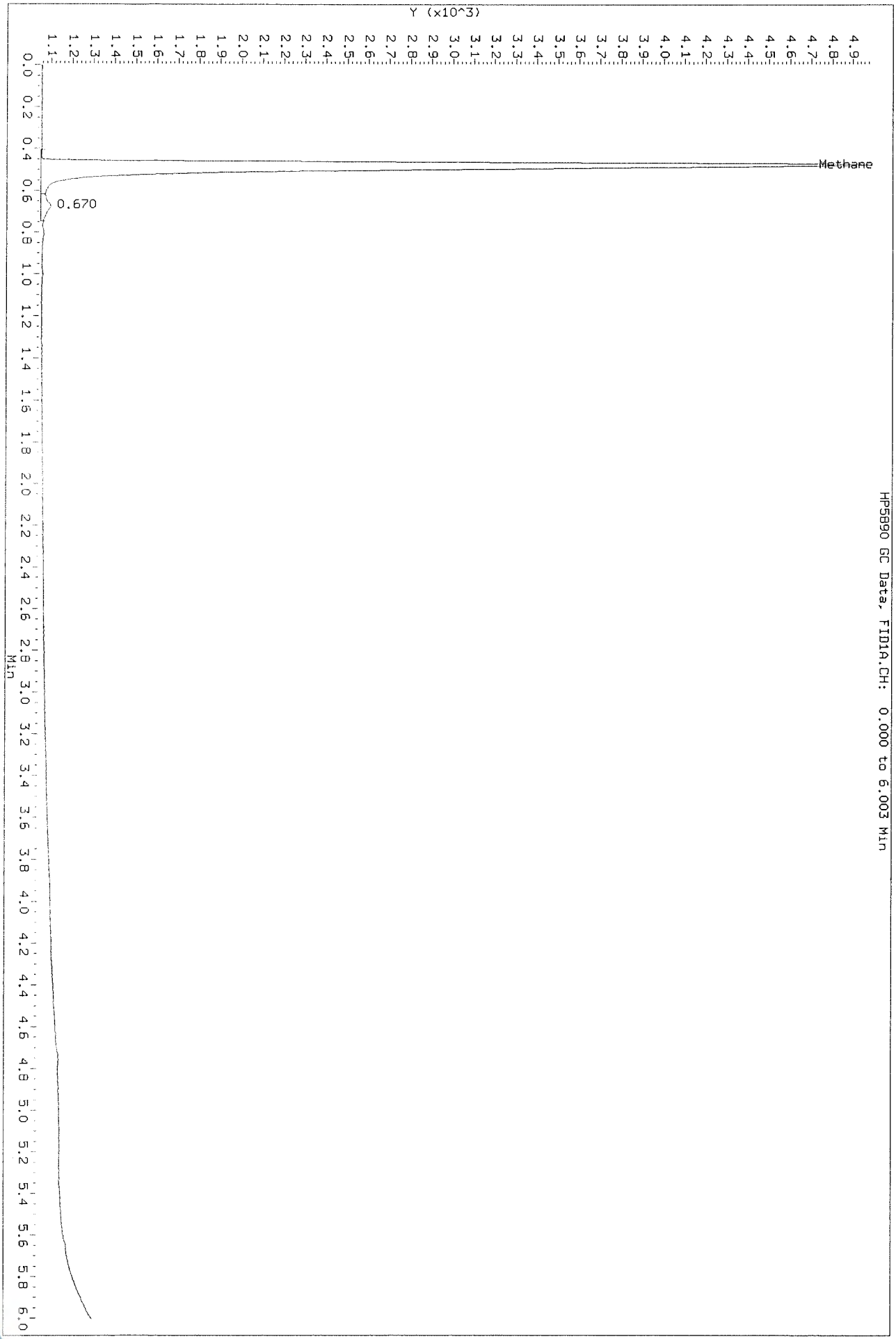
Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\031.D
Injection Date: 27-APR-2021 16:22
Instrument: FID-4.i
Client Sample ID: HS210411197-01

HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\031.D
Injection Date: 27-APR-2021 16:22
Instrument: FID-4.i
Client Sample ID: HS21041197-01
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Methane
0.670
Min

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\033.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 17:02
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:57 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 33 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

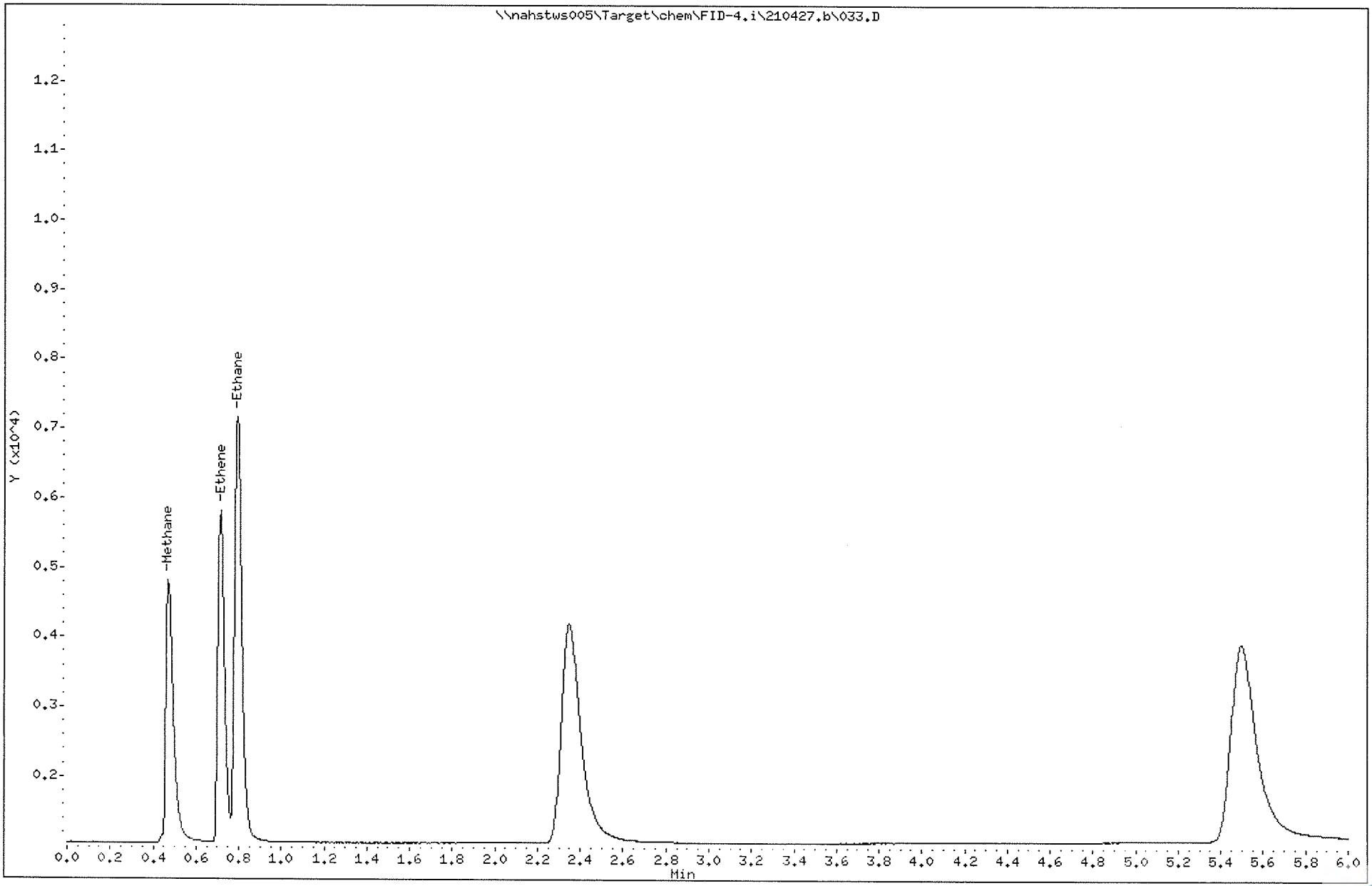
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.470	0.470	0.000	9151	9.64700	9.385
2 Ethene	0.713	0.713	0.000	10040	16.8500	17.140
3 Ethane	0.793	0.793	0.000	14497	18.0430	20.149

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\033.D
Date : 27-APR-2021 17:02
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



HS21041197 Wet Chem Raw Data (TOC_W 9060)

ALS WO# HS21041197

C:\TOC-L\Data\2021_02_25_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result
1	Standard	NPOC	CAL	3150171(01-07)	02_25_2021_CAL.2021_02_	
2	Unknown	NPOC	ICV	315017108	02_25_2021_CAL.cal	NPOC:10.14mg/L
3	Unknown	NPOC	ICB		02_25_2021_CAL.cal	NPOC:-0.1140mg/L
4	Unknown	NPOC	CCV	315017106	02_25_2021_CAL.cal	NPOC:25.02mg/L
5	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:-0.07587mg/L
6	Unknown	NPOC	MBLK-02252021		02_25_2021_CAL.cal	NPOC:-0.1214mg/L
7	Unknown	NPOC	LCS-02252021		02_25_2021_CAL.cal	NPOC:10.15mg/L
8	Unknown	NPOC	LCSD02252021		02_25_2021_CAL.cal	NPOC:10.16mg/L
9	Unknown	NPOC	HS21020689-01		02_25_2021_CAL.cal	NPOC:22.48mg/L
10	Unknown	NPOC	HS21020689-02		02_25_2021_CAL.cal	NPOC:17.34mg/L
11	Unknown	NPOC	HS21020689-02MS		02_25_2021_CAL.cal	NPOC:28.25mg/L
12	Unknown	NPOC	HS21020689-03		02_25_2021_CAL.cal	NPOC:10.22mg/L
13	Unknown	NPOC	HS21020538-01		02_25_2021_CAL.cal	NPOC:20.36mg/L
14	Unknown	NPOC	HS21020538-02		02_25_2021_CAL.cal	NPOC:4.452mg/L
15	Unknown	NPOC	HS21020793-02DF10		02_25_2021_CAL.cal	NPOC:17.50mg/L
16	Unknown	NPOC	CCV		02_25_2021_CAL.cal	NPOC:25.46mg/L
17	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:0.08018mg/L

	Notes	Status	Date / Time	Vial
1		Completed	2/25/2021 1	1, 2, 3, 4, 5,
2		Completed	2/25/2021 1	8
3		Completed	2/25/2021 1	9
4		Completed	2/25/2021 1	10
5		Completed	2/25/2021 1	11
6		Completed	2/25/2021 1	12
7		Completed	2/25/2021 1	13
8		Completed	2/25/2021 1:	14
9		Completed	2/25/2021 1:	15
10		Completed	2/25/2021 1:	16
11		Completed	2/25/2021 1:	17
12		Completed	2/25/2021 2:	18
13		Completed	2/25/2021 2:	19
14		Completed	2/25/2021 2:	20
15		Completed	2/25/2021 2:	21
16		Completed	2/25/2021 3:	22
17		Completed	2/25/2021 3:	23

TOC-Control L Report

2021_02_25_001.tlx

Instr.Information

Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

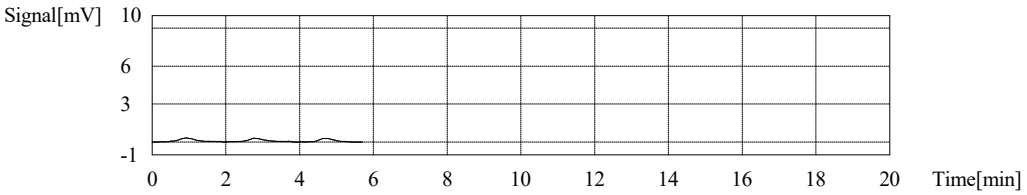
Sample Name:	CAL
Sample ID:	3150171(01-07)
Cal. Curve:	02_25_2021_CAL.2021_02_25_09_13_02.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.7577	50uL	1.000	*******		2/25/2021 9:21:39 AM
2	0.6368	50uL	1.000	*******		2/25/2021 9:23:47 AM
3	0.6500	50uL	1.000	*******		2/25/2021 9:25:55 AM

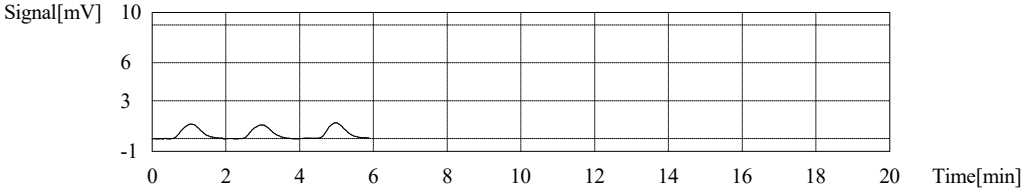
Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	0.6815



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.063	50uL	1.000	*******		2/25/2021 9:34:44 AM
2	3.946	50uL	1.000	*******		2/25/2021 9:37:02 AM
3	3.886	50uL	1.000	*******		2/25/2021 9:39:10 AM

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	3.965

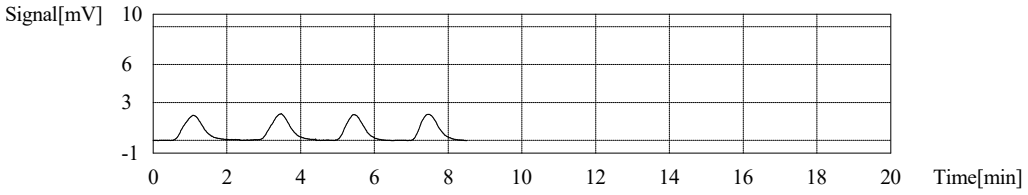


Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.014	50uL	1.000	*******		2/25/2021 9:48:25 AM
2	6.976	50uL	1.000	*******		2/25/2021 9:50:44 AM
3	6.738	50uL	1.000	*******	E	2/25/2021 9:53:02 AM
4	6.989	50uL	1.000	*******		2/25/2021 9:55:18 AM

TOC-Control L Report

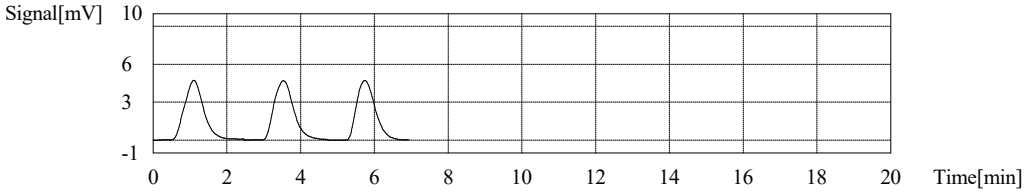
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.70	50uL	1.000	*******		2/25/2021 10:04:35 AM
2	16.99	50uL	1.000	*******		2/25/2021 10:07:06 AM
3	16.40	50uL	1.000	*******		2/25/2021 10:09:32 AM

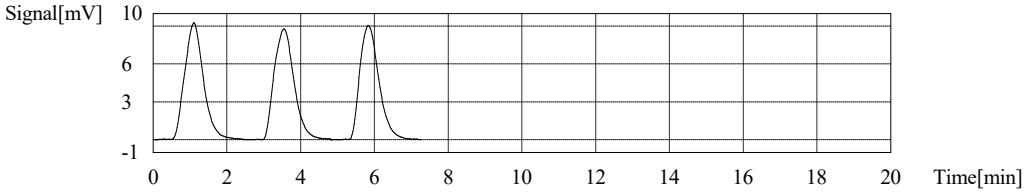
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	32.33	50uL	1.000	*******		2/25/2021 10:18:54 AM
2	32.41	50uL	1.000	*******		2/25/2021 10:21:29 AM
3	32.27	50uL	1.000	*******		2/25/2021 10:24:10 AM

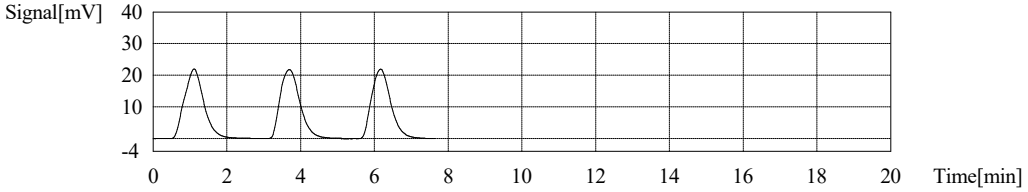
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	79.83	50uL	1.000	*******		2/25/2021 10:33:42 AM
2	80.51	50uL	1.000	*******		2/25/2021 10:36:25 AM
3	79.09	50uL	1.000	*******		2/25/2021 10:39:12 AM

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81



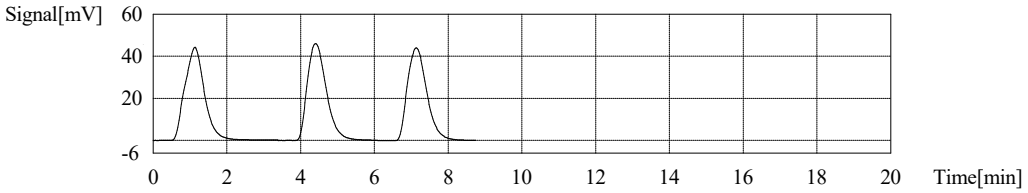
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	162.4	50uL	1.000	*******		2/25/2021 10:49:29 AM
2	163.8	50uL	1.000	*******		2/25/2021 10:52:26 AM
3	159.9	50uL	1.000	*******		2/25/2021 10:55:21 AM

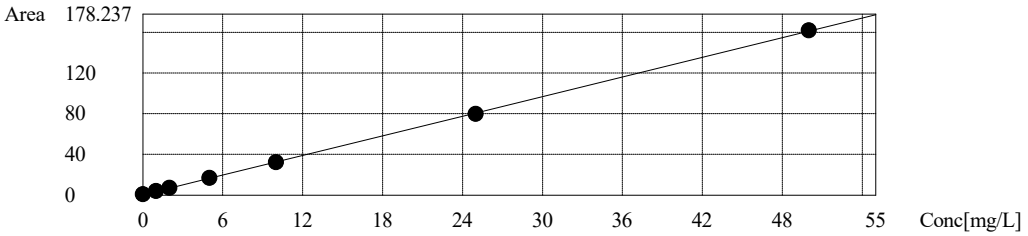
TOC-Control L Report

2021_02_25_001.tlx

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	162.0



Slope:	3.220
Intercept	0.4365
r^2	0.9999
r	1.0000
RSE(%)	N/A
Zero Shift	No



Sample

Sample Name:	ICV
Sample ID:	315017108
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

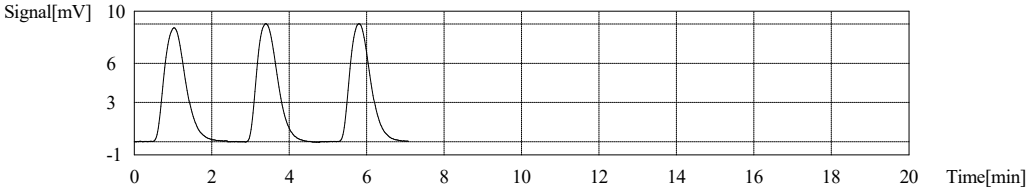
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.14mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.04	10.13mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:32:06 AM
2	33.24	10.19mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:34:44 AM
3	32.98	10.11mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:37:17 AM

Mean Area	33.09
Mean Conc.	10.14mg/L



Sample

Sample Name:	ICB
Sample ID:	
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1140mg/L

1. Det

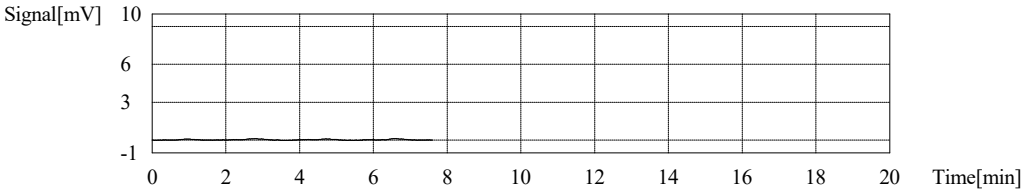
TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:46:05 AM
2	0.2080	-0.07096mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:48:13 AM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:50:20 AM
4	0.2102	-0.07028mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:52:27 AM

Mean Area 0.06933
Mean Conc. -0.1140mg/L



C:\TOC-L\Data\2021_05_03_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result	Notes	Status
1	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.12mg/L		Completed
2	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02147mg/L		Completed
3	Unknown	NPOC	MBLK-05032021		02_25_2021	NPOC:-0.1356mg/L		Completed
4	Unknown	NPOC	LCS-05032021		02_25_2021	NPOC:10.38mg/L		Completed
5	Unknown	NPOC	LCSD-05032021	TOC_W 531	02_25_2021	NPOC:10.36mg/L		Completed
6	Unknown	NPOC	HS21041102-10DF100		02_25_2021	NPOC:28.55mg/L		Completed
7	Unknown	NPOC	HS21041482-01		02_25_2021	NPOC:14.11mg/L		Completed
8	Unknown	NPOC	HS21041024-01DF100		02_25_2021	NPOC:8.084mg/L		Completed
9	Unknown	NPOC	HS21041485-01		02_25_2021	NPOC:9.790mg/L		Completed
10	Unknown	NPOC	HS21041493-02		02_25_2021	NPOC:0.7184mg/L		Completed
11	Unknown	NPOC	HS21041169-01		02_25_2021	NPOC:16.78mg/L		Completed
12	Unknown	NPOC	HS21041169-02		02_25_2021	NPOC:12.16mg/L		Completed
13	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.33mg/L		Completed
14	Unknown	NPOC	CCB		02_25_2021	NPOC:0.06393mg/L		Completed
15	Unknown	NPOC	HS21041169-03		02_25_2021	NPOC:784.1mg/L		Completed
16	Unknown	NPOC	HS21041169-03MS		02_25_2021	NPOC:780.7mg/L		Completed
17	Unknown	NPOC	HS21041169-06		02_25_2021	NPOC:10.56mg/L		Completed
18	Unknown	NPOC	HS21041197-01		02_25_2021	NPOC:11.31mg/L		Completed
19	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.48mg/L		Completed
20	Unknown	NPOC	CCB		02_25_2021	NPOC:0.1052mg/L		Completed
21	Unknown	NPOC	MBLK2-05032021		02_25_2021	NPOC:-0.03418mg/L		Completed
22	Unknown	NPOC	LCS2-05032021		02_25_2021	NPOC:10.48mg/L		Completed
23	Unknown	NPOC	LCSD2-05032021	TOC_W 531	02_25_2021	NPOC:10.43mg/L		Completed
24	Unknown	NPOC	HS21041255-05		02_25_2021	NPOC:644.8mg/L		Completed
25	Unknown	NPOC	HS21041255-07		02_25_2021	NPOC:13.16mg/L		Completed
26	Unknown	NPOC	HS21041275-01		02_25_2021	NPOC:15.97mg/L		Completed
27	Unknown	NPOC	HS21041275-02		02_25_2021	NPOC:15.70mg/L		Completed
28	Unknown	NPOC	HS21041275-03		02_25_2021	NPOC:15.54mg/L		Completed
29	Unknown	NPOC	HS21041275-03MS		02_25_2021	NPOC:20.34mg/L		Completed
30	Unknown	NPOC	HS21041275-04		02_25_2021	NPOC:10.22mg/L		Completed
31	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.10mg/L		Completed
32	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02555mg/L		Completed
33	Unknown	NPOC	HS21041275-05		02_25_2021	NPOC:10.23mg/L		Completed
34	Unknown	NPOC	HS21041275-06		02_25_2021	NPOC:9.732mg/L		Completed
35	Unknown	NPOC	HS21041275-07		02_25_2021	NPOC:21.67mg/L		Completed
36	Unknown	NPOC	HS21041275-08		02_25_2021	NPOC:21.26mg/L		Completed
37	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.52mg/L		Completed
38	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.07846mg/L		Completed

	Date / Time	Vial
1	5/3/2021 3:5	1
2	5/3/2021 4:1	2
3	5/3/2021 4:2	3
4	5/3/2021 4:4	4
5	5/3/2021 4:5	5
6	5/3/2021 5:1	6
7	5/3/2021 5:2	7
8	5/3/2021 5:4	8
9	5/3/2021 5:5	9
10	5/3/2021 6:0	10
11	5/3/2021 6:2	11
12	5/3/2021 6:4	12
13	5/3/2021 6:5	13
14	5/3/2021 7:1	14
15	5/3/2021 7:3	15
16	5/3/2021 7:5	16
17	5/3/2021 8:0	17
18	5/3/2021 8:2	18
19	5/3/2021 8:4	1
20	5/3/2021 8:5	2
21	5/3/2021 9:1	3
22	5/3/2021 9:2	4
23	5/3/2021 9:4	5
24	5/3/2021 10:	19
25	5/3/2021 10:	20
26	5/3/2021 10:	21
27	5/3/2021 10:	22
28	5/3/2021 11:	23
29	5/3/2021 11:	24
30	5/3/2021 11:	25
31	5/3/2021 11:	13
32	5/4/2021 12:	14
33	5/4/2021 12:	26
34	5/4/2021 12:	27
35	5/4/2021 12:	28
36	5/4/2021 1:0	29
37	5/4/2021 1:1	1
38	5/4/2021 1:3	2

TOC-Control L Report

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result

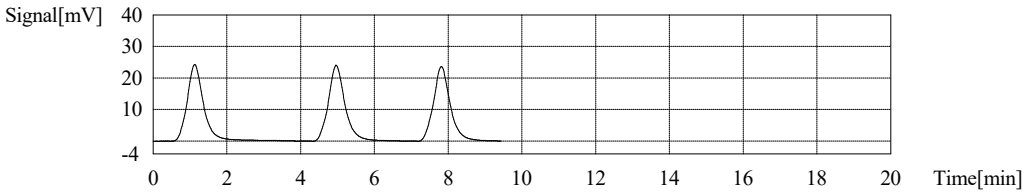
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.12mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	75.54	23.32mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 3:49:28 PM
2	74.81	23.10mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 3:52:34 PM
3	74.31	22.94mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 3:55:36 PM

Mean Area 74.89
Mean Conc. 23.12mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.02147mg/L

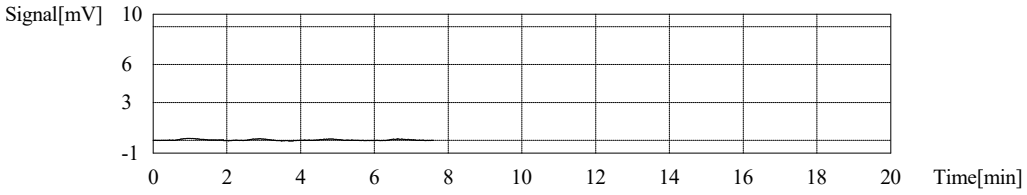
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4322	-0.00134mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:04:23 PM
2	0.3624	-0.02301mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:06:32 PM
3	0.1674	-0.08357mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:08:40 PM
4	0.3075	-0.04006mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:10:48 PM

TOC-Control L Report

Mean Area 0.3674
Mean Conc. -0.02147mg/L



Sample

Sample Name: MBLK-05032021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

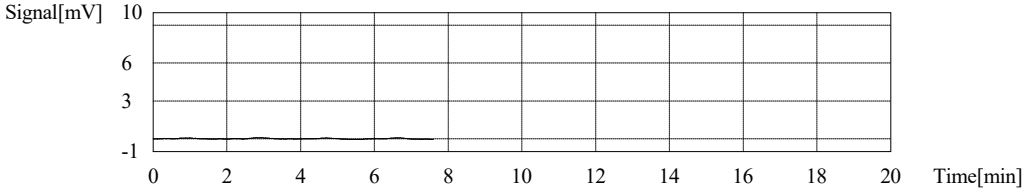
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1356mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:19:31 PM
2	0.1892	-0.07680mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:21:40 PM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:23:48 PM
4	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:25:56 PM

Mean Area 0.000
Mean Conc. -0.1356mg/L



Sample

Sample Name: LCS-05032021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.38mg/L

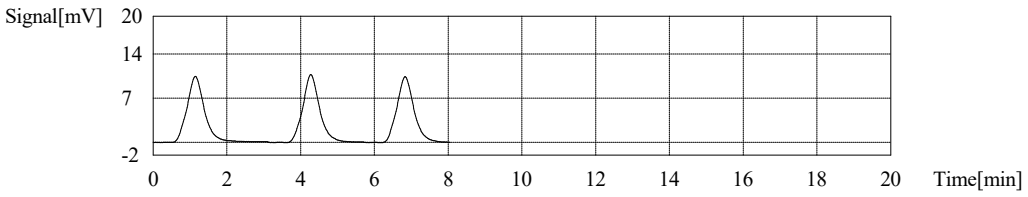
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.11	10.46mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:35:52 PM
2	34.10	10.45mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:38:42 PM
3	33.33	10.22mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:41:19 PM

TOC-Control L Report

Mean Area 33.85
Mean Conc. 10.38mg/L



Sample

Sample Name: LCSD-05032021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

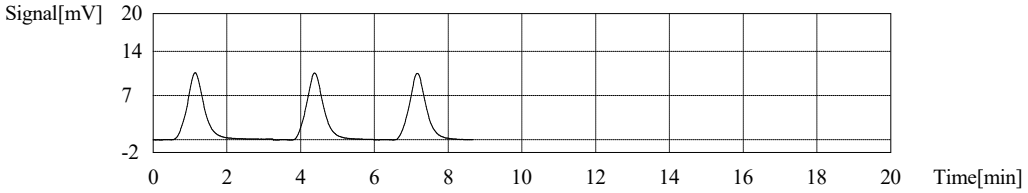
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.36mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.98	10.42mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:51:27 PM
2	34.02	10.43mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:54:28 PM
3	33.41	10.24mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 4:57:22 PM

Mean Area 33.80
Mean Conc. 10.36mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.33mg/L

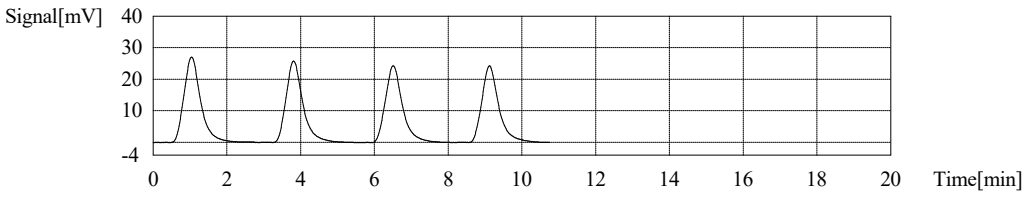
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	84.91	26.23mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:51:09 PM
2	81.29	25.11mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:54:05 PM
3	78.02	24.09mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:56:56 PM
4	77.01	23.78mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 6:59:51 PM

TOC-Control L Report

Mean Area 78.77
Mean Conc. 24.33mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

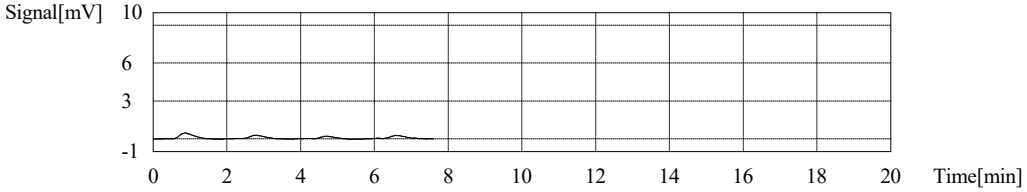
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.06393mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.209	0.2399mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:08:34 PM
2	0.6801	0.07565mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:10:41 PM
3	0.5587	0.03795mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:12:47 PM
4	0.6883	0.07820mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:14:54 PM

Mean Area 0.6424
Mean Conc. 0.06393mg/L



Sample

Sample Name: HS21041169-03
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:784.1mg/L

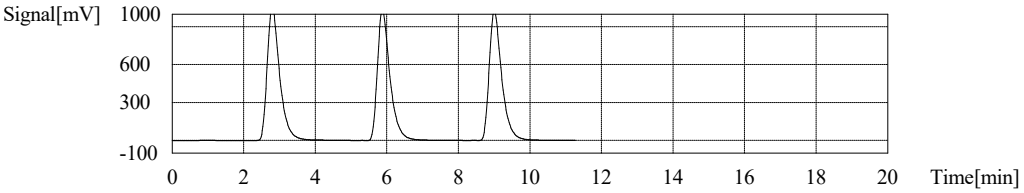
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5053	0.02137mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:23:39 PM
2	2564	796.1mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:26:58 PM
3	2517	781.5mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:30:21 PM
4	2495	774.7mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:33:46 PM

TOC-Control L Report

Mean Area 2525
Mean Conc. 784.1mg/L



Sample

Sample Name: HS21041169-03MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

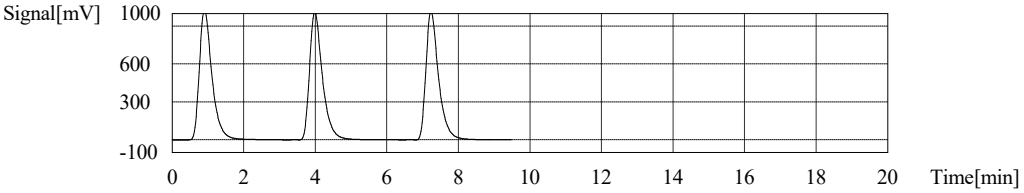
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:780.7mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2514	780.6mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:43:40 PM
2	2532	786.2mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:47:10 PM
3	2497	775.3mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 7:50:35 PM

Mean Area 2514
Mean Conc. 780.7mg/L



Sample

Sample Name: HS21041197-01
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.31mg/L

1. Det

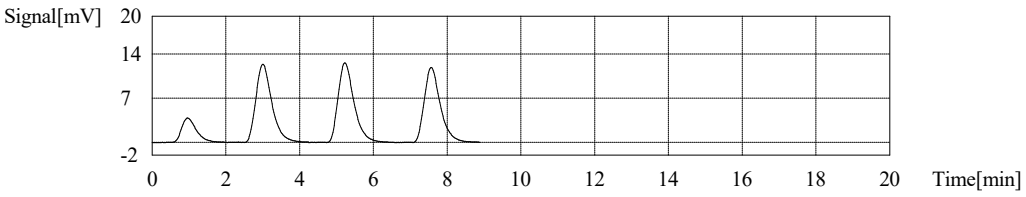
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.64	3.169mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:16:01 PM
2	37.07	11.38mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:18:29 PM
3	37.79	11.60mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:21:04 PM
4	35.71	10.95mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:23:37 PM

TOC-Control L Report

2021_05_03_001.tlx

Mean Area 36.86
Mean Conc. 11.31mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

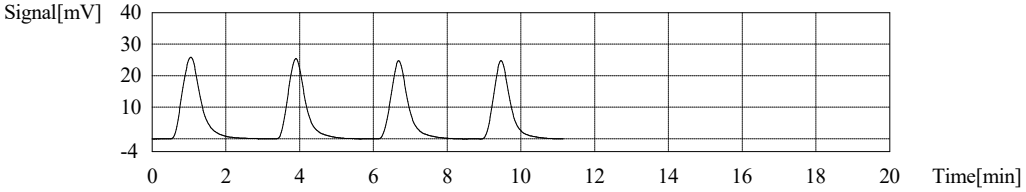
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.48mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	89.07	27.53mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:33:24 PM
2	81.98	25.32mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:36:25 PM
3	79.13	24.44mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:39:27 PM
4	76.72	23.69mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:42:25 PM

Mean Area 79.28
Mean Conc. 24.48mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1052mg/L

1. Det

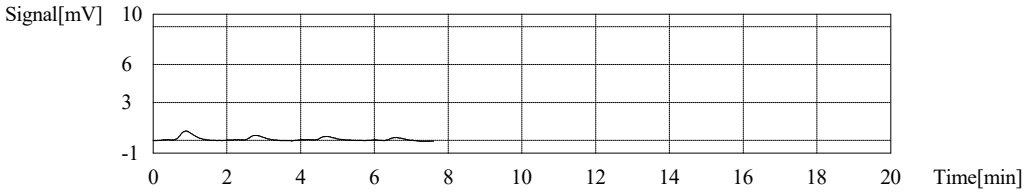
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.843	0.4368mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:51:08 PM
2	0.9525	0.1602mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:53:16 PM
3	0.7192	0.08779mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:55:24 PM
4	0.6536	0.06742mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:57:32 PM

TOC-Control L Report

2021_05_03_001.tlx

Mean Area	0.7751
Mean Conc.	0.1052mg/L



HS21041197 - Sub Perch Level IV (E2100470)

ALS WO# HS21041197

May 07, 2021 Service Request No:E2100470

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

Laboratory Results for: HS21041197

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 26, 2021
For your reference, these analyses have been assigned our service request number **E2100470.**

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.:**	E2100470
Project:	HS21041197	**Date Received:**	04/26/21
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 was received for analysis at ALS Environmental in Houston on 04/26/21.

The samples were received in good condition and is 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:

EQ2100263: 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:**E2100470
Project: HS21041197

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100470-001	16WW40-210421	4/21/2021	1140
E2100470-002	16WW12-210421	4/21/2021	1225

Service Request Summary

Folder #: **E2100470**
Client Name: ALS Environmental - US
Project Name: HS21041197
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: 04/26/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041197
EDD: No EDD Specified

2 125 mL-Plastic Bottle HDPE NM CLEAR Unpreserved
Location: EHRMS-WIC 4C
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100470-001	16WW40-210421	Ground Water	04/21/21 1140	**IV**
E2100470-002	16WW12-210421	Ground Water	04/21/21 1225	**IV**

Service Request Summary

Folder #: **E2100470**
Client Name: ALS Environmental - US
Project Name: HS21041197
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: 04/26/21
Internal Due Date: 5/6/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041197
EDD: No EDD Specified

2 125 mL-Plastic Bottle HDPE NM CLEAR Unpreserved
Location: EHRMS-WIC 4C
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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration 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	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
United States Department of Agriculture	P330-19-00299	10/10/2022

Chain of Custody

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

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **15975**

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:	HS21041197
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041197-01**	**16WW40-210421**	**Groundwater**	**21 Apr 2021 11:40**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021
2.	**HS21041197-02**	**16WW12-210421**	**Groundwater**	**21 Apr 2021 12:25**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			06 May 2021

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: CORE + L Date/Time: 4/26/21 0800

Cooler ID(s): _____ Temperature(s): _____

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental

Cooler Receipt Form

Project Chemist CK

Client/Project AES-H

Thermometer ID IR-1

Date/Time Received: 9/28/21 Initials: CK

Date/Time Logged in: 9/28/21 Initials CK

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?
N/A		9/28/21	0800	CK	0.6	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◉ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◉ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◉ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ◉ Yes ○ No

10. Did sample labels and tags agree with custody documents? ◉ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

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Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
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SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Preparation Information Benchsheet

Prep Run#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100469-001	16WW27-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100469-002	16WW43-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100469-003	16WW23-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2100469-004	16WW24-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2100469-005	16IW09-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2100469-006	16WW49-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2100469-007	16WW48-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2100469-008	16EW06-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2100470-001	16WW40-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2100470-002	16WW12-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100492-001	HBW7_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
12	E2100492-002	HBW10_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
13	E2100492-003	HBW10_042721_a	.01	6850/ClO4 DOD			Surface Water	10mL	
14	E2100492-004	HBW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
15	E2100492-005	GPW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
16	E2100492-006	GPW3_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
17	E2100493-001	LH18/24-SP650_042721_BIX	.01	6850/ClO4 DOD			Surface Water	10mL	
18	EQ2100263-01	MB		6850/ClO4 DOD			Liquid	10mL	
19	EQ2100263-02	LCS		6850/ClO4 DOD			Liquid	10mL	
20	EQ2100263-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100263-02 1.00µL EQ2100263-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100469-001	100.00µL	E2100469-002	100.00µL	E2100469-003	100.00µL	E2100469-004	100.00µL	E2100469-005	100.00µL	E2100469-006	100.00µL
E2100469-007	100.00µL	E2100469-008	100.00µL	E2100470-001	100.00µL	E2100470-002	100.00µL	E2100492-001	100.00µL	E2100492-002	100.00µL
E2100492-003	100.00µL	E2100492-004	100.00µL	E2100492-005	100.00µL	E2100492-006	100.00µL	E2100493-001	100.00µL	EQ2100263-01	100.00µL
EQ2100263-02	100.00µL	EQ2100263-03	100.00µL								

Preparation Information Benchsheet

Prep Run#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

Preparation Steps

Step: Preparation
Started: 4/30/21 12:06
Finished: 4/30/21 14:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Collected:**	4/21/21 1140
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW40-210421	**Units:**	µg/L
Lab Code:	E2100470-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.880**		0.200	0.100	0.0500	2	4/30/21	5/3/21 10:41	378427	722497	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Collected:**	4/21/21 1225
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW12-210421	**Units:**	µg/L
Lab Code:	E2100470-002	**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	**42.1**		0.200	0.100	0.0500	2	4/30/21	5/3/21 10:51	378427	722497	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100263-01	**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	4/30/21	5/1/21 16:22	378427	722220	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197
Sample Matrix: Ground Water

Service Request: E2100470
Date Analyzed: 5/ 1/21

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: 378427

	Lab Control Sample EQ2100263-02			Duplicate Lab Control Sample EQ2100263-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0981	0.100	98	0.112	0.100	112	84 - 119	13	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:**	E2100470
Project:	HS21041197	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-02	**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	**0.0981**	J	0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:31	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-03	**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	**0.112**		0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:40	378427	722220	

Initial Calibration

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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20210428

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20210428_044	Perchlorate6850b.lcm	1x	☒	3100808-05	4/28/2021 18:16
2	PERCHLORATE2		20210428_045	Perchlorate6850b.lcm	1x	☒	3100808-06	4/28/2021 18:25
3	PERCHLORATE3		20210428_046	Perchlorate6850b.lcm	1x	☒	3100808-07	4/28/2021 18:34
4	PERCHLORATE4		20210428_047	Perchlorate6850b.lcm	1x	☒	3100808-08	4/28/2021 18:44
5	PERCHLORATE5		20210428_048	Perchlorate6850b.lcm	1x	☒	3100808-09	4/28/2021 18:53
6	PERCHLORATE6		20210428_049	Perchlorate6850b.lcm	1x	☒	3100809-01	4/28/2021 19:03
7	PERCHLORATE7		20210428_050	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 19:12
8	PERCHLORATE8		20210428_051	Perchlorate6850b.lcm	1x	☒	3100809-03	4/28/2021 19:22
9	PERCHLORATE9		20210428_052	Perchlorate6850b.lcm	1x	☒	3100809-04	4/28/2021 19:31
10	PERCHLORATEICV		20210428_054	Perchlorate6850b.lcm	1x	☒	3100809-06	4/28/2021 19:50
11	ICS		20210428_055	Perchlorate6850b.lcm	1x	☒		4/28/2021 19:59
12	LODV		20210428_056	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:08
13	PERCHLORATE7		20210428_057	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 20:18
14	EQ2100244-01		20210428_058	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:27
15	EQ2100244-02		20210428_059	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:37
16	EQ2100244-03		20210428_060	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:46
17	E2100412-016X10		20210428_061	Perchlorate6850b.lcm	10X	☒		4/28/2021 20:55
18	E2100412-017X10		20210428_062	Perchlorate6850b.lcm	10X	☒		4/28/2021 21:05
19	E2100412-011X10DNU		20210428_063	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:14
20	E2100412-012X10DNU		20210428_064	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:24
21	E2100412-013X10DNU		20210428_065	Perchlorate6850b.lcm	10X	☒	Over ICAL: Run 50X	4/28/2021 21:33
22	E2100412-014X10DNU		20210428_066	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:42
23	E2100412-015X10DNU		20210428_067	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:52
24	PERCHLORATE7		20210428_068	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:01
25	E2100411-001		20210428_069	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:10
26	E2100412-003X10		20210428_070	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:20
27	E2100412-010X10		20210428_071	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:29
28	R2103214-010		20210428_072	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:38
29	PERCHLORATE7		20210428_073	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:48
30	E2100485-002X10		20210428_074	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:57
31	E2100485-003X10		20210428_075	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:07
32	E2100485-007X10		20210428_076	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:16
33	E2100485-010X10		20210428_077	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:25
34	EQ2100244-04X10DNU		20210428_078	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:35
35	EQ2100244-05X10DNU		20210428_079	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:44
36	PERCHLORATE7		20210428_080	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 23:54
37	E2100485-001		20210428_081	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:03
38	E2100485-004		20210428_082	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:12
39	E2100485-005		20210428_083	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:22
40	E2100485-006DNU		20210428_084	Perchlorate6850b.lcm	1x	☒	DNU: INST failed	4/29/2021 0:31
41	PERCHLORATE7		20210428_085	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 0:40
42	E2100485-008		20210428_086	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:50
43	E2100485-009		20210428_087	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:59
44	E2100485-011		20210428_088	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:09
45	E2100485-012DNU		20210428_089	Perchlorate6850b.lcm	1x	☒	DNU-low INST	4/29/2021 1:18
46	E2100485-013		20210428_090	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:27
47	EQ2100244-04		20210428_091	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:37
48	EQ2100244-05		20210428_092	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:46
49	PERCHLORATE7		20210428_093	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 1:56
50								
51								

Initial Calibration - Detailed Report

Calibration ID: EC2100026 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2100026-01	PERCHLORATE1	20210428_044	04/28/2021 18:16
02	EC2100026-02	PERCHLORATE2	20210428_045	04/28/2021 18:25
03	EC2100026-03	PERCHLORATE3	20210428_046	04/28/2021 18:34
04	EC2100026-04	PERCHLORATE4	20210428_047	04/28/2021 18:44
05	EC2100026-05	PERCHLORATE5	20210428_048	04/28/2021 18:53
06	EC2100026-06	PERCHLORATE6	20210428_049	04/28/2021 19:03
07	EC2100026-07	PERCHLORATE7	20210428_050	04/28/2021 19:12
08	EC2100026-08	PERCHLORATE8	20210428_051	04/28/2021 19:22
10	EC2100026-10	PERCHLORATE9	20210428_052	04/28/2021 19:31

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

Perchlorate **Average RF** **RSD = 13.94** **Average RF = 0.1168**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1516	02	0.5000	0.1269	03	0.7000	0.1246	04	1.0000	0.1032
05	2.0000	0.1172	06	5.0000	0.1124	07	10.0000	0.1144	08	20.0000	0.09843
10	30.0000	0.1026									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.130	29.8	02	0.5000	0.543	8.6	03	0.7000	0.746	6.6
04	1.0000	0.883	-11.7	05	2.0000	2.01	0.3	06	5.0000	4.81	-3.8
07	10.0000	9.79	-2.1	08	20.0000	16.9	-15.7	10	30.0000	26.4	-12.1

Initial Calibration Verification Summary Report

Calibration ID:	EC2100026	**Instrument ID:**	E-LCMS-01
Datafile ID:	20210428_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2100026-09	T	Average RF	10	9.455	ng/mL	-5.4	<= 15

Insight Report

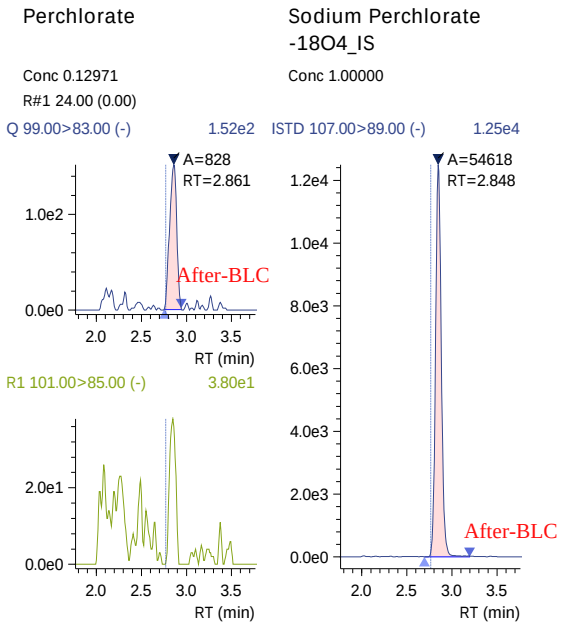
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Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.861	828	54618	1	0.12971	ng/mL	0.1000	24.00
Sodium Perchlorate-18O4 _IS	M	2.848	54618	54618	1	1.00000	ng/mL	1.0000	----



Insight Report

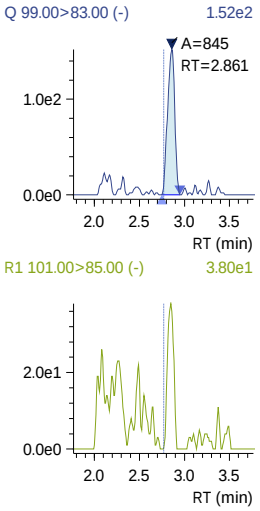
Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

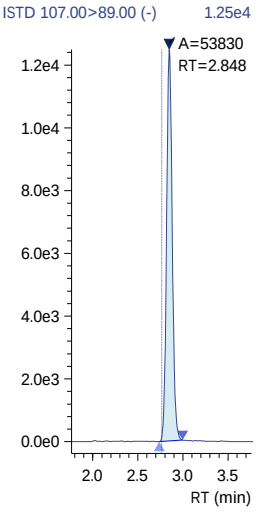
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



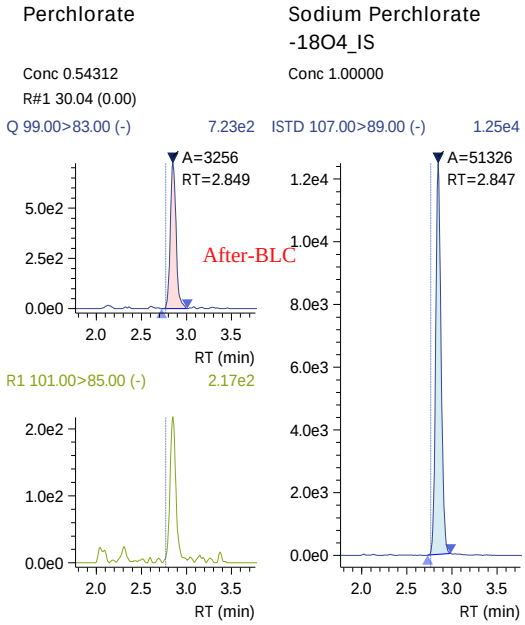
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	3256	51326	1	0.54312	ng/mL	0.5000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.847	51326	51326	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

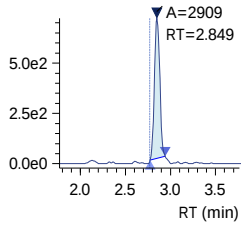
20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

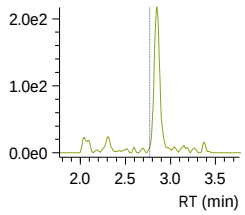
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



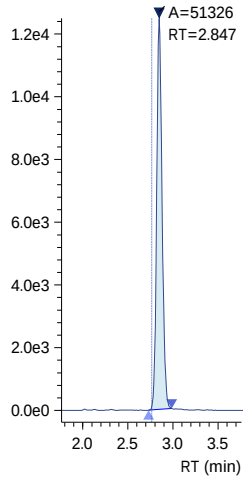
R1 101.00>85.00 (-) 2.17e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



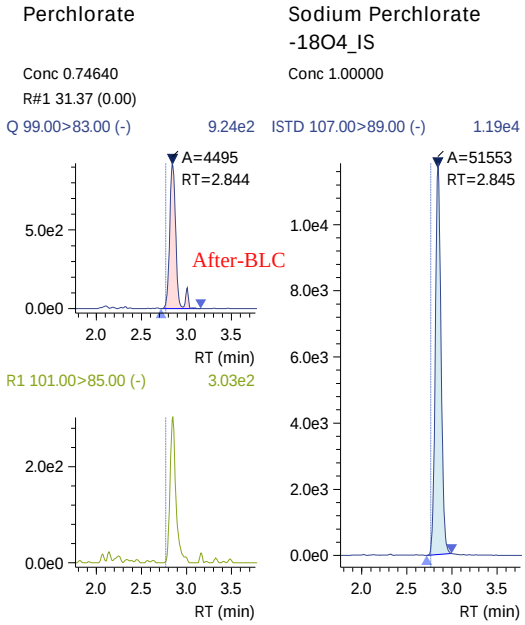
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.844	4495	51553	1	0.74640	ng/mL	0.7000	31.37
Sodium Perchlorate-18O4 _IS	Auto	2.845	51553	51553	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

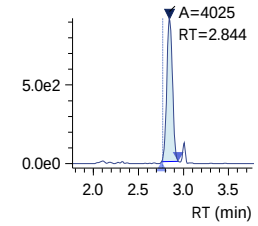
20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

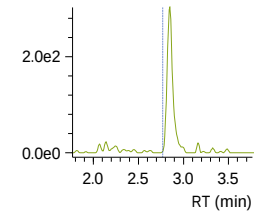
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



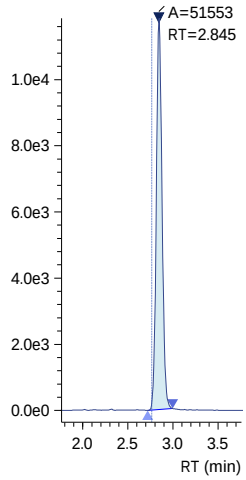
R1 101.00>85.00 (-) 3.03e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



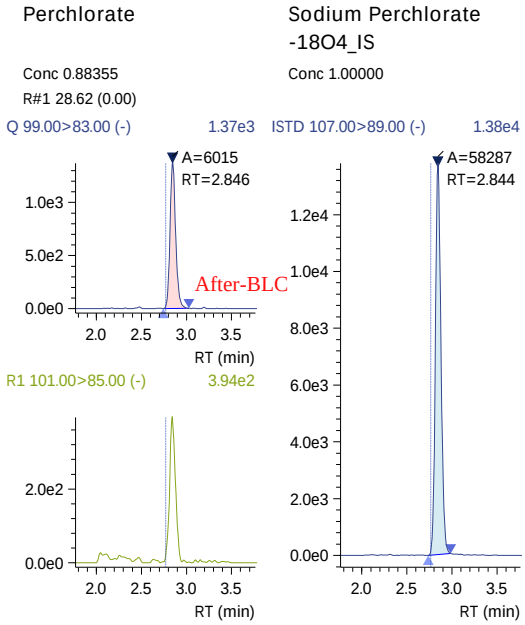
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.846	6015	58287	1	0.88355	ng/mL	1.0000	28.62
Sodium Perchlorate-18O4 _IS	Auto	2.844	58287	58287	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

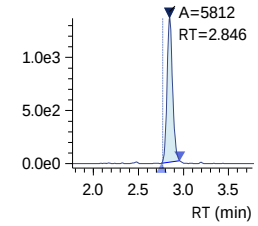
20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

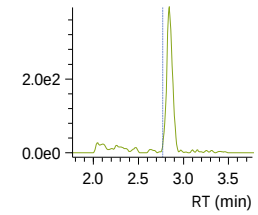
Perchlorate

Conc 0.86245
R#1 28.86 (0.00)

Q 99.00>83.00 (-) 1.37e3



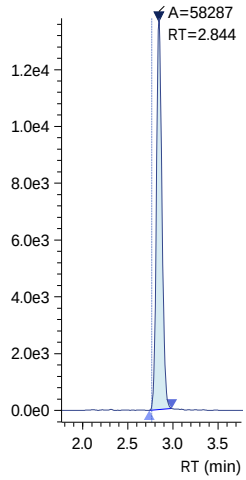
R1 101.00>85.00 (-) 3.94e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.38e4



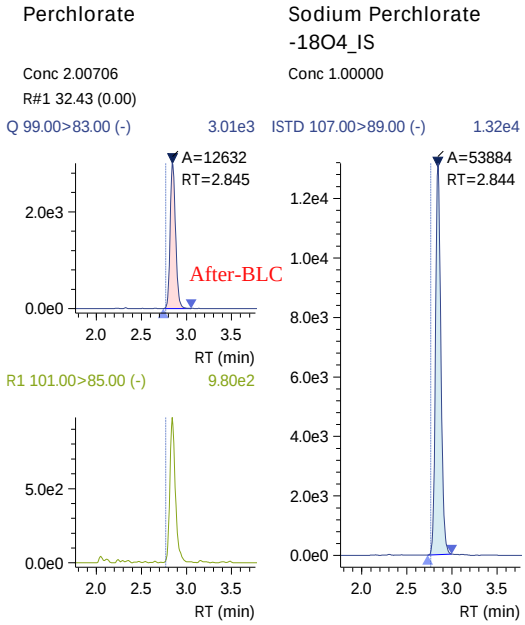
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	12632	53884	1	2.00706	ng/mL	2.0000	32.43
Sodium Perchlorate-18O4 _IS	Auto	2.844	53884	53884	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

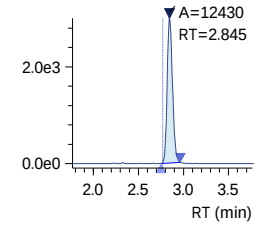
20210428_048

Sample ID: PERCHLORATE5
Date Acquired: 4/28/2021 6:53:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_048.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 1

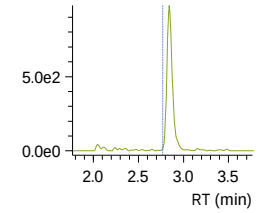
Perchlorate

Conc 1.99532
R#1 32.28 (0.00)

Q 99.00>83.00 (-) 3.01e3



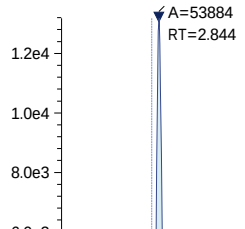
R1 101.00>85.00 (-) 9.80e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.32e4



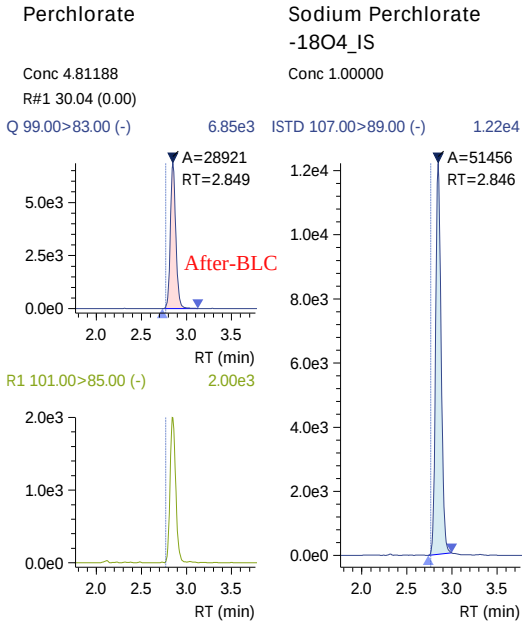
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	28921	51456	1	4.81188	ng/mL	5.0000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.846	51456	51456	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

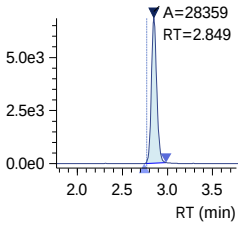
20210428_049

Sample ID: PERCHLORATE6
Date Acquired: 4/28/2021 7:03:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_049.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 1

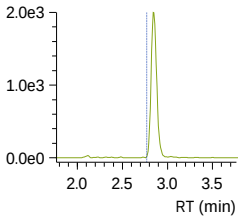
Perchlorate

Conc 4.76710
R#1 30.13 (0.00)

Q 99.00>83.00 (-) 6.85e3



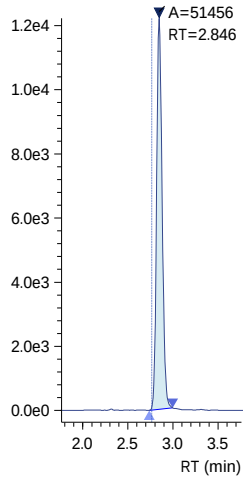
R1 101.00>85.00 (-) 2.00e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

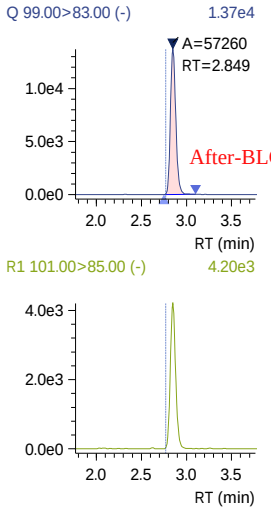
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	57260	50051	1	9.79458	ng/mL	10.0000	30.74
Sodium Perchlorate-18O4 _IS	Auto	2.848	50051	50051	1	1.00000	ng/mL	1.0000	----

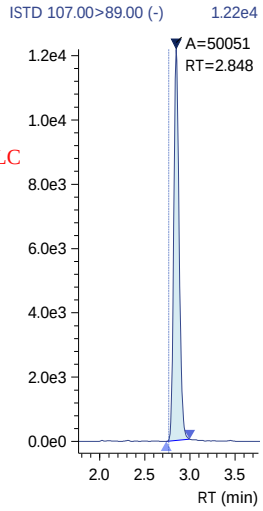
Perchlorate

Conc 9.79458
R#1 30.74 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

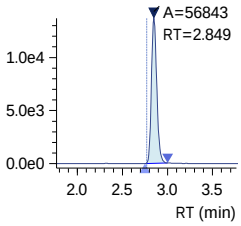
20210428_050

Sample ID: PERCHLORATE7
Date Acquired: 4/28/2021 7:12:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_050.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

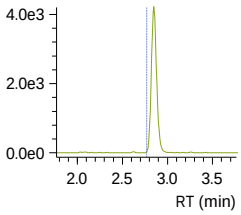
Perchlorate

Conc 9.82335
R#1 30.77 (0.00)

Q 99.00>83.00 (-) 1.37e4



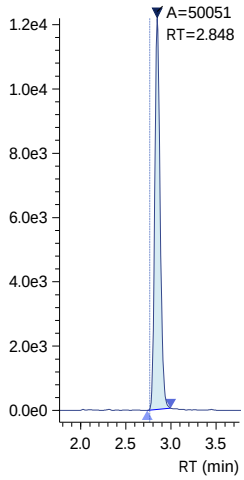
R1 101.00>85.00 (-) 4.20e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

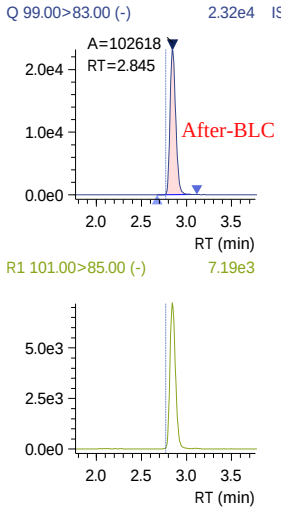
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.845	102618	52128	1	16.85388	ng/mL	20.0000	30.96
Sodium Perchlorate-18O4_IS	Auto	2.844	52128	52128	1	1.00000	ng/mL	1.0000	----

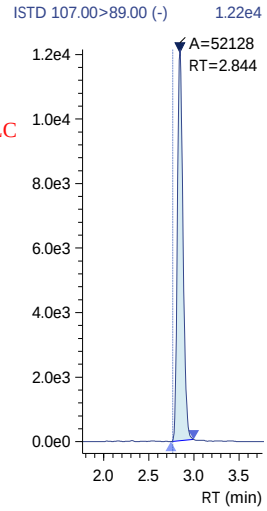
Perchlorate

Conc 16.85388
R#1 30.96 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

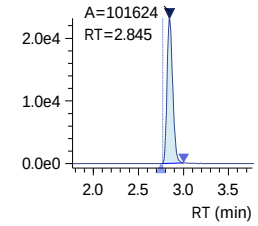
20210428_051

Sample ID: PERCHLORATE8
Date Acquired: 4/28/2021 7:22:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_051.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 1

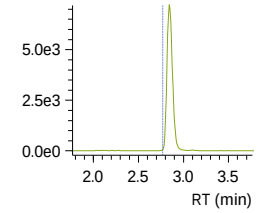
Perchlorate

Conc 16.86268
R#1 30.97 (0.00)

Q 99.00>83.00 (-) 2.32e4



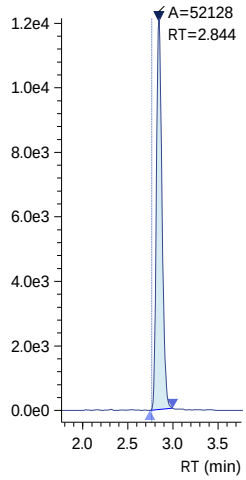
R1 101.00>85.00 (-) 7.19e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.22e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

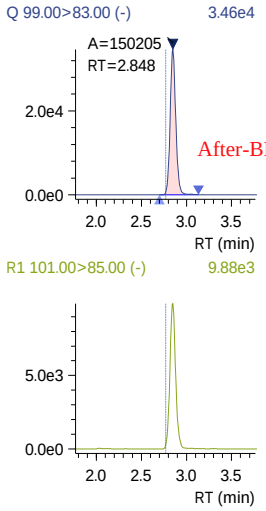
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.848	150205	48780	1	26.36258	ng/mL	30.0000	29.04
Sodium Perchlorate-18O4_IS	Auto	2.846	48780	48780	1	1.00000	ng/mL	1.0000	----

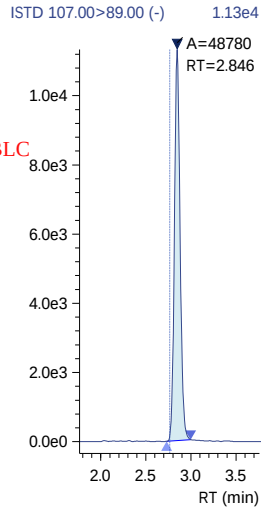
Perchlorate

Conc 26.36258
R#1 29.04 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

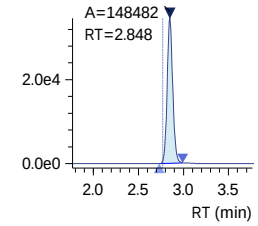
20210428_052

Sample ID: PERCHLORATE9
Date Acquired: 4/28/2021 7:31:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_052.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 1

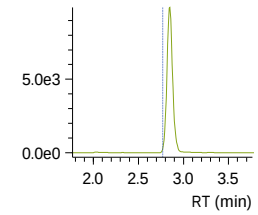
Perchlorate

Conc 26.32873
R#1 29.04 (0.00)

Q 99.00>83.00 (-) 3.46e4



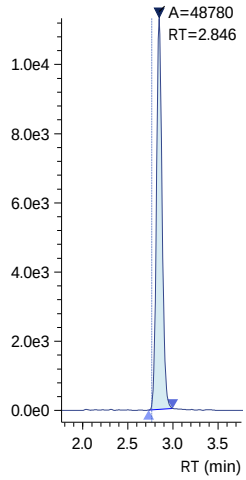
R1 101.00>85.00 (-) 9.88e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.13e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

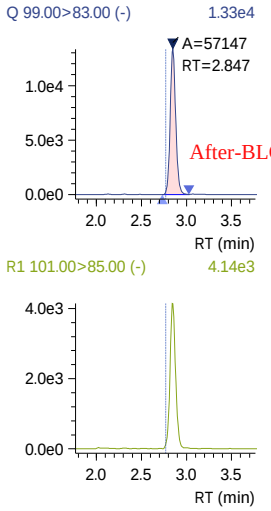
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.847	57147	51740	1	9.45615	ng/mL	10.0000	31.56
Sodium Perchlorate-18O4 _IS	Auto	2.847	51740	51740	1	1.00000	ng/mL	1.0000	----

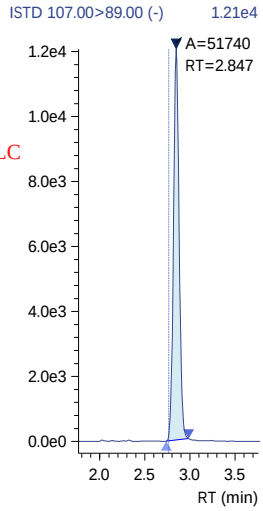
Perchlorate

Conc 9.45615
R#1 31.56 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 4/29/2021 1:28:28 PM

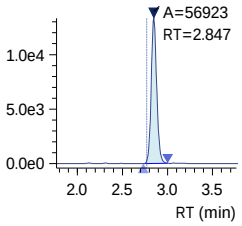
20210428_054

Sample ID: PERCHLORATEICV
Date Acquired: 4/28/2021 7:50:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_054.lcd
Vial: 31 | Inj. Volume: 25.0000uL | Tray: 1

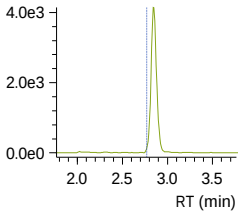
Perchlorate

Conc 9.51618
R#1 31.56 (0.00)

Q 99.00>83.00 (-) 1.33e4



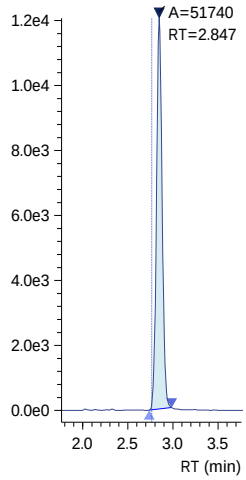
R1 101.00>85.00 (-) 4.14e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.21e4



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

20210501

1st Review: Grivera
2nd Review: Kneir

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210501_001	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:07
2	null		20210501_002	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:13
3	IB		20210501_003	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:19
4	IB		20210501_004	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:29
5	ICS		20210501_005	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:38
6	LODV		20210501_006	Perchlorate6850b.lcm	1x	☒		5/1/2021 12:48
7	PERCHLORATE7		20210501_007	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 13:04
8	E2100459-001X5		20210501_008	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:14
9	E2100459-002X5		20210501_009	Perchlorate6850b.lcm	5x	☒		5/1/2021 13:23
10	E2100459-007X10		20210501_010	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:32
11	E2100459-008X2		20210501_011	Perchlorate6850b.lcm	2x	☒		5/1/2021 13:42
12	E2100459-010X10		20210501_012	Perchlorate6850b.lcm	10x	☒		5/1/2021 13:51
13	PERCHLORATE7		20210501_013	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 14:01
14	EQ2100262-04X5		20210501_014	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:10
15	EQ2100262-05X5		20210501_015	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:19
16	E2100460-006X2		20210501_016	Perchlorate6850b.lcm	2x	☒		5/1/2021 14:29
17	E2100460-007X2DNU		20210501_017	Perchlorate6850b.lcm	2x	☒	DNU:INST failed	5/1/2021 14:38
18	E2100461-001X5		20210501_018	Perchlorate6850b.lcm	5x	☒	3100809-02	5/1/2021 14:48
19	E2100461-002X5		20210501_019	Perchlorate6850b.lcm	5x	☒		5/1/2021 14:57
20	E2100461-003X5		20210501_020	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:06
21	E2100461-004X5		20210501_021	Perchlorate6850b.lcm	5x	☒		5/1/2021 15:16
22	E2100464-001X2		20210501_022	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:25
23	E2100464-003X2		20210501_023	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:35
24	PERCHLORATE7		20210501_024	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 15:44
25	E2100464-004X2		20210501_025	Perchlorate6850b.lcm	2x	☒		5/1/2021 15:53
26	E2100464-005X2		20210501_026	Perchlorate6850b.lcm	2x	☒		5/1/2021 16:03
27	PERCHLORATE7		20210501_027	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 16:12
28	EQ2100263-01		20210501_028	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:22
29	EQ2100263-02		20210501_029	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:31
30	EQ2100263-03		20210501_030	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:40
31	E2100469-001		20210501_031	Perchlorate6850b.lcm	1x	☒		5/1/2021 16:50
32	E2100469-002DNU		20210501_032	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 16:59
33	E2100469-003		20210501_033	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:09
34	E2100469-004		20210501_034	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:18
35	E2100469-005		20210501_035	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:27
36	E2100469-006		20210501_036	Perchlorate6850b.lcm	1x	☒		5/1/2021 17:37
37	E2100469-007DNU		20210501_037	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 17:46
38	PERCHLORATE7		20210501_038	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 17:56
39	E2100470-001DNU		20210501_039	Perchlorate6850b.lcm	1x	☒	DNU:INST failed	5/1/2021 18:05
40	E2100470-002DNU		20210501_040	Perchlorate6850b.lcm	1x	☒	DNU-Over ICAL range	5/1/2021 18:14
41	E2100492-001-DNU		20210501_041	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:24
42	E2100492-002-DNU		20210501_042	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:33
43	E2100492-003-DNU		20210501_043	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:43
44	E2100492-004-DNU		20210501_044	Perchlorate6850b.lcm	1x	☒		5/1/2021 18:52
45	E2100492-005-DNU		20210501_045	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:01
46	E2100492-006-DNU		20210501_046	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:11
47	E2100493-001-DNU		20210501_047	Perchlorate6850b.lcm	1x	☒		5/1/2021 19:20
48	PERCHLORATE7		20210501_048	Perchlorate6850b.lcm	1x	☒	3100809-02	5/1/2021 19:30
49								

20210503

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20210503_001	Perchlorate6850b.lcm	1x	☒		5/3/2021 9:13
2	null		20210503_002	Perchlorate6850b.lcm	1x	☒		5/3/2021 9:20
3	IB		20210503_003	Perchlorate6850b.lcm	1x	☒		5/3/2021 9:26
4	IB		20210503_004	Perchlorate6850b.lcm	1x	☒		5/3/2021 9:36
5	ICS		20210503_005	Perchlorate6850b.lcm	1x	☒		5/3/2021 9:45
6	LODV		20210503_006	Perchlorate6850b.lcm	1x	☒		5/3/2021 9:54
7	PERCHLORATE7		20210503_007	Perchlorate6850b.lcm	1x	☒	3100809-02	5/3/2021 10:04
8	E2100460-007X10DNU		20210503_008	Perchlorate6850b.lcm	10x	☒	DNU-INST failed	5/3/2021 10:13
9	E2100469-002X5		20210503_009	Perchlorate6850b.lcm	5x	☒		5/3/2021 10:23
10	E2100469-007X10		20210503_010	Perchlorate6850b.lcm	10x	☒		5/3/2021 10:32
11	E2100470-001X2		20210503_011	Perchlorate6850b.lcm	2x	☒		5/3/2021 10:41
12	E2100470-002X2		20210503_012	Perchlorate6850b.lcm	2x	☒		5/3/2021 10:51
13	PERCHLORATE7		20210503_013	Perchlorate6850b.lcm	1x	☒	3100809-02	5/3/2021 11:00
14								

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197

Service Request: E2100470
Date Analyzed: 5/ 1/21

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\20210501\20210501_007

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.87	0.1168	0.1153	-1.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197

Service Request: E2100470
Date Analyzed: 5/ 1/21

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\20210501\20210501_013

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.23	0.1168	0.1079	-7.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197

Service Request: E2100470
Date Analyzed: 5/ 1/21

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\20210501\20210501_024

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.49	0.1168	0.1109	-5.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197

Service Request: E2100470
Date Analyzed: 5/ 1/21

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\20210501\20210501_027

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.12	0.1168	0.1065	-8.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197

Service Request: E2100470
Date Analyzed: 5/ 1/21

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\20210501\20210501_038

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722220
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1168	0.1138	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197

Service Request: E2100470
Date Analyzed: 5/ 3/21

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\20210503\20210503_007

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722497
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.90	0.1168	0.1039	-11.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041197

Service Request: E2100470
Date Analyzed: 5/ 3/21

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\20210503\20210503_013

Calibration Date: 4/28/21
Calibration ID: EC2100026
Analysis Lot: 722497
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.14	0.1168	0.1068	-8.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100470
Project:	HS21041197	**Date Analyzed:**	5/1/21 13:04

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

File ID:	I:\LCMS01\DATA\20210501\20210501_007	**Lab Code:**	EQ2100272-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-01	51,400	2.71

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:**	E2100470
Project:	HS21041197	**Date Analyzed:**	5/1/21 14:01

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

File ID:	I:\LCMS01\DATA\20210501\20210501_013	**Lab Code:**	EQ2100272-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-02	46,369	2.84

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:**	E2100470
Project:	HS21041197	**Date Analyzed:**	5/1/21 15:44

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

File ID:	I:\LCMS01\DATA\20210501\20210501_024	**Lab Code:**	EQ2100272-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-03	45,961	2.85

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:**	E2100470
Project:	HS21041197	**Date Analyzed:**	5/1/21 16:12

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

File ID:	I:\LCMS01\DATA\20210501\20210501_027	**Lab Code:**	EQ2100272-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-04	41,773	2.85
Method Blank	EQ2100263-01	41,356	2.85
Lab Control Sample	EQ2100263-02	49,611	2.85
Duplicate Lab Control Sample	EQ2100263-03	46,859	2.85

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:**	E2100470
Project:	HS21041197	**Date Analyzed:**	5/1/21 17:56

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

File ID:	I:\LCMS01\DATA\20210501\20210501_038	**Lab Code:**	EQ2100272-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722220
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100272-05	42,418	2.85

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:**	E2100470
Project:	HS21041197	**Date Analyzed:**	5/3/21 10:04

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

File ID:	I:\LCMS01\DATA\20210503\20210503_007	**Lab Code:**	EQ2100274-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722497
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100274-01	50,217	2.84
16WW40-210421	E2100470-001	39,852	2.87
16WW12-210421	E2100470-002	44,368	2.86

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:**	E2100470
Project:	HS21041197	**Date Analyzed:**	5/3/21 11:00

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

File ID:	I:\LCMS01\DATA\20210503\20210503_013	**Lab Code:**	EQ2100274-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	722497
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	52,454	2.85
	Upper Limit ==>	78,681	4.85
	Lower Limit ==>	26,227	0.85
Associated Analyses			
Continuing Calibration Verification	EQ2100274-02	49,800	2.85

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

Insight Report

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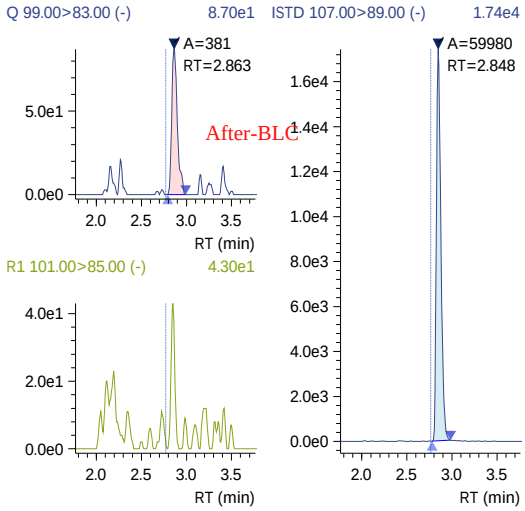
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.863	381	59980	1	0.05431	ng/mL	----	40.70
Sodium Perchlorate-18O4 _IS	Auto	2.848	59980	59980	1	1.00000	ng/mL	----	----

Perchlorate

Conc 0.05431
R#1 40.70 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

After-BLC

Insight Report

Printed at 5/3/2021 9:27:25 AM

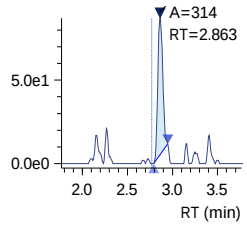
20210501_006

Sample ID: LODV
Date Acquired: 5/1/2021 12:48:08 PM
Acquired by: System Administrator
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Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

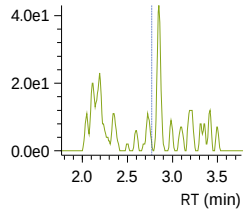
Perchlorate

Conc 0.04482
R#1 46.91 (0.00)

Q 99.00>83.00 (-) 8.70e1



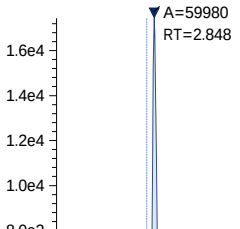
R1 101.00>85.00 (-) 4.30e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.74e4



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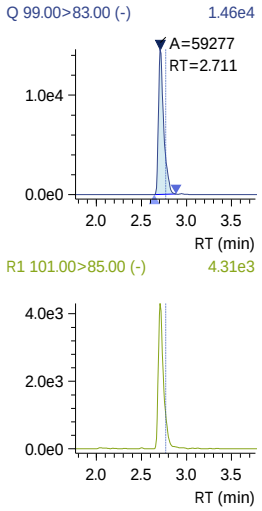
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.711	59277	51400	1	9.87331	ng/mL	10.0000	29.40
Sodium Perchlorate-18O4 _IS	Auto	2.710	51400	51400	1	1.00000	ng/mL	1.0000	----

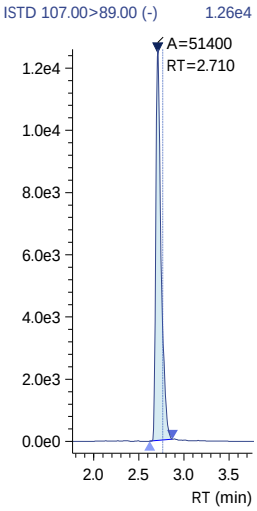
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

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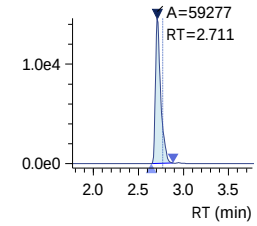
20210501_007

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 1:04:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

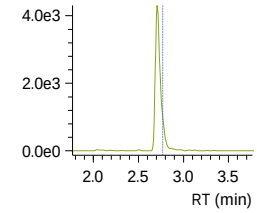
Perchlorate

Conc 9.87331
R#1 29.40 (0.00)

Q 99.00>83.00 (-) 1.46e4



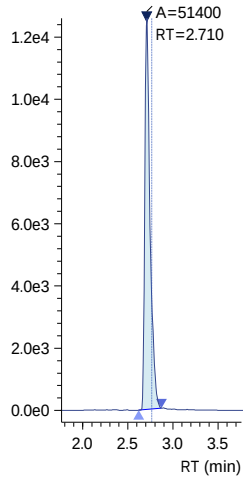
R1 101.00>85.00 (-) 4.31e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.26e4



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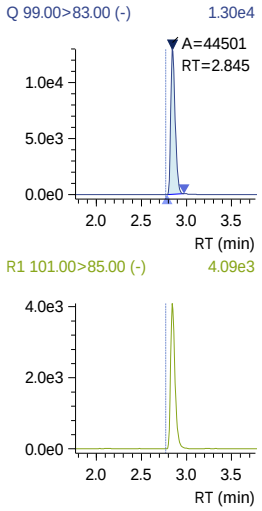
20210501_027

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 4:12:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_027.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	44501	41773	1	9.12063	ng/mL	10.0000	31.50
Sodium Perchlorate-18O4 _IS	Auto	2.845	41773	41773	1	1.00000	ng/mL	1.0000	----

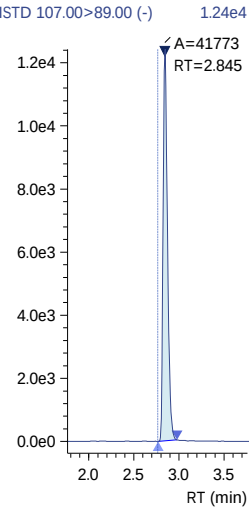
Perchlorate

Conc 9.12063
R#1 31.50 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

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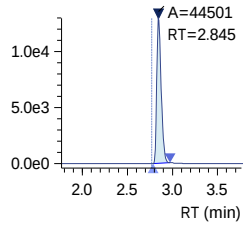
20210501_027

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Date Acquired: 5/1/2021 4:12:45 PM
Acquired by: System Administrator
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Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

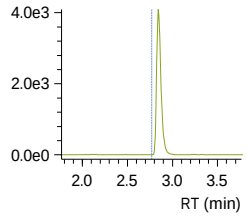
Perchlorate

Conc 9.12063
R#1 31.50 (0.00)

Q 99.00>83.00 (-) 1.30e4



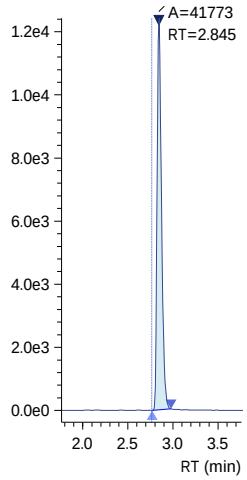
R1 101.00>85.00 (-) 4.09e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.24e4



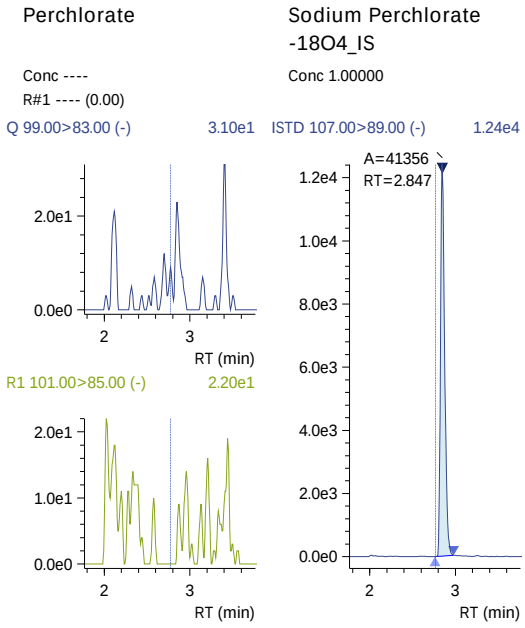
Insight Report

Printed at 5/3/2021 9:25:34 AM

20210501_028

Sample ID: EQ2100263-01
Date Acquired: 5/1/2021 4:22:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_028.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	ND(W/B)	----	----	41356	1	----	ng/mL	----	----
Sodium Perchlorate-18O4_IS	Auto	2.847	41356	41356	1	1.00000	ng/mL	----	----



Insight Report

Printed at 5/3/2021 9:27:25 AM

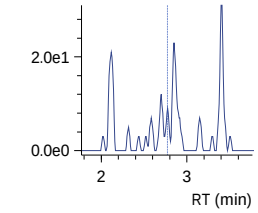
20210501_028

Sample ID: EQ2100263-01
Date Acquired: 5/1/2021 4:22:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_028.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 4

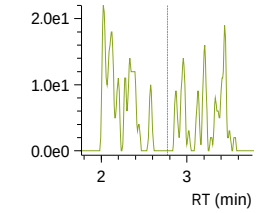
Perchlorate

Conc ----
R#1 ---- (0.00)

Q 99.00>83.00 (-) 3.10e1



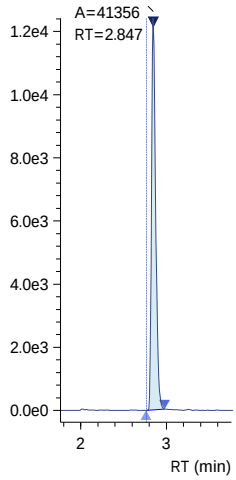
R1 101.00>85.00 (-) 2.20e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.24e4



Insight Report

Printed at 5/3/2021 9:25:34 AM

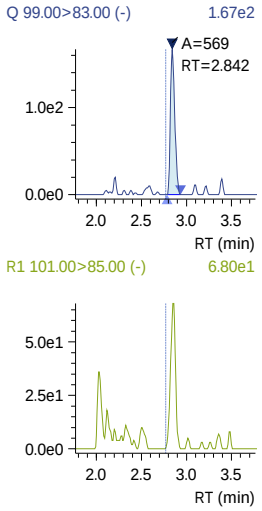
20210501_029

Sample ID: EQ2100263-02
Date Acquired: 5/1/2021 4:31:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_029.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.842	569	49611	1	0.09811	ng/mL	----	35.15
Sodium Perchlorate-18O4 _IS	Auto	2.845	49611	49611	1	1.00000	ng/mL	----	----

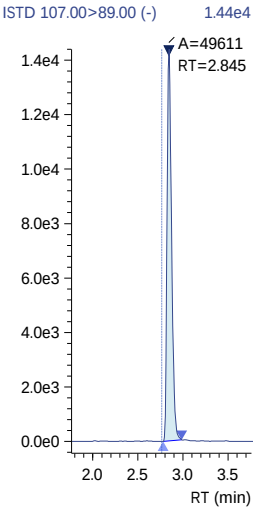
Perchlorate

Conc 0.09811
R#1 35.15 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:27:25 AM

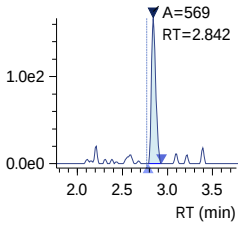
20210501_029

Sample ID: EQ2100263-02
Date Acquired: 5/1/2021 4:31:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_029.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 4

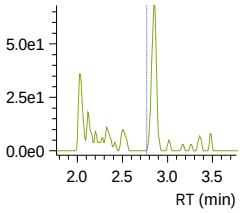
Perchlorate

Conc 0.09811
R#1 35.15 (0.00)

Q 99.00>83.00 (-) 1.67e2



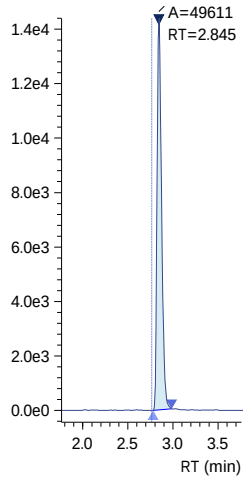
R1 101.00>85.00 (-) 6.80e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.44e4



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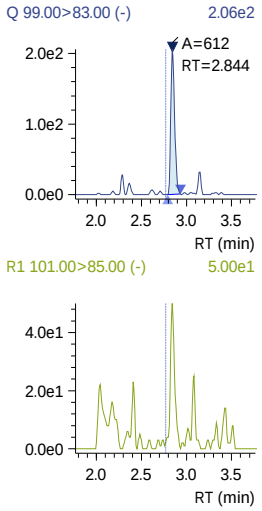
20210501_030

Sample ID: EQ2100263-03
Date Acquired: 5/1/2021 4:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_030.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.844	612	46859	1	0.11182	ng/mL	----	22.77
Sodium Perchlorate-18O4 _IS	Auto	2.846	46859	46859	1	1.00000	ng/mL	----	----

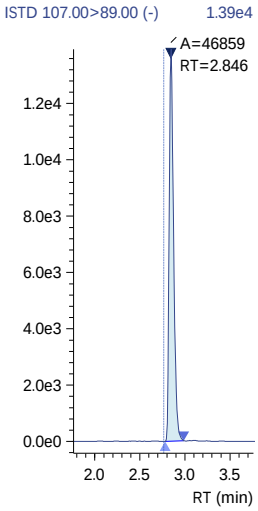
Perchlorate

Conc 0.11182
R#1 22.77 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

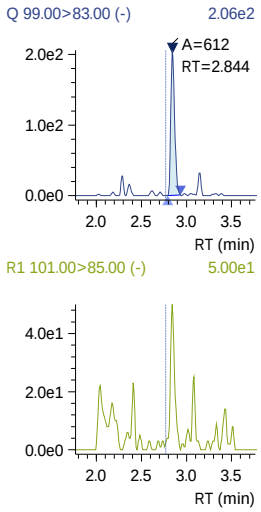
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20210501_030

Sample ID: EQ2100263-03
Date Acquired: 5/1/2021 4:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_030.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 4

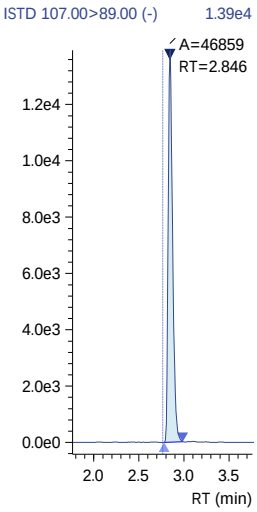
Perchlorate

Conc 0.11182
R#1 22.77 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/3/2021 9:25:34 AM

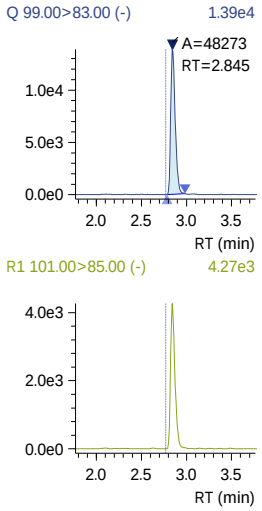
20210501_038

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 5:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\20210501_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	48273	42418	1	9.74304	ng/mL	10.0000	30.66
Sodium Perchlorate-18O4 _IS	Auto	2.845	42418	42418	1	1.00000	ng/mL	1.0000	----

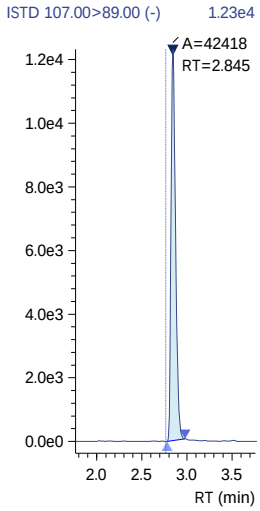
Perchlorate

Conc 9.74304
R#1 30.66 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

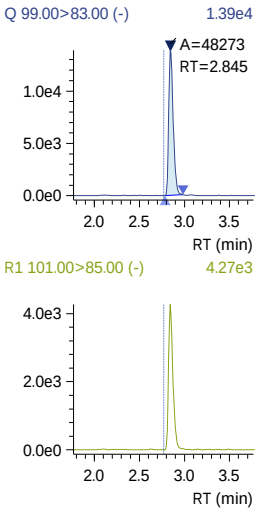
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20210501_038

Sample ID: PERCHLORATE7
Date Acquired: 5/1/2021 5:56:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210501\Before\20210501_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

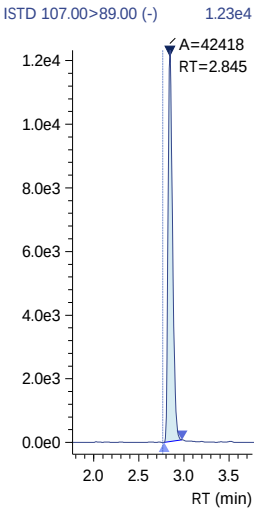
Perchlorate

Conc 9.74304
R#1 30.66 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



Insight Report

Printed at 5/6/2021 5:43:13 PM

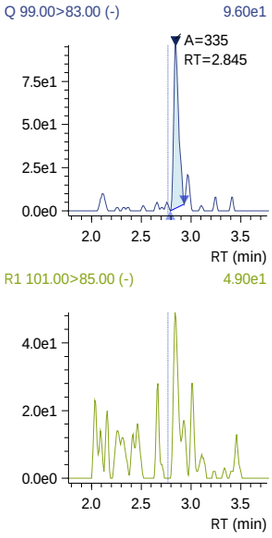
20210503_006

Sample ID: LODV
Date Acquired: 5/3/2021 9:54:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\20210503_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.845	335	59575	1	0.04814	ng/mL	----	45.75
Sodium Perchlorate-18O4_IS	Auto	2.846	59575	59575	1	1.00000	ng/mL	----	----

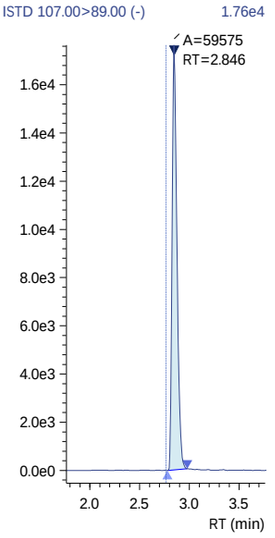
Perchlorate

Conc 0.04814
R#1 45.75 (0.00)



Sodium Perchlorate-18O4_IS

Conc 1.00000



Insight Report

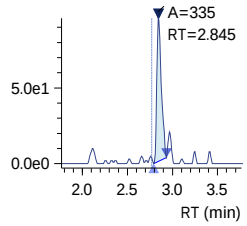
20210503_006

Sample ID: LODV
Date Acquired: 5/3/2021 9:54:54 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\Before\20210503_006.lcd
Vial: 20 | Inj. Volume: 25.0000uL | Tray: 1

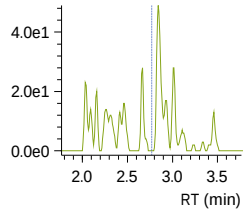
Perchlorate

Conc 0.04963
R#1 45.75 (0.00)

Q 99.00>83.00 (-) 9.60e1



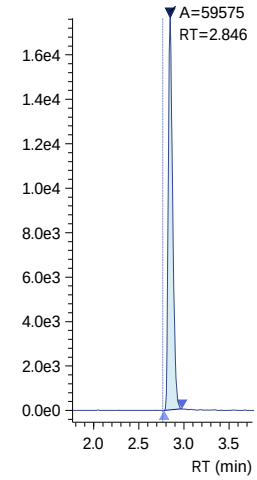
R1 101.00>85.00 (-) 4.90e1



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.76e4



Insight Report

Printed at 5/6/2021 5:43:13 PM

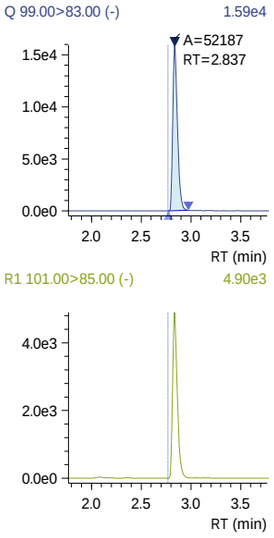
20210503_007

Sample ID: PERCHLORATE7
Date Acquired: 5/3/2021 10:04:20 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\20210503_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.837	52187	50217	1	8.89732	ng/mL	10.0000	30.71
Sodium Perchlorate-18O4_IS	Auto	2.836	50217	50217	1	1.00000	ng/mL	1.0000	----

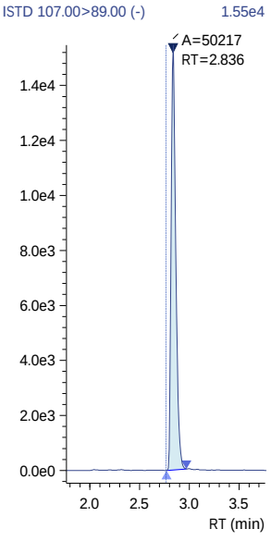
Perchlorate

Conc 8.89732
R#1 30.71 (0.00)



Sodium Perchlorate-18O4_IS

Conc 1.00000



Insight Report

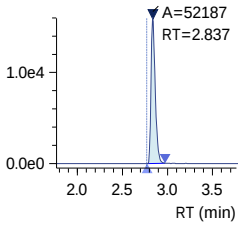
20210503_007

Sample ID: PERCHLORATE7
Date Acquired: 5/3/2021 10:04:20 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\Before\20210503_007.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

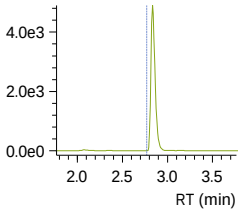
Perchlorate

Conc 9.17294
R#1 30.71 (0.00)

Q 99.00>83.00 (-) 1.59e4



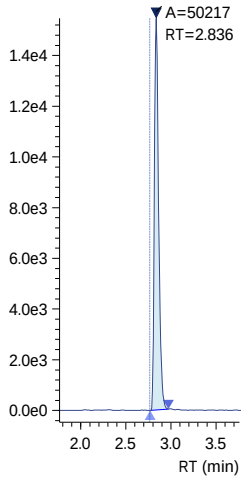
R1 101.00>85.00 (-) 4.90e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.55e4



Insight Report

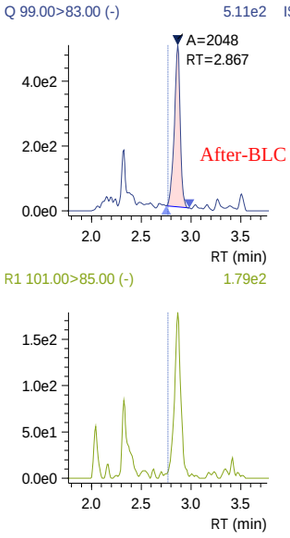
20210503_011

Sample ID: E2100470-001X2
Date Acquired: 5/3/2021 10:41:55 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\20210503_011.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.867	2048	39852	1	0.43992	ng/mL	----	35.09
Sodium Perchlorate-18O4_IS	Auto	2.865	39852	39852	1	1.00000	ng/mL	----	----

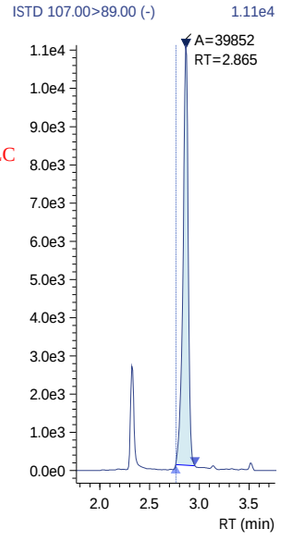
Perchlorate

Conc 0.43992
R#1 35.09 (0.00)



Sodium Perchlorate-18O4_IS

Conc 1.00000



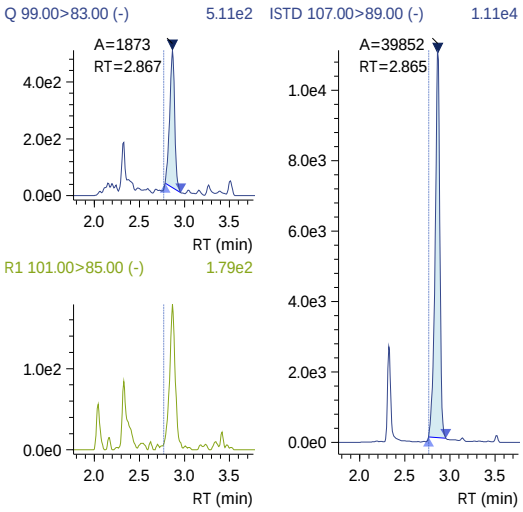
Insight Report

20210503_011

Sample ID: E2100470-001X2
Date Acquired: 5/3/2021 10:41:55 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\Before\20210503_011.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 4

Perchlorate

Conc 0.41474
R#1 34.31 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000

Insight Report

Printed at 5/6/2021 5:43:13 PM

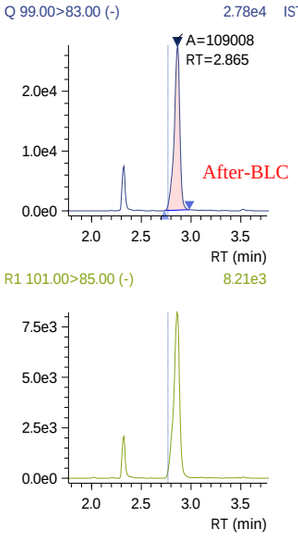
20210503_012

Sample ID: E2100470-002X2
Date Acquired: 5/3/2021 10:51:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\20210503_012.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 4

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.865	109008	44368	1	21.03482	ng/mL	----	30.69
Sodium Perchlorate-18O4_IS	Auto	2.863	44368	44368	1	1.00000	ng/mL	----	----

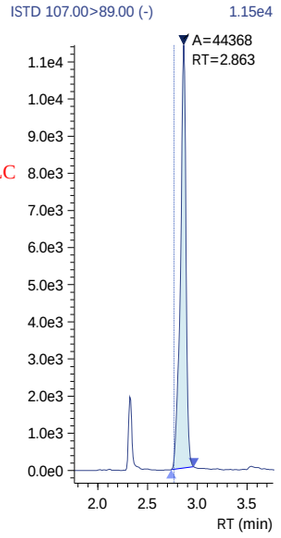
Perchlorate

Conc 21.03482
R#1 30.69 (0.00)



Sodium Perchlorate-18O4_IS

Conc 1.00000



Insight Report

Printed at 5/6/2021 5:46:45 PM

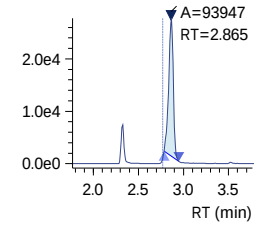
20210503_012

Sample ID: E2100470-002X2
Date Acquired: 5/3/2021 10:51:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\Before\20210503_012.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 4

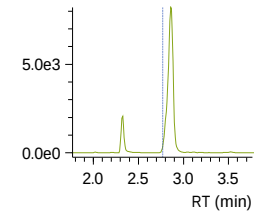
Perchlorate

Conc 18.69020
R#1 30.29 (0.00)

Q 99.00>83.00 (-) 2.78e4



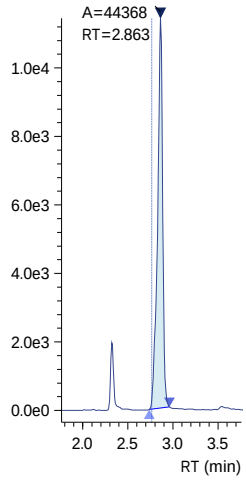
R1 101.00>85.00 (-) 8.21e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.15e4



Insight Report

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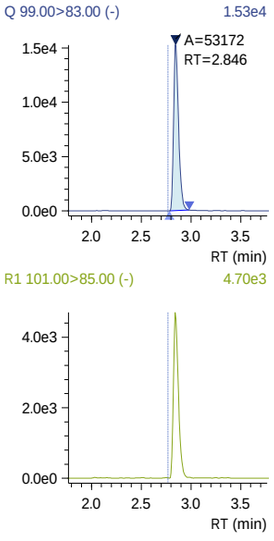
20210503_013

Sample ID: PERCHLORATE7
Date Acquired: 5/3/2021 11:00:39 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\20210503_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	Auto	2.846	53172	49800	1	9.14103	ng/mL	10.0000	30.78
Sodium Perchlorate-18O4_IS	Auto	2.845	49800	49800	1	1.00000	ng/mL	1.0000	----

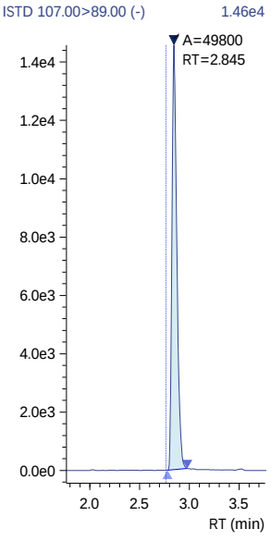
Perchlorate

Conc 9.14103
R#1 30.78 (0.00)



Sodium Perchlorate-18O4_IS

Conc 1.00000



Insight Report

Printed at 5/6/2021 5:46:45 PM

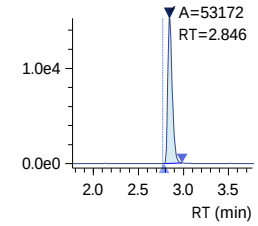
20210503_013

Sample ID: PERCHLORATE7
Date Acquired: 5/3/2021 11:00:39 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210503\Before\20210503_013.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

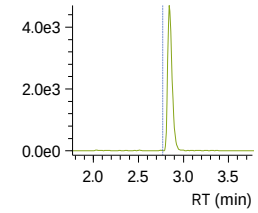
Perchlorate

Conc 9.42420
R#1 30.78 (0.00)

Q 99.00>83.00 (-) 1.53e4



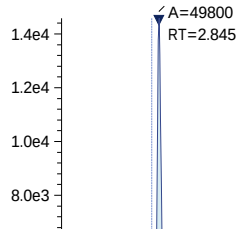
R1 101.00>85.00 (-) 4.70e3



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.46e4



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

WorkOrder: HS21041255

Longhorn Army Ammunition Plant 16 April 2021

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

25-May-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

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  - 16WW43-210422
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HS21041255 Wet Chem Raw Data (TOC_W 5310B)

TOC ICAL.pdf

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HS21041255.1.pdf

HS21041255.4.pdf

HS21041255.3.pdf

HS21041255 Wet Chem Raw Data (ALK_W 2320B)

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CoverLetter

Certificate of Analysis

Chain of Custody

Preparation Sheets

Analytical Results

Accuracy and Precision

Initial Calibration

Chromatogram

HS21041255 Longhorn Army Ammunition Plant
16 April 2021 Final REV01

ALS WO# HS21041255

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

May 11, 2021

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS21041255**

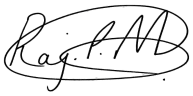
Laboratory Results for: **Longhorn Army Ammunition Plant 16 April 2021**

Dear Vicki Graves ,

ALS Environmental received 9 sample(s) on Apr 23, 2021 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: RJ.MODASHIA
RJ Modashia
Project Manager

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041255

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21041255-01	16WW27-210422	Groundwater		22-Apr-2021 07:40	23-Apr-2021 10:15	☐
HS21041255-02	16WW43-210422	Groundwater		22-Apr-2021 08:20	23-Apr-2021 10:15	☐
HS21041255-03	16WW23-210422	Groundwater		22-Apr-2021 09:05	23-Apr-2021 10:15	☐
HS21041255-04	16WW24-210422	Groundwater		22-Apr-2021 09:45	23-Apr-2021 10:15	☐
HS21041255-05	16IW09-210422	Groundwater		22-Apr-2021 10:30	23-Apr-2021 10:15	☐
HS21041255-06	16WW49-210422	Groundwater		22-Apr-2021 11:20	23-Apr-2021 10:15	☐
HS21041255-07	16WW48-210422	Groundwater		22-Apr-2021 12:05	23-Apr-2021 10:15	☐
HS21041255-08	16EW06-210422	Groundwater		22-Apr-2021 12:55	23-Apr-2021 10:15	☐
HS21041255-09	Trip Blank-210422	Water	CG-121520-1075	22-Apr-2021 00:00	23-Apr-2021 10:15	☐

Revision:1

RIGHT SOLUTIONS RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041255

Work Order Comments

- REV01: Revised to report LOD value for Alkalinity on sample 16EW06.
- The analysis for Methane, Methene, Ethane and CO2 by RSK175 was subcontracted to ALS Simi Valley, CA. Final report attached.
- The analysis for Perchlorate was subcontracted to ALS Salt Lake City, UT. Final report attached.

Work Order Comments

- Due to the sample matrix (Oil/Organic) for sample 16EW06-210422, analysis for TOC and RSK175 can not be performed.
- The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R382623

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

GCMS Volatiles by Method SW8260

Batch ID: R382419

Sample ID: 16EW06-210422 (HS21041255-08)

- Lowest practical dilution for sample HS21041255-08. Sample is oil.

Batch ID: R382341

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

WetChemistry by Method SM5310B

Batch ID: R382918

Sample ID: HS21041275-03MS

- MS is for an unrelated sample

Batch ID: R383003

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

WetChemistry by Method SM2320B

Batch ID: 165053,R382327

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

WetChemistry by Method SW9056

Batch ID: 165463

Sample ID: 16EW06-210422 (HS21041255-08)

- Sample ran at 10X due to nasty oily matrix

Sample ID: HS21041427-25MS

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 April 2021
Work Order: HS21041255

WetChemistry by Method SW9056

Batch ID: 165463

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

Batch ID: R382366

Sample ID: 16WW48-210422 (HS21041255-07)

- Sample ran at 5X due to high concentration of Sulfate

Sample ID: HS21040612-03MS

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

Batch ID: R382840

Sample ID: HS21041595-02MS

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

RIGHT SOLUTIONS RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041255
Sample ID: 16WW27-210422 Lab ID:HS21041255-01
Collection Date: 22-Apr-2021 07:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 16:54
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:54
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:54
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:54
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 16:54
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:54
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 16:54
Surr: 1,2-Dichloroethane-d4	*95.8*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 16:54*
Surr: 4-Bromofluorobenzene	*93.6*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 16:54*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 16:54*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 16:54*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Sample ID: 16WW43-210422
Collection Date: 22-Apr-2021 08:20

ANALYTICAL REPORT
WorkOrder:HS21041255
Lab ID:HS21041255-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 17:16
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:16
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:16
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:16
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 17:16
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:16
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:16
Surr: 1,2-Dichloroethane-d4	*98.3*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 17:16*
Surr: 4-Bromofluorobenzene	*94.0*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 17:16*
Surr: Dibromofluoromethane	*94.7*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 17:16*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 17:16*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041255
Sample ID: 16WW23-210422 Lab ID:HS21041255-03
Collection Date: 22-Apr-2021 09:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 17:37
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:37
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:37
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:37
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 17:37
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:37
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:37
Surr: 1,2-Dichloroethane-d4	*98.6*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 17:37*
Surr: 4-Bromofluorobenzene	*91.0*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 17:37*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 17:37*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 17:37*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
Sample ID: 16WW24-210422
Collection Date: 22-Apr-2021 09:45

ANALYTICAL REPORT
WorkOrder:HS21041255
Lab ID:HS21041255-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 17:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:58
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:58
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:58
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 17:58
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:58
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 17:58
Surr: 1,2-Dichloroethane-d4	*99.8*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 17:58*
Surr: 4-Bromofluorobenzene	*94.1*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 17:58*
Surr: Dibromofluoromethane	*93.7*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 17:58*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 17:58*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041255
Sample ID: 16IW09-210422 Lab ID:HS21041255-05
Collection Date: 22-Apr-2021 10:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 18:19
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 18:19
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 18:19
cis-1,2-Dichloroethene	**3.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 18:19
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 18:19
Trichloroethene	**0.62**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 18:19
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 18:19
Surr: 1,2-Dichloroethane-d4	*98.3*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 18:19*
Surr: 4-Bromofluorobenzene	*93.3*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 18:19*
Surr: Dibromofluoromethane	*92.9*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 18:19*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 18:19*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	27-Apr-2021 16:00
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	27-Apr-2021 16:00
Methane	**3.50**		**0.0214**	**0.100**	**0.100**	**mg/L**	200	27-Apr-2021 16:49
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**598**		**5.00**	**5.00**	**5.00**	**mg/L**	1	24-Apr-2021 14:24
TOTAL ORGANIC CARBON - SM5310B		**Method:SM5310B**						Analyst: MZD
Organic Carbon, Total	**572**		**25.0**	**25.0**	**50.0**	**mg/L**	50	04-May-2021 23:18
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**4.13**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	23-Apr-2021 13:12
Nitrogen, Nitrate (As N)	**0.0908**	J	**0.0300**	**0.100**	**0.100**	**mg/L**	1	23-Apr-2021 13:12
Sulfate	**4.75**		**0.200**	**0.500**	**0.500**	**mg/L**	1	23-Apr-2021 13:12
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041255
Sample ID: 16WW49-210422 Lab ID:HS21041255-06
Collection Date: 22-Apr-2021 11:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 18:40
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 18:40
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 18:40
cis-1,2-Dichloroethene	**100**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 18:40
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 18:40
Trichloroethene	**11**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Apr-2021 18:40
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 18:40
Surr: 1,2-Dichloroethane-d4	*99.8*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 18:40*
Surr: 4-Bromofluorobenzene	*93.1*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 18:40*
Surr: Dibromofluoromethane	*93.2*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 18:40*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 18:40*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTION | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041255
Sample ID: 16WW48-210422 Lab ID:HS21041255-07
Collection Date: 22-Apr-2021 12:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	25	U	7.5	25	25	ug/L	25	25-Apr-2021 21:49
1,1-Dichloroethene	**38**		**5.0**	**12**	**25**	**ug/L**	25	25-Apr-2021 21:49
1,2-Dichloroethane	**39**		**5.0**	**12**	**25**	**ug/L**	25	25-Apr-2021 21:49
cis-1,2-Dichloroethene	**17,000**		**50**	**120**	**250**	**ug/L**	250	26-Apr-2021 16:45
Methylene chloride	50	U	10	50	50	ug/L	25	25-Apr-2021 21:49
Trichloroethene	**15,000**		**50**	**120**	**250**	**ug/L**	250	26-Apr-2021 16:45
Vinyl chloride	**16**	J	**5.0**	**12**	**25**	**ug/L**	25	25-Apr-2021 21:49
Surr: 1,2-Dichloroethane-d4	*99.2*			**0**	*81-118*	*%REC*	*25*	*25-Apr-2021 21:49*
Surr: 1,2-Dichloroethane-d4	*101*			**0**	*81-118*	*%REC*	*250*	*26-Apr-2021 16:45*
Surr: 4-Bromofluorobenzene	*95.2*			**0**	*85-114*	*%REC*	*25*	*25-Apr-2021 21:49*
Surr: 4-Bromofluorobenzene	*93.2*			**0**	*85-114*	*%REC*	*250*	*26-Apr-2021 16:45*
Surr: Dibromofluoromethane	*91.1*			**0**	*80-119*	*%REC*	*25*	*25-Apr-2021 21:49*
Surr: Dibromofluoromethane	*93.2*			**0**	*80-119*	*%REC*	*250*	*26-Apr-2021 16:45*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*25*	*25-Apr-2021 21:49*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*250*	*26-Apr-2021 16:45*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	27-Apr-2021 16:08
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	27-Apr-2021 16:08
Methane	**0.00283**		**0.000107**	**0.000500**	**0.000500**	**mg/L**	1	27-Apr-2021 16:08
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**356**		**5.00**	**5.00**	**5.00**	**mg/L**	1	24-Apr-2021 14:30
TOTAL ORGANIC CARBON - SM5310B		**Method:SM5310B**						Analyst: MZD
Organic Carbon, Total	**13.2**		**0.500**	**0.500**	**1.00**	**mg/L**	1	03-May-2021 22:17
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**7.59**		**0.150**	**0.500**	**0.500**	**mg/L**	5	23-Apr-2021 13:30
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	23-Apr-2021 13:30
Sulfate	**2,300**		**10.0**	**25.0**	**25.0**	**mg/L**	50	30-Apr-2021 22:31
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041255
Sample ID: 16EW06-210422 Lab ID:HS21041255-08
Collection Date: 22-Apr-2021 12:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1,000	U	300	1000	1000	ug/L	1000	26-Apr-2021 14:18
1,1-Dichloroethene	500	U	200	500	1000	ug/L	1000	26-Apr-2021 14:18
1,2-Dichloroethane	500	U	200	500	1000	ug/L	1000	26-Apr-2021 14:18
cis-1,2-Dichloroethene	500	U	200	500	1000	ug/L	1000	26-Apr-2021 14:18
Methylene chloride	2,000	U	400	2000	2000	ug/L	1000	26-Apr-2021 14:18
Trichloroethene	500	U	200	500	1000	ug/L	1000	26-Apr-2021 14:18
Vinyl chloride	500	U	200	500	1000	ug/L	1000	26-Apr-2021 14:18
Surr: 1,2-Dichloroethane-d4	*97.1*			**0**	*81-118*	*%REC*	*1000*	*26-Apr-2021 14:18*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*1000*	*26-Apr-2021 14:18*
Surr: Dibromofluoromethane	*92.8*			**0**	*80-119*	*%REC*	*1000*	*26-Apr-2021 14:18*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1000*	*26-Apr-2021 14:18*
ALKALINITY BY SM2320B		**Method:SM2320B**				Prep:ASTM Leachate / 24-Apr-2021		Analyst: TH
Alkalinity, Total (As CaCO3)	10.0	aU	10.0	10.0	10.0	mg/Kg	1	24-Apr-2021 15:14
ANIONS BY SW9056A		**Method:SW9056**				Prep:SW9056 / 05-May-2021		Analyst: YP
Bromide	9.89	U	2.97	9.89	9.89	mg/Kg	10	06-May-2021 10:49
Nitrogen, Nitrate (As N)	9.89	U	2.97	9.89	9.89	mg/Kg	10	06-May-2021 10:49
Sulfate	49.4	U	19.8	49.4	49.4	mg/Kg	10	06-May-2021 10:49
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	10-May-2021 17:37

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

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 April 2021 WorkOrder:HS21041255
Sample ID: Trip Blank-210422 Lab ID:HS21041255-09
Collection Date: 22-Apr-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	25-Apr-2021 14:27
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:27
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:27
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:27
Methylene chloride	2.0	U	0.40	2.0	2.0	ug/L	1	25-Apr-2021 14:27
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:27
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Apr-2021 14:27
Surr: 1,2-Dichloroethane-d4	*95.5*			**0**	*81-118*	*%REC*	*1*	*25-Apr-2021 14:27*
Surr: 4-Bromofluorobenzene	*94.3*			**0**	*85-114*	*%REC*	*1*	*25-Apr-2021 14:27*
Surr: Dibromofluoromethane	*92.8*			**0**	*80-119*	*%REC*	*1*	*25-Apr-2021 14:27*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*25-Apr-2021 14:27*

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

RIGHT SOLUTION | RIGHT PARTNER

Weight / Prep Log

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

Batch ID: 165053 **Start Date:** 24 Apr 2021 08:00 **End Date:**
Method: ALK LEACH **Prep Code:** ALK LEACH PREP

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041255-08		5 (grams)	50 (mL)	10	120 mL Plastic Neat

Batch ID: 165463 **Start Date:** 05 May 2021 12:00 **End Date:** 05 May 2021 15:00
Method: 9056 ANIONS SOIL PREP **Prep Code:** 9056_S_PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041255-08		5.0561 (g)	50 (mL)	9.889	120 mL Plastic Neat

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 165053 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS21041255-08	16EW06-210422	22 Apr 2021 12:55		24 Apr 2021 08:00	24 Apr 2021 15:14	1
Batch ID: 165463 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21041255-08	16EW06-210422	22 Apr 2021 12:55		05 May 2021 12:00	06 May 2021 10:49	10
Batch ID: R382327 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS21041255-05	16IW09-210422	22 Apr 2021 10:30			24 Apr 2021 14:24	1
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			24 Apr 2021 14:30	1
Batch ID: R382341 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21041255-09	Trip Blank-210422	22 Apr 2021 00:00			25 Apr 2021 14:27	1
Batch ID: R382341 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21041255-01	16WW27-210422	22 Apr 2021 07:40			25 Apr 2021 16:54	1
HS21041255-02	16WW43-210422	22 Apr 2021 08:20			25 Apr 2021 17:16	1
HS21041255-03	16WW23-210422	22 Apr 2021 09:05			25 Apr 2021 17:37	1
HS21041255-04	16WW24-210422	22 Apr 2021 09:45			25 Apr 2021 17:58	1
HS21041255-05	16IW09-210422	22 Apr 2021 10:30			25 Apr 2021 18:19	1
HS21041255-06	16WW49-210422	22 Apr 2021 11:20			25 Apr 2021 18:40	1
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			25 Apr 2021 21:49	25
Batch ID: R382366 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21041255-05	16IW09-210422	22 Apr 2021 10:30			23 Apr 2021 13:12	1
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			23 Apr 2021 13:30	5
Batch ID: R382419 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			26 Apr 2021 16:45	250
HS21041255-08	16EW06-210422	22 Apr 2021 12:55			26 Apr 2021 14:18	1000
Batch ID: R382623 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS21041255-05	16IW09-210422	22 Apr 2021 10:30			27 Apr 2021 16:49	200
HS21041255-05	16IW09-210422	22 Apr 2021 10:30			27 Apr 2021 16:00	1
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			27 Apr 2021 16:08	1
Batch ID: R382840 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			30 Apr 2021 22:31	50
Batch ID: R382918 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B				**Matrix:** Groundwater	
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			03 May 2021 22:17	1
Batch ID: R383003 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B				**Matrix:** Groundwater	
HS21041255-05	16IW09-210422	22 Apr 2021 10:30			04 May 2021 23:18	50

Revision: 1

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R383321 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS21041255-01	16WW27-210422	22 Apr 2021 07:40			10 May 2021 17:37	1
HS21041255-02	16WW43-210422	22 Apr 2021 08:20			10 May 2021 17:37	1
HS21041255-03	16WW23-210422	22 Apr 2021 09:05			10 May 2021 17:37	1
HS21041255-04	16WW24-210422	22 Apr 2021 09:45			10 May 2021 17:37	1
HS21041255-05	16IW09-210422	22 Apr 2021 10:30			10 May 2021 17:37	1
HS21041255-06	16WW49-210422	22 Apr 2021 11:20			10 May 2021 17:37	1
HS21041255-07	16WW48-210422	22 Apr 2021 12:05			10 May 2021 17:37	1
HS21041255-08	16EW06-210422	22 Apr 2021 12:55			10 May 2021 17:37	1

Revision: 1

RIGHT SOLUTION | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382623 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-210427** Units: **mg/L** Analysis Date: **27-Apr-2021 09:48**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067727** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-210427** Units: **mg/L** Analysis Date: **27-Apr-2021 09:57**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067728** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0214	0.00100	0.01804	0	119	75 - 125				
Ethene	0.0184	0.00100	0.0168	0	109	75 - 125				
Methane	0.00936	0.000500	0.009647	0	97.0	75 - 125				

LCSD Sample ID: **LCSD-210427** Units: **mg/L** Analysis Date: **27-Apr-2021 10:08**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067729** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0209	0.00100	0.01804	0	116	75 - 125	0.02138	2.36	30	
Ethene	0.0178	0.00100	0.0168	0	106	75 - 125	0.01836	3.2	30	
Methane	0.00980	0.000500	0.009647	0	102	75 - 125	0.009361	4.55	30	

DUP Sample ID: **HS21041132-05DUP** Units: **mg/L** Analysis Date: **27-Apr-2021 10:35**
Client ID: Run ID: **FID-4_382623** SeqNo: **6067731** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100					0	0	30	U
Ethene	0.000500	0.00100					0	0	30	U
Methane	0.00353	0.000500					0.003447	2.5	30	

The following samples were analyzed in this batch: HS21041255-05 HS21041255-07

Revision: 1

RIGHT SOLUTION | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382341 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-210425** Units: **ug/L** Analysis Date: **25-Apr-2021 13:45**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	2.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*47.35*	*1.0*	*50*	*0*	*94.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.34*	*1.0*	*50*	*0*	*92.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.8*	*1.0*	*50*	*0*	*91.6*	*80 - 119*				
Surr: Toluene-d8	*53.63*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-210425** Units: **ug/L** Analysis Date: **25-Apr-2021 13:03**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060287** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	21.98	1.0	20	0	110	80 - 119				
1,1-Dichloroethene	17.51	1.0	20	0	87.5	71 - 131				
1,2-Dichloroethane	20.39	1.0	20	0	102	73 - 128				
cis-1,2-Dichloroethene	21.09	1.0	20	0	105	78 - 123				
Methylene chloride	21.19	2.0	20	0	106	74 - 124				
Trichloroethene	19.92	1.0	20	0	99.6	79 - 123				
Vinyl chloride	18.77	1.0	20	0	93.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*53.91*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.34*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.43*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*51.26*	*1.0*	*50*	*0*	*103*	*89 - 112*				

Revision: 1

RIGHT SOLUTION | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382341 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21041169-03MS** Units: **ug/L** Analysis Date: **25-Apr-2021 15:09**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060292** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.9	1.0	20	0	99.5	80 - 119				
1,1-Dichloroethene	17.96	1.0	20	0	89.8	71 - 131				
1,2-Dichloroethane	18.76	1.0	20	0	93.8	73 - 128				
cis-1,2-Dichloroethene	32.24	1.0	20	15.28	84.8	78 - 123				
Methylene chloride	18.33	2.0	20	0	91.7	74 - 124				
Trichloroethene	24.38	1.0	20	5.447	94.7	79 - 123				
Vinyl chloride	22.63	1.0	20	2.451	101	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.44*	*1.0*	*50*	*0*	*96.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.76*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*47.82*	*1.0*	*50*	*0*	*95.6*	*80 - 119*				
Surr: Toluene-d8	*52.13*	*1.0*	*50*	*0*	*104*	*89 - 112*				

MSD Sample ID: **HS21041169-03MSD** Units: **ug/L** Analysis Date: **25-Apr-2021 15:30**
Client ID: Run ID: **VOA6_382341** SeqNo: **6060293** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.3	1.0	20	0	101	80 - 119	19.9	1.98	20	
1,1-Dichloroethene	17.12	1.0	20	0	85.6	71 - 131	17.96	4.74	20	
1,2-Dichloroethane	18.86	1.0	20	0	94.3	73 - 128	18.76	0.516	20	
cis-1,2-Dichloroethene	32.68	1.0	20	15.28	87.0	78 - 123	32.24	1.34	20	
Methylene chloride	18.48	2.0	20	0	92.4	74 - 124	18.33	0.778	20	
Trichloroethene	23.57	1.0	20	5.447	90.6	79 - 123	24.38	3.38	20	
Vinyl chloride	21.86	1.0	20	2.451	97.0	58 - 137	22.63	3.47	20	
Surr: 1,2-Dichloroethane-d4	*48.73*	*1.0*	*50*	*0*	*97.5*	*81 - 118*	*48.44*	*0.614*	*20*	
Surr: 4-Bromofluorobenzene	*47.89*	*1.0*	*50*	*0*	*95.8*	*85 - 114*	*48.76*	*1.82*	*20*	
Surr: Dibromofluoromethane	*46.89*	*1.0*	*50*	*0*	*93.8*	*80 - 119*	*47.82*	*1.95*	*20*	
Surr: Toluene-d8	*52.33*	*1.0*	*50*	*0*	*105*	*89 - 112*	*52.13*	*0.386*	*20*	

The following samples were analyzed in this batch:

HS21041255-01	HS21041255-02	HS21041255-03	HS21041255-04
HS21041255-05	HS21041255-06	HS21041255-07	HS21041255-09

Revision: 1

RIGHT SOLUTION | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382419 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-210426** Units: **ug/L** Analysis Date: **26-Apr-2021 12:54**
Client ID: Run ID: **VOA6_382419** SeqNo: **6062394** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	2.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*48.67*	*1.0*	*50*	*0*	*97.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*45.33*	*1.0*	*50*	*0*	*90.7*	*85 - 114*				
Surr: Dibromofluoromethane	*46.68*	*1.0*	*50*	*0*	*93.4*	*80 - 119*				
Surr: Toluene-d8	*53.57*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-210426** Units: **ug/L** Analysis Date: **26-Apr-2021 12:12**
Client ID: Run ID: **VOA6_382419** SeqNo: **6062393** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	21.08	1.0	20	0	105	80 - 119				
1,1-Dichloroethene	21.2	1.0	20	0	106	71 - 131				
1,2-Dichloroethane	20.77	1.0	20	0	104	73 - 128				
cis-1,2-Dichloroethene	22.21	1.0	20	0	111	78 - 123				
Methylene chloride	23.07	2.0	20	0	115	74 - 124				
Trichloroethene	20.69	1.0	20	0	103	79 - 123				
Vinyl chloride	23.61	1.0	20	0	118	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.78*	*1.0*	*50*	*0*	*110*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*53.08*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*51.56*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*51.53*	*1.0*	*50*	*0*	*103*	*89 - 112*				

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382419 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21041306-17MS** Units: **ug/L** Analysis Date: **26-Apr-2021 16:03**
Client ID: Run ID: **VOA6_382419** SeqNo: **6062402** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.26	1.0	20	0	91.3	80 - 119				
1,1-Dichloroethene	19.73	1.0	20	0	98.7	71 - 131				
1,2-Dichloroethane	18.42	1.0	20	0	92.1	73 - 128				
cis-1,2-Dichloroethene	18.83	1.0	20	0	94.1	78 - 123				
Methylene chloride	19.71	2.0	20	0	98.5	74 - 124				
Trichloroethene	19.73	1.0	20	0	98.7	79 - 123				
Vinyl chloride	21.68	1.0	20	0	108	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.61*	*1.0*	*50*	*0*	*97.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.54*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*45.93*	*1.0*	*50*	*0*	*91.9*	*80 - 119*				
Surr: Toluene-d8	*51.67*	*1.0*	*50*	*0*	*103*	*89 - 112*				

MS Sample ID: **HS21041306-09MS** Units: **ug/L** Analysis Date: **26-Apr-2021 15:21**
Client ID: Run ID: **VOA6_382419** SeqNo: **6062400** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.86	1.0	20	0	94.3	80 - 119				
1,1-Dichloroethene	19.57	1.0	20	0	97.8	71 - 131				
1,2-Dichloroethane	19.87	1.0	20	0	99.4	73 - 128				
cis-1,2-Dichloroethene	19.05	1.0	20	0	95.2	78 - 123				
Methylene chloride	19.47	2.0	20	0	97.3	74 - 124				
Trichloroethene	21.12	1.0	20	0.6711	102	79 - 123				
Vinyl chloride	22.26	1.0	20	0	111	58 - 137				
Surr: 1,2-Dichloroethane-d4	*49.58*	*1.0*	*50*	*0*	*99.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.75*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*46.27*	*1.0*	*50*	*0*	*92.5*	*80 - 119*				
Surr: Toluene-d8	*50.34*	*1.0*	*50*	*0*	*101*	*89 - 112*				

RIGHT SOLUTION | RIGHT PARTNER

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382419 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS21041306-17MSD** Units: **ug/L** Analysis Date: **26-Apr-2021 16:24**
Client ID: Run ID: **VOA6_382419** SeqNo: **6062403** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.3	1.0	20	0	91.5	80 - 119	18.26	0.251	20	
1,1-Dichloroethene	18.89	1.0	20	0	94.4	71 - 131	19.73	4.37	20	
1,2-Dichloroethane	18.32	1.0	20	0	91.6	73 - 128	18.42	0.511	20	
cis-1,2-Dichloroethene	17.6	1.0	20	0	88.0	78 - 123	18.83	6.7	20	
Methylene chloride	19.27	2.0	20	0	96.4	74 - 124	19.71	2.22	20	
Trichloroethene	18.73	1.0	20	0	93.6	79 - 123	19.73	5.23	20	
Vinyl chloride	20.99	1.0	20	0	105	58 - 137	21.68	3.21	20	
Surr: 1,2-Dichloroethane-d4	*48.13*	*1.0*	*50*	*0*	*96.3*	*81 - 118*	*48.61*	*0.988*	*20*	
Surr: 4-Bromofluorobenzene	*51.86*	*1.0*	*50*	*0*	*104*	*85 - 114*	*51.54*	*0.626*	*20*	
Surr: Dibromofluoromethane	*46.15*	*1.0*	*50*	*0*	*92.3*	*80 - 119*	*45.93*	*0.483*	*20*	
Surr: Toluene-d8	*50.76*	*1.0*	*50*	*0*	*102*	*89 - 112*	*51.67*	*1.77*	*20*	

MSD Sample ID: **HS21041306-09MSD** Units: **ug/L** Analysis Date: **26-Apr-2021 15:42**
Client ID: Run ID: **VOA6_382419** SeqNo: **6062401** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.57	1.0	20	0	92.8	80 - 119	18.86	1.54	20	
1,1-Dichloroethene	19.17	1.0	20	0	95.8	71 - 131	19.57	2.06	20	
1,2-Dichloroethane	19.21	1.0	20	0	96.1	73 - 128	19.87	3.39	20	
cis-1,2-Dichloroethene	18.69	1.0	20	0	93.4	78 - 123	19.05	1.91	20	
Methylene chloride	19.82	2.0	20	0	99.1	74 - 124	19.47	1.81	20	
Trichloroethene	19.98	1.0	20	0.6711	96.6	79 - 123	21.12	5.54	20	
Vinyl chloride	21.45	1.0	20	0	107	58 - 137	22.26	3.67	20	
Surr: 1,2-Dichloroethane-d4	*49.48*	*1.0*	*50*	*0*	*99.0*	*81 - 118*	*49.58*	*0.207*	*20*	
Surr: 4-Bromofluorobenzene	*50.9*	*1.0*	*50*	*0*	*102*	*85 - 114*	*50.75*	*0.285*	*20*	
Surr: Dibromofluoromethane	*46.58*	*1.0*	*50*	*0*	*93.2*	*80 - 119*	*46.27*	*0.668*	*20*	
Surr: Toluene-d8	*50.46*	*1.0*	*50*	*0*	*101*	*89 - 112*	*50.34*	*0.234*	*20*	

The following samples were analyzed in this batch: HS21041255-07 HS21041255-08

Revision: 1

RIGHT SOLUTIONS RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: 165053 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **MBLK-165053** Units: **mg/Kg** Analysis Date: **24-Apr-2021 14:53**
Client ID: Run ID: **ManTech01_382328** SeqNo: **6059935** PrepDate: **24-Apr-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10.0	10.0								U

LCS Sample ID: **LCS-165053** Units: **mg/Kg** Analysis Date: **24-Apr-2021 15:02**
Client ID: Run ID: **ManTech01_382328** SeqNo: **6059936** PrepDate: **24-Apr-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10300	10.0	10000	0	103	80 - 120				

LCSD Sample ID: **LCSD-165053** Units: **mg/Kg** Analysis Date: **24-Apr-2021 15:11**
Client ID: Run ID: **ManTech01_382328** SeqNo: **6059937** PrepDate: **24-Apr-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10620	10.0	10000	0	106	80 - 120	10300	3.04	20	

DUP Sample ID: **HS21041255-08DUP** Units: **mg/Kg** Analysis Date: **24-Apr-2021 15:17**
Client ID: **16EW06-210422** Run ID: **ManTech01_382328** SeqNo: **6059939** PrepDate: **24-Apr-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10.0	10.0					0	0	20	U

The following samples were analyzed in this batch: HS21041255-08

Revision: 1

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: 165463 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-165463** Units: **mg/Kg** Analysis Date: **06-May-2021 09:45**
Client ID: Run ID: **ICS-Integrion_383145** SeqNo: **6079865** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	1.00	1.00								U
Nitrogen, Nitrate (As N)	1.00	1.00								U
Sulfate	5.00	5.00								U

LCS Sample ID: **LCS-165463** Units: **mg/Kg** Analysis Date: **06-May-2021 09:52**
Client ID: Run ID: **ICS-Integrion_383145** SeqNo: **6079866** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	37.62	1.00	40	0	94.0	80 - 120				
Nitrogen, Nitrate (As N)	36.13	1.00	40	0	90.3	80 - 120				
Sulfate	191	5.00	200	0	95.5	80 - 120				

MS Sample ID: **HS21041427-25MS** Units: **mg/Kg** Analysis Date: **06-May-2021 11:26**
Client ID: Run ID: **ICS-Integrion_383145** SeqNo: **6079875** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	21.27	0.995	19.9	1.132	101	80 - 120				
Nitrogen, Nitrate (As N)	18.92	0.995	19.9	0.3726	93.2	80 - 120				
Sulfate	395	4.97	99.49	224.3	172	80 - 120				S

MSD Sample ID: **HS21041427-25MSD** Units: **mg/Kg** Analysis Date: **06-May-2021 11:34**
Client ID: Run ID: **ICS-Integrion_383145** SeqNo: **6079876** PrepDate: **05-May-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	21.29	0.998	19.97	1.132	101	80 - 120	21.27	0.109	20	
Nitrogen, Nitrate (As N)	19	0.998	19.97	0.3726	93.3	80 - 120	18.92	0.404	20	
Sulfate	379.9	4.99	99.84	224.3	156	80 - 120	395	3.92	20	S

The following samples were analyzed in this batch: HS21041255-08

Revision: 1

RIGHT SOLUTION | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382327 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW1-210424** Units: **mg/L** Analysis Date: **24-Apr-2021 12:12**
Client ID: Run ID: **ManTech01_382327** SeqNo: **6059911** PrepDate: DF: **1**

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

LCS Sample ID: **LCS1-210424** Units: **mg/L** Analysis Date: **24-Apr-2021 12:21**
Client ID: Run ID: **ManTech01_382327** SeqNo: **6059912** PrepDate: DF: **1**

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

LCSD Sample ID: **LCSD1-210424** Units: **mg/L** Analysis Date: **24-Apr-2021 12:29**
Client ID: Run ID: **ManTech01_382327** SeqNo: **6059913** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1033	5.00	1000	0	103	85 - 115	1025	0.769	20	

DUP Sample ID: **HS21041257-01DUP** Units: **mg/L** Analysis Date: **24-Apr-2021 12:43**
Client ID: Run ID: **ManTech01_382327** SeqNo: **6059915** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	280.8	5.00					297.6	5.84	20	

The following samples were analyzed in this batch: HS21041255-05 HS21041255-07

Revision: 1

RIGHT SOLUTIONS RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382366 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **23-Apr-2021 11:10**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060702** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **23-Apr-2021 11:29**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060703** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.564	0.100	4	0	89.1	80 - 120				
Nitrogen, Nitrate (As N)	3.727	0.100	4	0	93.2	80 - 120				
Sulfate	18.79	0.500	20	0	94.0	80 - 120				

MS Sample ID: **HS21041056-02MS** Units: **mg/L** Analysis Date: **23-Apr-2021 20:52**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060726** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	44.75	2.00	40	8.074	91.7	80 - 120				
Nitrogen, Nitrate (As N)	39.93	2.00	40	0	99.8	80 - 120				
Sulfate	197.3	10.0	200	8.808	94.2	80 - 120				

MS Sample ID: **HS21041055-01MS** Units: **mg/L** Analysis Date: **23-Apr-2021 18:25**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060719** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.181	0.100	2	0.3425	91.9	80 - 120				
Nitrogen, Nitrate (As N)	1.956	0.100	2	0	97.8	80 - 120				
Sulfate	10.02	0.500	10	0.1333	98.9	80 - 120				

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382366 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MS Sample ID: **HS21040612-03MS** Units: **mg/L** Analysis Date: **23-Apr-2021 14:44**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060708** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	37.97	1.00	20	19.22	93.8	80 - 120				
Nitrogen, Nitrate (As N)	20.37	1.00	20	0	102	80 - 120				
Sulfate	331.3	5.00	100	251.6	79.7	80 - 120				S

MSD Sample ID: **HS21041056-02MSD** Units: **mg/L** Analysis Date: **23-Apr-2021 21:10**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060727** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	45.03	2.00	40	8.074	92.4	80 - 120	44.75	0.628	20	
Nitrogen, Nitrate (As N)	40.29	2.00	40	0	101	80 - 120	39.93	0.907	20	
Sulfate	200.8	10.0	200	8.808	96.0	80 - 120	197.3	1.74	20	

MSD Sample ID: **HS21041055-01MSD** Units: **mg/L** Analysis Date: **23-Apr-2021 18:43**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060720** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.186	0.100	2	0.3425	92.2	80 - 120	2.181	0.192	20	
Nitrogen, Nitrate (As N)	1.973	0.100	2	0	98.6	80 - 120	1.956	0.835	20	
Sulfate	10.23	0.500	10	0.1333	101	80 - 120	10.02	2.08	20	

MSD Sample ID: **HS21040612-03MSD** Units: **mg/L** Analysis Date: **23-Apr-2021 15:57**
Client ID: Run ID: **ICS-Integrion_382366** SeqNo: **6060711** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	38.61	1.00	20	19.22	97.0	80 - 120	37.97	1.66	20	
Nitrogen, Nitrate (As N)	20.35	1.00	20	0	102	80 - 120	20.37	0.0786	20	
Sulfate	329.2	5.00	100	251.6	77.6	80 - 120	331.3	0.646	20	S

The following samples were analyzed in this batch: HS21041255-05 HS21041255-07

Revision: 1

RIGHT SOLUTIONS RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382840 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-** Units: **mg/L** Analysis Date: **01-May-2021 08:23**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6071997** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-** Units: **mg/L** Analysis Date: **01-May-2021 08:41**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6071998** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	19.12	0.500	20	0	95.6	80 - 120				

MS Sample ID: **HS21041595-02MS** Units: **mg/L** Analysis Date: **30-Apr-2021 13:47**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6072007** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	294.5	0.500	10	285	95.1	80 - 120				EO

MSD Sample ID: **HS21041595-02MSD** Units: **mg/L** Analysis Date: **30-Apr-2021 14:06**
Client ID: Run ID: **ICS-Integrion_382840** SeqNo: **6072033** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	298.2	0.500	10	285	132	80 - 120	294.5	1.25	20	SEO

The following samples were analyzed in this batch: HS21041255-07

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R382918 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B**

MBLK Sample ID: **MBLK2-05032021** Units: **mg/L** Analysis Date: **03-May-2021 21:12**
Client ID: Run ID: **TOC_04_382918** SeqNo: **6073968** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS2-05032021** Units: **mg/L** Analysis Date: **03-May-2021 21:28**
Client ID: Run ID: **TOC_04_382918** SeqNo: **6073969** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.48	1.00	10	0	105	85 - 115				

LCSD Sample ID: **LCSD2-05032021** Units: **mg/L** Analysis Date: **03-May-2021 21:43**
Client ID: Run ID: **TOC_04_382918** SeqNo: **6073970** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.43	1.00	10	0	104	85 - 115	10.48	0.478	20	

MS Sample ID: **HS21041275-03MS** Units: **mg/L** Analysis Date: **03-May-2021 23:15**
Client ID: Run ID: **TOC_04_382918** SeqNo: **6073976** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	20.34	1.00	10	15.54	48.0	80 - 120				S

The following samples were analyzed in this batch: HS21041255-07

Revision: 1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: HS21041255

QC BATCH REPORT

Batch ID: R383003 (0) **Instrument: TOC_04** **Method: TOTAL ORGANIC CARBON - SM5310B**

MBLK Sample ID: **MBLK2-05042021** Units: **mg/L** Analysis Date: **04-May-2021 21:49**
Client ID: Run ID: **TOC_04_383003** SeqNo: **6075979** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **LCS2-05042021** Units: **mg/L** Analysis Date: **04-May-2021 22:04**
Client ID: Run ID: **TOC_04_383003** SeqNo: **6075980** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.752	1.00	10	0	97.5	85 - 115				

LCSD Sample ID: **LCSD2-05042021** Units: **mg/L** Analysis Date: **04-May-2021 22:19**
Client ID: Run ID: **TOC_04_383003** SeqNo: **6075981** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.61	1.00	10	0	96.1	85 - 115	9.752	1.47	20	

MS Sample ID: **HS21041585-02MS** Units: **mg/L** Analysis Date: **04-May-2021 23:04**
Client ID: Run ID: **TOC_04_383003** SeqNo: **6075984** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	18.88	1.00	10	8.11	108	80 - 120				

The following samples were analyzed in this batch: HS21041255-05

Revision: 1

RIGHT SOLUTION RIGHT PARTNER

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 April 2021
WorkOrder: **HS21041255**

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
Date	
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected
mg/L	Milligrams per Liter

RIGHT SOLUTIONS RIGHT PARTNER

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022

RIGHT SOLUTION RIGHT PARTNER

ALS Houston, US Date: 11-May-21

Sample Receipt Checklist

Work Order ID: HS21041255 **Date/Time Received:** 23-Apr-2021 10:15

Client Name: CBI-Houston **Received by:** Paresh M. Giga

Completed By:	/S/ Paresh M. Giga	23-Apr-2021 12:08	**Reviewed by:**	/S/ RJ Modashia	23-Apr-2021 14:58
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **GW/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 ☐	2 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):	0.9C U/C	IR31	
Cooler(s)/Kit(s):	46876		
Date/Time sample(s) sent to storage:	4/23/2021 12:25		
Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Headspace >6mm. Sample 16IW09-210422
VOC - 2 vials; TPH - 2 vials

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

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CHAIN OF CUSTODY

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

Page 1 of 1

HS21041255

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 April 2021

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

Project No. 501032

Job: **LHAAP 16 April 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)
16WW27-210422	WG	4/22/21/0740		4	X					X					
16WW43-210422	WG	4/22/21/0820		4	X					X					
16WW23-210422	WG	4/22/21/0905		4	X					X					
16WW24-210422	WG	4/22/21/0945		4	X					X					
16IW09-210422	WG	4/22/21/1030		10	X	X	X	X	X	X					
16WW49-210422	WG	4/22/21/1120		4	X					X					
16WW48-210422	WG	4/22/21/1205		10	X	X	X	X	X	X					
16EW06-210422	WG	4/22/21/1255		10	X	X	X	X	X	X					

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	4/22/21	1430		4/23/2021	10:15						

For Lab Use Only

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

Remarks:

46876 0.9° #31 cr(-0.1°

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

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CHAIN OF CUSTODY

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

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 April 2021**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservati etc.)
						Analyses										
TRIP BLANK-210422		W	4/22/21		2	X										

Aptim Environmental & Infrastructure, Inc.
Longhorn Army Ammunition Plant 16 April 2021

HS21041255

Additional Remarks: Standard TAT on all parameters. Please email results to Vicki.Graves@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	4/22/21	1430		4/23/2021	10:15						

For Lab Use Only

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

Remarks:

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

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

46876

CUSTODY SEAL

Date: 4/22/21 Time: 1430
Name: Scott Beesinger
Company: Bluefin

Seal Broken By:
Date: 04/23/21

46876 APR 2 3 2021

Must Deliver Next Business Day
Time and Tempature Sensitive!

46876

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIROMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 29MAR21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3409
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-BQ 77443-RJ

RMA:

FedEx Express

FedEx
TRK# 0221 9473 0841 7362

FRI - 23 APR AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID: 5090797 27Apr2021 GGGA 560G3/F9A6/1023

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May 10, 2021 Service Request No:E2100529

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

Laboratory Results for: HS21041255

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 26, 2021
For your reference, these analyses have been assigned our service request number **E2100529.**

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.:**	E2100529
Project:	HS21041255	**Date Received:**	04/26/21
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

Eight samples were received for analysis at ALS Environmental in Houston on 04/26/21.

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:

EQ2100263 & EQ2100278: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for these extraction batches. 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.

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Client: ALS Environmental - US **Service Request:**E2100529
Project: HS21041255

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100529-001	16WW27-210422	4/22/2021	0740
E2100529-002	16WW43-210422	4/22/2021	0820
E2100529-003	16WW23-210422	4/22/2021	0905
E2100529-004	16WW24-210422	4/22/2021	0945
E2100529-005	16IW09-210422	4/22/2021	1030
E2100529-006	16WW49-210422	4/22/2021	1120
E2100529-007	16WW48-210422	4/22/2021	1205
E2100529-008	16EW06-210422	4/22/2021	1255

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Service Request Summary

Folder #: **E2100529**
Client Name: ALS Environmental - US
Project Name: HS21041255
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: 04/26/21
Internal Due Date: 5/7/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041255
EDD: No EDD Specified

8 125 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: SMO
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100529-001	16WW27-210422	Ground Water	04/22/21 0740	**IV**
E2100529-002	16WW43-210422	Ground Water	04/22/21 0820	**IV**
E2100529-003	16WW23-210422	Ground Water	04/22/21 0905	**IV**
E2100529-004	16WW24-210422	Ground Water	04/22/21 0945	**IV**
E2100529-005	16IW09-210422	Ground Water	04/22/21 1030	**IV**
E2100529-006	16WW49-210422	Ground Water	04/22/21 1120	**IV**
E2100529-007	16WW48-210422	Ground Water	04/22/21 1205	**IV**
E2100529-008	16EW06-210422	Liquid	04/22/21 1255	**IV**

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Service Request Summary

Folder #: **E2100529**
Client Name: ALS Environmental - US
Project Name: HS21041255
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: 04/26/21
Internal Due Date: 5/7/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041255
EDD: No EDD Specified

8 125 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: SMO
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	8	IV due 5/14 - Labeled as E2100469

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Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

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Data Qualifiers

Lab Standard

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

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Acronyms

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

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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	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
United States Department of Agriculture	P330-19-00299	10/10/2022

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Chain of Custody

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

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

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **15979**

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:	HS21041255
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041255-01**	**16WW27-210422**	**Groundwater**	**22 Apr 2021 07:40**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
2.	**HS21041255-02**	**16WW43-210422**	**Groundwater**	**22 Apr 2021 08:20**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
3.	**HS21041255-03**	**16WW23-210422**	**Groundwater**	**22 Apr 2021 09:05**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
4.	**HS21041255-04**	**16WW24-210422**	**Groundwater**	**22 Apr 2021 09:45**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
5.	**HS21041255-05**	**16IW09-210422**	**Groundwater**	**22 Apr 2021 10:30**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
6.	**HS21041255-06**	**16WW49-210422**	**Groundwater**	**22 Apr 2021 11:20**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
7.	**HS21041255-07**	**16WW48-210422**	**Groundwater**	**22 Apr 2021 12:05**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
8.	**HS21041255-08**	**16EW06-210422**	**Groundwater**	**22 Apr 2021 12:55**

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **15979**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 4/26/21 0800

Cooler ID(s): _____ Temperature(s): _____

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ALS Environmental

Cooler Receipt Form

Project Chemist [illegible]

Client/Project [illegible]

Thermometer ID [illegible]

Date/Time Received: [illegible] Initials: [illegible] Date/Time Logged in: [illegible] Initials [illegible]

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ 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		[illegible]	0806	[illegible]	0.6	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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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

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Preparation Information Benchsheet

Prep Run#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100470-001	16WW40-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100470-002	16WW12-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100492-001	HBW7_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
4	E2100492-002	HBW10_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
5	E2100492-003	HBW10_042721_a	.01	6850/ClO4 DOD			Surface Water	10mL	
6	E2100492-004	HBW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
7	E2100492-005	GPW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
8	E2100492-006	GPW3_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
9	E2100493-001	LH18/24-SP650_042721_BIX	.01	6850/ClO4 DOD			Surface Water	10mL	
10	E2100529-001	16WW27-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100529-002	16WW43-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100529-003	16WW23-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100529-004	16WW24-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100529-005	16IW09-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100529-006	16WW49-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100529-007	16WW48-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
17	EQ2100263-01	MB		6850/ClO4 DOD			Liquid	10mL	
18	EQ2100263-02	LCS		6850/ClO4 DOD			Liquid	10mL	
19	EQ2100263-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100263-02 1.00µL EQ2100263-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100470-001 100.00µL E2100470-002 100.00µL E2100492-001 100.00µL E2100492-002 100.00µL E2100492-003 100.00µL E2100492-004 100.00µL
E2100492-005 100.00µL E2100492-006 100.00µL E2100493-001 100.00µL E2100529-001 100.00µL E2100529-002 100.00µL E2100529-003 100.00µL
E2100529-004 100.00µL E2100529-005 100.00µL E2100529-006 100.00µL E2100529-007 100.00µL EQ2100263-01 100.00µL EQ2100263-02 100.00µL
EQ2100263-03 100.00µL

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Preparation Information Benchsheet

Prep Run#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

Preparation Steps

Step: Preparation
Started: 4/30/21 12:06
Finished: 4/30/21 14:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Preparation Information Benchsheet

Prep Run#: 378968 **Prep WorkFlow:** Gen CLO4 **Status:** Prepped
Team: Semivoa GCMS/KBROWN **Prep Method:** **Prep Date/Time:** 5/10/21 10:00

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100529-008	16EW06-210422	.01	6850/ClO4 DOD			Liquid	1.190g	
2	EQ2100278-01	MB		6850/ClO4 DOD			Solid	1.00g	
3	EQ2100278-02	LCS		6850/ClO4 DOD			Solid	1.00g	
4	EQ2100278-03	DLCS		6850/ClO4 DOD			Solid	1.00g	

Spiking Solutions

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

EQ2100278-02 1.00µL EQ2100278-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100529-008 100.00µL EQ2100278-01 100.00µL EQ2100278-02 100.00µL EQ2100278-03 100.00µL

Preparation Steps

Step: Extraction
Started: 5/10/21 10:00
Finished: 5/10/21 10:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 5/10/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

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Analytical Results

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0740
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW27-210422	**Units:**	µg/L
Lab Code:	E2100529-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:50	378427	722220	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0820
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW43-210422	**Units:**	µg/L
Lab Code:	E2100529-002	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.500	0.250	0.125	5	4/30/21	5/3/21 10:23	378427	722497	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0905
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW23-210422	**Units:**	µg/L
Lab Code:	E2100529-003	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 17:09	378427	722220	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0945
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW24-210422	**Units:**	µg/L
Lab Code:	E2100529-004	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 17:18	378427	722220	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1030
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16IW09-210422	**Units:**	µg/L
Lab Code:	E2100529-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 17:27	378427	722220	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1120
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW49-210422	**Units:**	µg/L
Lab Code:	E2100529-006	**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	4/30/21	5/1/21 17:37	378427	722220	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1205
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW48-210422	**Units:**	µg/L
Lab Code:	E2100529-007	**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	**94.7**		1.00	0.500	0.250	10	4/30/21	5/3/21 10:32	378427	722497	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1255
Sample Matrix:	Liquid	**Date Received:**	4/26/21
Sample Name:	16EW06-210422	**Units:**	µg/Kg
Lab Code:	E2100529-008	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	8.40	7.50	3.00	10	5/10/21	5/10/21 13:32	378968	722771	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100263-01	**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	4/30/21	5/1/21 16:22	378427	722220	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Liquid	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/Kg
Lab Code:	EQ2100278-01	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.750	0.300	1	5/10/21	5/10/21 12:11	378968	722771	

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Accuracy & Precision

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10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Analyzed:**	5/10/21
Sample Matrix:	Liquid		

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/Kg
Prep Method:		**Basis:**	As Received
		Extraction Lot:	378968

	Lab Control Sample EQ2100278-02			Duplicate Lab Control Sample EQ2100278-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	1.17	1.00	117	1.11	1.00	111	84 - 121	5	15

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

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

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Liquid	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2100278-02	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**1.17**		1.00	0.750	0.300	1	5/10/21	5/10/21 12:49	378968	722771	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Liquid	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2100278-03	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**1.11**		1.00	0.750	0.300	1	5/10/21	5/10/21 12:58	378968	722771	

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QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Analyzed:**	5/ 1/21
Sample Matrix:	Ground Water		

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	378427

	Lab Control Sample EQ2100263-02			Duplicate Lab Control Sample EQ2100263-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0981	0.100	98	0.112	0.100	112	84 - 119	13	15

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

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

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-02	**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	**0.0981**	J	0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:31	378427	722220	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-03	**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	**0.112**		0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:19	378427	722220	

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HS21041255 8260_W_DOD Raw Data

ALS WO# HS21041255

MSVOA06 -Logbook

Batch: 44312 **Analyst:** Presenta Cabascango

Date: 04-02-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-02-2021 10:32 am	1.00	50 mL	50 mL	X040201.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	04-02-2021 10:53 am	1.00	50 mL	50 mL	X040202.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	04-02-2021 11:35 am	1.00	50 mL	50 mL	X040203.D	Liquid	Y	NA
4	VSTD001	ICAL3	04-02-2021 11:56 am	1.00	50 mL	50 mL	X040204.D	Liquid	Y	NA
5	VSTD002	ICAL4	04-02-2021 12:17 pm	1.00	50 mL	50 mL	X040205.D	Liquid	Y	NA
6	VSTD005	ICAL5	04-02-2021 12:38 pm	1.00	50 mL	50 mL	X040206.D	Liquid	Y	NA
7	VSTD020	ICAL6	04-02-2021 12:59 pm	1.00	50 mL	50 mL	X040207.D	Liquid	Y	NA
8	VSTD050	ICAL7	04-02-2021 01:20 pm	1.00	50 mL	50 mL	X040208.D	Liquid	Y	NA
9	VSTD100	ICAL8	04-02-2021 01:41 pm	1.00	50 mL	50 mL	X040209.D	Liquid	Y	NA
10	VSTD150	ICAL9	04-02-2021 02:02 pm	1.00	50 mL	50 mL	X040210.D	Liquid	Y	NA
11	VSTD200	ICAL	04-02-2021 02:23 pm	1.00	50 mL	50 mL	X040211.D	Liquid	Y	NA
12	BLANK	SAMP	04-02-2021 02:44 pm	1.00	50 mL	50 mL	X040212.D	Liquid	Y	NA
13	CCV	SAMP	04-02-2021 03:05 pm	1.00	50 mL	50 mL	X040213.D	Liquid	Y	NA
14	CCV	CCV	04-02-2021 03:26 pm	1.00	50 mL	50 mL	X040214.D	Liquid	Y	NA
15	CCB	SAMP	04-02-2021 03:47 pm	1.00	50 mL	50 mL	X040215.D	Liquid	Y	NA
16	VLCSW-210402	LCS	04-02-2021 04:08 pm	1.00	50 mL	50 mL	X040216.D	Liquid	Y	NA
17	BLANK	SAMP	04-02-2021 04:29 pm	1.00	50 mL	50 mL	X040217.D	Liquid	Y	NA
18	BLANK	SAMP	04-02-2021 04:50 pm	1.00	50 mL	50 mL	X040218.D	Liquid	Y	NA
19	VBLKW-210402	MBLK	04-02-2021 05:11 pm	1.00	50 mL	50 mL	X040219.D	Liquid	Y	NA
20	HS21031390-28	SAMP	04-02-2021 05:32 pm	1.00	50 mL	50 mL	X040220.D	Liquid	Y	NA
21	HS21031390-01	SAMP	04-02-2021 05:53 pm	1.00	50 mL	50 mL	X040221.D	Liquid	Y	NA
22	HS21031390-02	SAMP	04-02-2021 06:14 pm	1.00	50 mL	50 mL	X040222.D	Liquid	Y	NA
23	HS21031390-08	SAMP	04-02-2021 06:35 pm	1.00	50 mL	50 mL	X040223.D	Liquid	Y	NA
24	HS21031390-14	SAMP	04-02-2021 06:56 pm	1.00	50 mL	50 mL	X040224.D	Liquid	Y	NA
25	HS21031390-06	SAMP	04-02-2021 07:17 pm	10.00	5 mL	50 mL	X040225.D	Liquid	Y	NA
26	HS21031390-09	SAMP	04-02-2021 07:38 pm	5.00	10 mL	50 mL	X040226.D	Liquid	Y	NA
27	HS21031390-28MS	MS	04-02-2021 07:59 pm	1.00	50 mL	50 mL	X040227.D	Liquid	Y	NA
28	HS21031390-28MSD	MSD	04-02-2021 08:20 pm	1.00	50 mL	50 mL	X040228.D	Liquid	Y	NA
29	HS21031390-06	SAMP	04-02-2021 08:41 pm	100.0(	500 µL	50 mL	X040229.D	Liquid	Y	NA
30	HS21031390-09	SAMP	04-02-2021 09:03 pm	25.00	2 mL	50 mL	X040230.D	Liquid	Y	NA
31	HS21031318-29	SAMP	04-02-2021 09:24 pm	1.00	50 mL	50 mL	X040231.D	Liquid	Y	NA
32	HS21040032-03	SAMP	04-02-2021 09:45 pm	1.00	50 mL	50 mL	X040232.D	Liquid	Y	NA
33	BFB	TUNE	04-02-2021 10:06 pm	1.00	50 mL	50 mL	Y040201.D	Liquid	Y	NA
34	CCV	CCV	04-02-2021 10:27 pm	1.00	50 mL	50 mL	Y040202a.D	Liquid	Y	NA
35	CCV	CCV	04-02-2021 10:48 pm	1.00	50 mL	50 mL	Y040203.D	Liquid	Y	NA
36	CCB	SAMP	04-02-2021 11:09 pm	1.00	50 mL	50 mL	Y040204.D	Liquid	Y	NA
37	VLCSW-210402	LCS	04-02-2021 11:30 pm	1.00	50 mL	50 mL	Y040205.D	Liquid	Y	NA
38	BLANK	SAMP	04-02-2021 11:51 pm	1.00	50 mL	50 mL	Y040206.D	Liquid	Y	NA
39	VBLKW-210402	MBLK	04-03-2021 12:12 am	1.00	50 mL	50 mL	Y040207.D	Liquid	Y	NA
40	HS21031399-49	SAMP	04-03-2021 12:33 am	1.00	50 mL	50 mL	Y040208.D	Liquid	Y	NA
41	HS21031390-31	SAMP	04-03-2021 12:54 am	1.00	50 mL	50 mL	Y040209.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS21031390-33	SAMP	04-03-2021 01:15 am	1.00	50 mL	50 mL	Y040210.D	Liquid	Y	NA
43	HS21031390-31MS	MS	04-03-2021 01:36 am	1.00	50 mL	50 mL	Y040211.D	Liquid	Y	NA
44	HS21031390-31MSD	MSD	04-03-2021 01:57 am	1.00	50 mL	50 mL	Y040212.D	Liquid	Y	NA
45	BLANK	SAMP	04-03-2021 02:18 am	1.00	50 mL	50 mL	Y040213.D	Liquid	Y	NA
46	BLANK	SAMP	04-03-2021 02:39 am	1.00	50 mL	50 mL	Y040214.D	Liquid	Y	NA
47	HS21031399-38	SAMP	04-03-2021 03:00 am	1.00	50 mL	50 mL	Y040215.D	Liquid	Y	NA
48	HS21031399-39	SAMP	04-03-2021 03:21 am	1.00	50 mL	50 mL	Y040216.D	Liquid	Y	NA
49	HS21031399-41	SAMP	04-03-2021 03:43 am	1.00	50 mL	50 mL	Y040217.D	Liquid	Y	NA
50	HS21031399-42	SAMP	04-03-2021 04:04 am	1.00	50 mL	50 mL	Y040218.D	Liquid	Y	NA
51	HS21031399-43	SAMP	04-03-2021 04:25 am	1.00	50 mL	50 mL	Y040219.D	Liquid	Y	NA
52	HS21031399-44	SAMP	04-03-2021 04:46 am	1.00	50 mL	50 mL	Y040220.D	Liquid	Y	NA
53	HS21031399-45	SAMP	04-03-2021 05:07 am	1.00	50 mL	50 mL	Y040221.D	Liquid	Y	NA
54	HS21031399-46	SAMP	04-03-2021 05:28 am	1.00	50 mL	50 mL	Y040222.D	Liquid	Y	NA
55	HS21031565-01	SAMP	04-03-2021 05:49 am	1.00	50 mL	50 mL	Y040223.D	Liquid	Y	NA
56	HS21031565-05	SAMP	04-03-2021 06:10 am	1.00	50 mL	50 mL	Y040224.D	Liquid	Y	NA
57	HS21031565-06	SAMP	04-03-2021 06:31 am	1.00	50 mL	50 mL	Y040225.D	Liquid	Y	NA
58	HS21031565-07	SAMP	04-03-2021 06:52 am	1.00	50 mL	50 mL	Y040226.D	Liquid	Y	NA
59	HS21031565-08	SAMP	04-03-2021 07:13 am	1.00	50 mL	50 mL	Y040227.D	Liquid	Y	NA
60	HS21031565-11	SAMP	04-03-2021 07:35 am	1.00	50 mL	50 mL	Y040228.D	Liquid	Y	NA
61	HS21031565-14	SAMP	04-03-2021 07:56 am	1.00	50 mL	50 mL	Y040229.D	Liquid	Y	NA
62	HS21031565-15	SAMP	04-03-2021 08:17 am	1.00	50 mL	50 mL	Y040230.D	Liquid	Y	NA
63	HS21031390-32	SAMP	04-03-2021 08:38 am	1.00	50 mL	50 mL	Y040231.D	Liquid	Y	NA
64	BLANJ	SAMP	04-03-2021 08:59 am	1.00	50 mL	50 mL	Y040240.D	Liquid	Y	NA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	46.17	92	80-120
Methylene Chloride	50.00	45.57	91	80-120
1,1-Dichloroethene	50.00	46.21	92	80-120
1,2-Dichloroethane	50.00	47.48	95	80-120
cis-1,2-Dichloroethene	50.00	46.33	93	80-120
1,1,2-Trichloroethane	50.00	48.15	96	80-120
Trichloroethene	50.00	50.43	101	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID: X040201 BFB Injection Date: 04/02/21

Instrument ID: VOA6 BFB Injection Time: 1032

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	22.5
75	30.0 - 60.0% of mass 95	53.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	Greater than 50.0% of mass 95	83.8
175	5.0 - 9.0% of mass 174	6.3 (7.6)1
176	95.0 - 101.0% of mass 174	81.4 (97.1)1
177	5.0 - 9.0% of mass 176	4.4 (5.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X040202	04/02/21	1053
02	VSTD000.5	VSTD000.5	X040203	04/02/21	1135
03	VSTD001	VSTD001	X040204	04/02/21	1156
04	VSTD002	VSTD002	X040205	04/02/21	1217
05	VSTD005	VSTD005	X040206	04/02/21	1238
06	VSTD020	VSTD020	X040207	04/02/21	1259
07	VSTD050	VSTD050	X040208	04/02/21	1320
08	VSTD100	VSTD100	X040209	04/02/21	1341
09	VSTD150	VSTD150	X040210	04/02/21	1402
10	VSTD200	VSTD200	X040211	04/02/21	1423
11	ICV	ICV	X040214	04/02/21	1526
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF0.25: X040202 RF0.5: X040203 RF1: X040204
RF2: X040205 RF5: X040206 RF20: X040207

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.844	0.943	0.758	0.756	0.736
Methylene Chloride		2167	4155	7271	17205	63925
1,1-Dichloroethene		0.748	0.754	0.752	0.776	0.659
1,2-Dichloroethane		0.560	0.634	0.506	0.530	0.475
cis-1,2-Dichloroethene		0.588	0.711	0.624	0.604	0.542
1,1,2-Trichloroethane		0.276	0.355	0.300	0.320	0.251
Trichloroethene		0.263	0.401	0.364	0.376	0.308
Dibromofluoromethane		1934	3862	6870	17824	68668
1,2-Dichloroethane-d4		2323	4438	7506	20809	80475
Toluene-d8		6330	12313	22274	56112	218999
4-Bromofluorobenzene		2889	4647	7732	19193	81621

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104125

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

LAB FILE ID: RF50: X040208 RF100: X040209 RF150: X040210
RF200: X040211

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.712	0.681	0.664	0.652
Methylene Chloride	173954	420832	703062	1013494
1,1-Dichloroethene	0.668	0.684	0.663	0.702
1,2-Dichloroethane	0.517	0.525	0.513	0.503
cis-1,2-Dichloroethene	0.580	0.612	0.608	0.631
1,1,2-Trichloroethane	0.265	0.281	0.281	0.284
Trichloroethene	0.345	0.350	0.337	0.337
Dibromofluoromethane	201590	476731	758989	1061294
1,2-Dichloroethane-d4	243778	568806	919399	1266674
Toluene-d8	658700	1733824	2714142	3949224
4-Bromofluorobenzene	267013	624362	1011725	1473828

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104125

Instrument ID: VOA6 Calibration Date(s): 04/02/21 04/02/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1053 1423

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.74959896	12.472	15.000
Methylene Chloride	LINR	2.966e-002	1.78818120	0.9978871	0.9900000
1,1-Dichloroethene	AVRG		0.71193342	6.418	15.000
1,2-Dichloroethane	AVRG		0.52923847	8.569	15.000
cis-1,2-Dichloroethene	AVRG		0.61120734	7.506	15.000
1,1,2-Trichloroethane	AVRG		0.29044925	10.722	15.000
Trichloroethene	AVRG		0.34228157	11.637	15.000
Dibromofluoromethane	LINR	8.656e-003	1.68407127	0.9996746	0.9900000
1,2-Dichloroethane-d4	LINR	9.666e-003	1.40410549	0.9998489	0.9900000
Toluene-d8	LINR	3.71e-002	0.74922718	0.9979532	0.9900000
4-Bromofluorobenzene	LINR	3.301e-002	2.01663185	0.9986184	0.9900000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

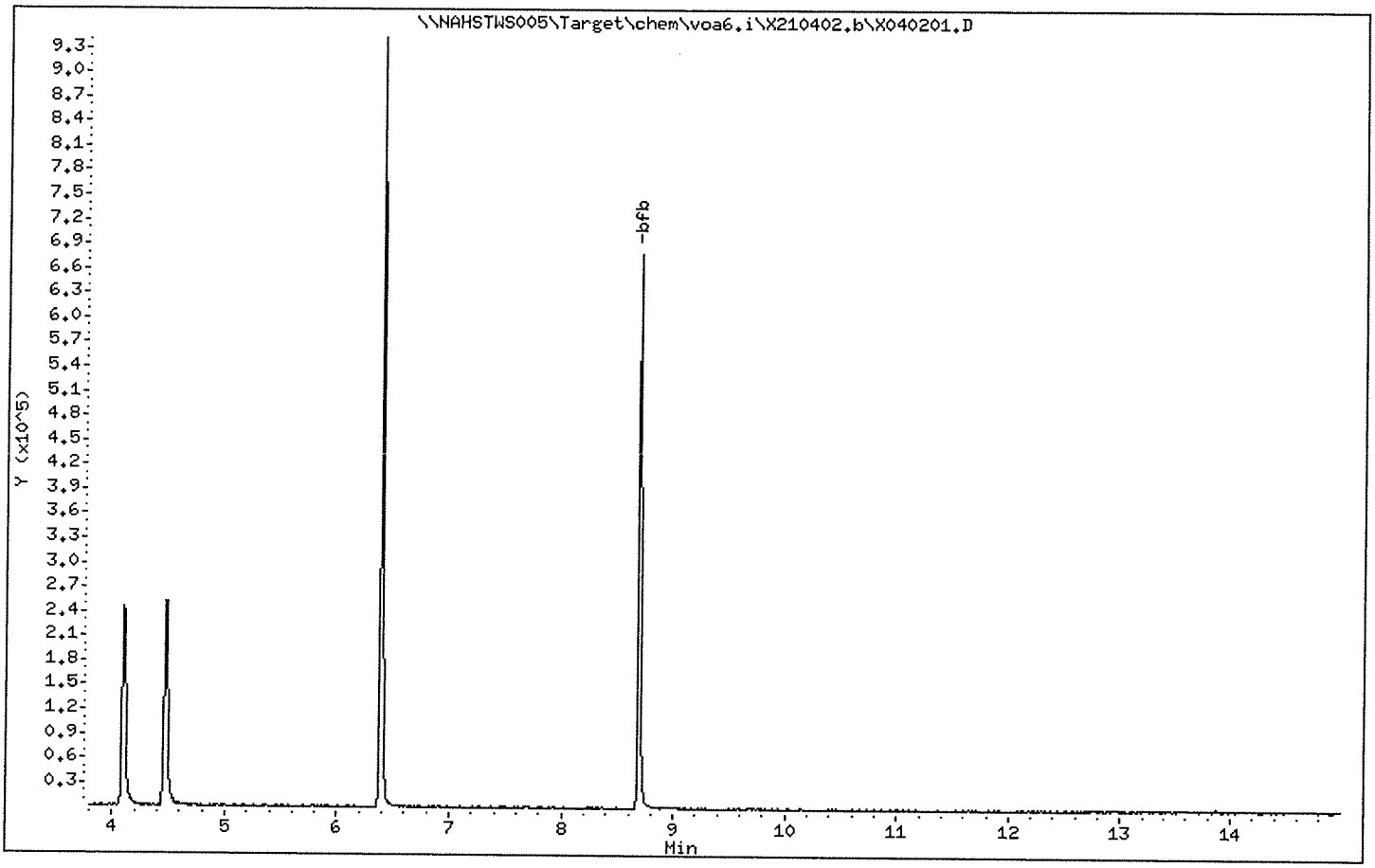
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

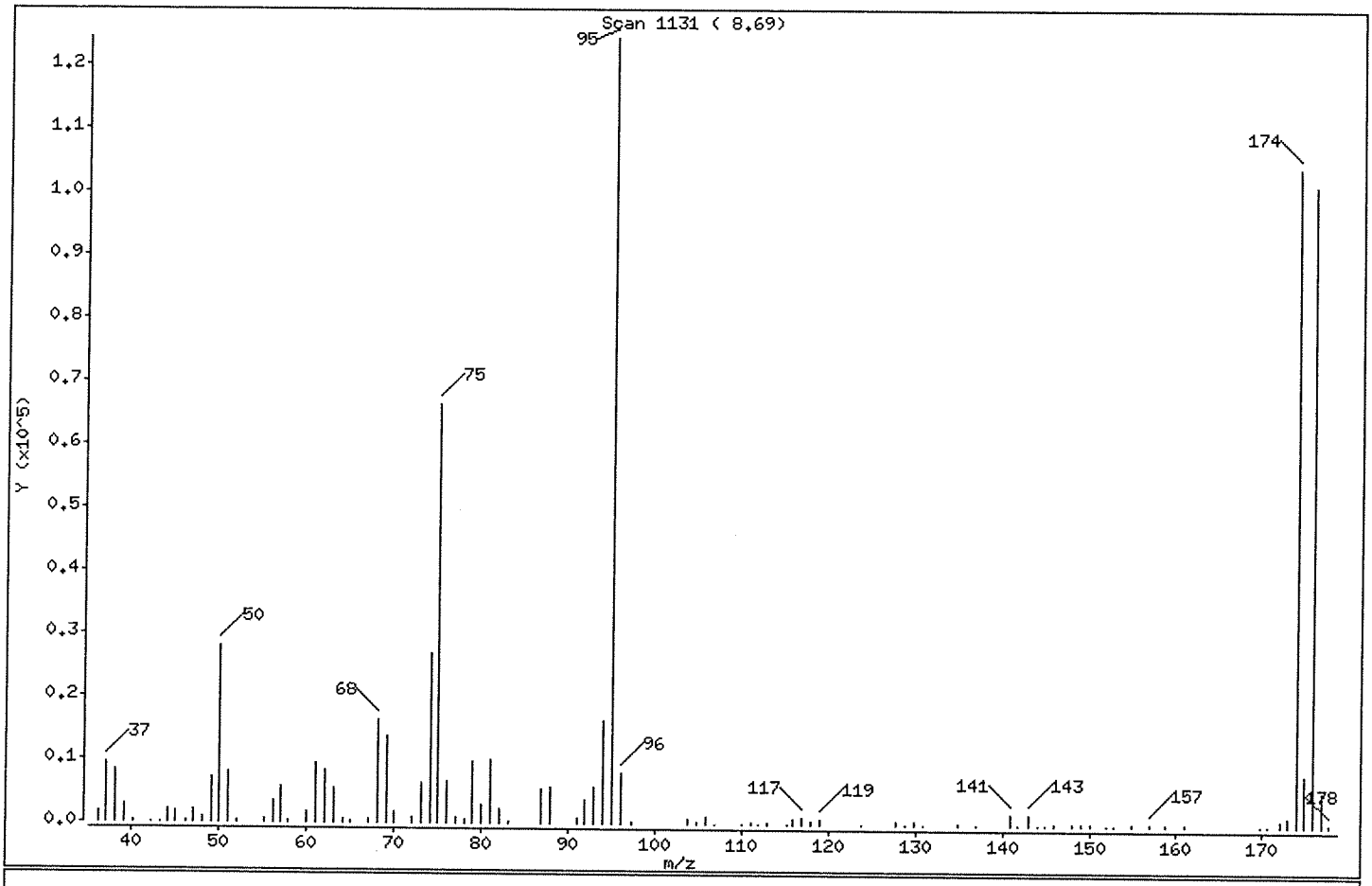
Volume Injected (uL): 2.0

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	22.51
75	30.00 - 60.00% of mass 95	53.31
96	5.00 - 9.00% of mass 95	6.51
173	Less than 2.00% of mass 174	1.06 (1.26)
174	Greater than 50.00% of mass 95	83.79
175	5.00 - 9.00% of mass 174	6.34 (7.56)
176	95.00 - 101.00% of mass 174	81.37 (97.11)
177	5.00 - 9.00% of mass 176	4.40 (5.40)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040201.D

Date : 02-APR-2021 10:32

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: X040201.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1732	64.00	599	95.00	124200	141.70	84
37.00	9290	65.00	153	96.00	8090	142.90	1576
38.00	8308	67.00	500	97.20	217	143.90	75
39.00	2929	68.00	16384	103.70	740	144.80	94
40.10	424	69.00	13717	104.80	164	145.90	148
42.20	74	70.00	1785	105.80	1029	147.90	250
43.20	72	72.10	777	106.90	112	148.90	155
44.00	2050	73.00	6328	109.90	136	150.00	286
45.00	1795	74.00	26912	111.00	268	151.80	52
46.10	242	75.00	66216	111.90	85	152.70	124
47.00	1874	76.00	6620	112.90	237	154.80	284
48.00	988	77.10	800	115.10	59	156.80	312
49.00	7094	78.10	446	115.80	811	158.80	260
50.00	27952	78.90	9818	116.90	1154	161.00	258
51.00	7947	79.90	2794	117.80	635	169.80	139
51.90	391	80.90	10133	118.90	930	170.60	140
55.20	631	82.00	2269	123.70	57	172.20	893
56.10	3391	83.00	193	127.70	679	172.90	1311
57.00	5690	86.90	5298	128.70	113	173.90	104064
57.90	400	87.90	5776	129.70	519	174.90	7871
59.90	1604	90.90	805	130.80	68	175.90	101056
61.00	9323	91.90	3707	134.80	220	176.90	5459
62.00	8245	92.90	5610	136.80	123	177.80	373
63.00	5418	94.00	16192	140.90	1678		

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040202.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 02-APR-2021 10:53
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

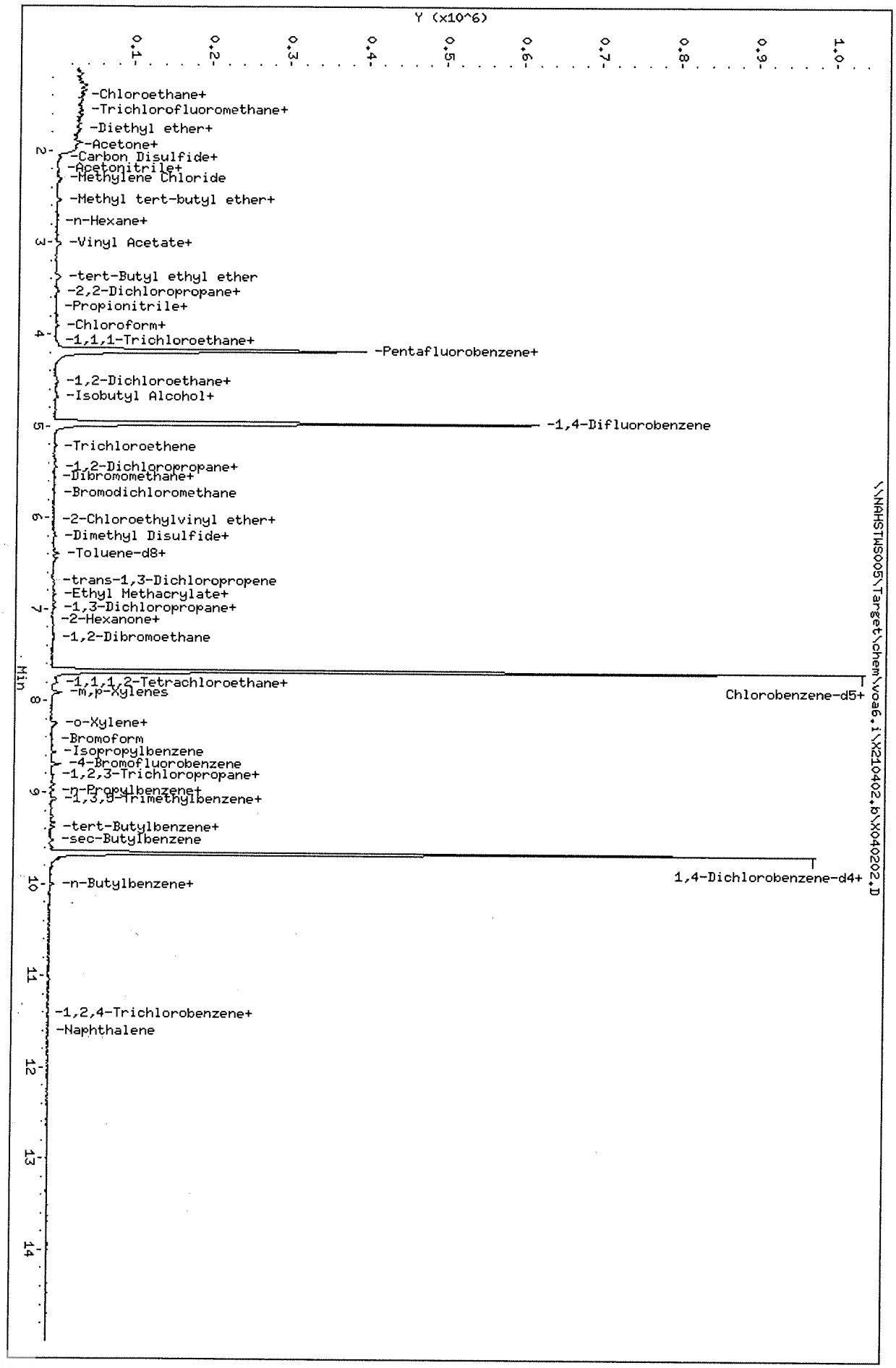
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	311555	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	505232	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	450629	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	197083	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	968	0.25000	0.69(M)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1238	0.25000	0.76(TM)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	4819	0.25000	2.25
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3592	0.25000	2.45
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	995	0.25000	0.38(a)
11 1,1-Dichloroethene	96	1.904	1.904	(0.455)	1567	0.25000	0.35(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	1597	0.25000	0.29(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	893	0.25000	0.23(M)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2054	0.25000	2.07(aM)
38 Trichloroethene	130	5.221	5.221	(1.052)	988	0.25000	0.28(M)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1614	0.25000	0.34(M)

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\X210402.b\X040202.D
Date : 02-APR-2021 10:53
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\X210402.b\X040203.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 02-APR-2021 11:35
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 10:53 Cal File: X040202.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

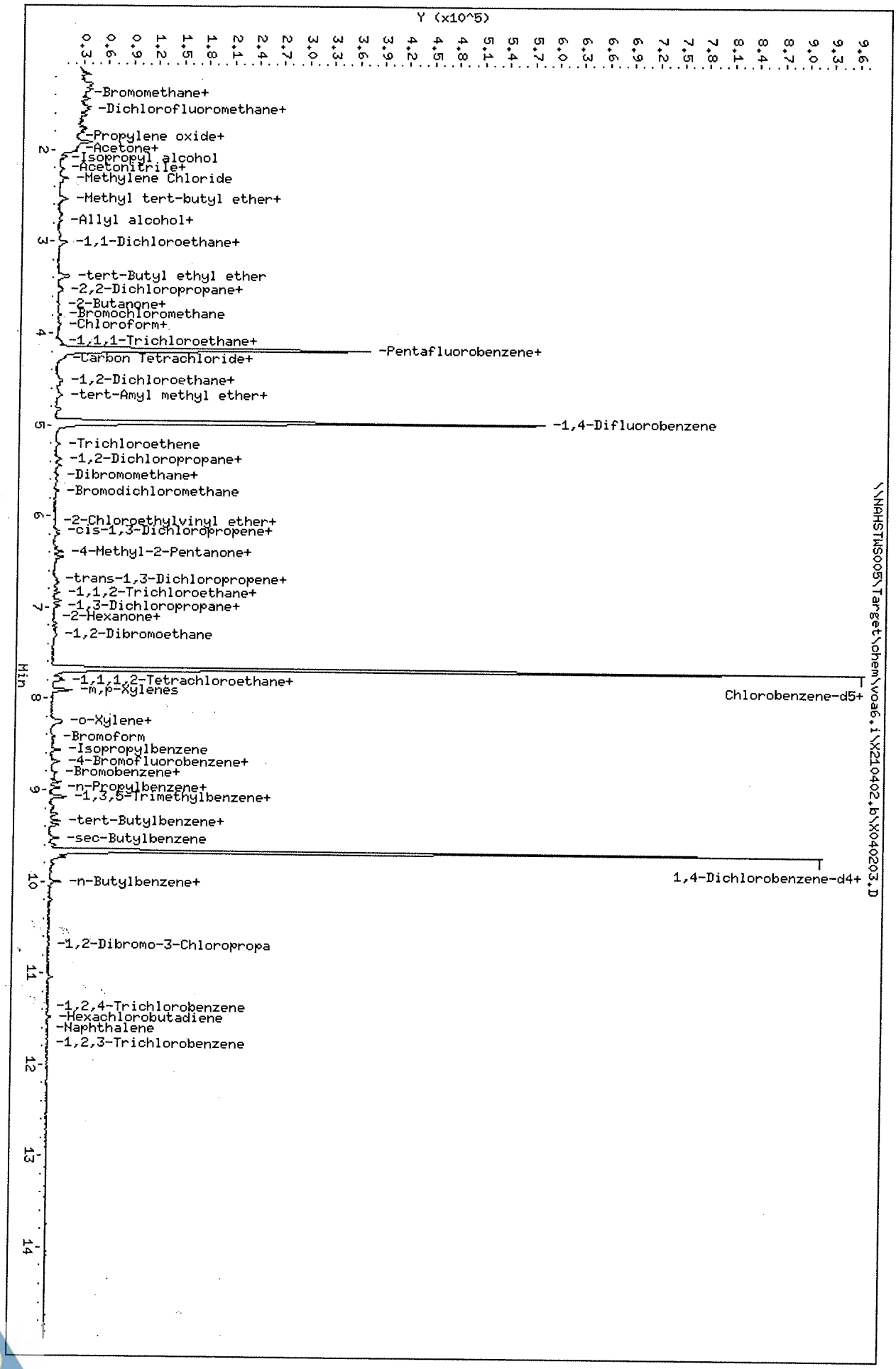
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	292480	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	476531	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	420545	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	191809	50.0000	
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.985)	1934	0.50000	0.98
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2323	0.50000	1.04(T)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	6330	0.50000	2.41(T)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	2889	0.50000	2.34
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1162	0.50000	0.47(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	2188	0.50000	0.52(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	2669	0.50000	0.52(aM)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.848)	1721	0.50000	0.48
17 Methylene Chloride	84	2.306	2.306	(0.551)	2167	0.50000	2.14(aM)
38 Trichloroethene	130	5.214	5.214	(1.049)	1254	0.50000	0.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2470	0.50000	0.56

QC Flag Legend

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

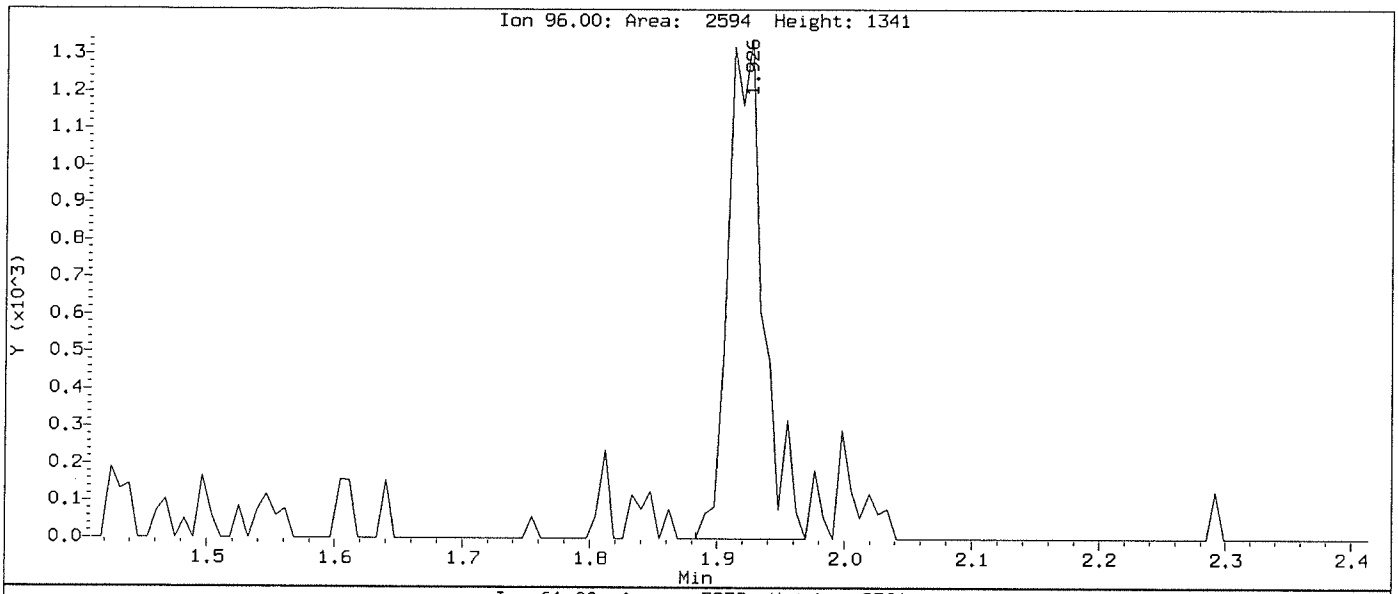


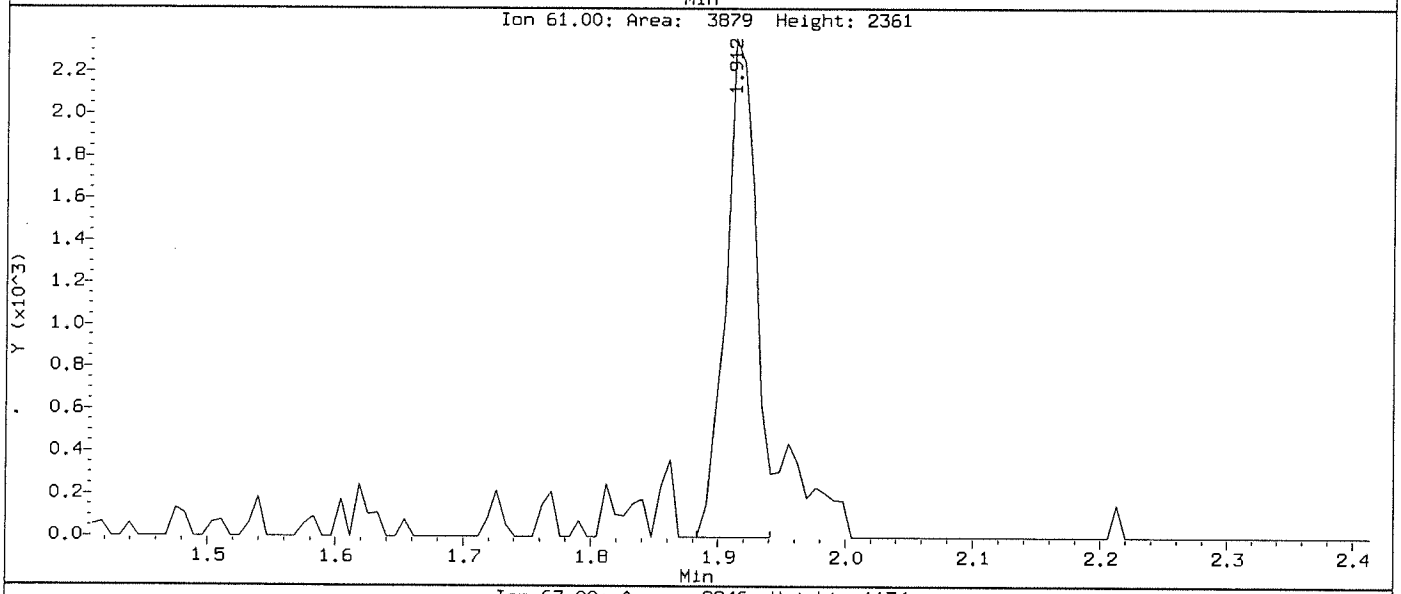
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Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

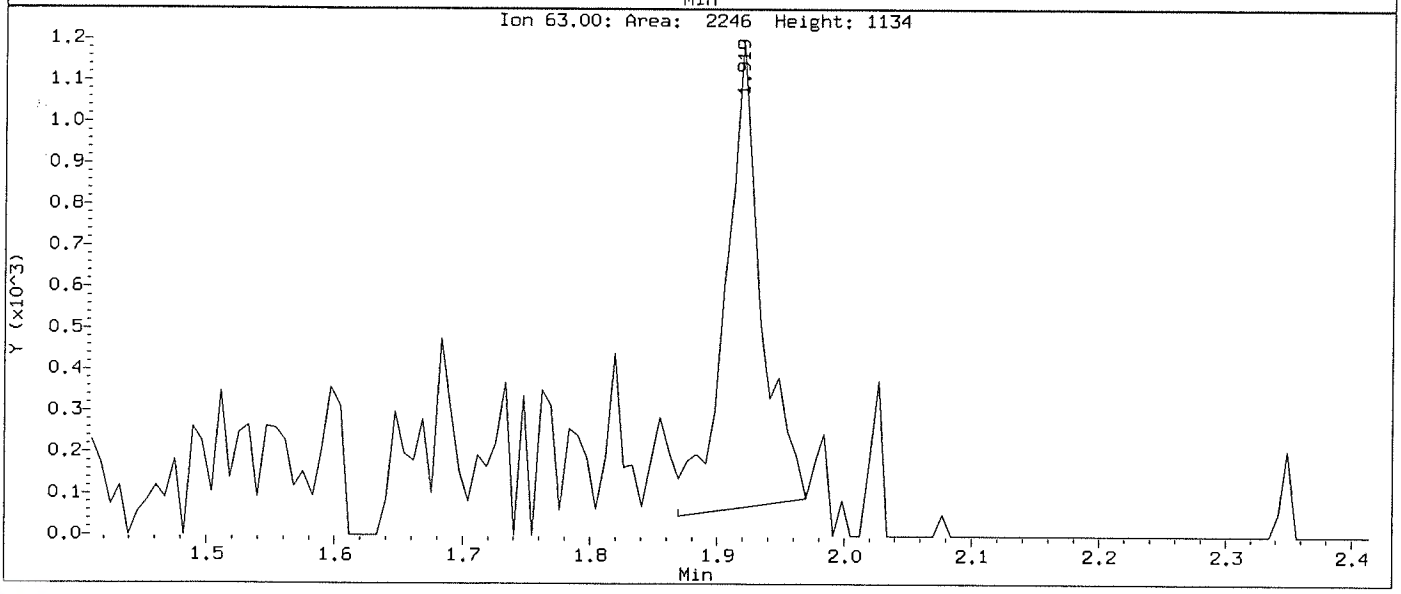
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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Instrument: voa6.i
Client Sample ID: VSTD000.5

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

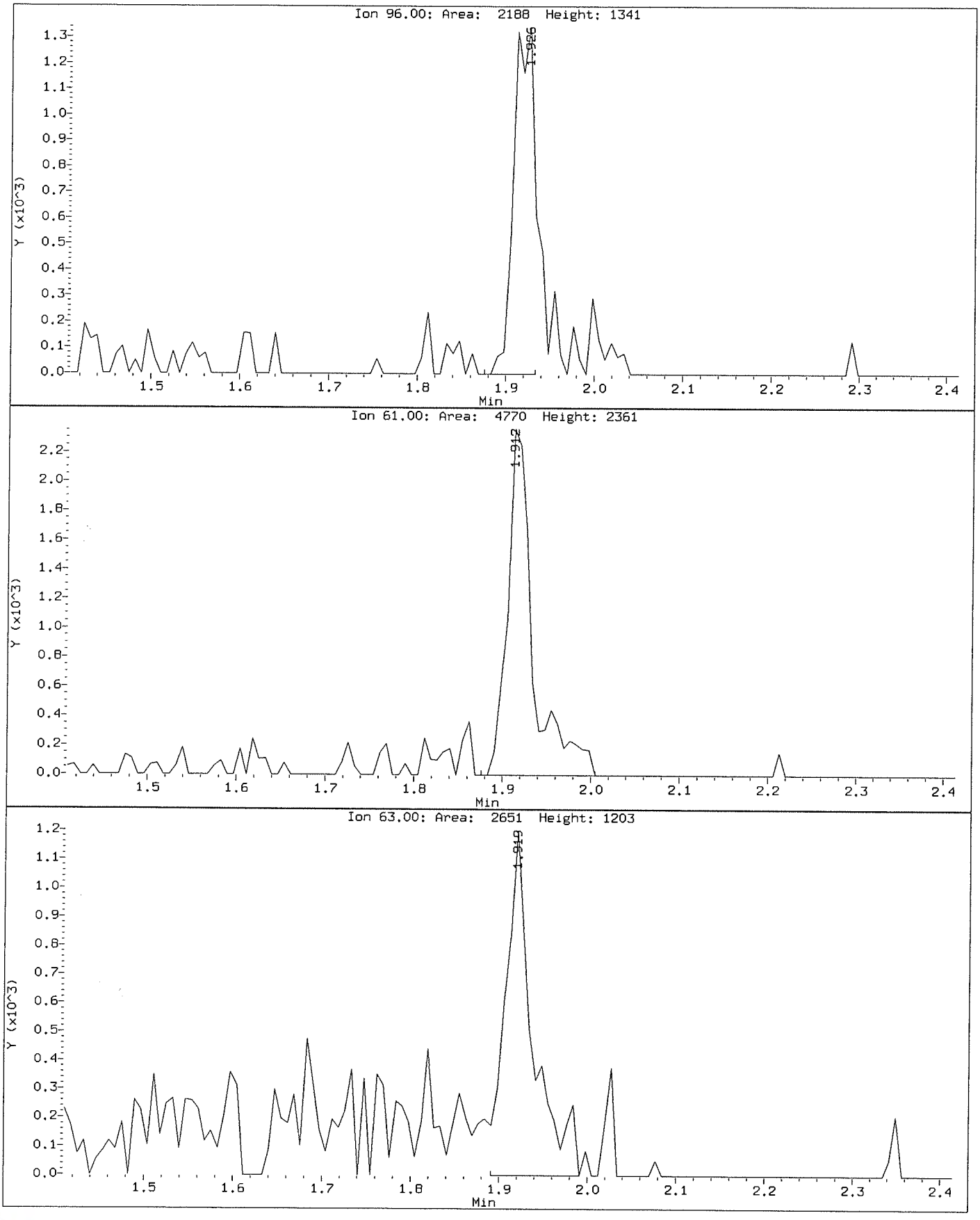






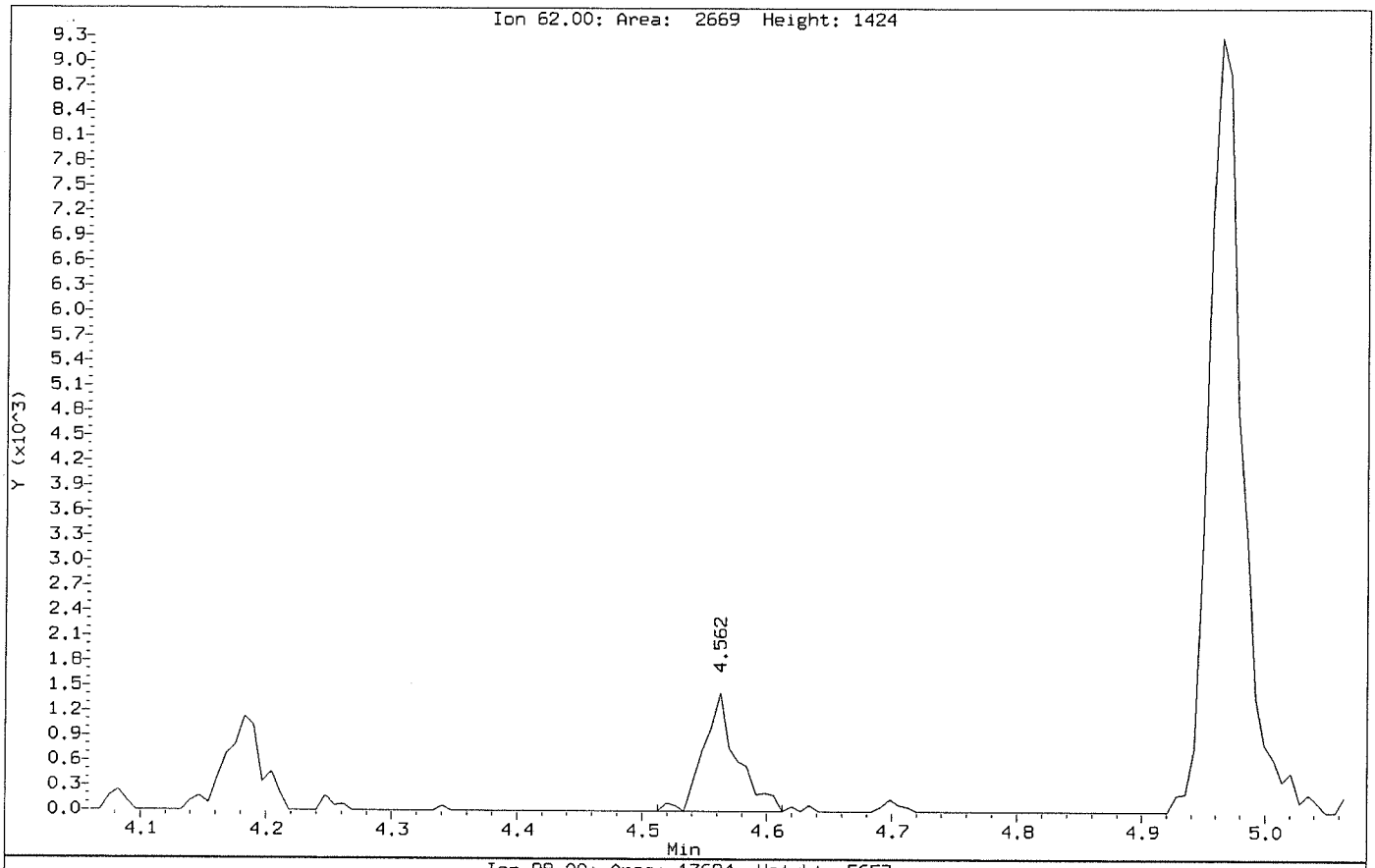
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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

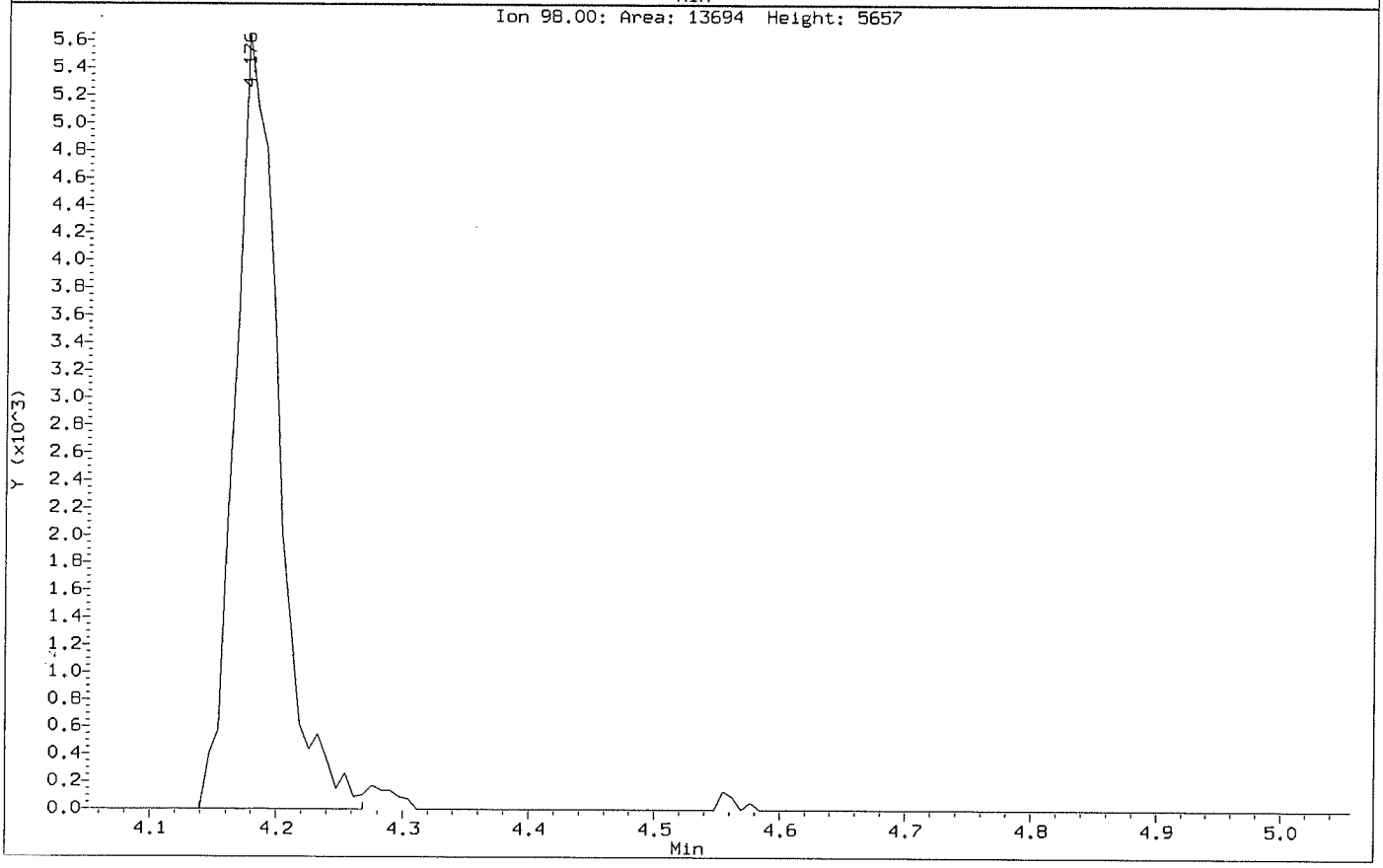
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

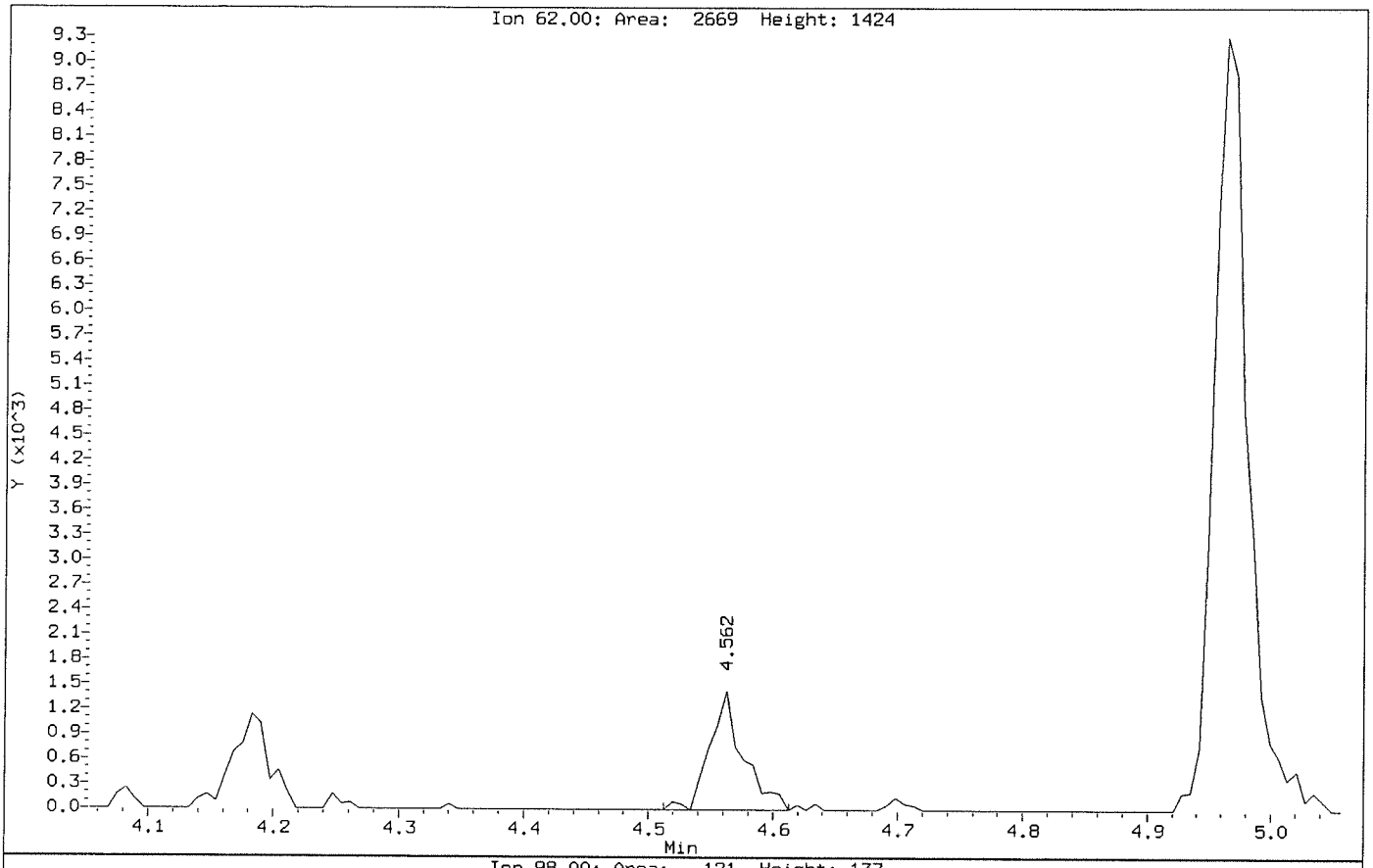
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

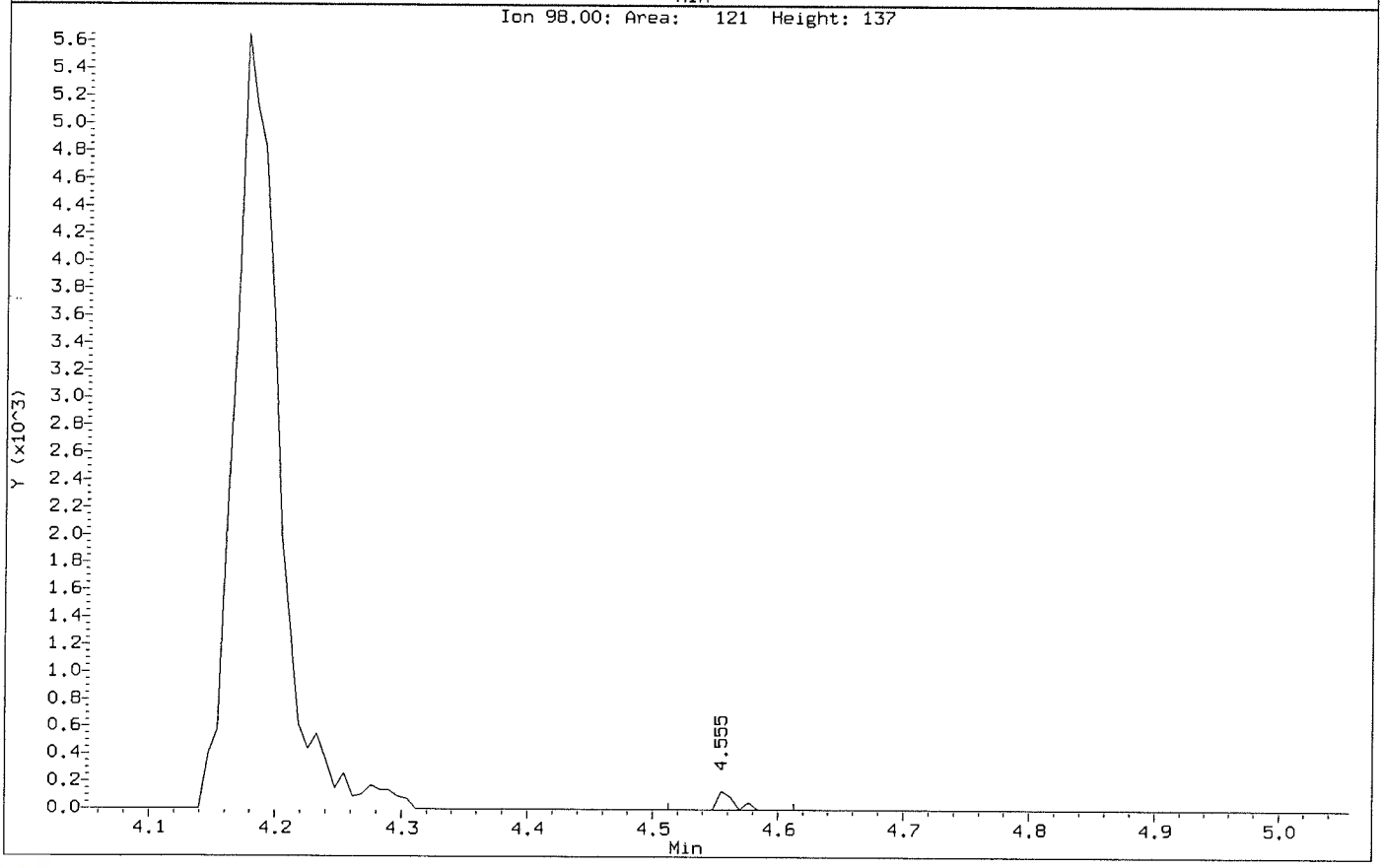




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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

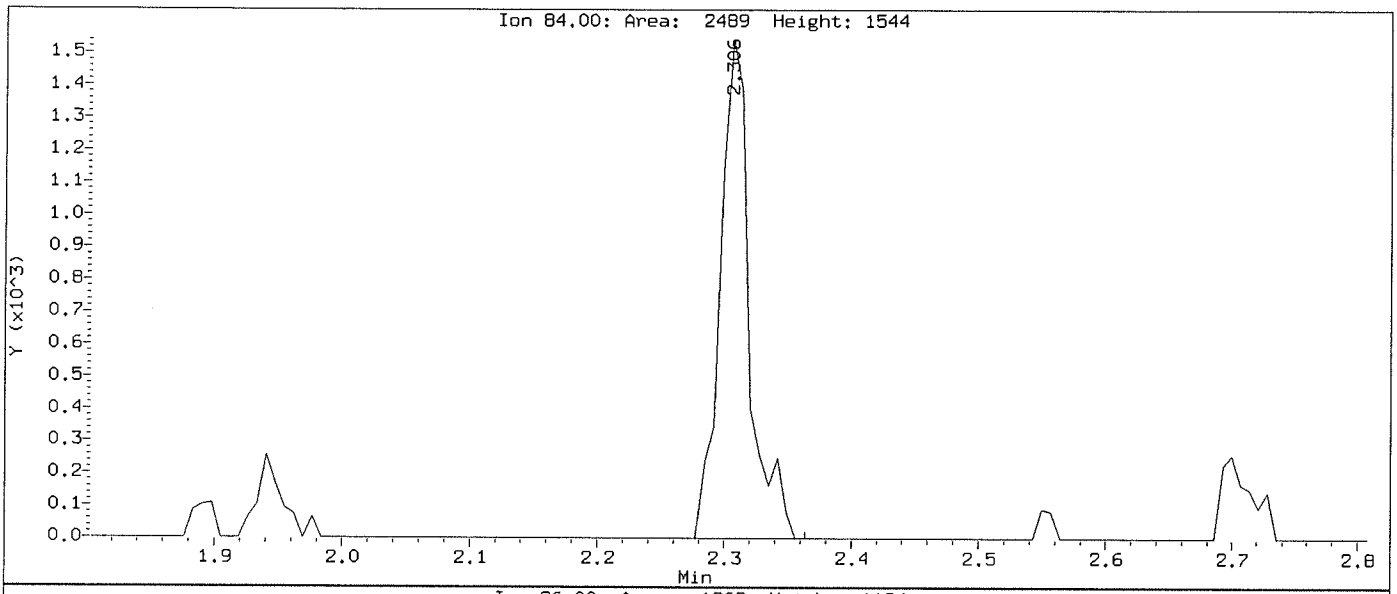
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

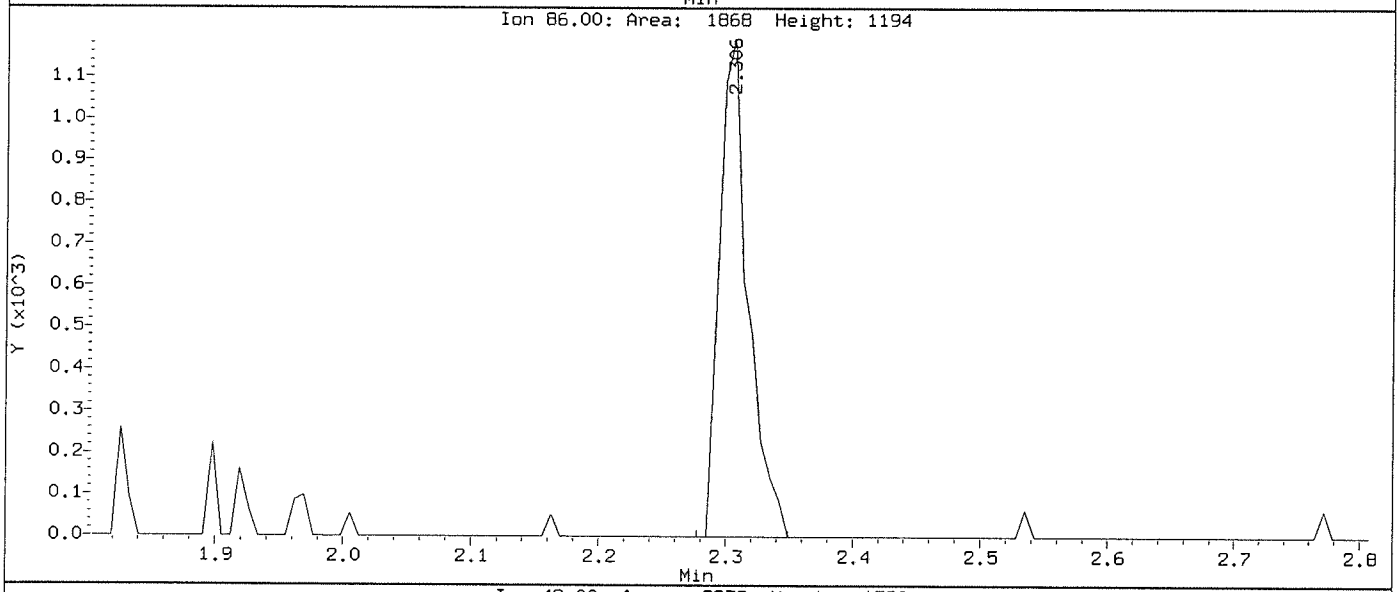


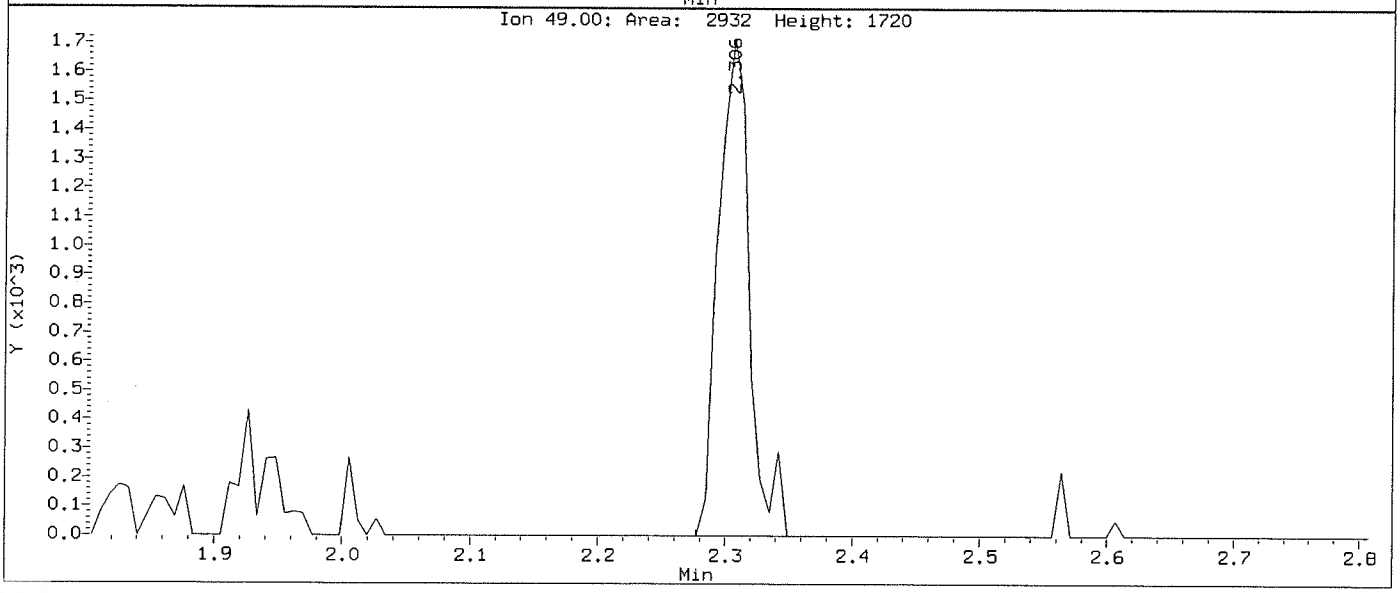


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Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

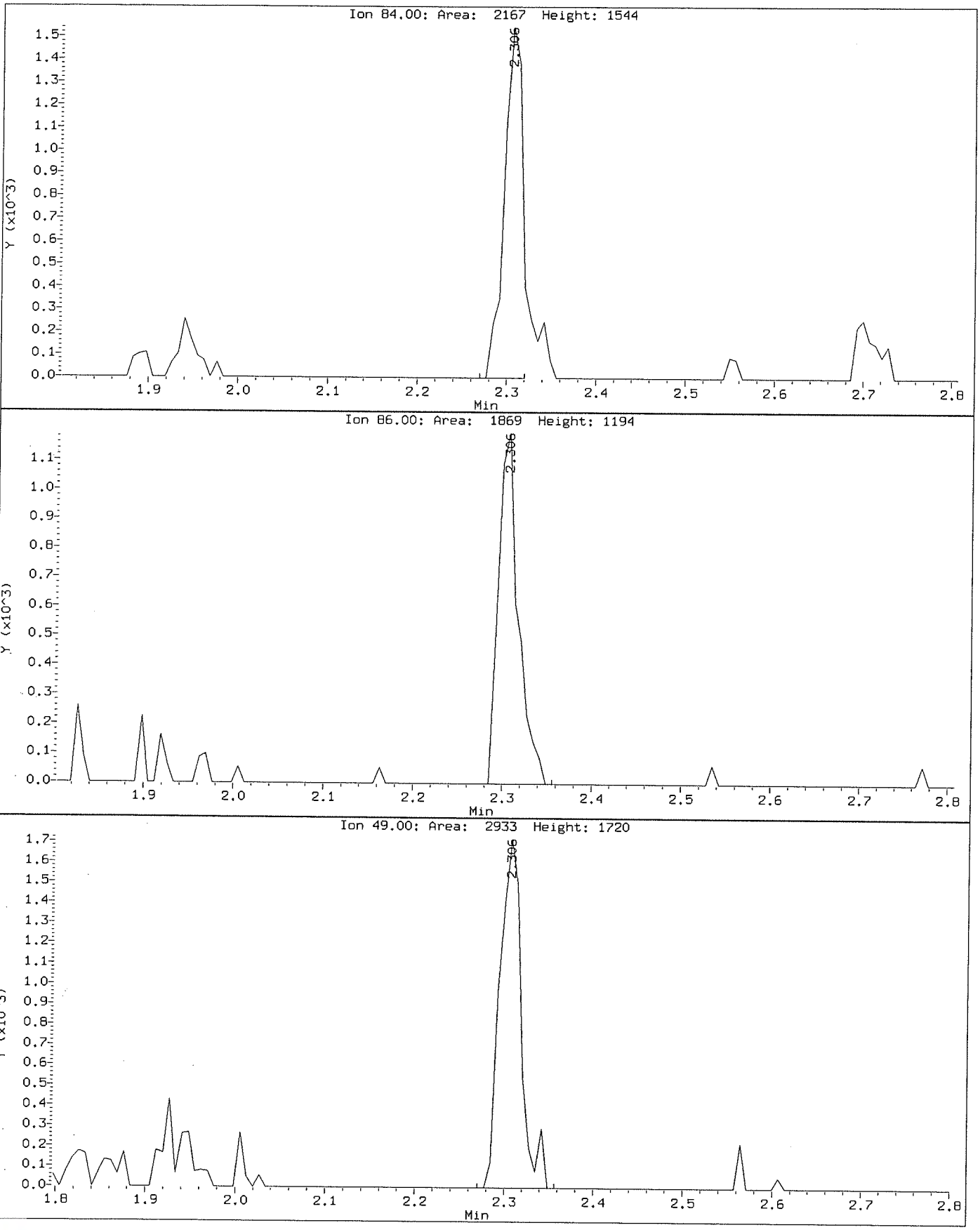






Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040203.D
Injection Date: 02-APR-2021 11:35
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 02-APR-2021 11:56
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:35 Cal File: X040203.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

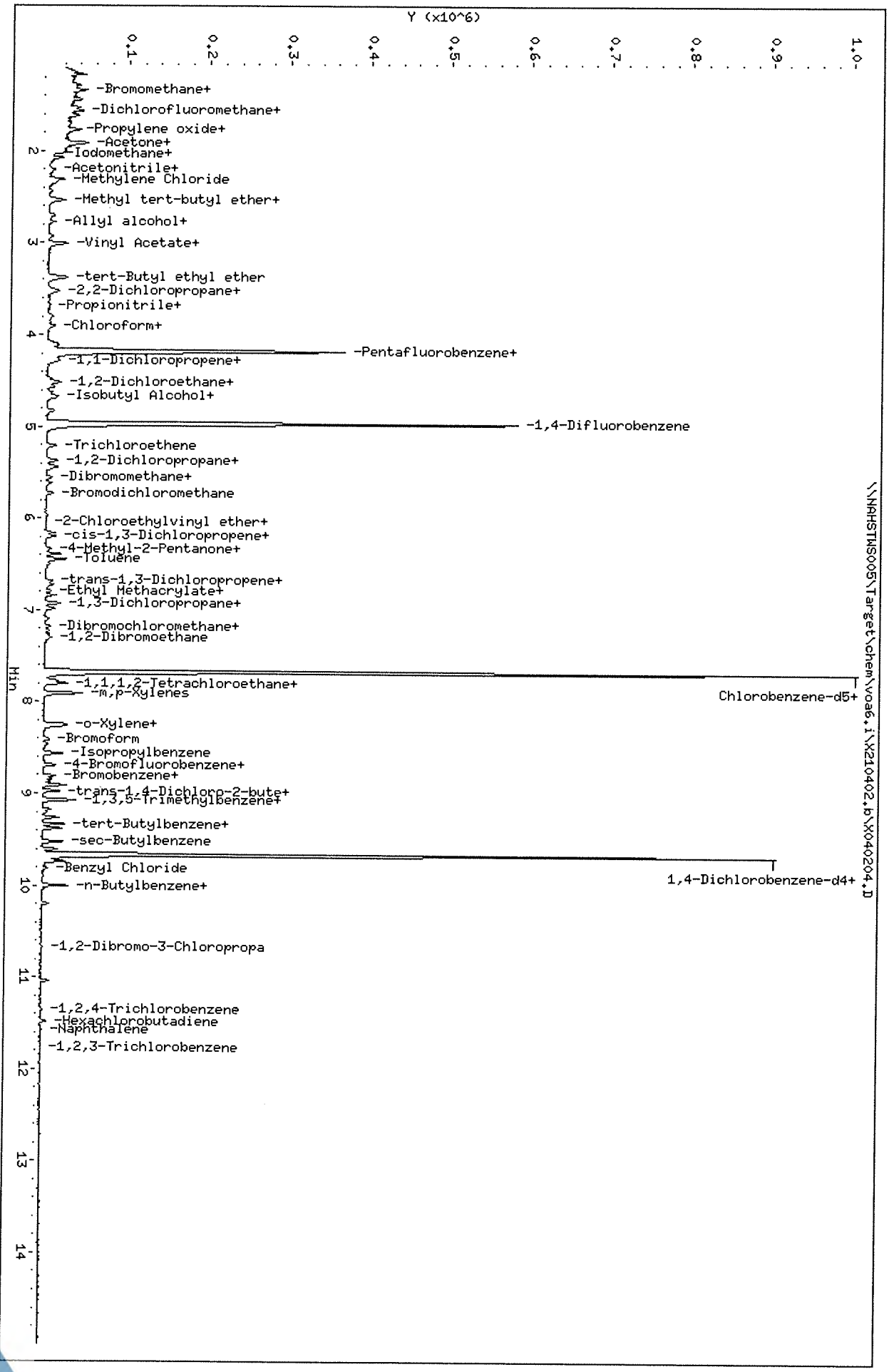
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278422	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	467952	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	425730	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	185938	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3862	1.00000	1.60
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4438	1.00000	1.60
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	12313	1.00000	2.93
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4647	1.00000	2.75
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	3024	1.00000	1.22(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4199	1.00000	1.05(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	5931	1.00000	1.19(aM)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3959	1.00000	1.16
17 Methylene Chloride	84	2.298	2.298	(0.550)	4155	1.00000	2.81(aM)
38 Trichloroethene	130	5.207	5.207	(1.049)	3757	1.00000	1.17(M)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	5253	1.00000	1.25(M)

QC Flag Legend

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

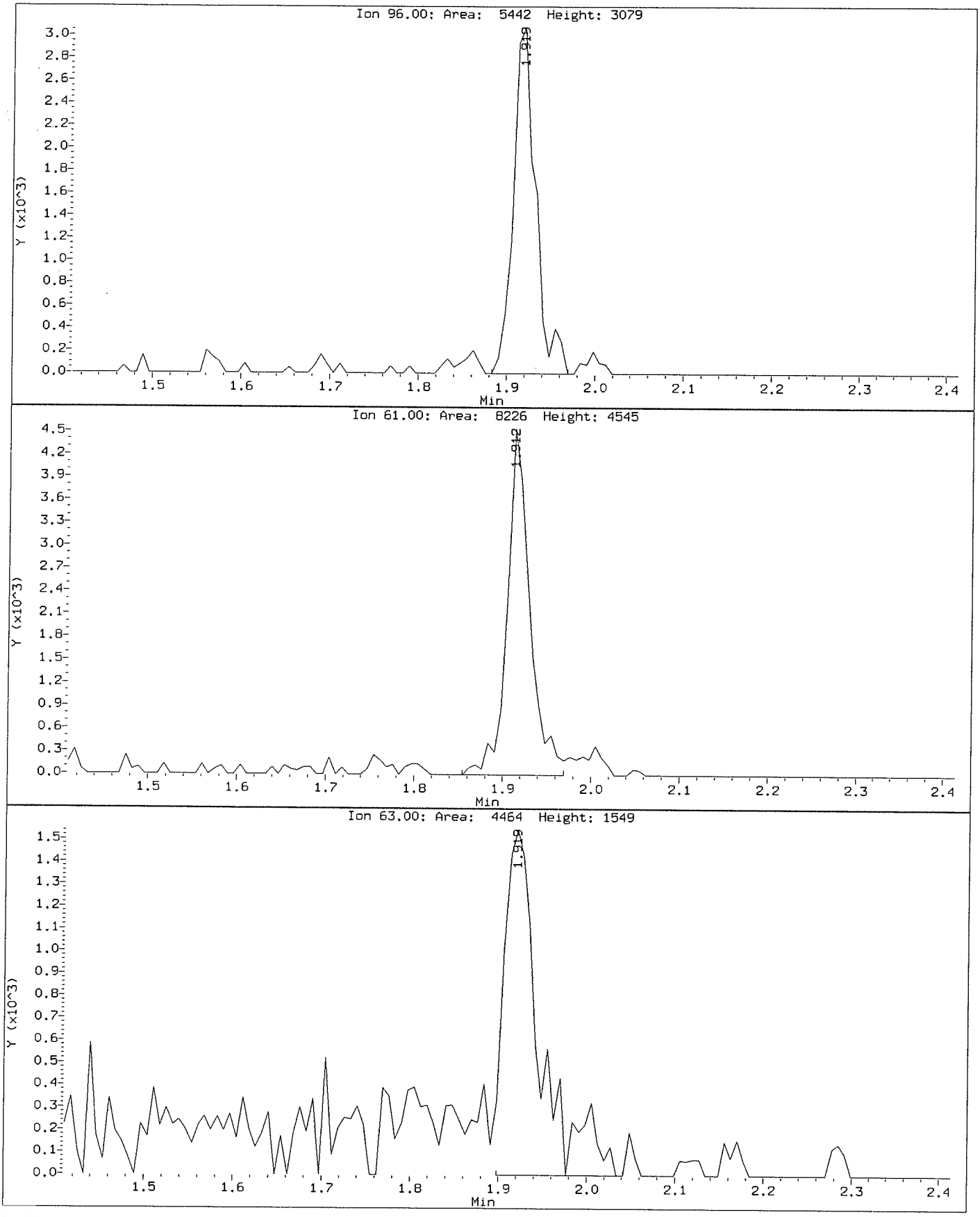


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Date : 02-APR-2021 11:56
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

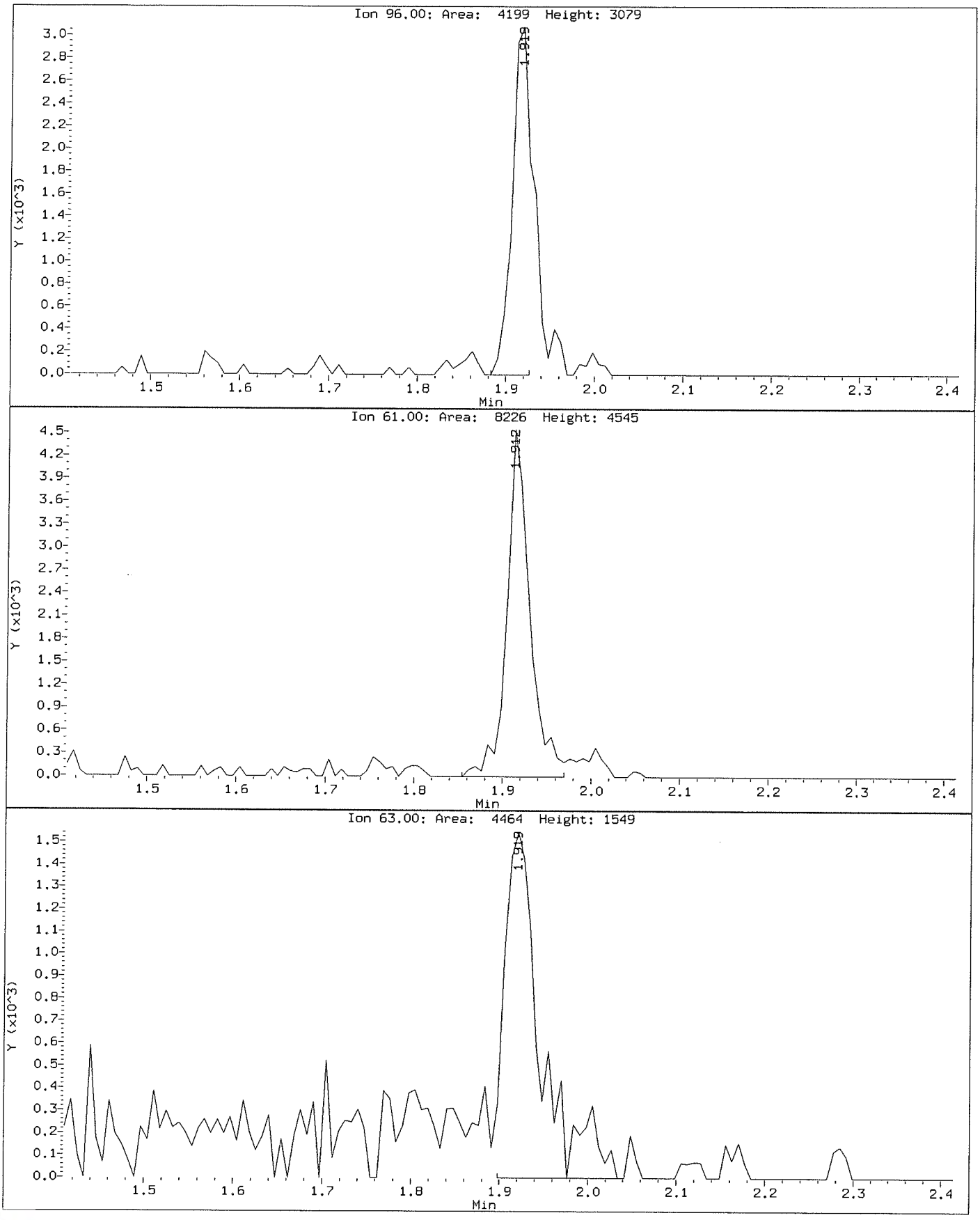
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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



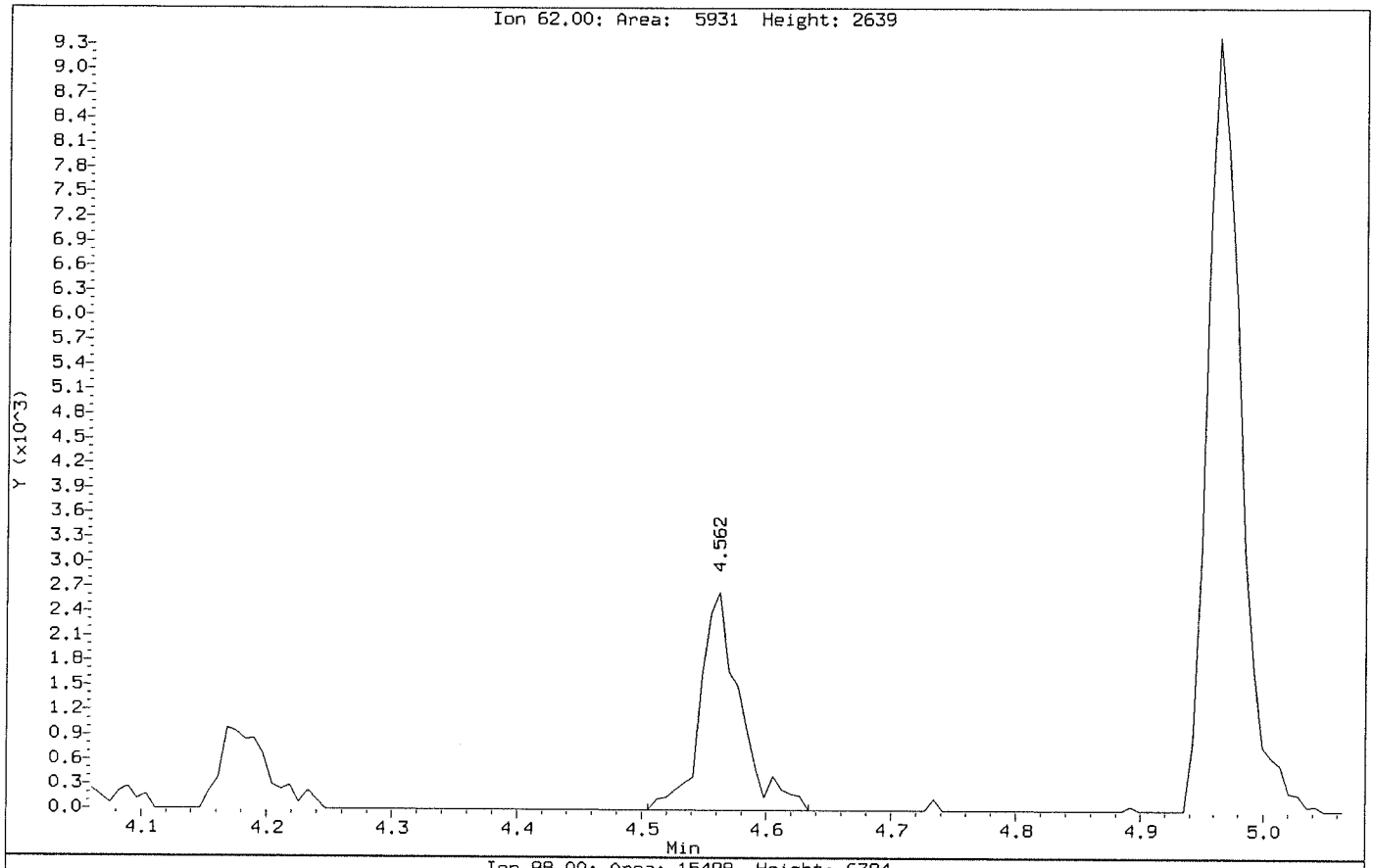
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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

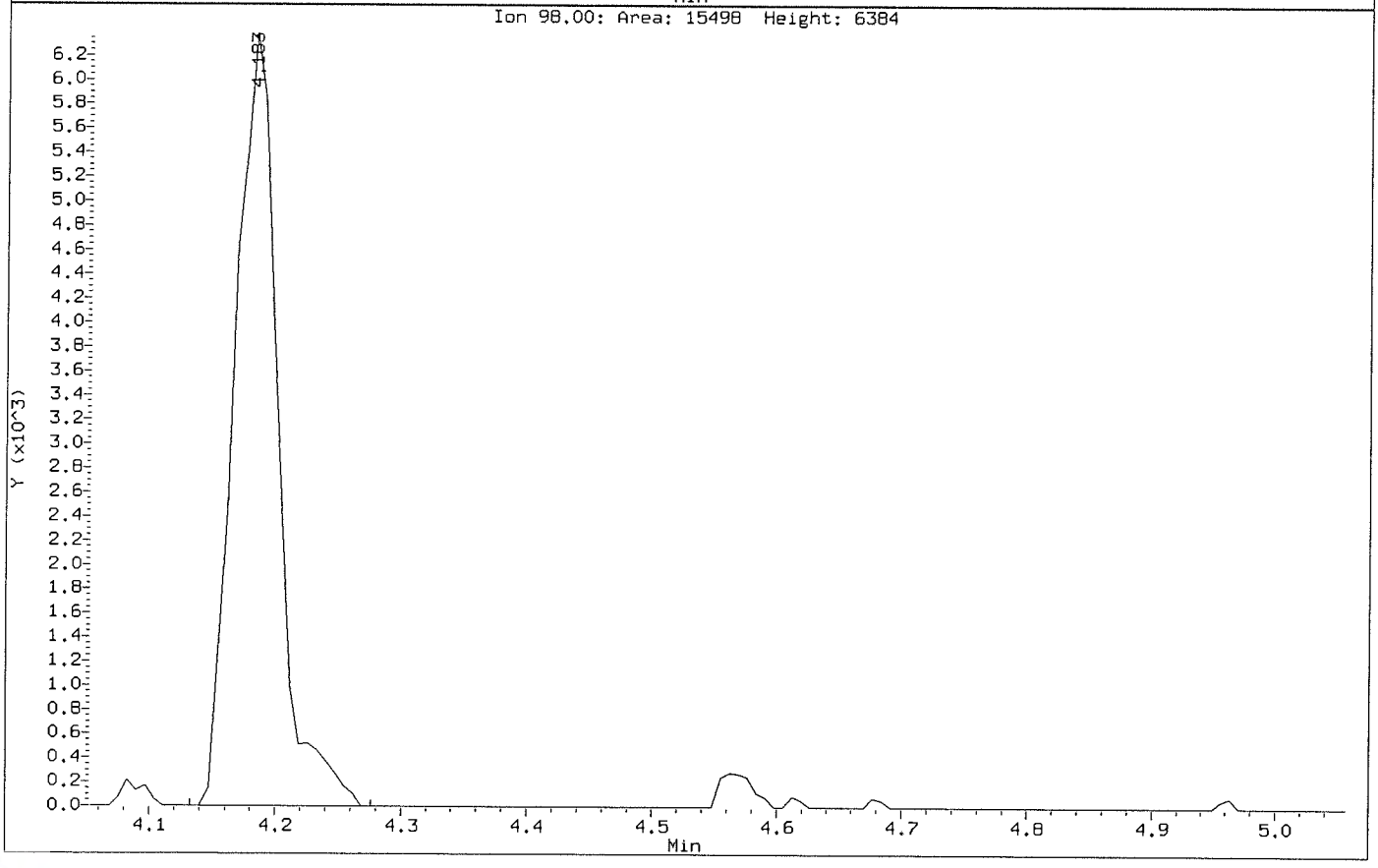
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

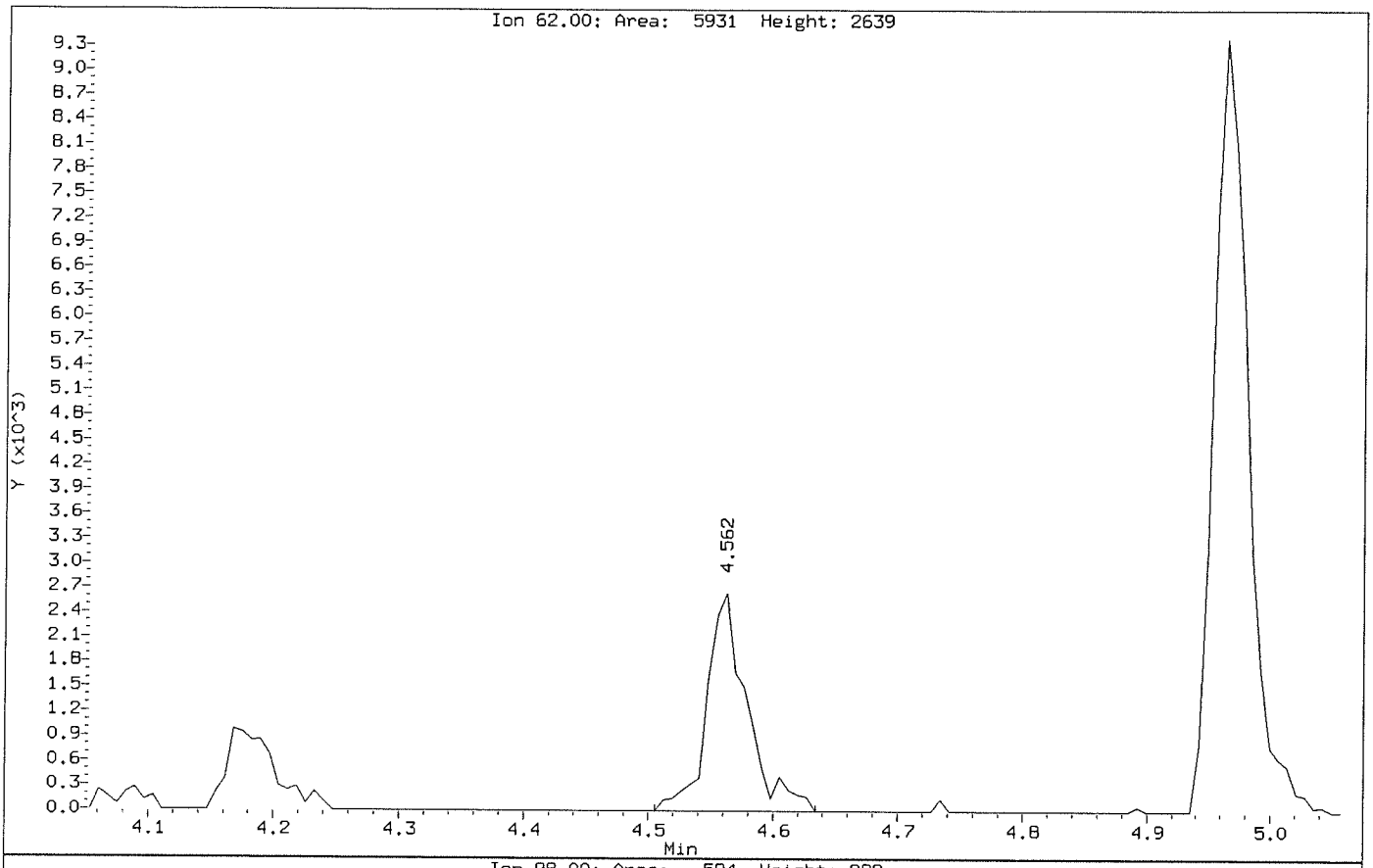
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

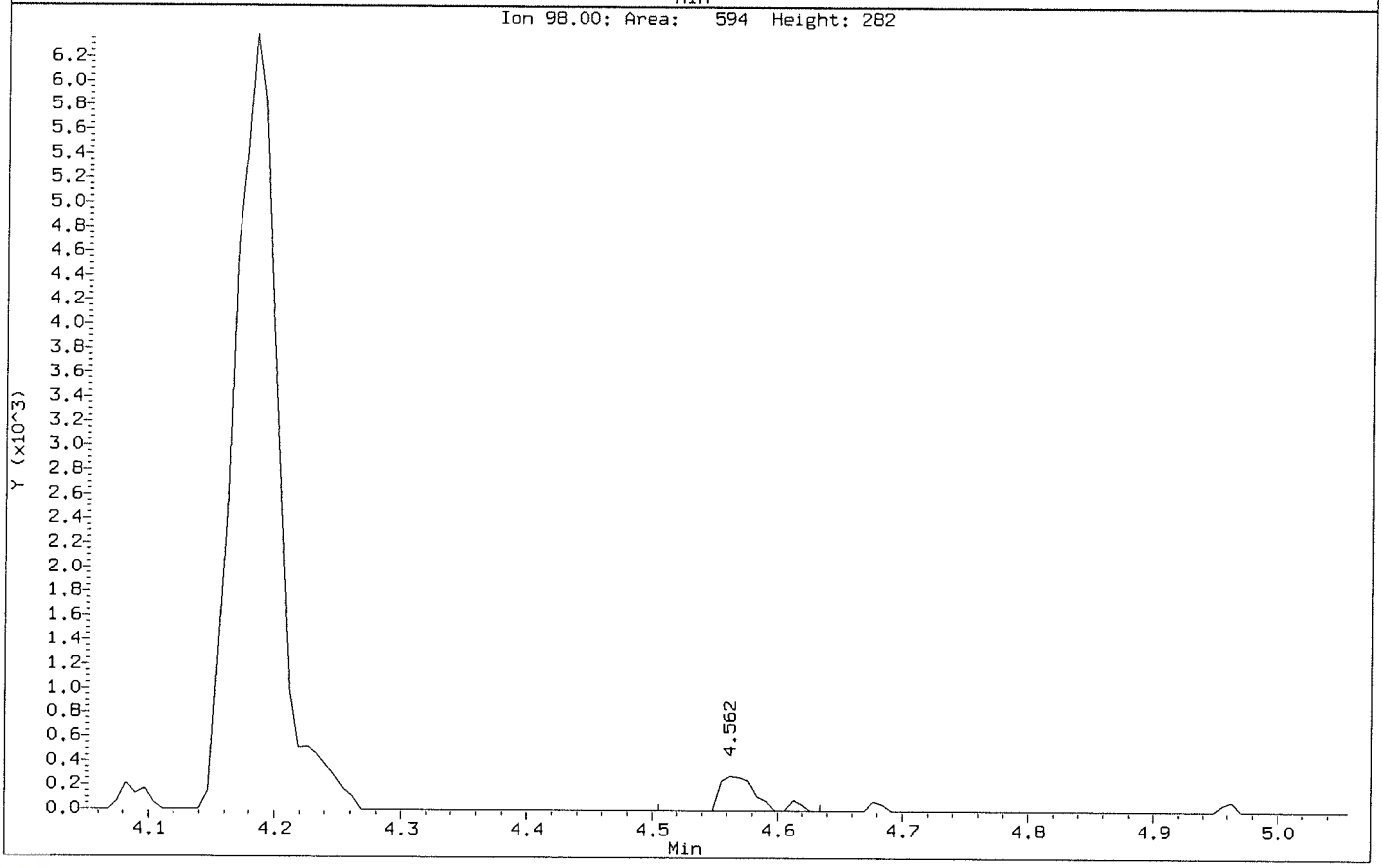




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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

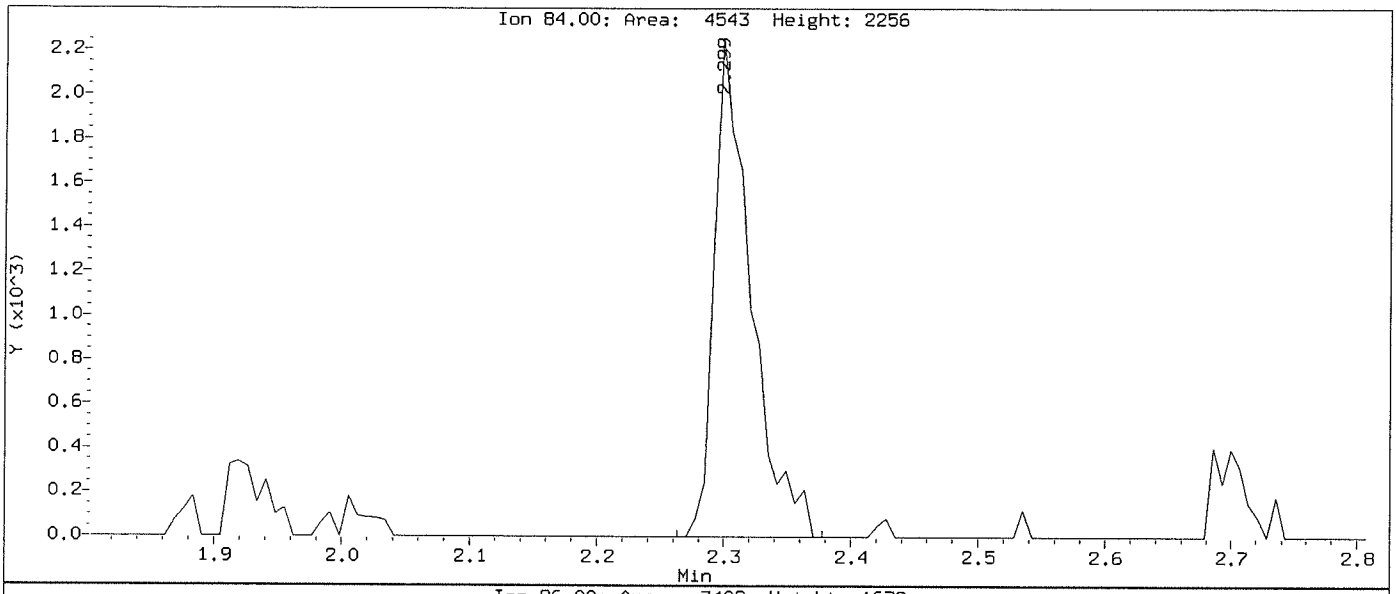
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

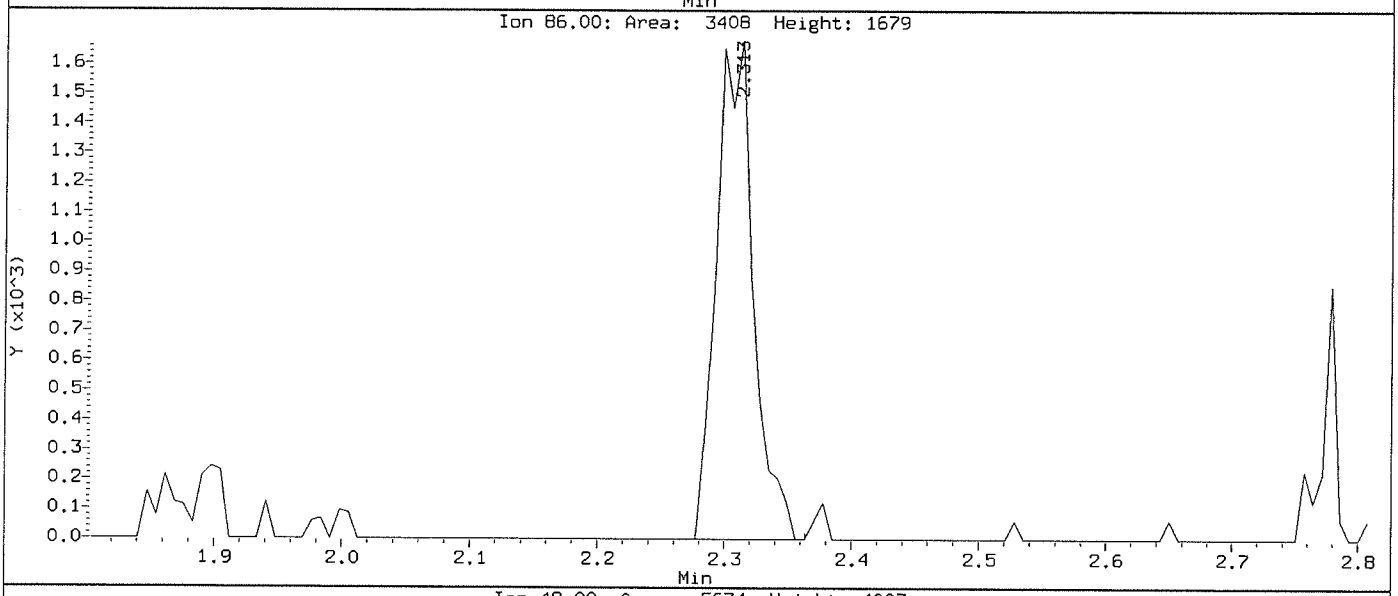


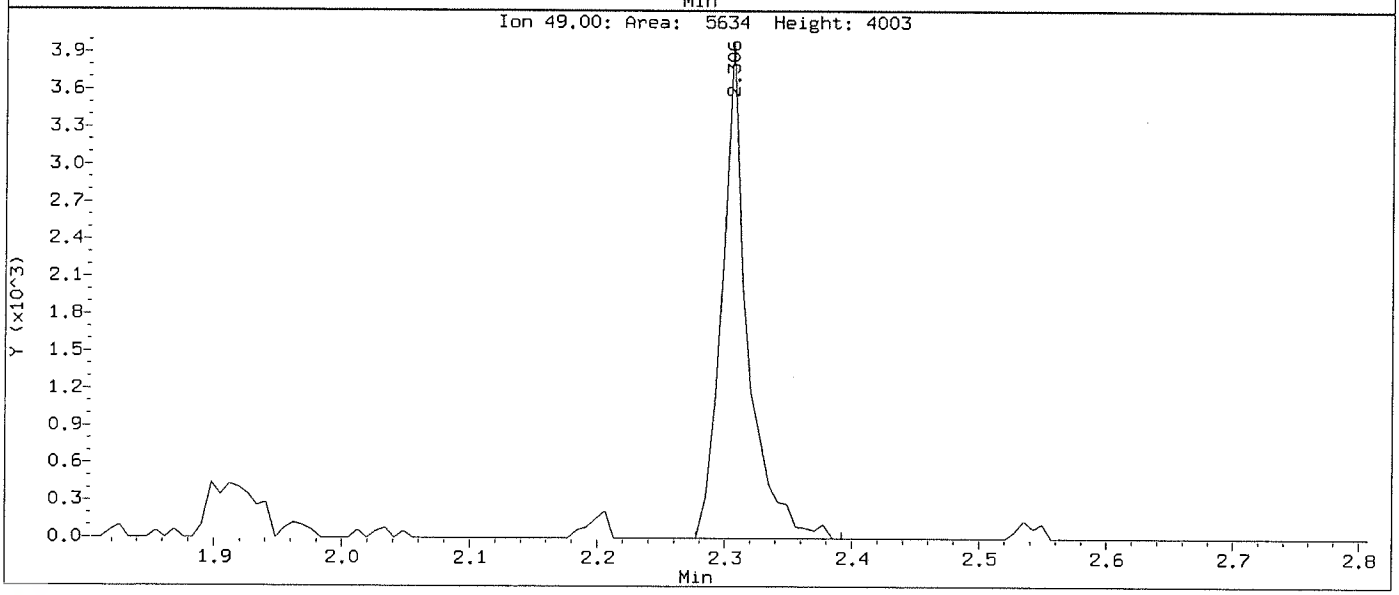


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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

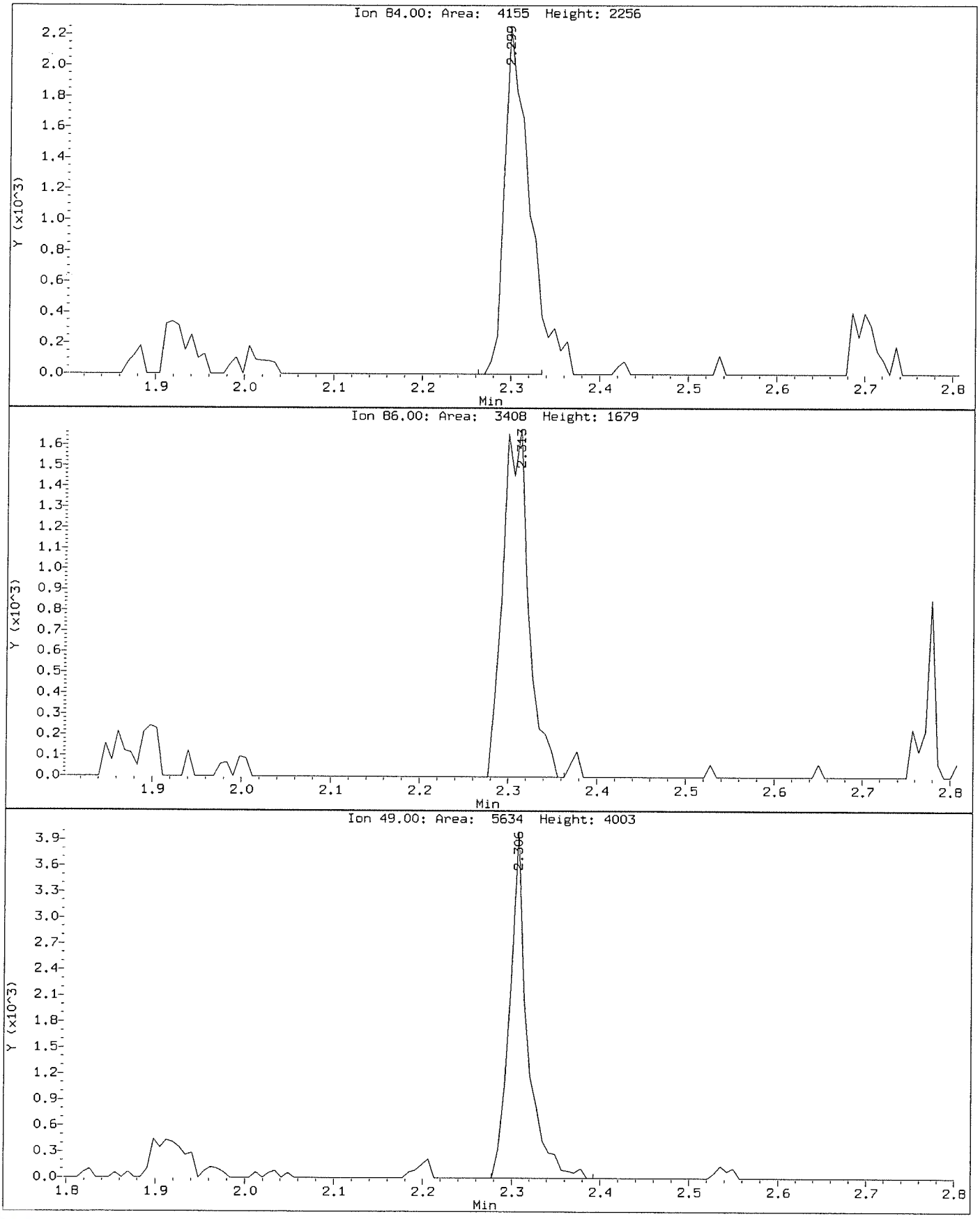






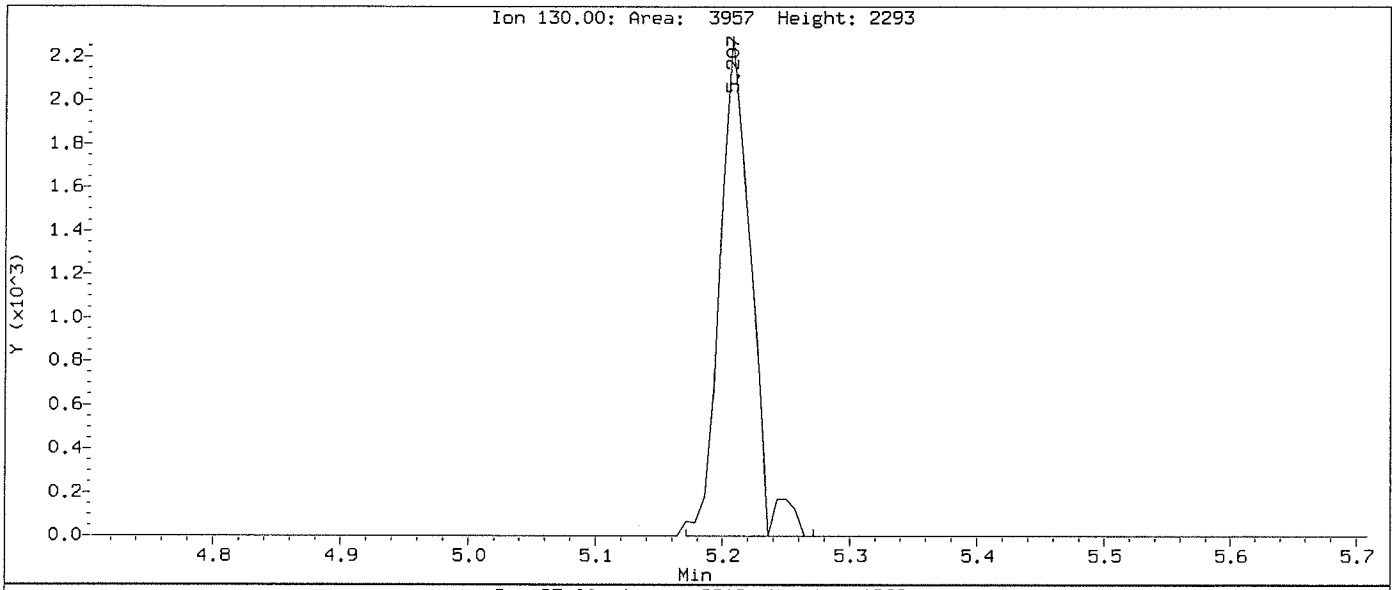
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Instrument: voa6.i
Client Sample ID: VSTD001

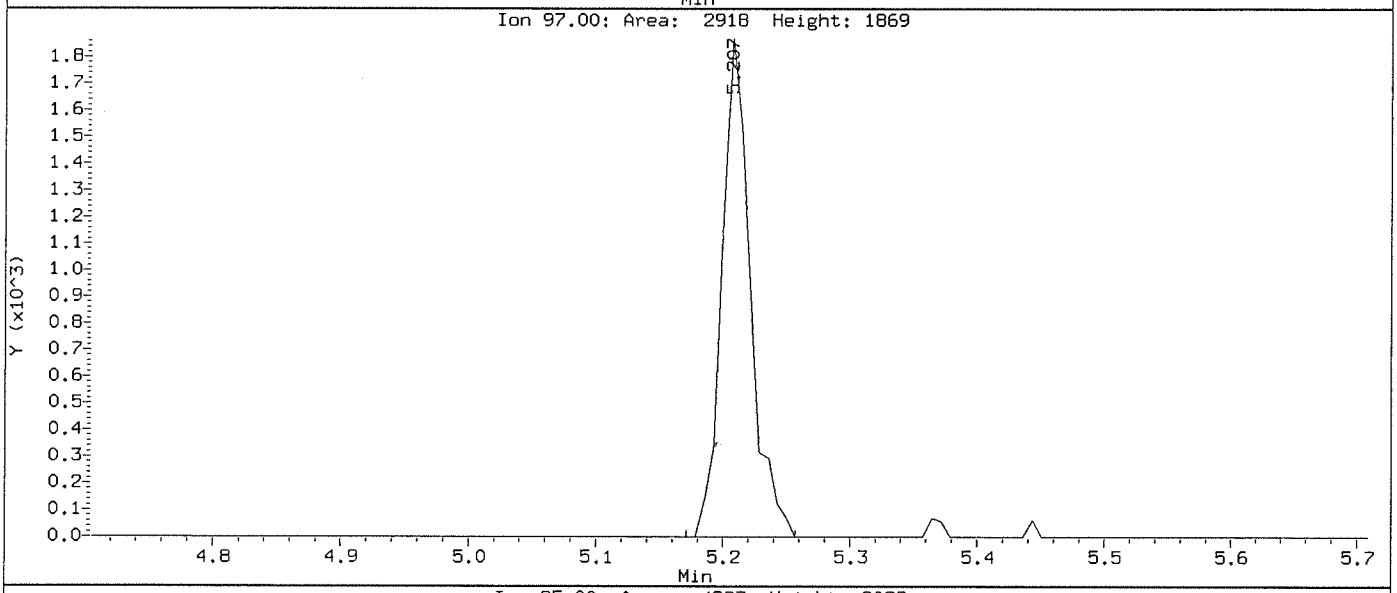
Compound: Methylene Chloride
CAS Number: 75-09-2

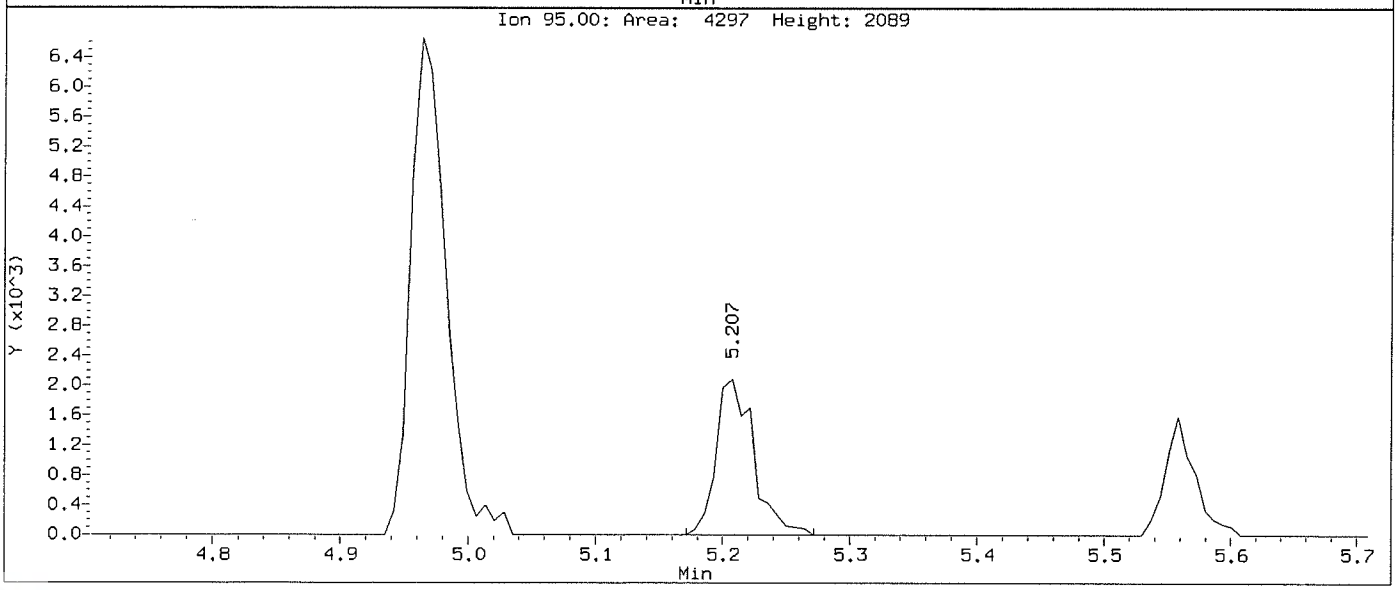


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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

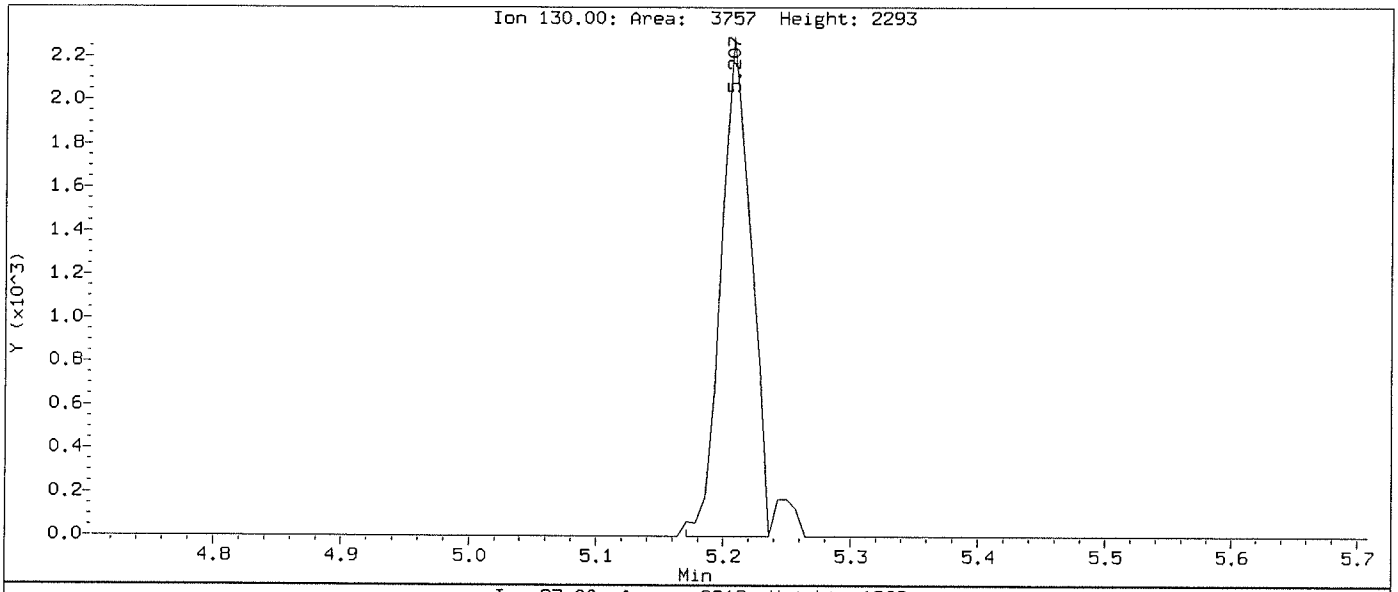


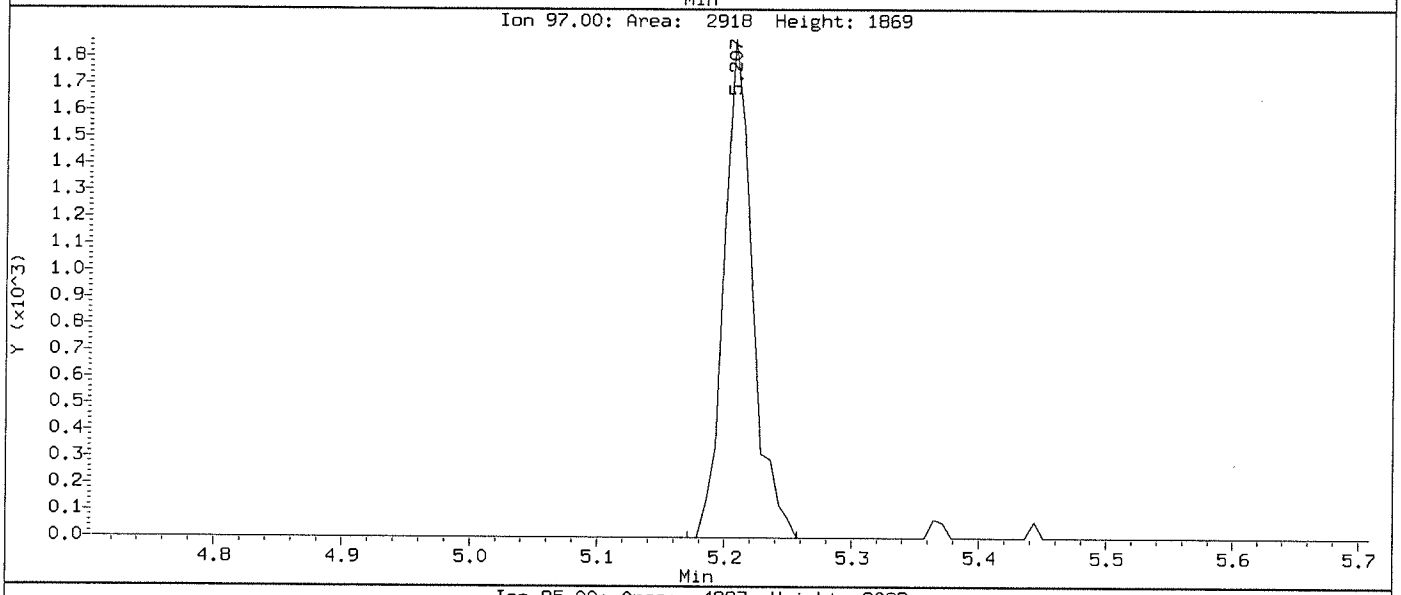


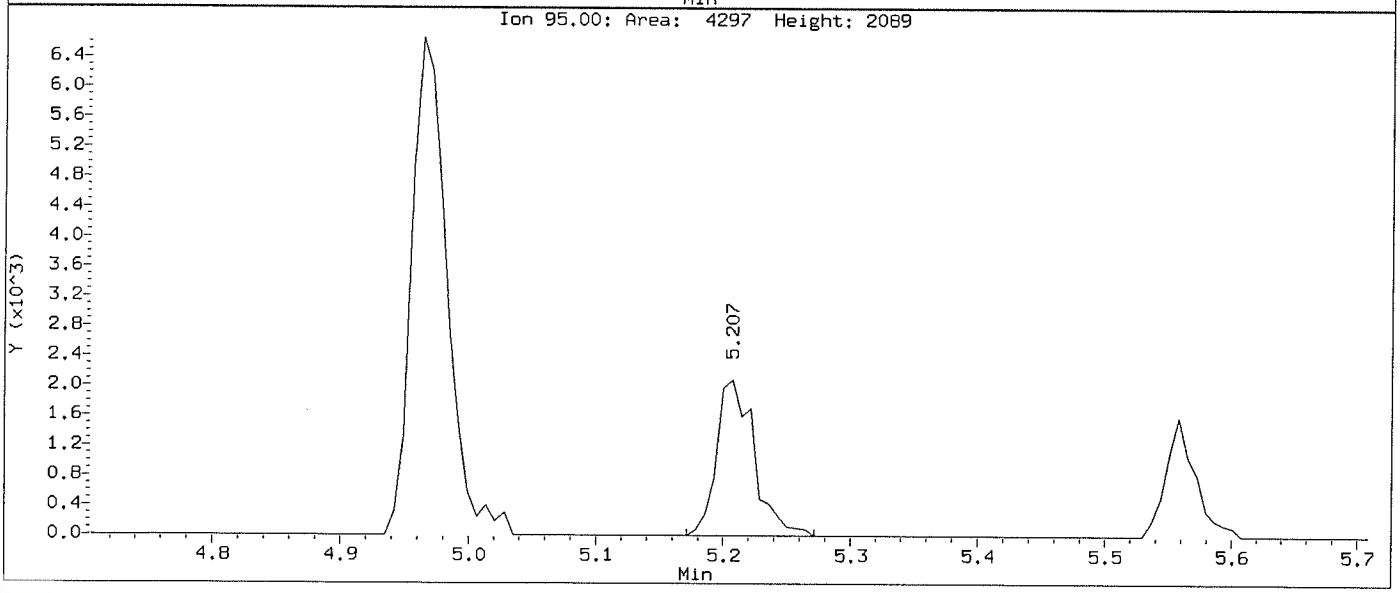


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Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Trichloroethene
CAS Number: 79-01-6

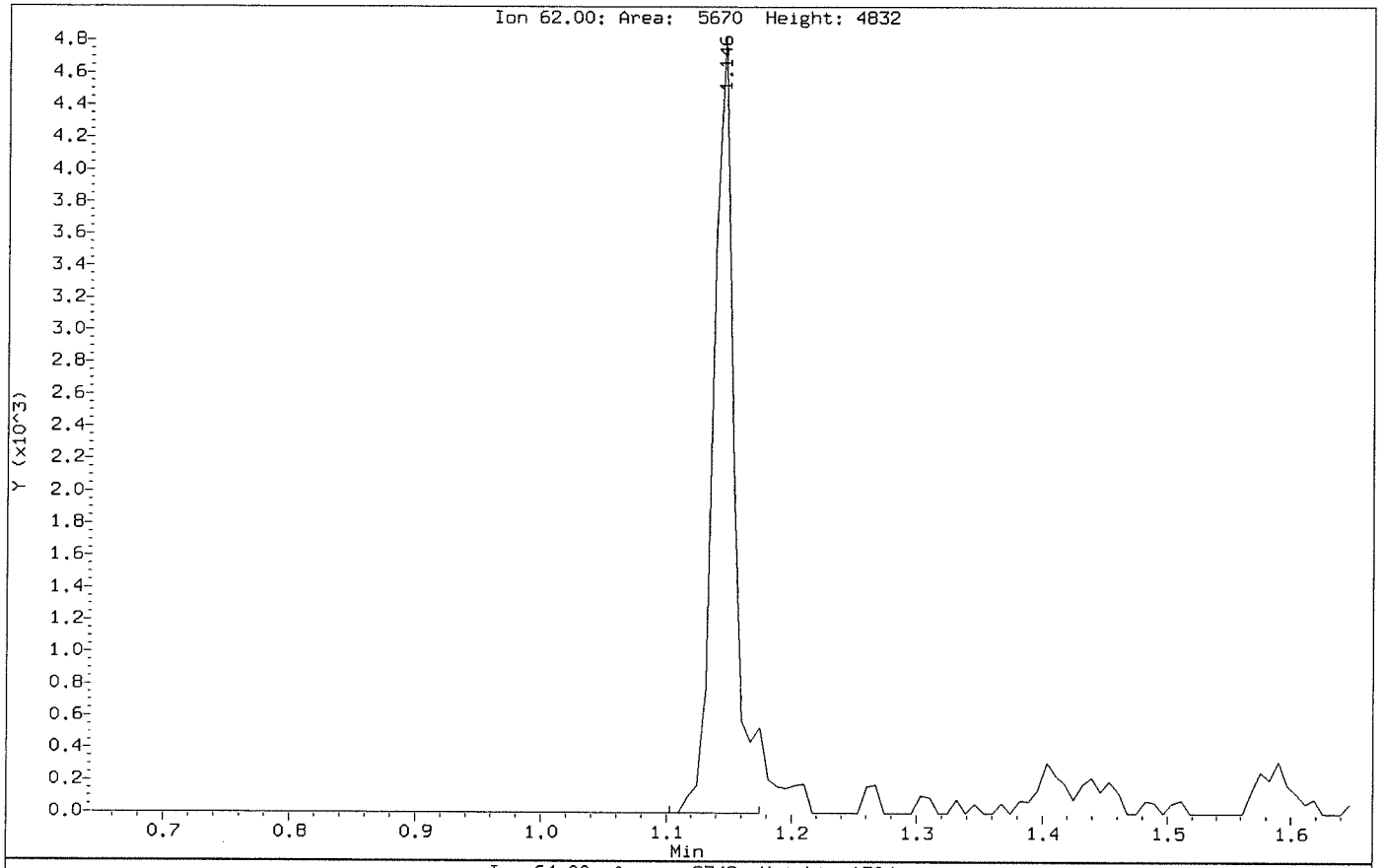


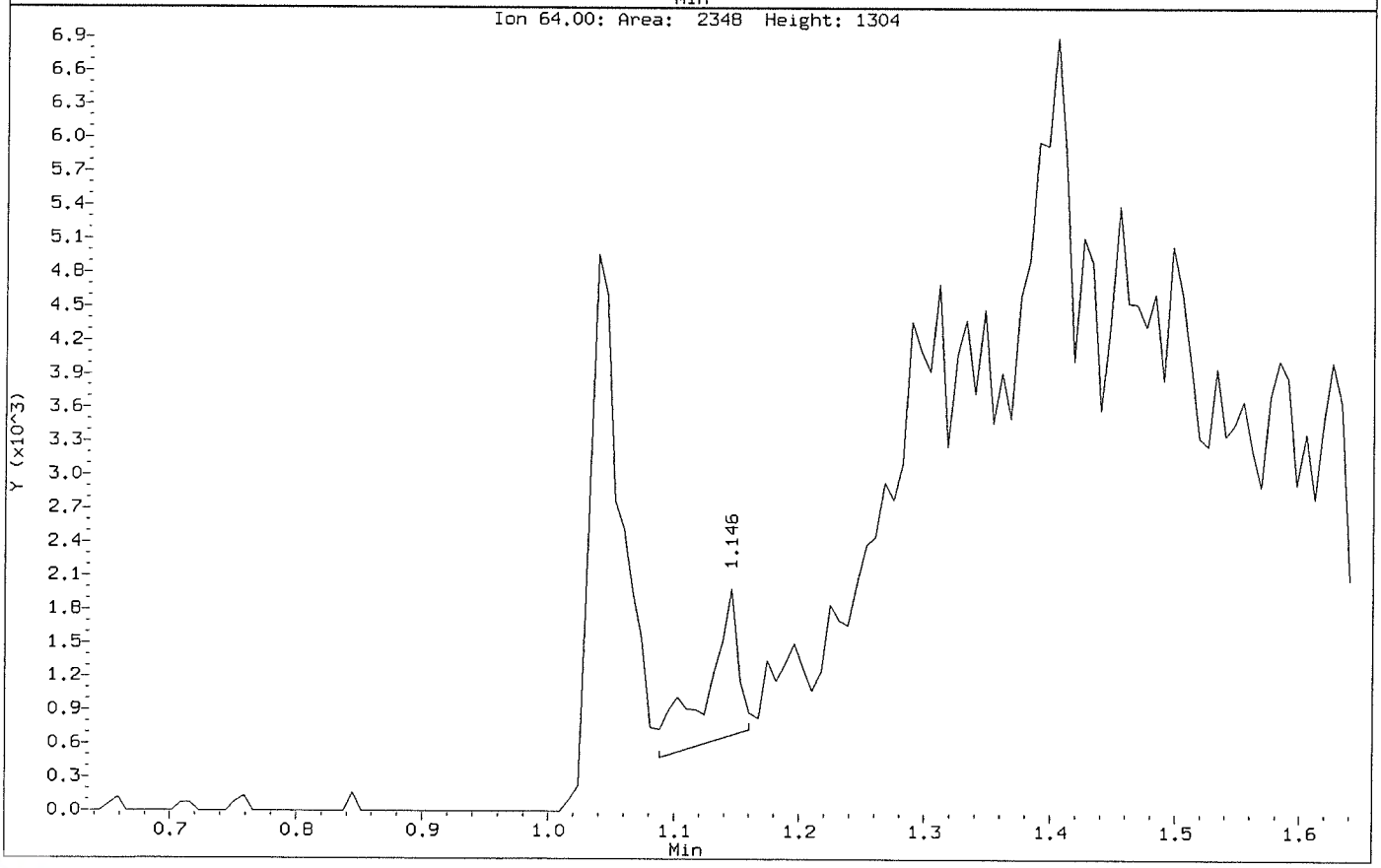




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Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

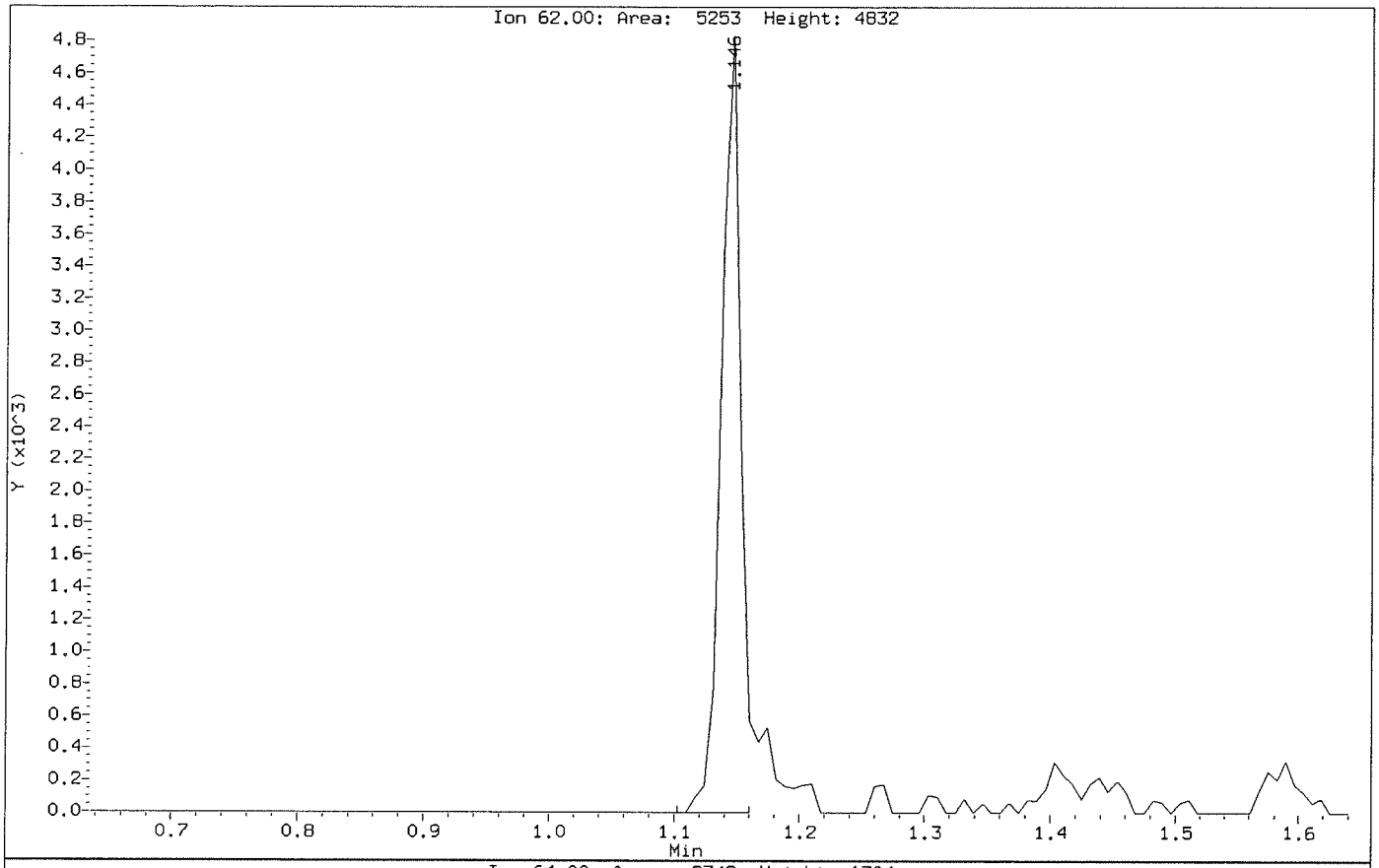
Compound: Vinyl Chloride
CAS Number: 75-01-4

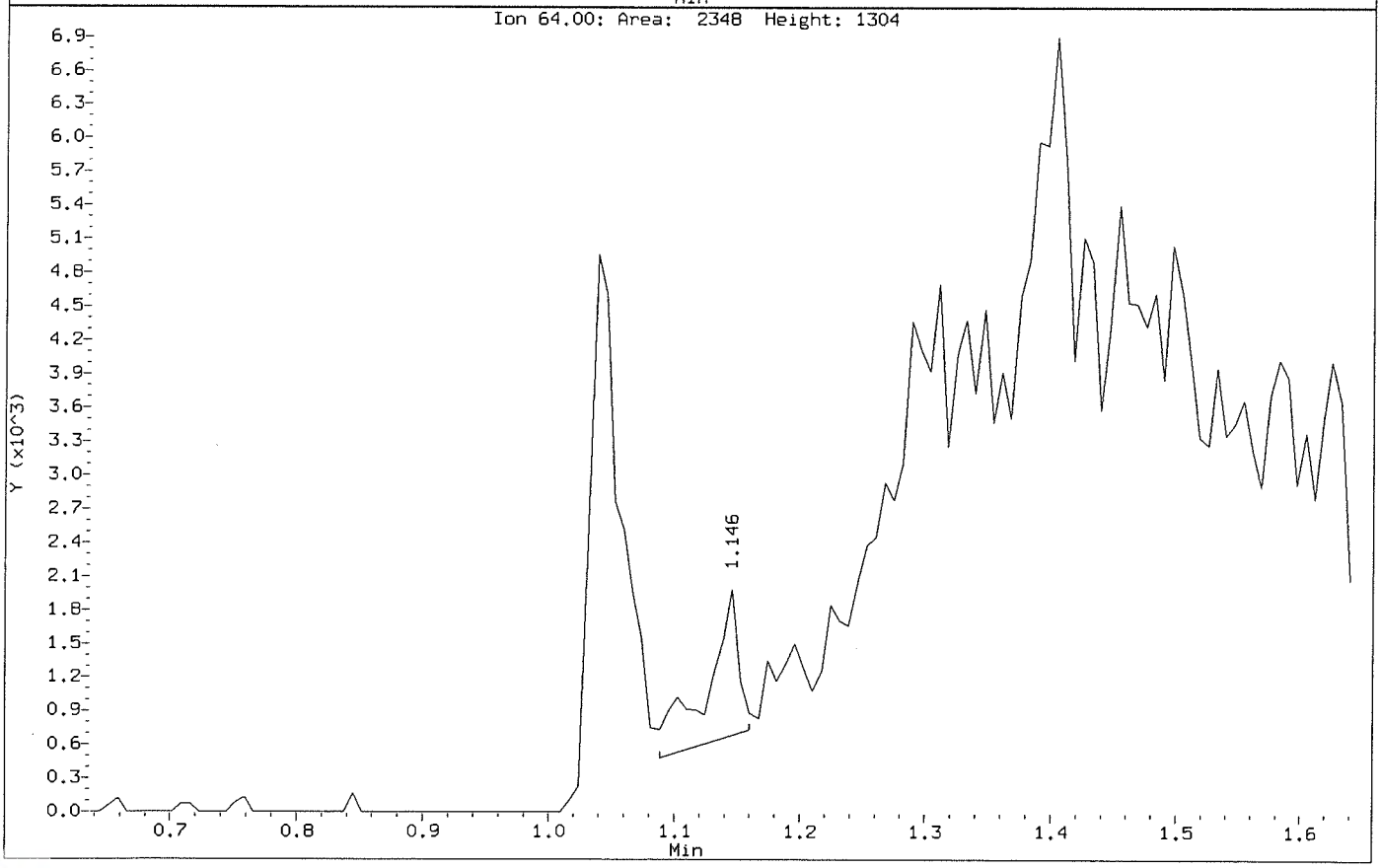




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040204.D
Injection Date: 02-APR-2021 11:56
Instrument: voa6.i
Client Sample ID: VSTD001

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D Page 1
Report Date: 04-May-2021 11:39

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 02-APR-2021 12:17
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 11:56 Cal File: X040204.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

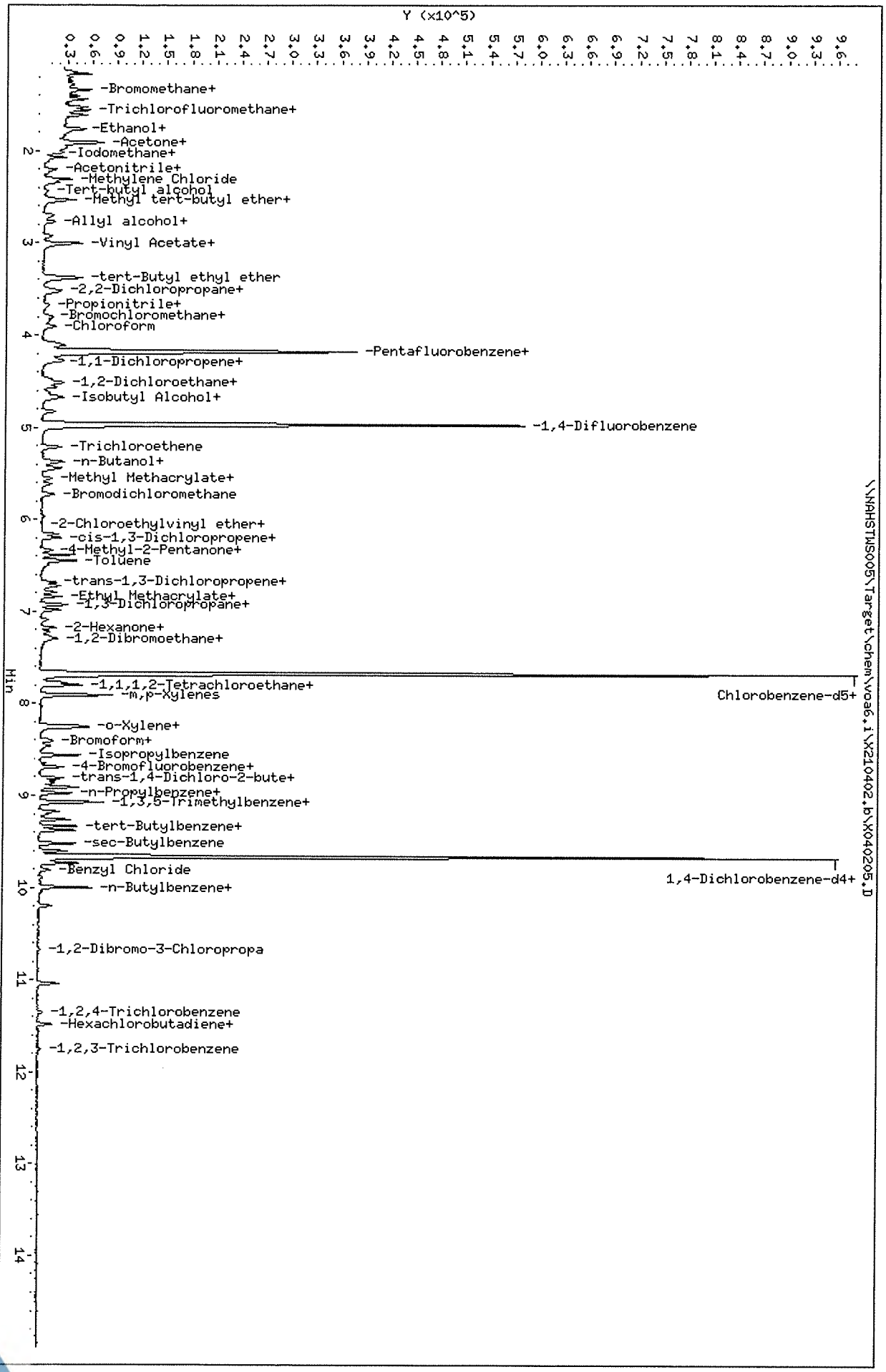
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	278535	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	469682	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	424642	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	187429	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	6870	2.00000	2.50
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	7506	2.00000	2.37
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	22274	2.00000	3.81
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7732	2.00000	3.48
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	5102	2.00000	2.06(a)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	8383	2.00000	2.11(aM)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	9508	2.00000	1.91(aM)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	6948	2.00000	2.04
17 Methylene Chloride	84	2.305	2.305	(0.551)	7271	2.00000	3.81(a)
38 Trichloroethene	130	5.206	5.206	(1.048)	6830	2.00000	2.12
5 Vinyl Chloride	62	1.145	1.145	(0.274)	8442	2.00000	2.02(M)

QC Flag Legend

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

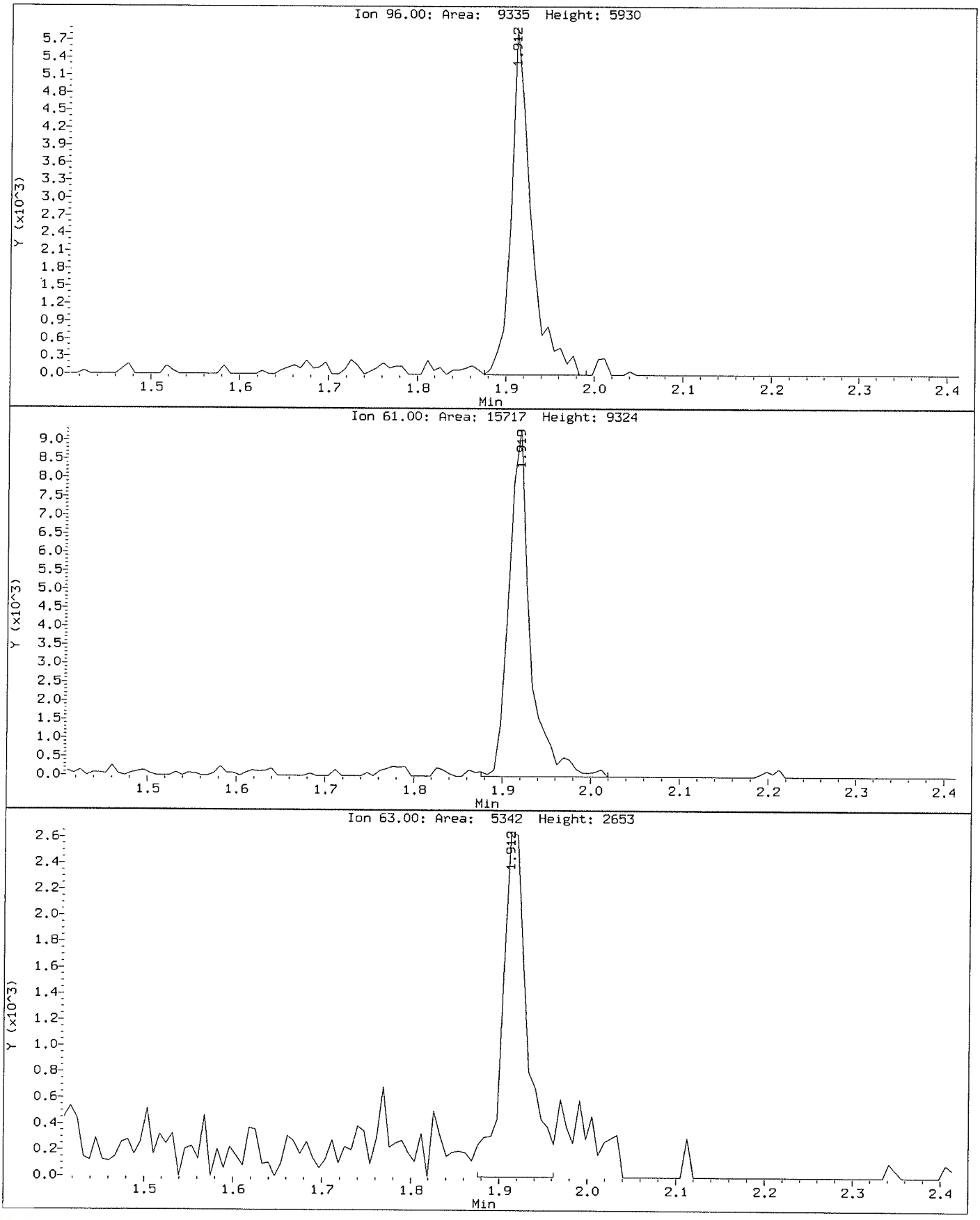


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Date : 02-APR-2021 12:17
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

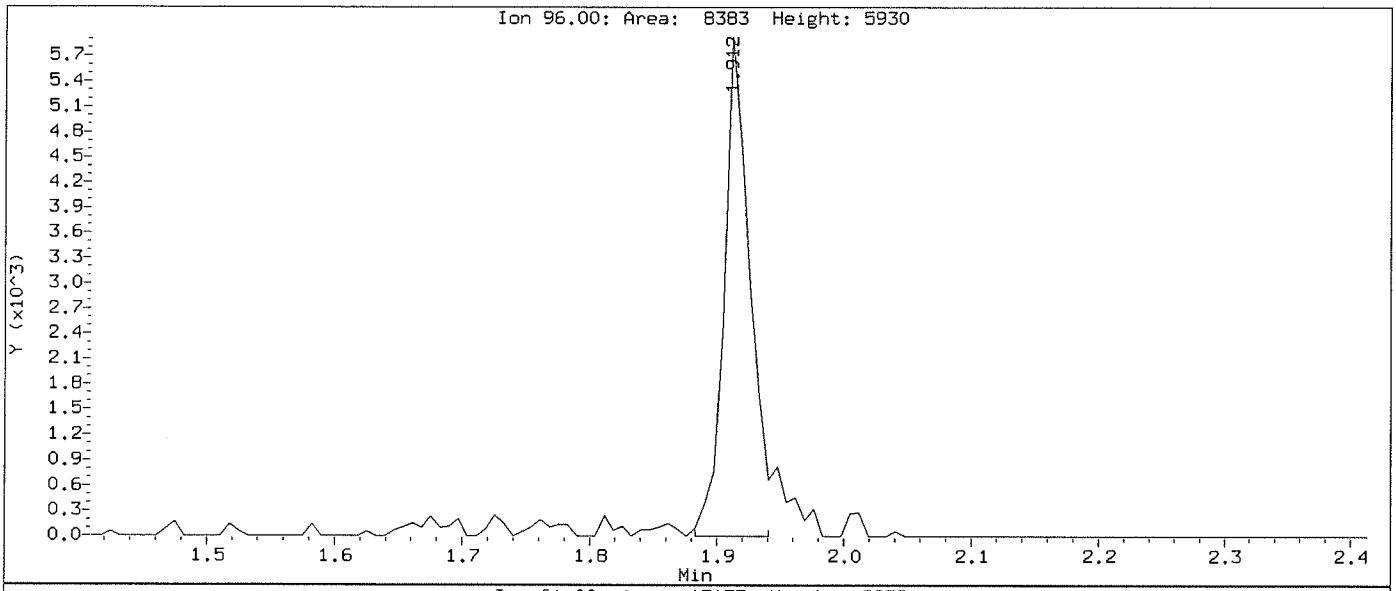
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

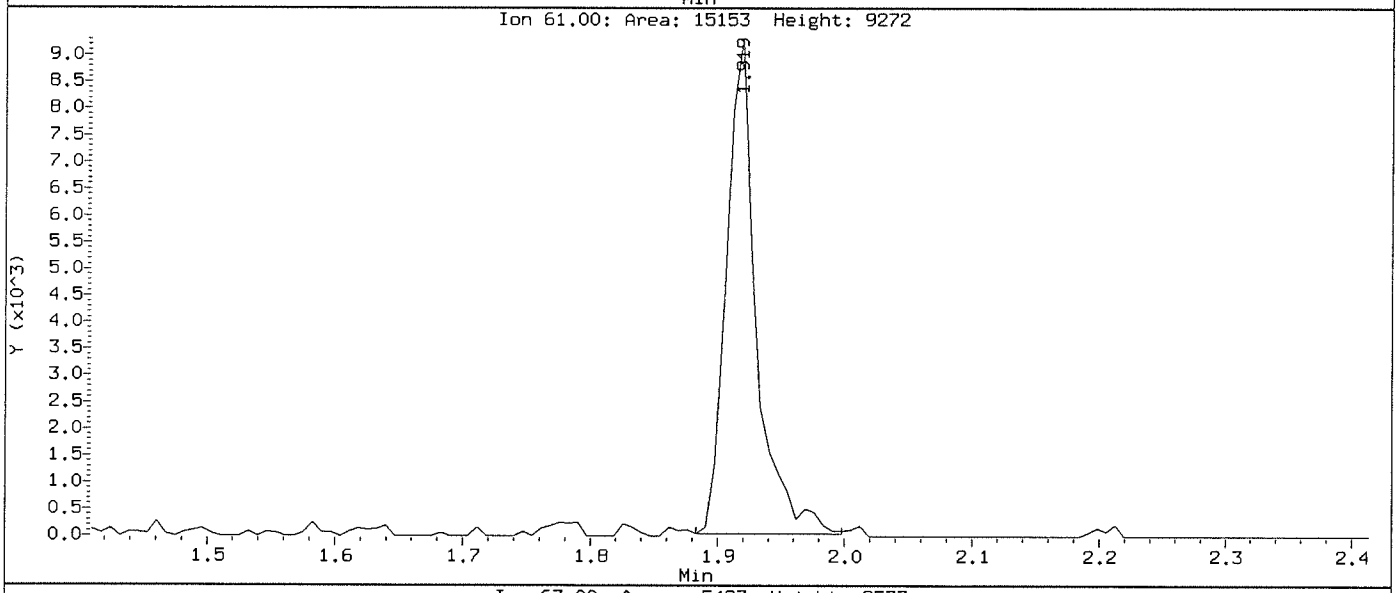
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

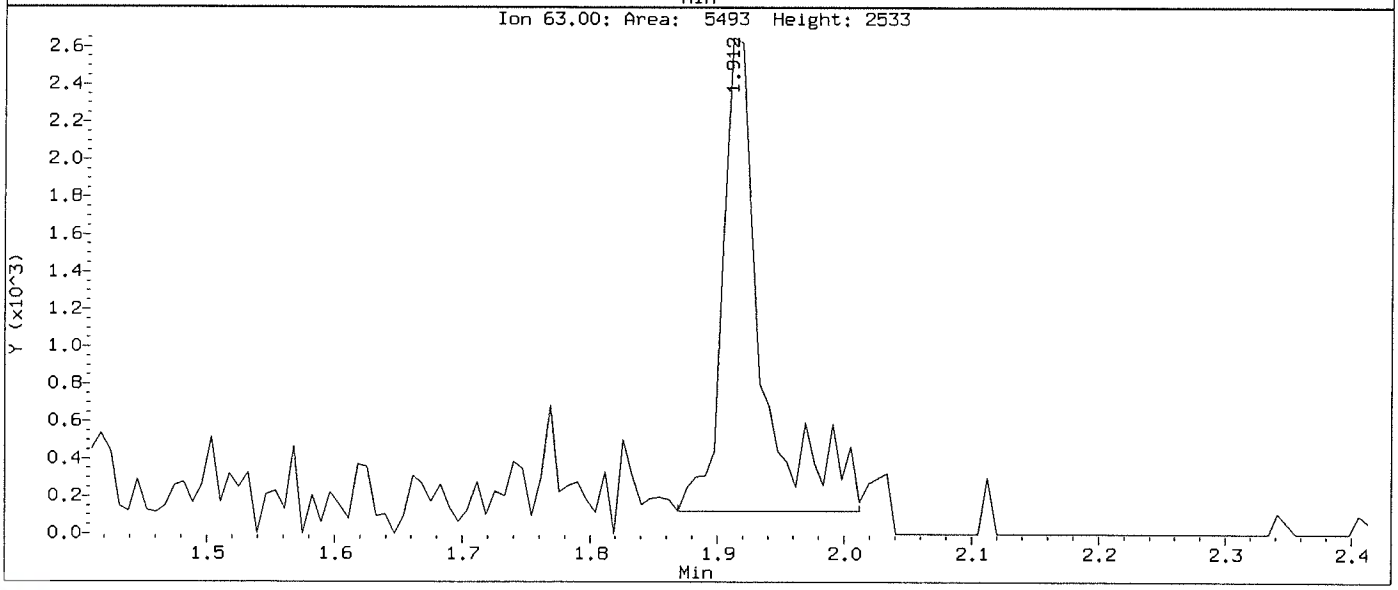


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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

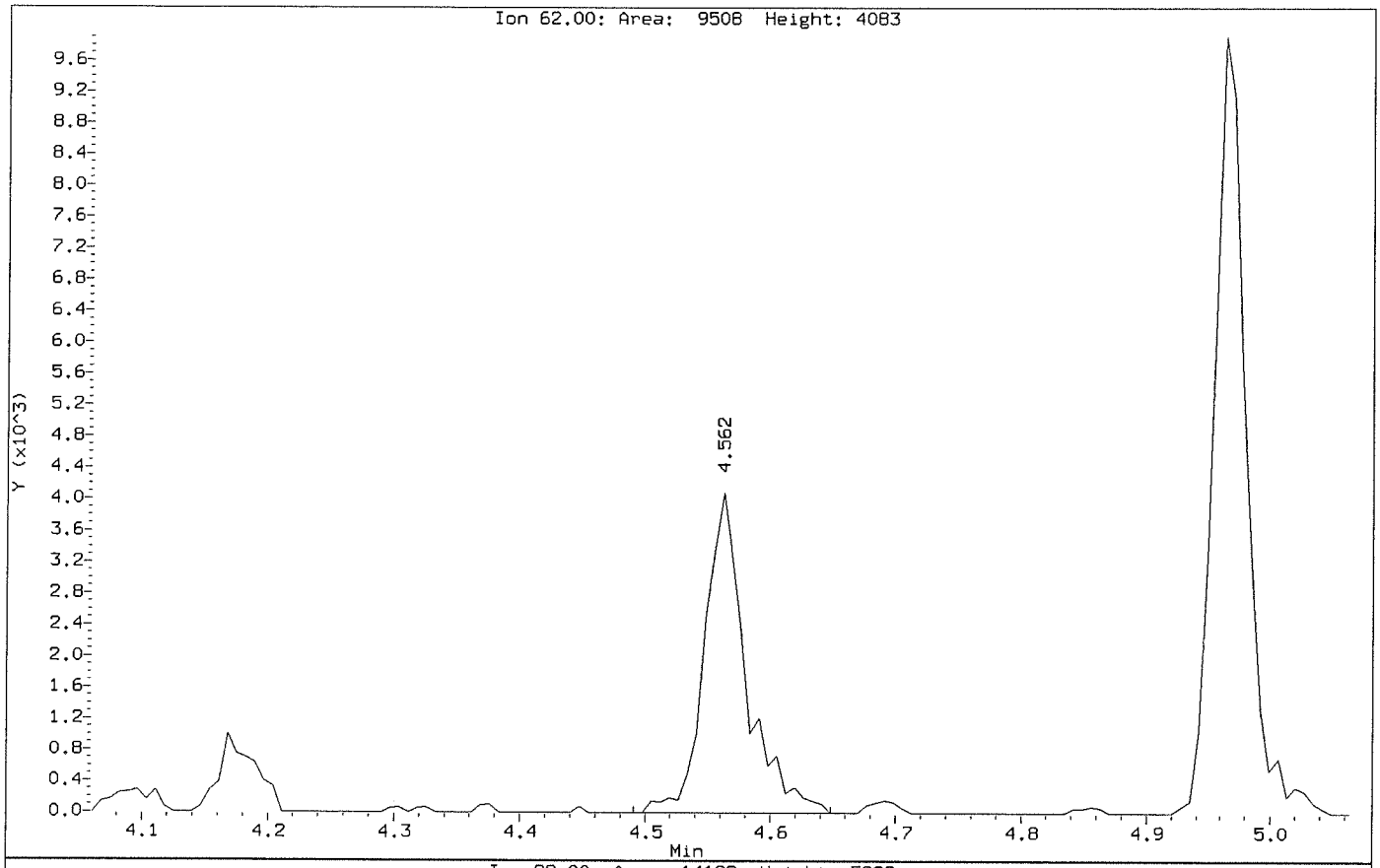


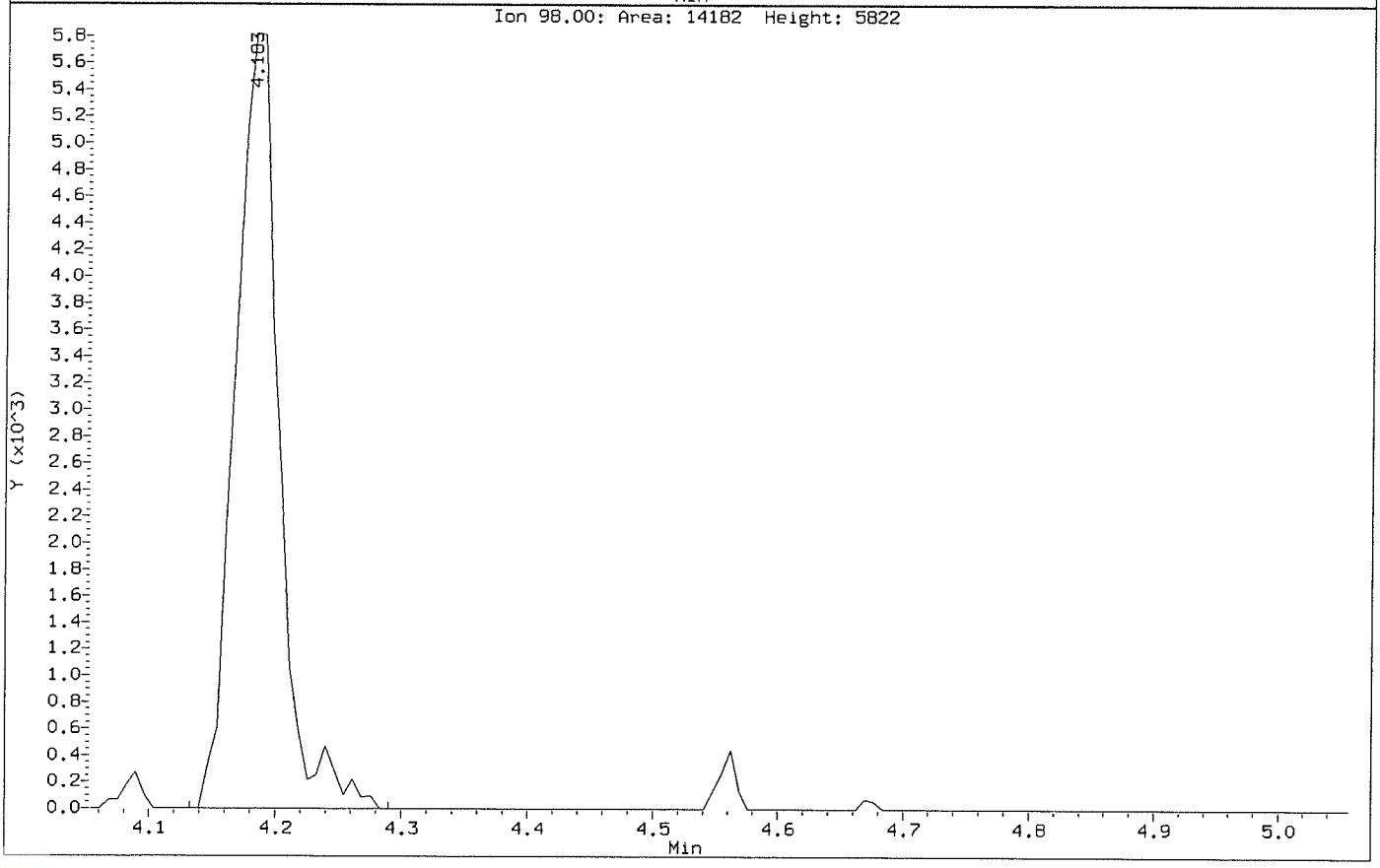




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

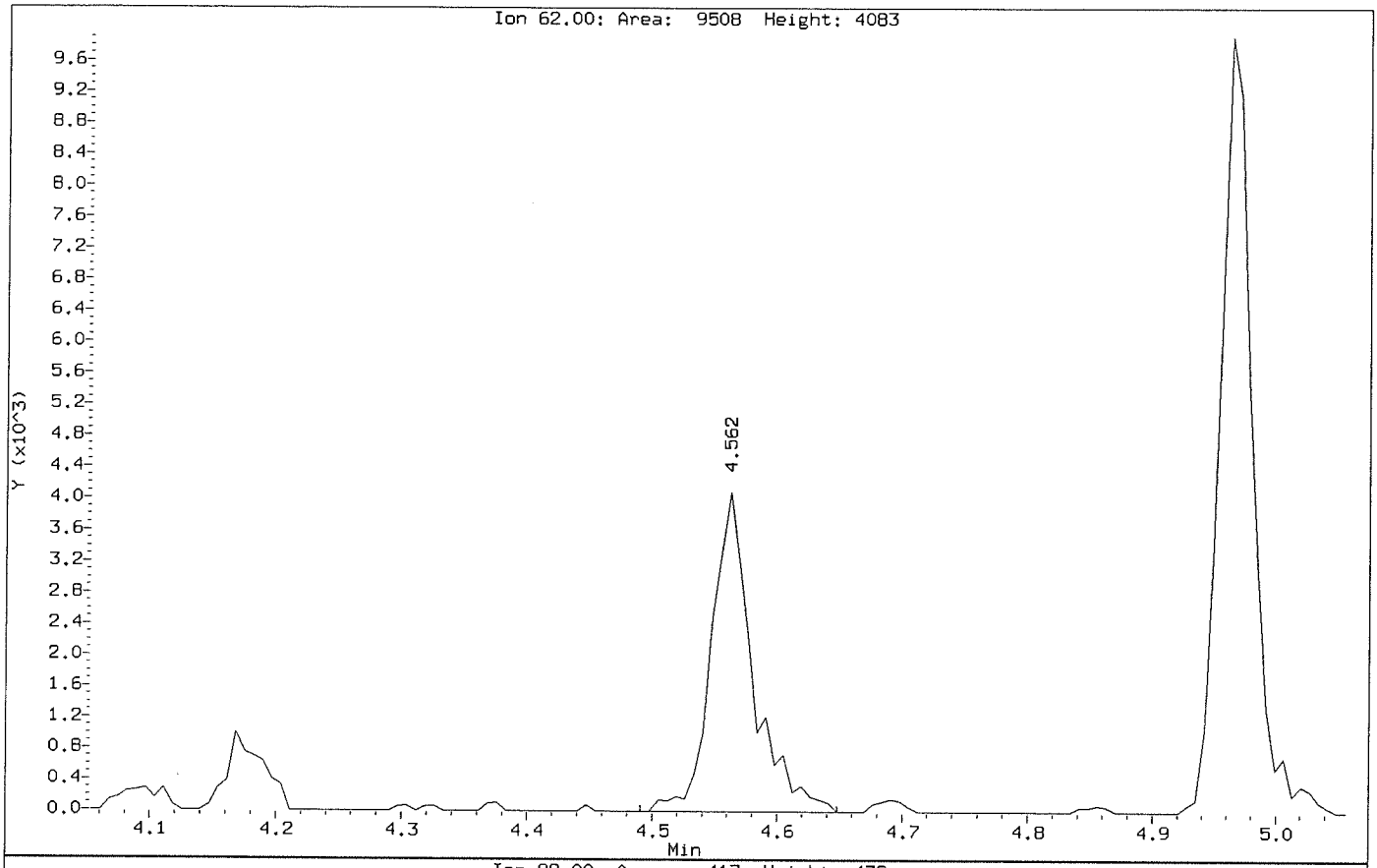
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

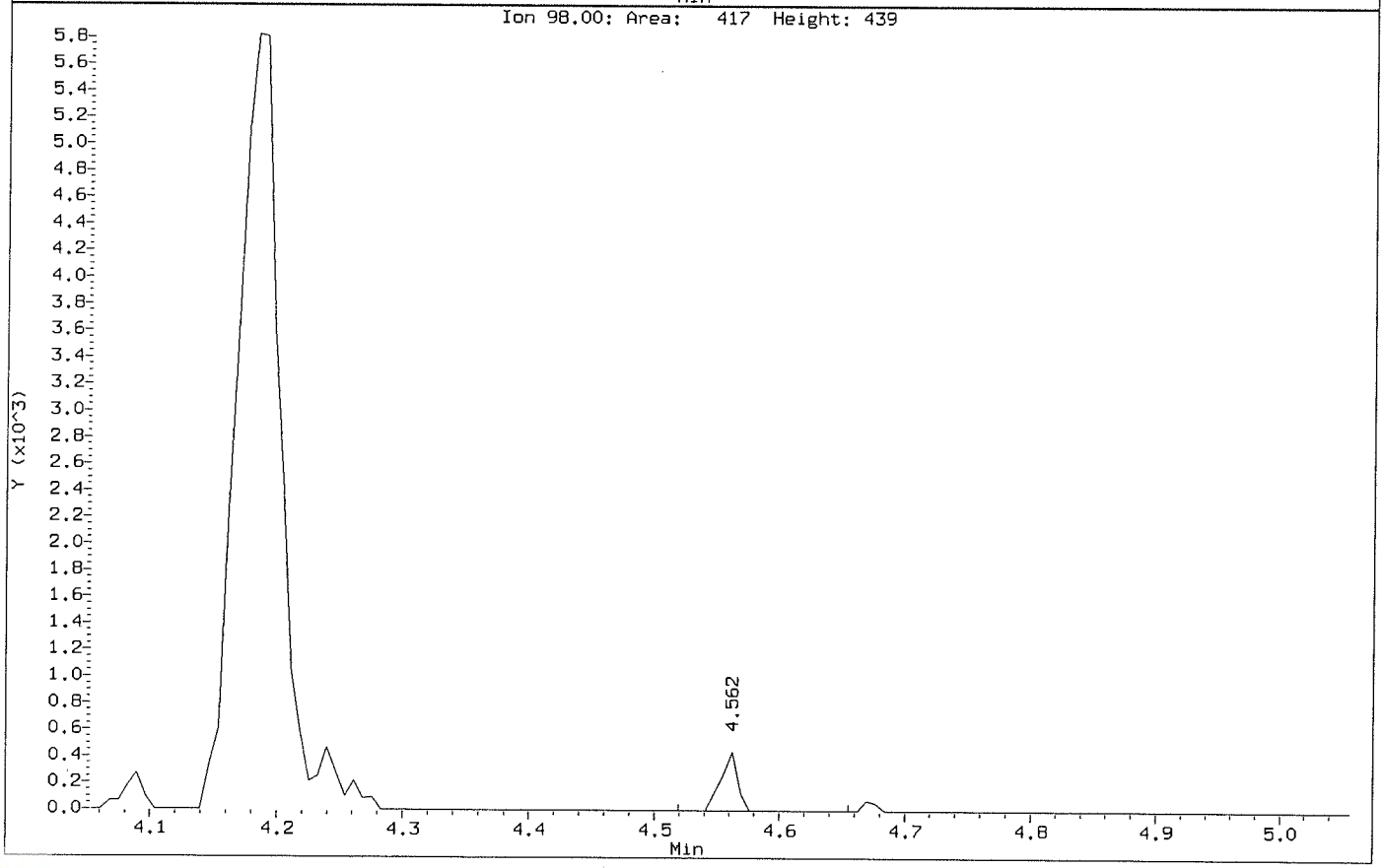




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

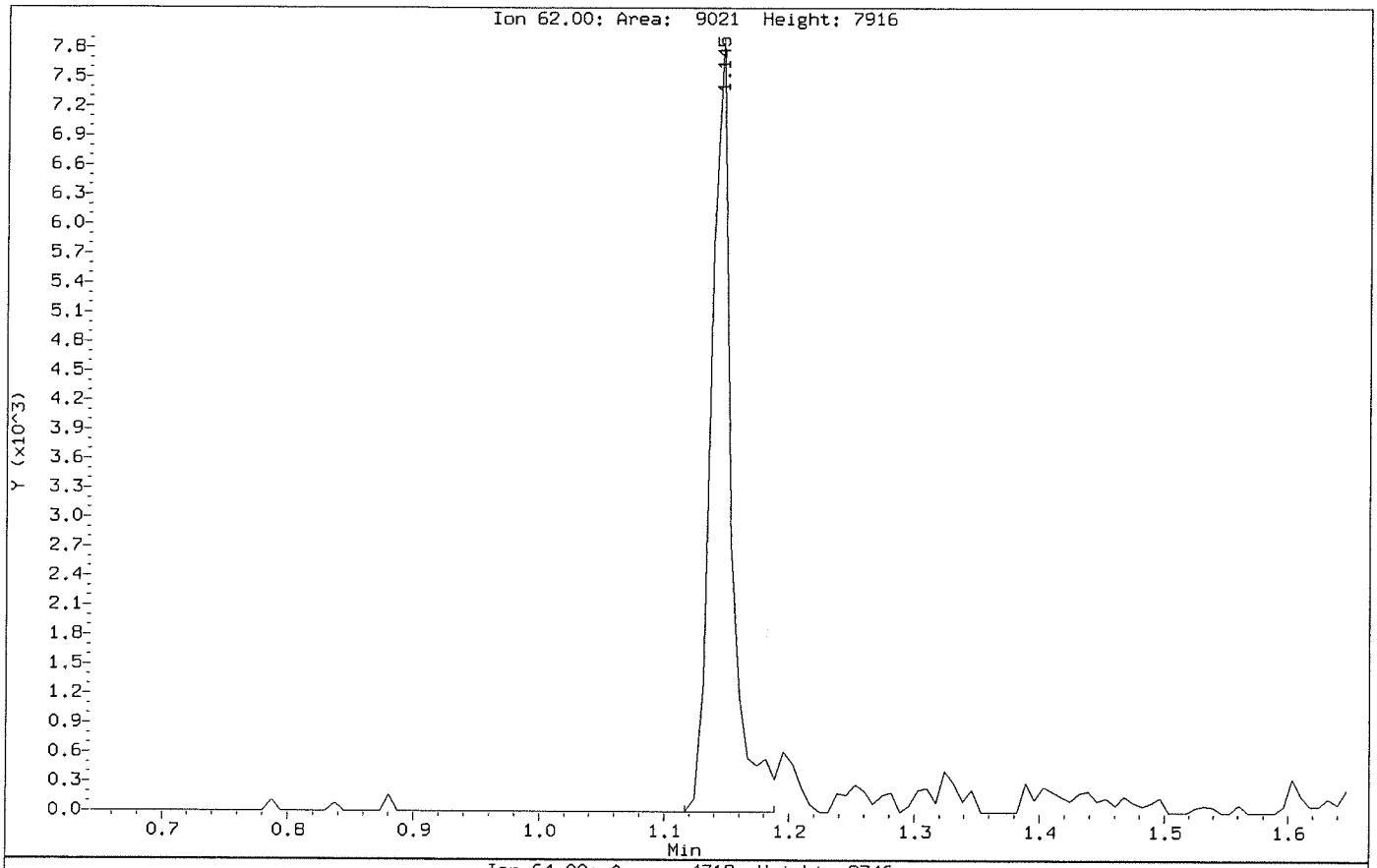
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

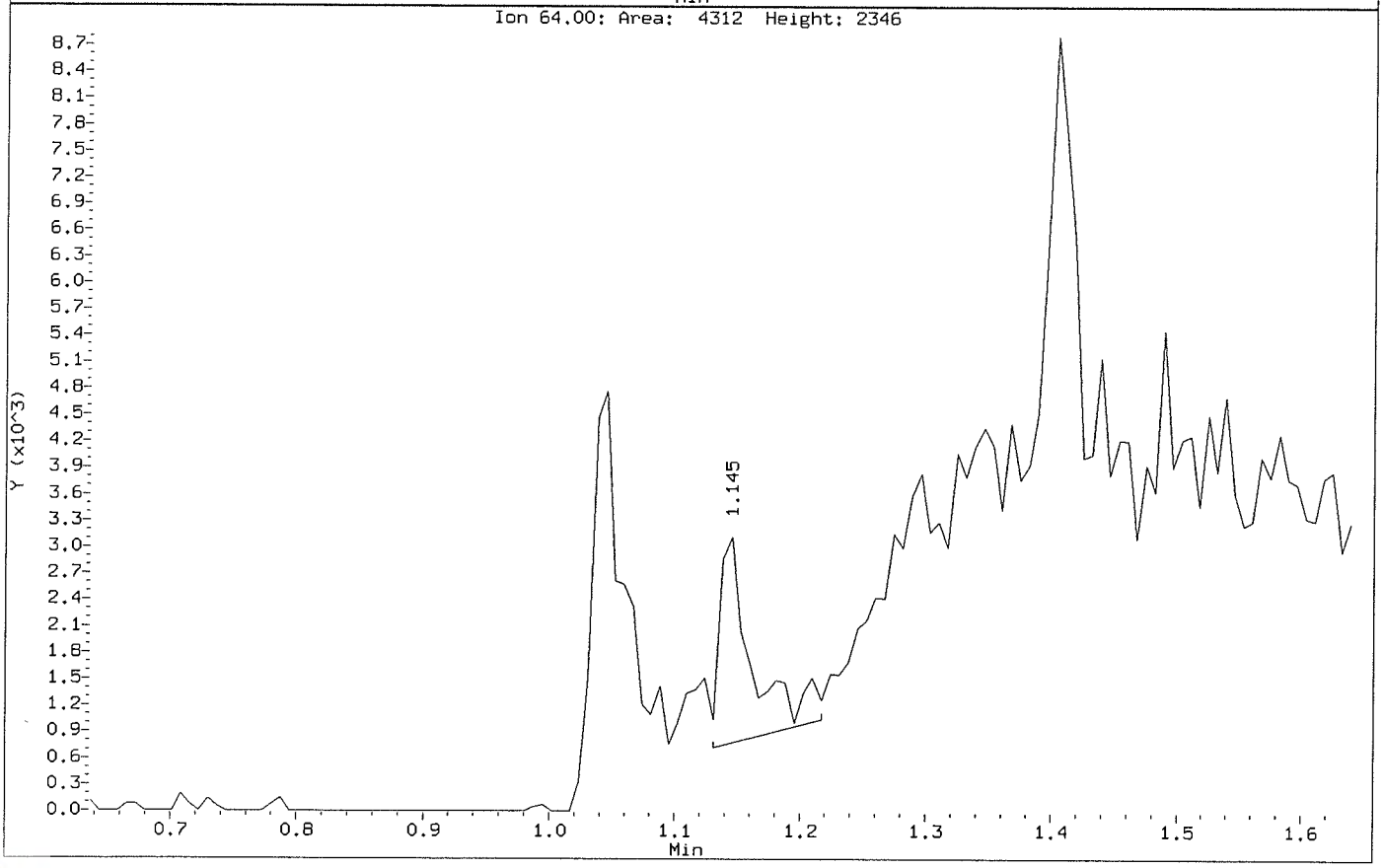




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

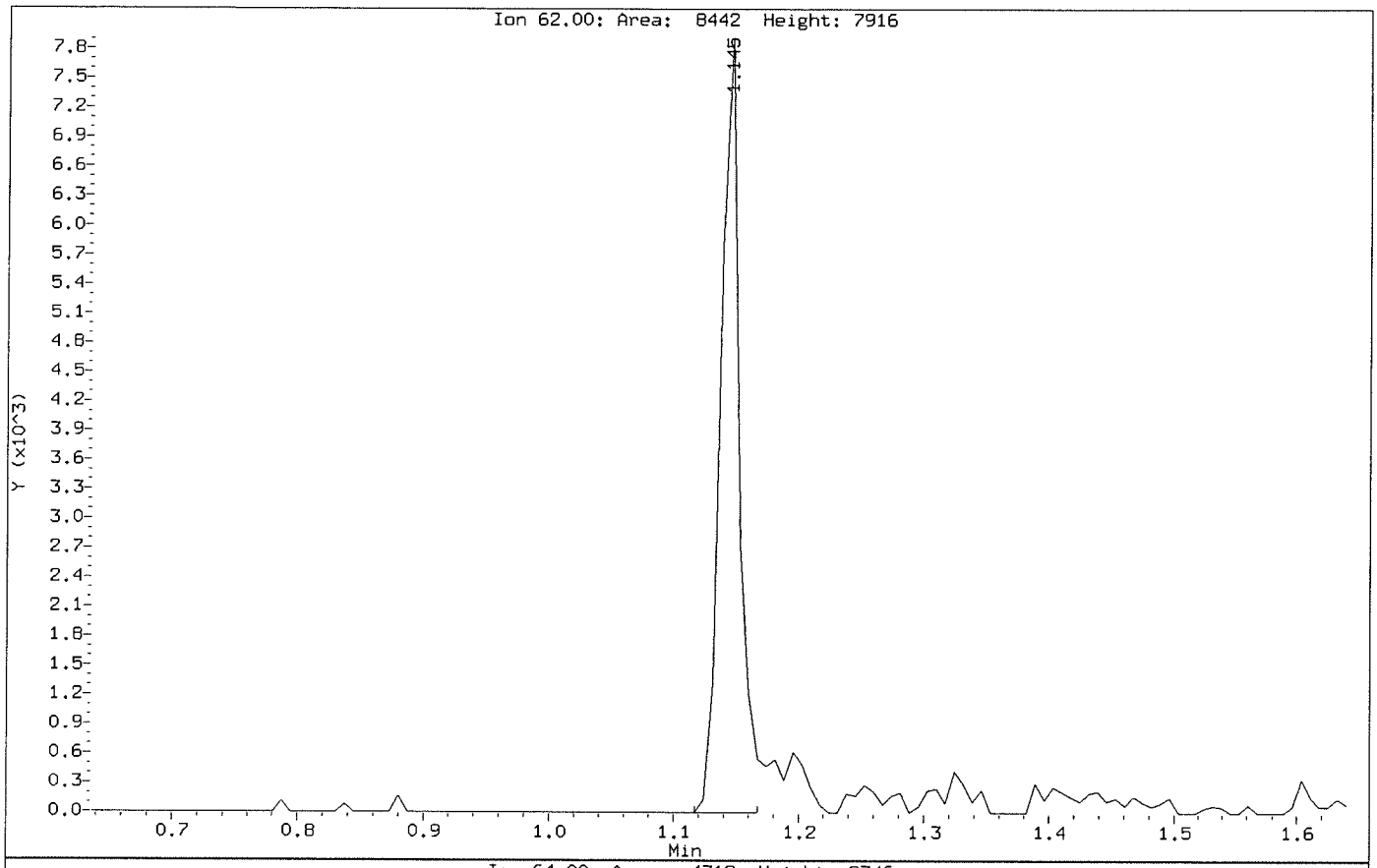
Compound: Vinyl Chloride
CAS Number: 75-01-4

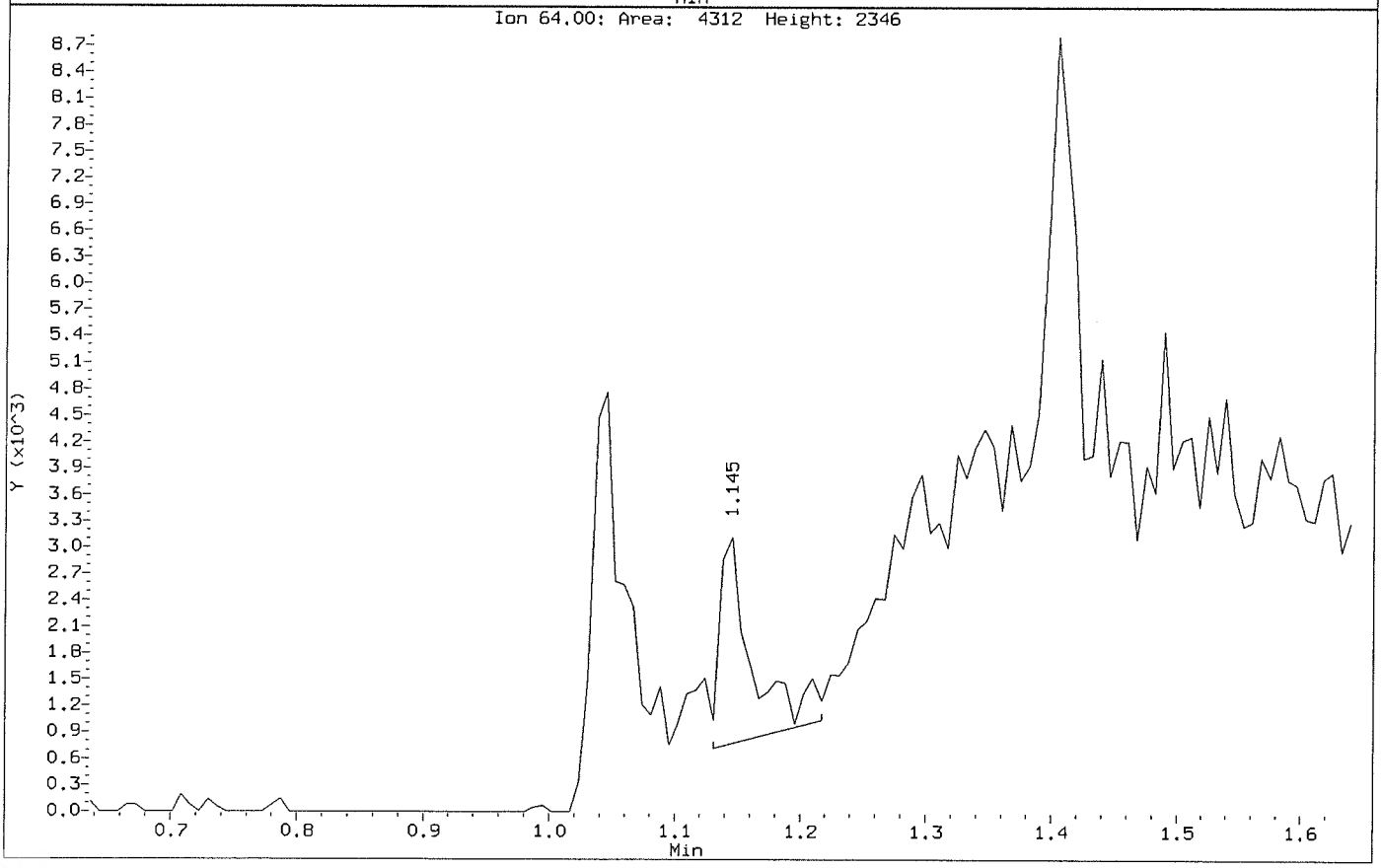




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040205.D
Injection Date: 02-APR-2021 12:17
Instrument: voa6.i
Client Sample ID: VSTD002

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 02-APR-2021 12:38
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:17 Cal File: X040205.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

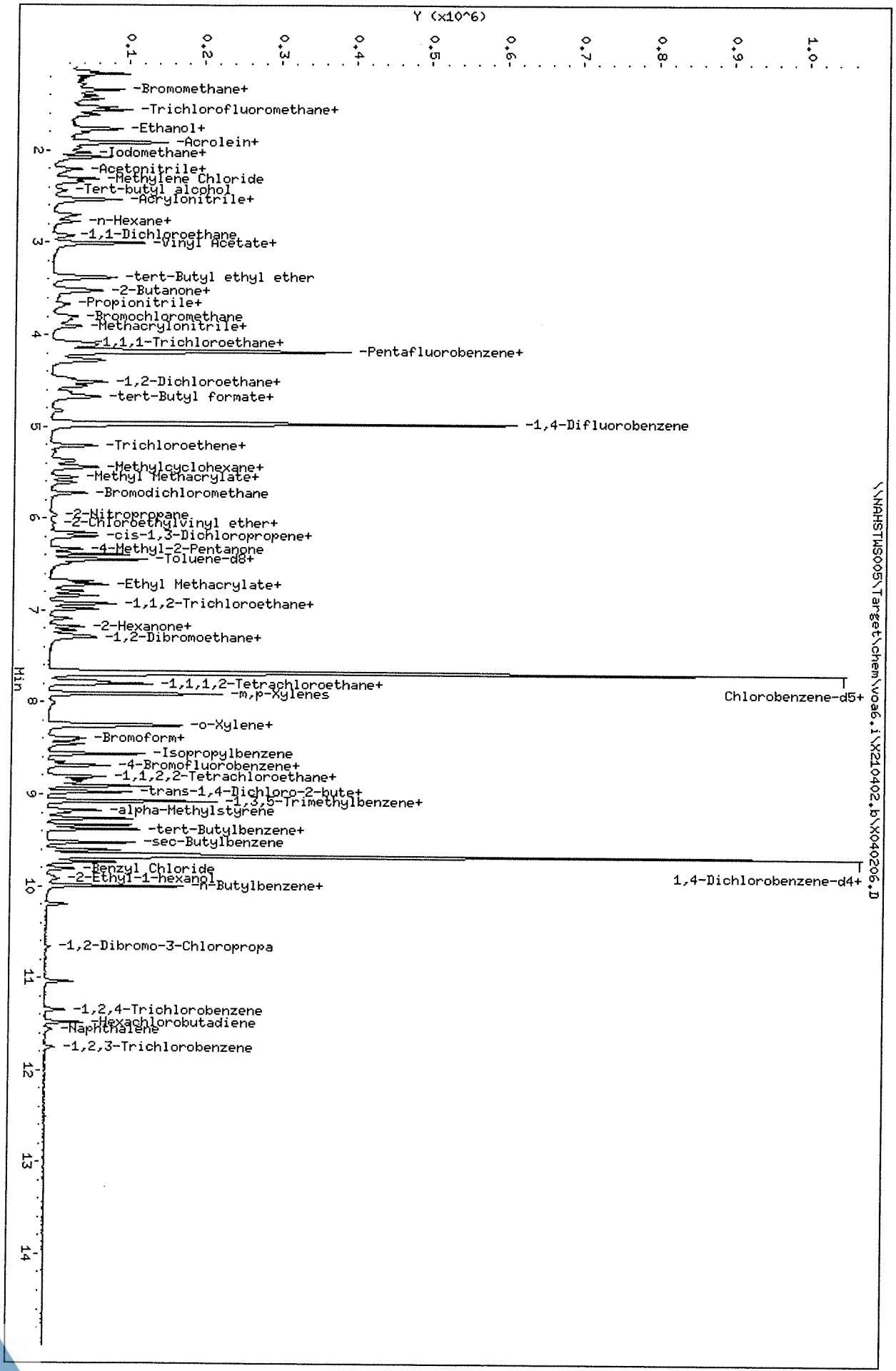
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	291823	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	482057	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	440939	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	205433	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	17824	5.00000	5.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	20809	5.00000	5.48
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	56112	5.00000	6.62
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	19193	5.00000	6.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	14112	5.00000	5.50
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	22632	5.00000	5.44
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	25538	5.00000	5.00
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	17639	5.00000	4.94
17 Methylene Chloride	84	2.306	2.306	(0.551)	17205	5.00000	6.75
38 Trichloroethene	130	5.207	5.207	(1.049)	18140	5.00000	5.49
5 Vinyl Chloride	62	1.145	1.145	(0.274)	22066	5.00000	5.04(M)

QC Flag Legend

M - Compound response manually integrated.

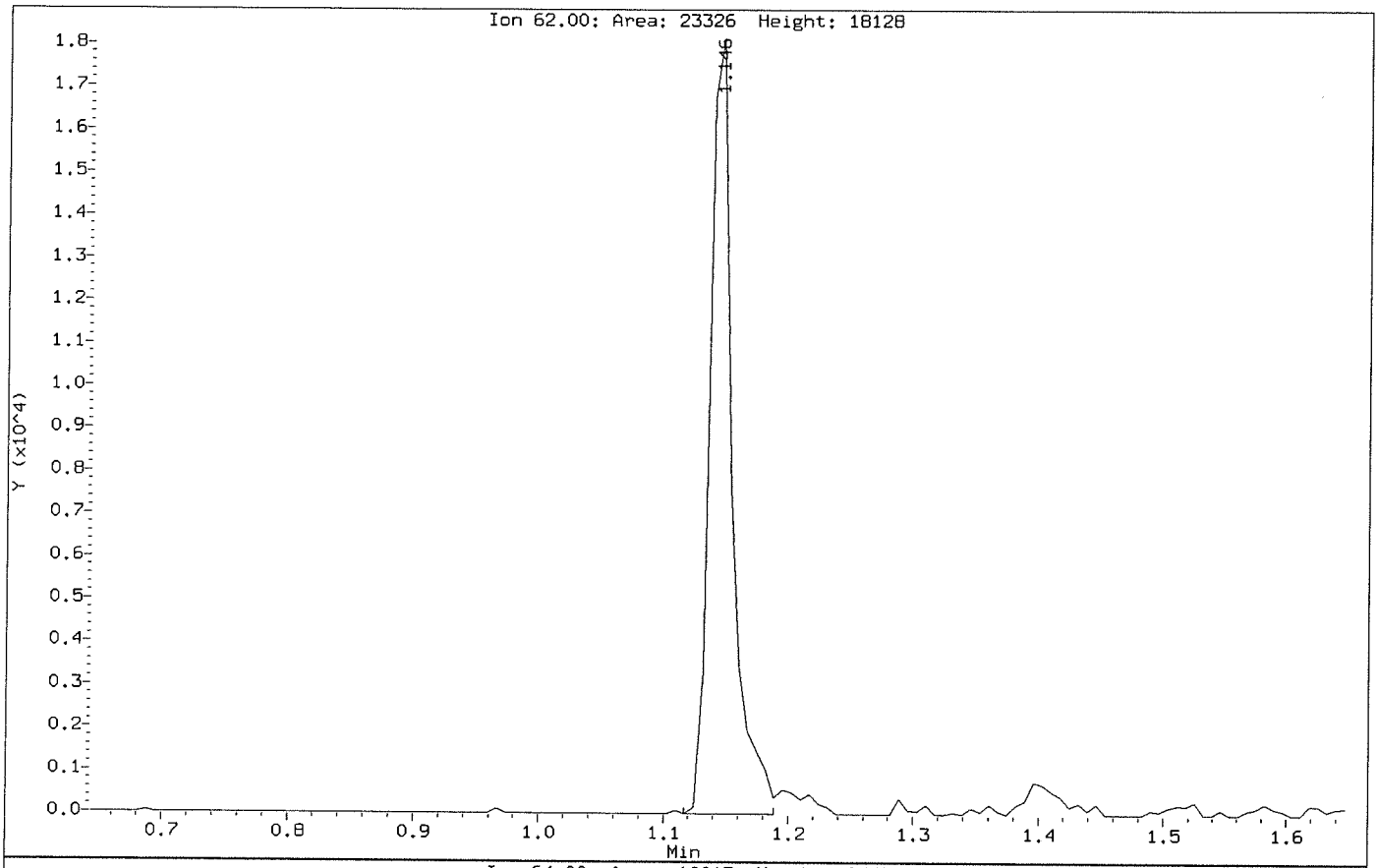


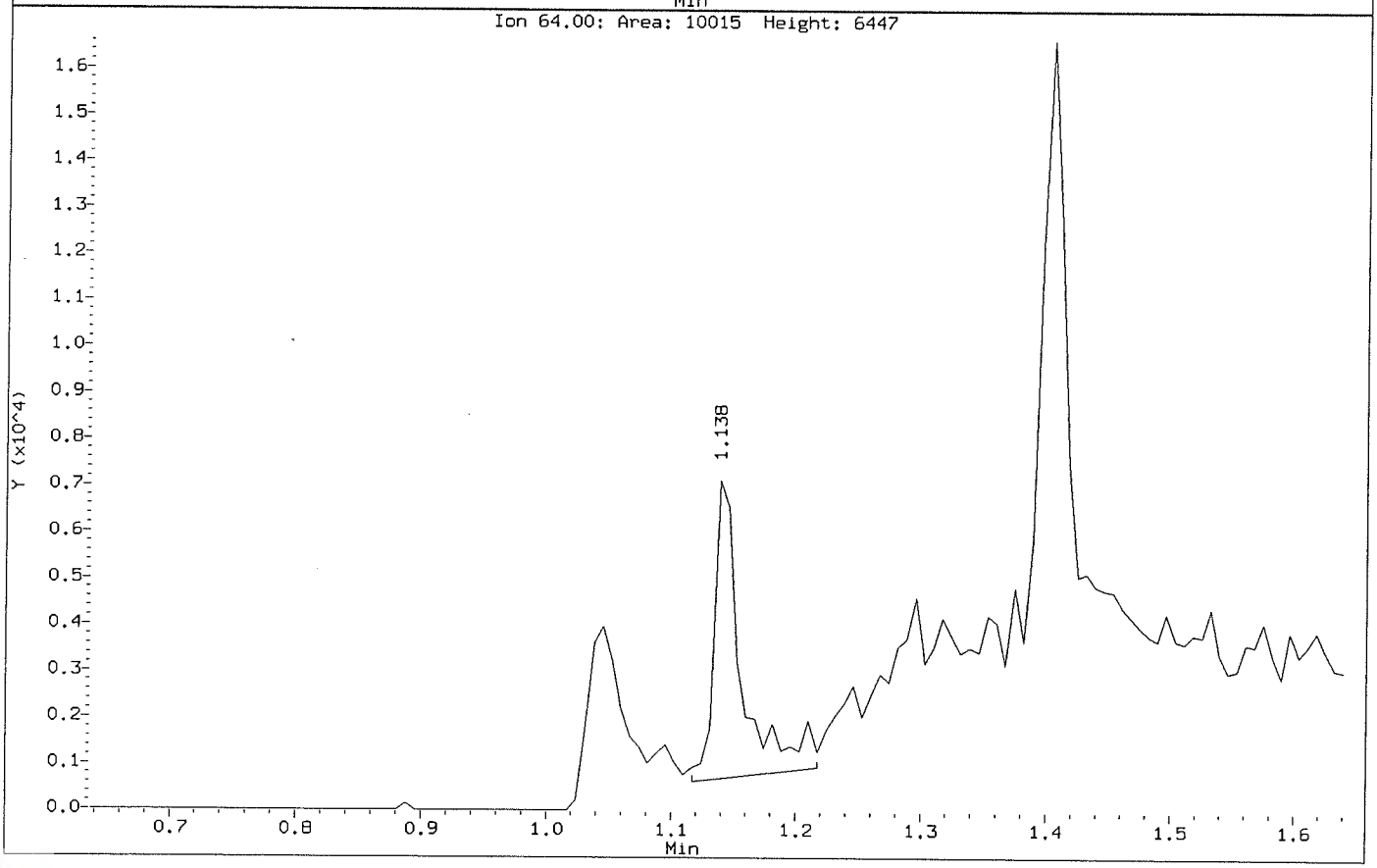
Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Date : 02-APR-2021 12:38
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\Before6\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

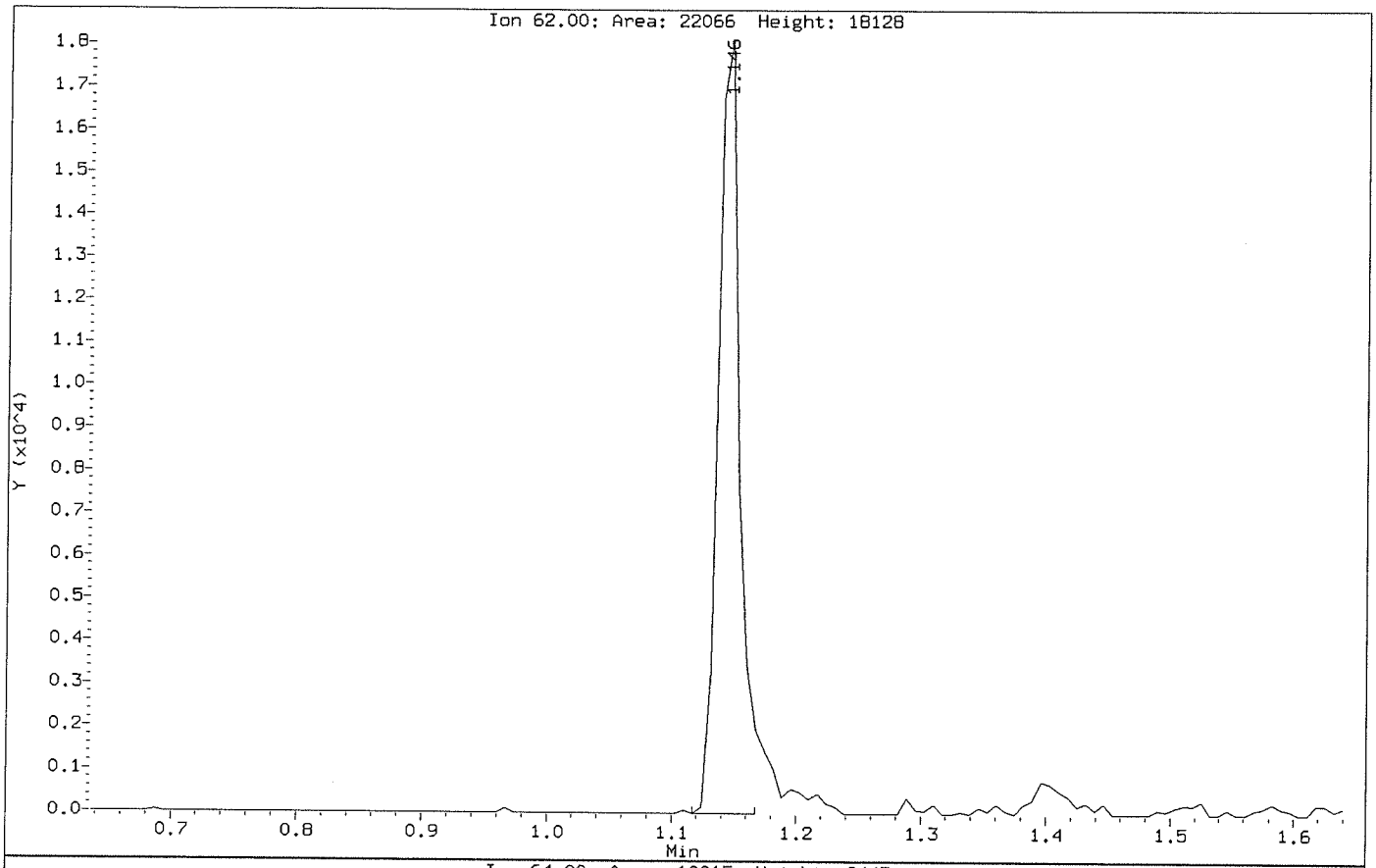
Compound: Vinyl Chloride
CAS Number: 75-01-4

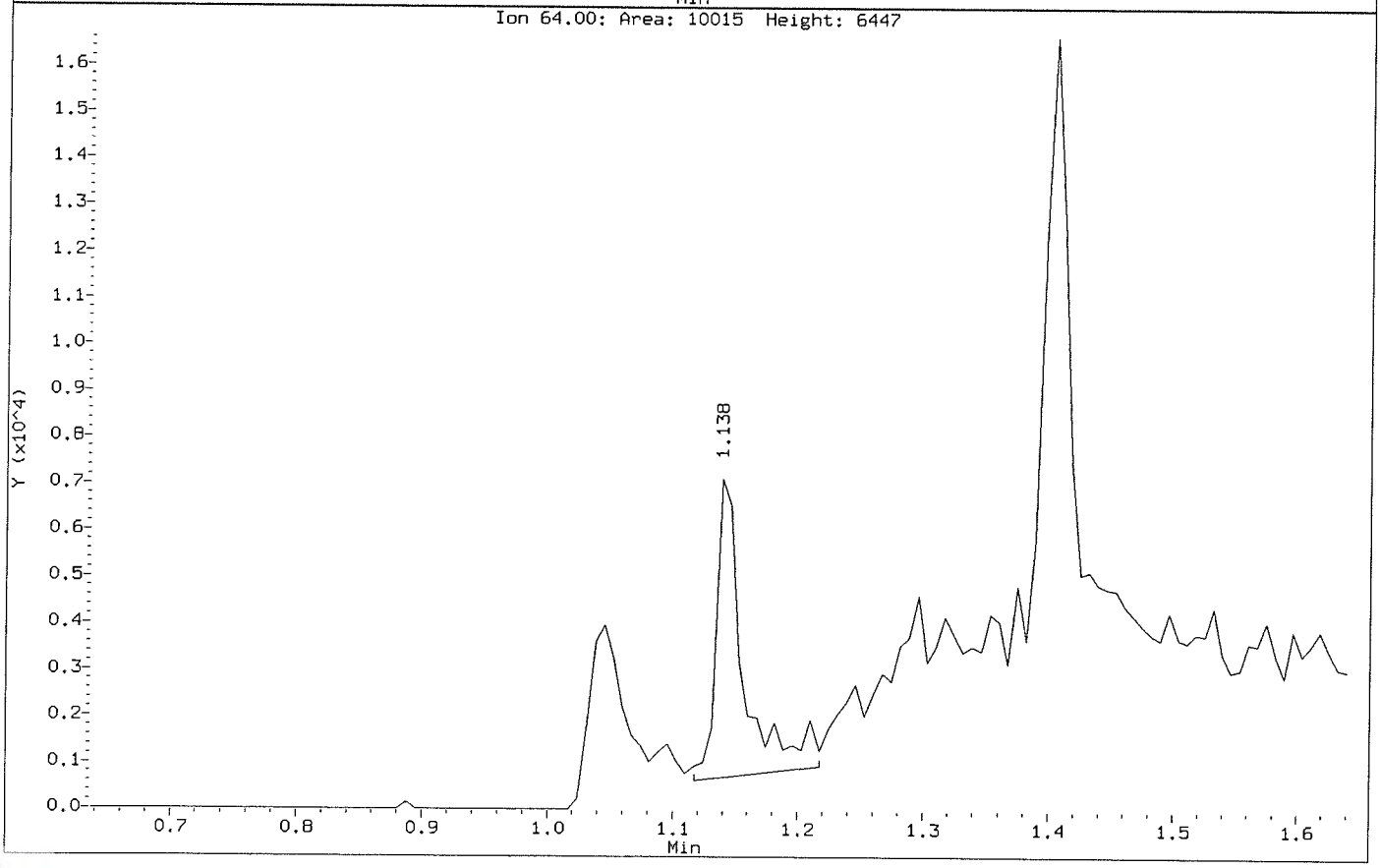




Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040206.D
Injection Date: 02-APR-2021 12:38
Instrument: voa6.i
Client Sample ID: VSTD005

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





Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D Page 1
Report Date: 04-May-2021 11:39

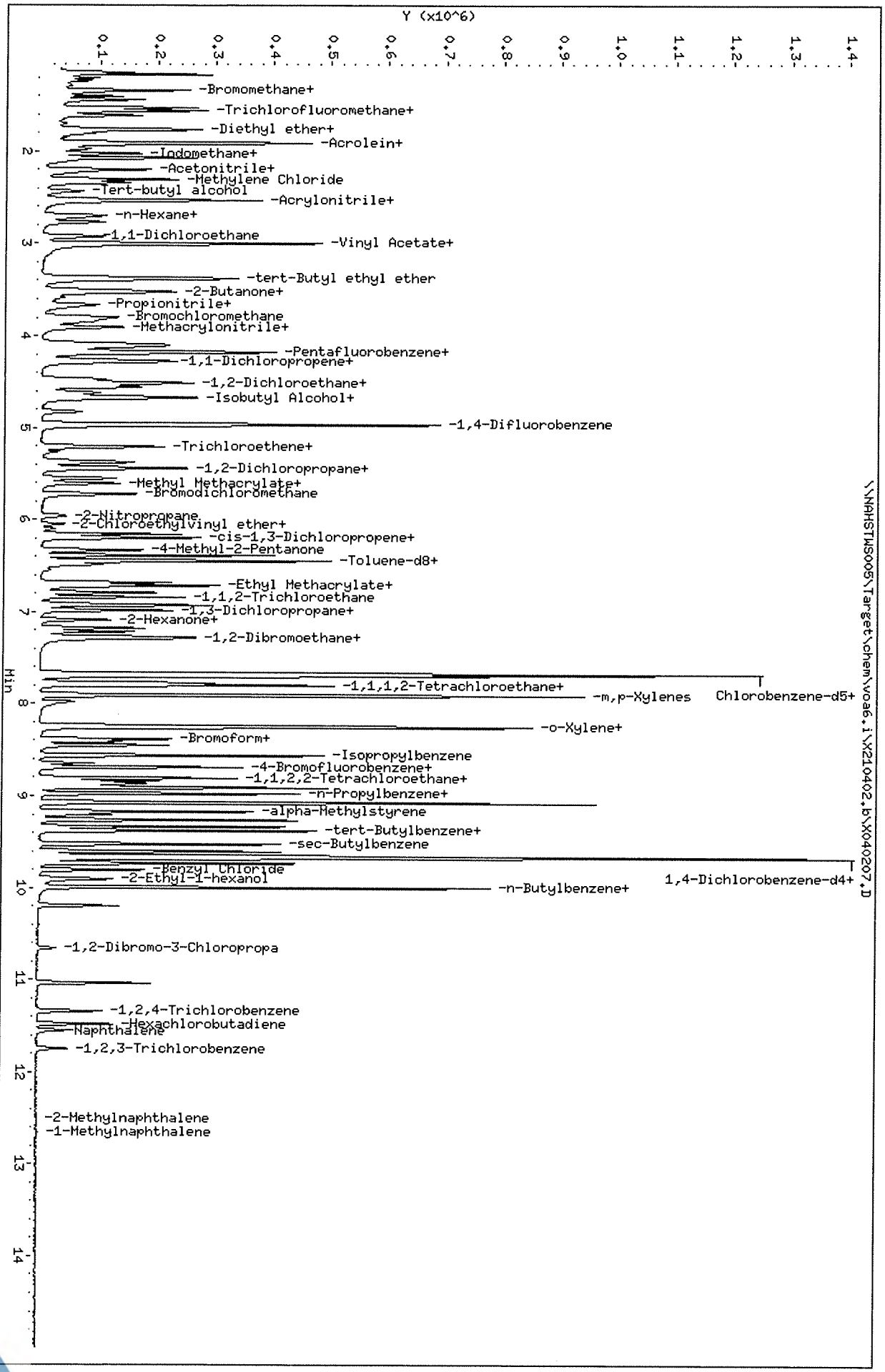
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 02-APR-2021 12:59
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:38 Cal File: X040206.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	303845	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	500849	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	505360	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244406	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	68668	20.0000	19.46
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	80475	20.0000	19.07
$	48 Toluene-d8	98	6.388	6.388	(0.833)	218999	20.0000	18.08
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	81621	20.0000	17.93
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	50828	20.0000	17.31
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	80105	20.0000	18.51
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	95203	20.0000	17.95
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	65903	20.0000	17.74
	17 Methylene Chloride	84	2.305	2.305	(0.551)	63925	20.0000	20.29
	38 Trichloroethene	130	5.206	5.206	(1.049)	61652	20.0000	17.98
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	89514	20.0000	19.65



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040207.D
Date : 02-APR-2021 12:59
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\X210402.b\X040208.D Page 1
Report Date: 04-May-2021 11:39

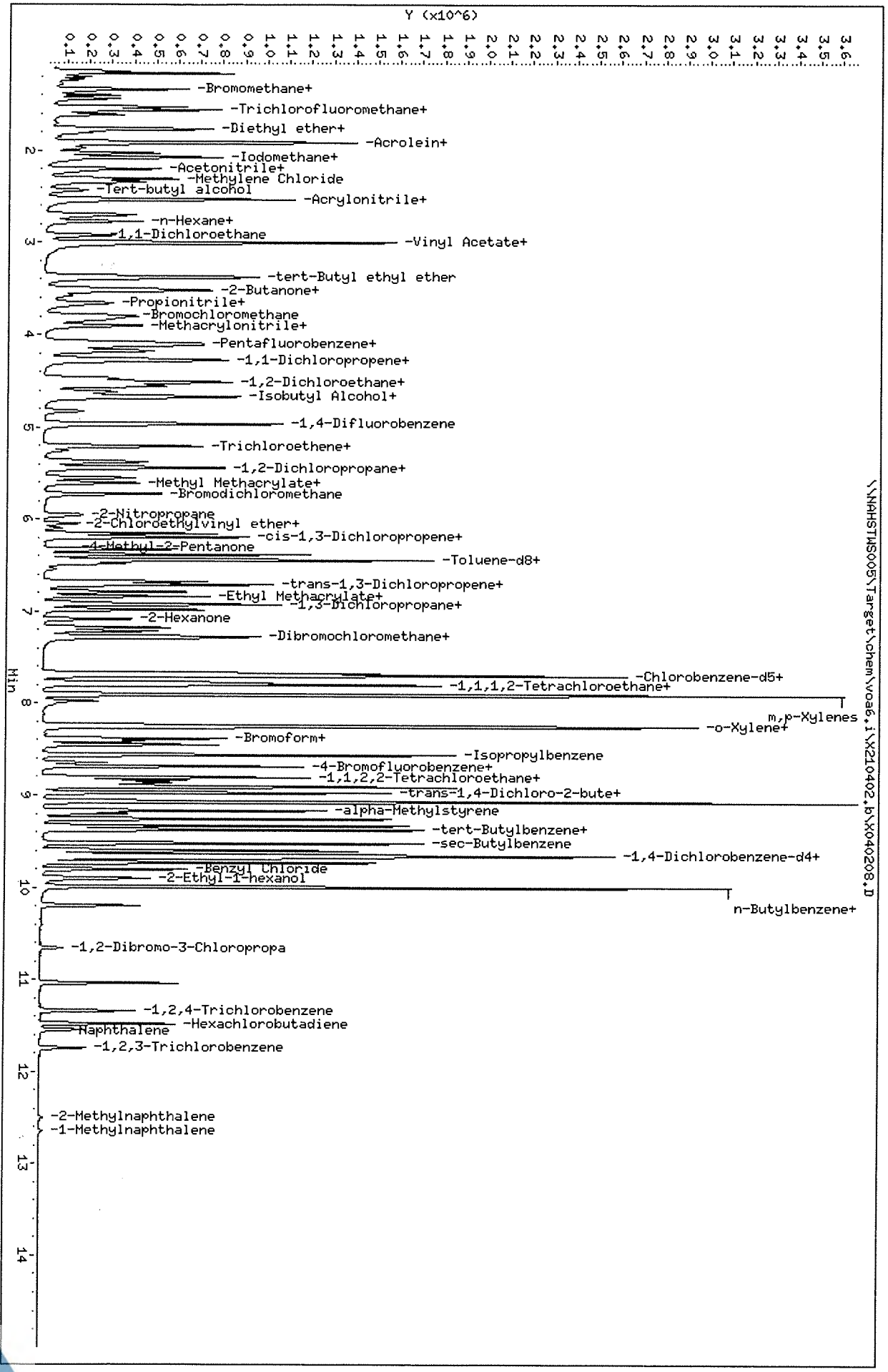
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 02-APR-2021 13:20
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 12:59 Cal File: X040207.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	359684	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	598485	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	588191	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	309539	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	201590	50.0000	47.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	243778	50.0000	48.06
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	658700	50.0000	43.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	267013	50.0000	47.42
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	155825	50.0000	45.60
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	240341	50.0000	46.92
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	309702	50.0000	48.88
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	208514	50.0000	47.42
17 Methylene Chloride	84	2.305	2.305	(0.551)	173954	50.0000	44.72
38 Trichloroethene	130	5.206	5.206	(1.049)	206412	50.0000	50.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	256013	50.0000	47.47



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040208.D
Date : 02-APR-2021 13:20
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\X210402.b\X040209.D Page 1
Report Date: 04-May-2021 11:39

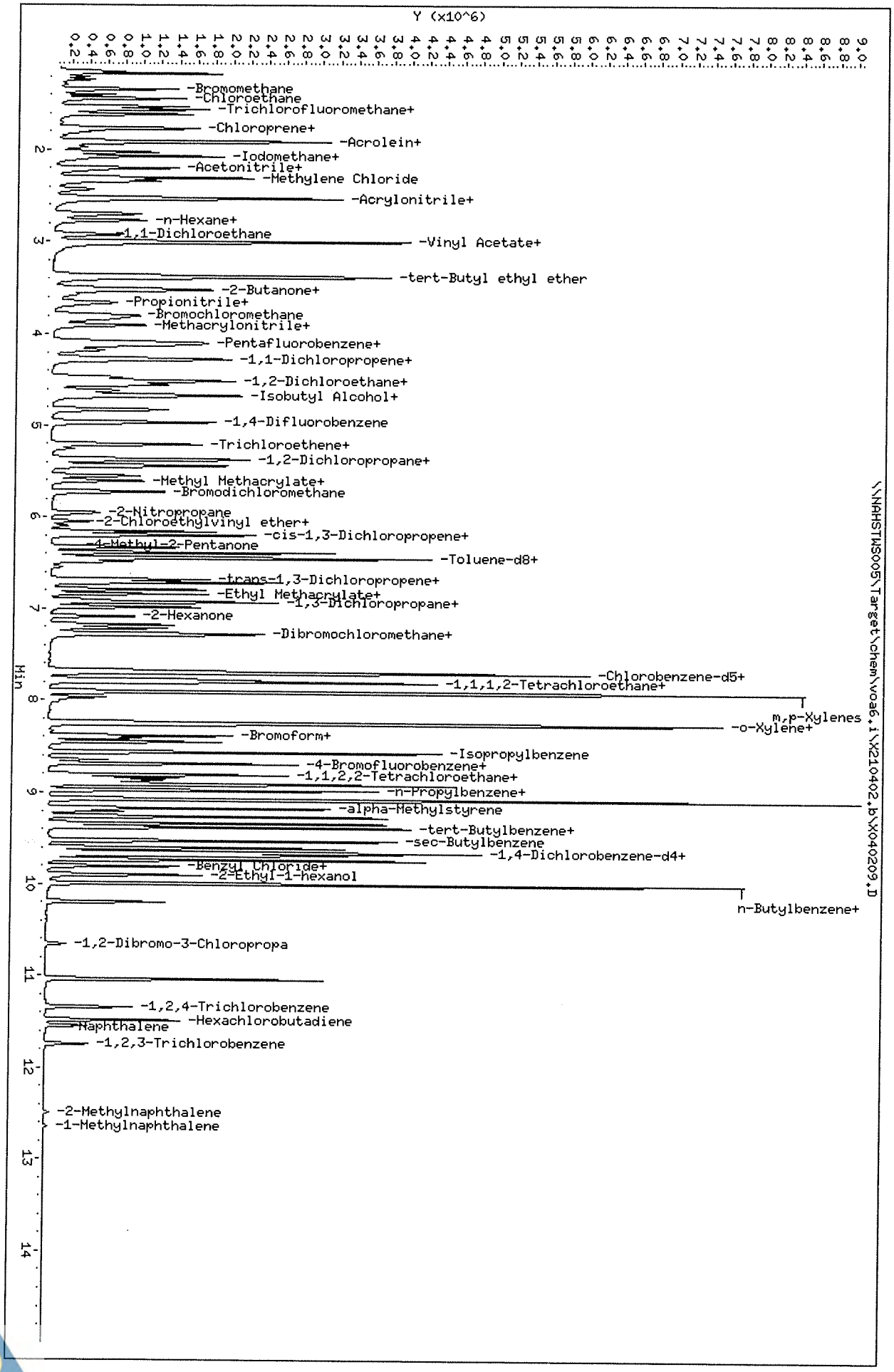
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 02-APR-2021 13:41
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	397825	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	683502	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	652649	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	339759	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	476731	100.000	101.33
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	568806	100.000	100.86
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1733824	100.000	101.37
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	624362	100.000	98.11
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	366869	100.000	96.76
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	544587	100.000	96.14
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	718135	100.000	99.26
	27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	487101	100.000	100.16
	17 Methylene Chloride	84	2.305	2.305	(0.551)	420832	100.000	96.06
	38 Trichloroethene	130	5.206	5.206	(1.049)	478548	100.000	102.27
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	541798	100.000	90.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040209.D
Date : 02-APR-2021 13:41
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D Page 1
Report Date: 04-May-2021 11:39

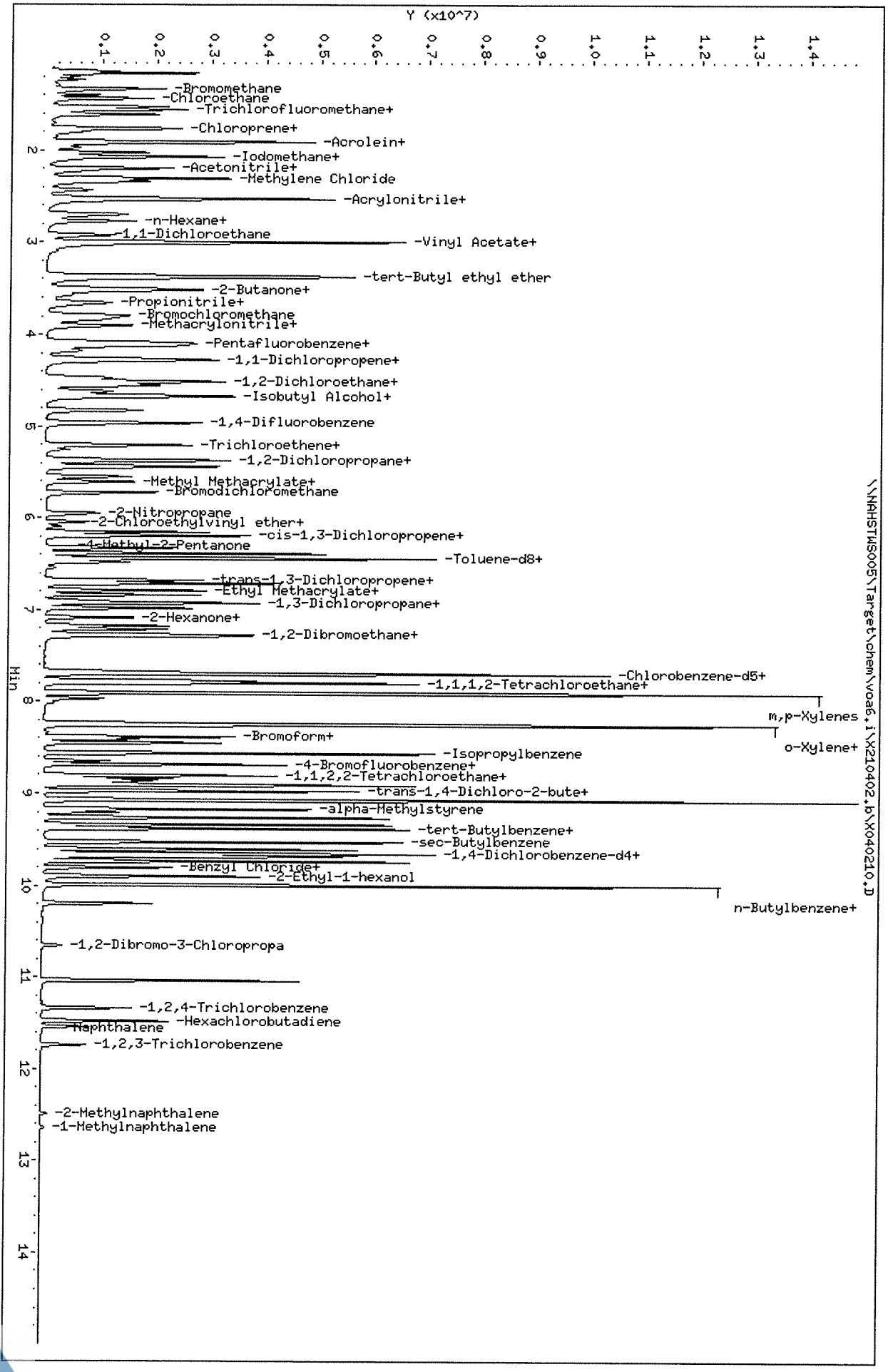
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 02-APR-2021 14:02
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:41 Cal File: X040209.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	432906	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	745206	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	707197	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	375287	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	758989	150.000	148.06
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	919399	150.000	149.58
$	48 Toluene-d8	98	6.388	6.388	(0.833)	2714142	150.000	145.62
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1011725	150.000	145.90
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	595658	150.000	144.99
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	861197	150.000	139.71
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	1146217	150.000	145.31
	27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	789545	150.000	149.19
	17 Methylene Chloride	84	2.298	2.298	(0.550)	703062	150.000	146.68
	38 Trichloroethene	130	5.207	5.207	(1.049)	752757	150.000	147.55
	5 Vinyl Chloride	62	1.138	1.138	(0.272)	862204	150.000	132.84



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040210.D
Date : 02-APR-2021 14:02
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\X210402.b\X040211.D Page 1
Report Date: 04-May-2021 11:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 02-APR-2021 14:23
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:02 Cal File: X040210.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

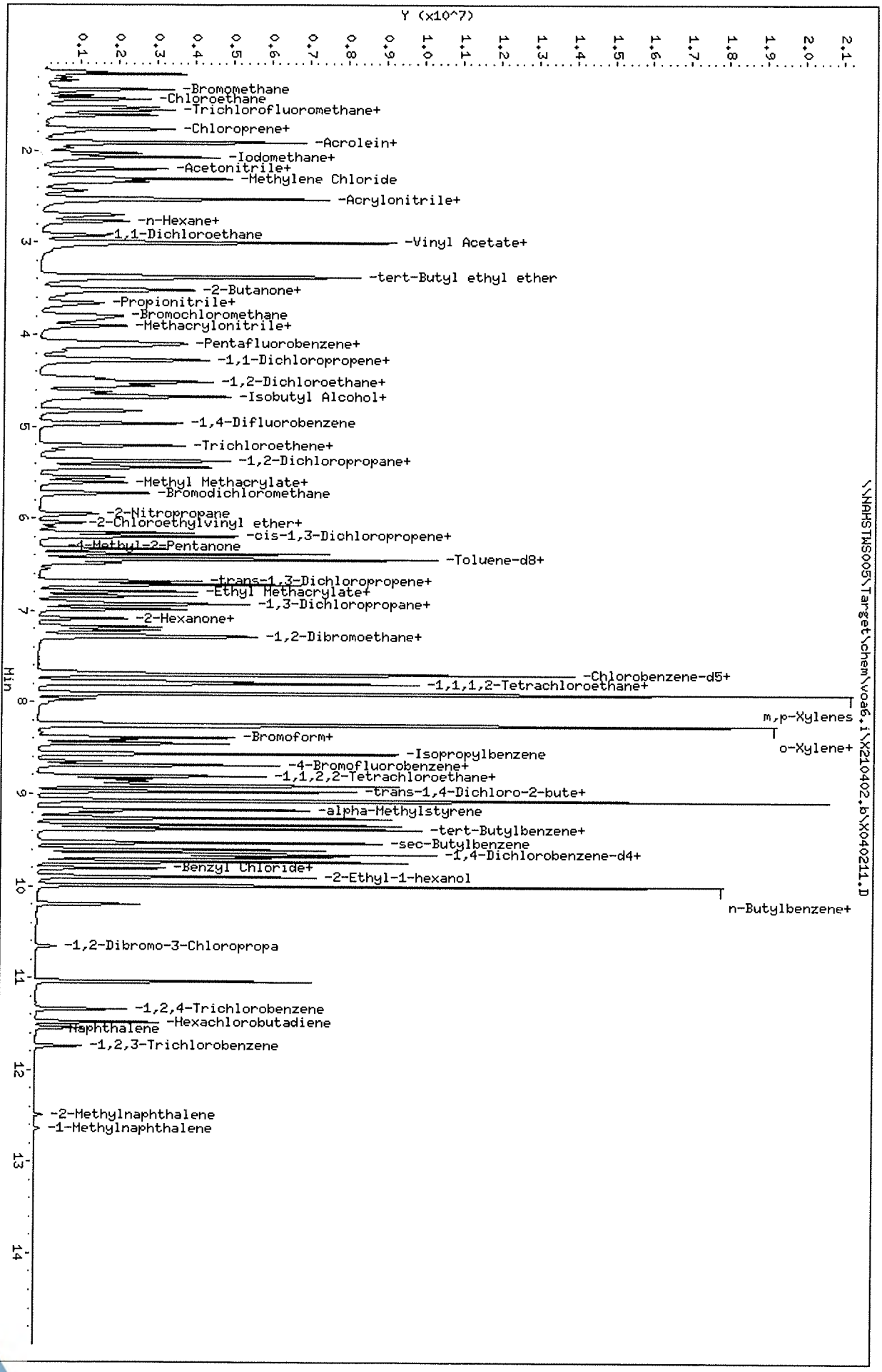
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	444815	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	788136	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	732576	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	399401	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	1061294	200.000	201.33(A)
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	1266674	200.000	200.40(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	3949224	200.000	203.80(A)
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1473828	200.000	204.50(A)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	832139	200.000	195.54
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	1249794	200.000	197.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	1584950	200.000	189.99
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	1123271	200.000	206.57(A)
17 Methylene Chloride	84	2.305	2.305	(0.551)	1013494	200.000	205.19(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	1061444	200.000	196.73
5 Vinyl Chloride	62	1.138	1.138	(0.272)	1159290	200.000	173.84

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040211.D
Date : 02-APR-2021 14:23
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

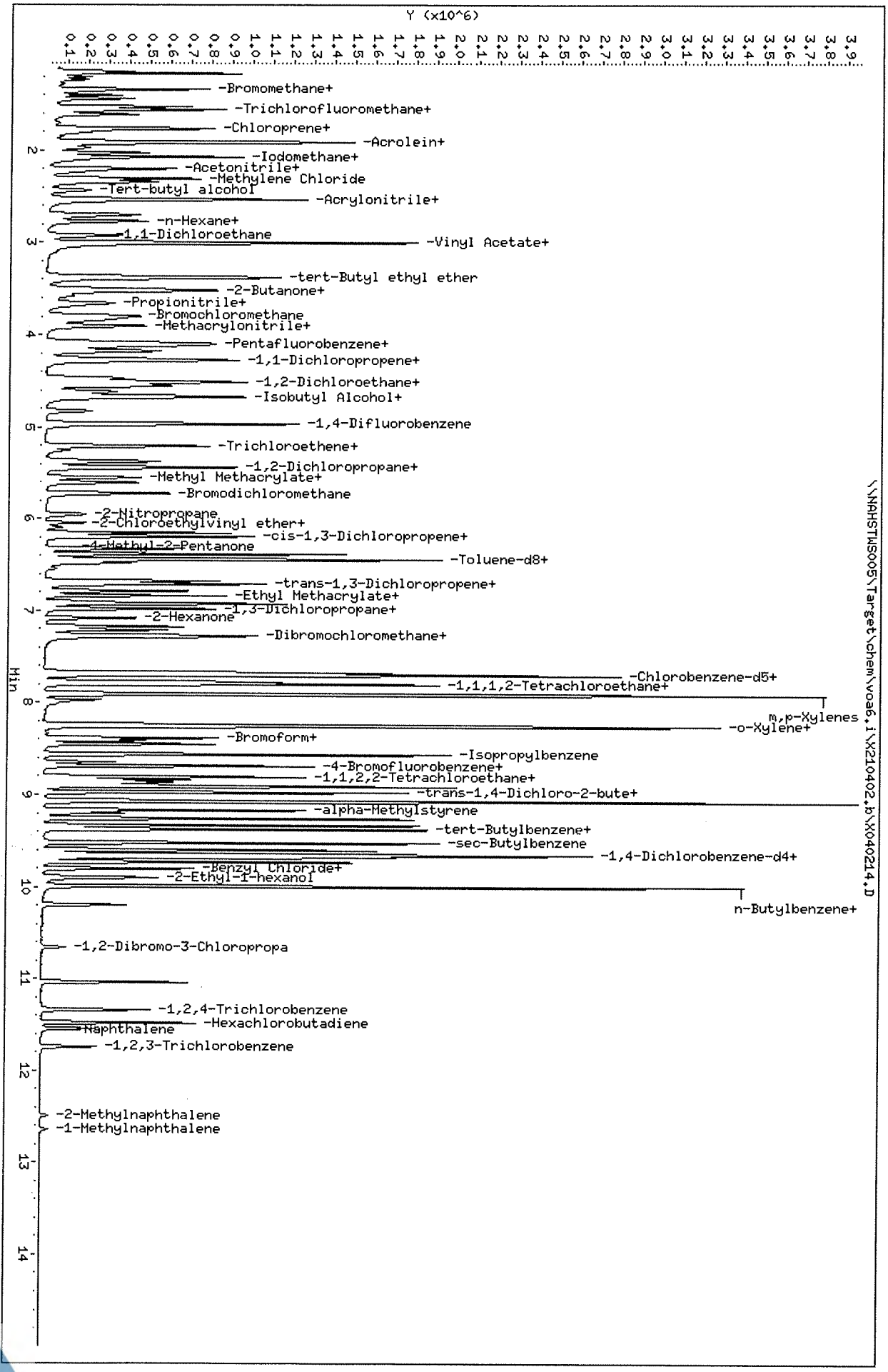
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210402.b\X040214.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 02-APR-2021 15:26
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\X210402.b\8260W.m
Meth Date : 04-May-2021 11:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 14:23 Cal File: X040211.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	403237	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	674704	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	639311	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	322985	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	233448	49.1812	49.18
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	278339	48.9433	48.94
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	812891	49.4873	49.48
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	292882	47.8435	47.84
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178830	48.1535	48.15
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	265347	46.2152	46.21
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	339122	47.4855	47.48
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	228412	46.3383	46.33
17 Methylene Chloride	84	2.305	2.305	(0.551)	198869	45.5779	45.57
38 Trichloroethene	130	5.206	5.206	(1.049)	232943	50.4339	50.43
5 Vinyl Chloride	62	1.145	1.138	(0.274)	279152	46.1765	46.17



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210402,b\X040214,D
Date : 02-APR-2021 15:26
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: 44545 **Analyst:** Presenta Cabascango

Date: 04-25-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-25-2021 11:39 am	1.00	50 mL	50 mL	X042501.D	Liquid	Y	NA
2	CCV	CCV	04-25-2021 12:00 pm	1.00	50 mL	50 mL	X042502a.D	Liquid	Y	NA
3	CCV	CCV	04-25-2021 12:21 pm	1.00	50 mL	50 mL	X042503.D	Liquid	Y	NA
4	CCB	SAMP	04-25-2021 12:42 pm	1.00	50 mL	50 mL	X042504.D	Liquid	Y	NA
5	VLCSW-210425	LCS	04-25-2021 01:03 pm	1.00	50 mL	50 mL	X042505.D	Liquid	Y	NA
6	BLANK	SAMP	04-25-2021 01:24 pm	1.00	50 mL	50 mL	X042506.D	Liquid	Y	NA
7	VBLKW-210425	MBLK	04-25-2021 01:45 pm	1.00	50 mL	50 mL	X042507.D	Liquid	Y	NA
8	HS21041197-03	SAMP	04-25-2021 02:06 pm	1.00	50 mL	50 mL	X042508.D	Liquid	Y	NA
9	HS21041255-09	SAMP	04-25-2021 02:27 pm	1.00	50 mL	50 mL	X042509.D	Liquid	Y	NA
10	HS21041169-03	SAMP	04-25-2021 02:48 pm	1.00	50 mL	50 mL	X042510.D	Liquid	Y	NA
11	HS21041169-03MS	MS	04-25-2021 03:09 pm	1.00	50 mL	50 mL	X042511.D	Liquid	Y	NA
12	HS21041169-03MSD	MSD	04-25-2021 03:30 pm	1.00	50 mL	50 mL	X042512.D	Liquid	Y	NA
13	BLANK	SAMP	04-25-2021 03:51 pm	1.00	50 mL	50 mL	X042513.D	Liquid	Y	NA
14	HS21041169-04	SAMP	04-25-2021 04:12 pm	1.00	50 mL	50 mL	X042514.D	Liquid	Y	NA
15	HS21041169-05	SAMP	04-25-2021 04:33 pm	1.00	50 mL	50 mL	X042515.D	Liquid	Y	NA
16	HS21041255-01	SAMP	04-25-2021 04:54 pm	1.00	50 mL	50 mL	X042516.D	Liquid	Y	NA
17	HS21041255-02	SAMP	04-25-2021 05:16 pm	1.00	50 mL	50 mL	X042517.D	Liquid	Y	NA
18	HS21041255-03	SAMP	04-25-2021 05:37 pm	1.00	50 mL	50 mL	X042518.D	Liquid	Y	NA
19	HS21041255-04	SAMP	04-25-2021 05:58 pm	1.00	50 mL	50 mL	X042519.D	Liquid	Y	NA
20	HS21041255-05	SAMP	04-25-2021 06:19 pm	1.00	50 mL	50 mL	X042520.D	Liquid	Y	NA
21	HS21041255-06	SAMP	04-25-2021 06:40 pm	1.00	50 mL	50 mL	X042521.D	Liquid	Y	NA
22	HS21041197-01	SAMP	04-25-2021 07:01 pm	5.00	10 mL	50 mL	X042522.D	Liquid	Y	NA
23	HS21041197-01n/r	SAMP	04-25-2021 07:22 pm	25.00	2 mL	50 mL	X042523.D	Liquid	Y	NA
24	HS21041169-02	SAMP	04-25-2021 07:43 pm	5.00	10 mL	50 mL	X042524.D	Liquid	Y	NA
25	HS21041169-02	SAMP	04-25-2021 08:04 pm	50.00	1 mL	50 mL	X042525.D	Liquid	Y	NA
26	HS21041197-02	SAMP	04-25-2021 08:25 pm	10.00	5 mL	50 mL	X042526.D	Liquid	Y	NA
27	HS21041197-02	SAMP	04-25-2021 08:46 pm	100.0(	500 µL	50 mL	X042527.D	Liquid	Y	NA
28	HS21041169-01	SAMP	04-25-2021 09:07 pm	25.00	2 mL	50 mL	X042528.D	Liquid	Y	NA
29	HS21041169-01	SAMP	04-25-2021 09:28 pm	250.0(	200 µL	50 mL	X042529.D	Liquid	Y	NA
30	HS21041255-07	SAMP	04-25-2021 09:49 pm	25.00	2 mL	50 mL	X042530.D	Liquid	Y	NA
31	CCV-END	CCV	04-25-2021 10:10 pm	1.00	50 mL	50 mL	X042531.D	Liquid	Y	NA
32	BLANK	SAMP	04-25-2021 10:31 pm	1.00	50 mL	50 mL	X042540.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-210425	101	108	102	101	0
02	VBLKW-210425	92	95	107	93	0
03	HS21041255-09	93	96	108	94	0
04	HS21041169-03MS	96	97	104	98	0
05	HS21041169-03MSD	94	97	105	96	0
06	HS21041255-01	92	96	108	94	0
07	HS21041255-02	95	98	108	94	0
08	HS21041255-03	94	99	106	91	0
09	HS21041255-04	94	100	108	94	0
10	HS21041255-05	93	98	106	93	0
11	HS21041255-06	93	100	107	93	0
12	HS21041255-07	91	99	108	95	0
13						
14						
15						
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25						
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27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(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-210425

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID: X042507 Lab Sample ID: VBLKW-210425

Date Analyzed: 04/25/21 Time Analyzed: 1345

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-210425	VLCSW-210425	X042505	1303
02	HS21041255-09	HS21041255-09	X042509	1427
03	HS21041169-03MS	HS21041169-03MS	X042511	1509
04	HS21041169-03MSD	HS21041169-03MSD	X042512	1530
05	HS21041255-01	HS21041255-01	X042516	1654
06	HS21041255-02	HS21041255-02	X042517	1716
07	HS21041255-03	HS21041255-03	X042518	1737
08	HS21041255-04	HS21041255-04	X042519	1758
09	HS21041255-05	HS21041255-05	X042520	1819
10	HS21041255-06	HS21041255-06	X042521	1840
11	HS21041255-07	HS21041255-07	X042530	2149
12				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID: X042501 BFB Injection Date: 04/25/21

Instrument ID: VOA6 BFB Injection Time: 1139

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	22.3
75	30.0 - 60.0% of mass 95	56.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	1.0 (1.2)1
174	Greater than 50.0% of mass 95	81.8
175	5.0 - 9.0% of mass 174	5.9 (7.2)1
176	95.0 - 101.0% of mass 174	78.1 (95.4)1
177	5.0 - 9.0% of mass 176	4.9 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X042503	04/25/21	1221
02	VLCSW-210425	VLCSW-210425	X042505	04/25/21	1303
03	VBLKW-210425	VBLKW-210425	X042507	04/25/21	1345
04	HS21041255-09	HS21041255-09	X042509	04/25/21	1427
05	HS21041169-03MS	HS21041169-03MS	X042511	04/25/21	1509
06	HS21041169-03MSD	HS21041169-03MSD	X042512	04/25/21	1530
07	HS21041255-01	HS21041255-01	X042516	04/25/21	1654
08	HS21041255-02	HS21041255-02	X042517	04/25/21	1716
09	HS21041255-03	HS21041255-03	X042518	04/25/21	1737
10	HS21041255-04	HS21041255-04	X042519	04/25/21	1758
11	HS21041255-05	HS21041255-05	X042520	04/25/21	1819
12	HS21041255-06	HS21041255-06	X042521	04/25/21	1840
13	HS21041255-07	HS21041255-07	X042530	04/25/21	2149
14	CCV-END	CCV-END	X042531	04/25/21	2210
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: VOA6 Calibration Date: 04/25/21 Time: 1221

Lab File ID: X042503 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.8280354	0.8280354	0.1	-10.40	20.00	AVRG
Methylene Chloride	57.297245	50.000000	0.6242575	0.1	-14.59	20.00	LINR
1,1-Dichloroethene	0.7120000	0.7147956	0.7147956	0.1	-0.39	20.00	AVRG
1,2-Dichloroethane	0.5290000	0.5508112	0.5508112	0.1	-4.12	20.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6825380	0.6825380	0.1	-11.71	20.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3171430	0.3171430	0.1	-9.36	20.00	AVRG
Trichloroethene	0.3420000	0.3679817	0.3679817	0.2	-7.60	20.00	AVRG
Dibromofluoromethane	53.640148	50.000000	0.6318893	0.1	-7.28	20.00	LINR
1,2-Dichloroethane-d4	55.879879	50.000000	0.7890655	0.1	-11.76	20.00	LINR
Toluene-d8	53.815176	50.000000	1.3870398	0.1	-7.63	20.00	LINR
4-Bromofluorobenzene	52.501946	50.000000	0.5043215	0.1	-5.00	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: VOA6 Calibration Date: 04/25/21 Time: 2210

Lab File ID: X042531 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.7031073	0.7031073	0.1	6.25	50.00	AVRG
Methylene Chloride	51.955790	50.000000	0.5645157	0.1	-3.91	50.00	LINR
1,1-Dichloroethene	0.7120000	0.5911592	0.5911592	0.1	16.97	50.00	AVRG
1,2-Dichloroethane	0.5290000	0.5414416	0.5414416	0.1	-2.35	50.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6681950	0.6681950	0.1	-9.36	50.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3131566	0.3131566	0.1	-7.98	50.00	AVRG
Trichloroethene	0.3420000	0.3303263	0.3303263	0.2	3.41	50.00	AVRG
Dibromofluoromethane	56.042985	50.000000	0.6604253	0.1	-12.08	50.00	LINR
1,2-Dichloroethane-d4	56.857934	50.000000	0.8029968	0.1	-13.72	50.00	LINR
Toluene-d8	53.141034	50.000000	1.3690442	0.1	-6.28	50.00	LINR
4-Bromofluorobenzene	52.754391	50.000000	0.5068252	0.1	-5.51	50.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID (Standard): X042503 Date Analyzed: 04/25/21

Instrument ID: VOA6 Time Analyzed: 1221

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	387196	4.18	659117	4.96	647569	7.67
	UPPER LIMIT	774392	4.68	1318234	5.46	1295138	8.17
	LOWER LIMIT	193598	3.68	329559	4.46	323785	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-210425	370971	4.18	630750	4.96	560862	7.67
02	VBLKW-210425	437353	4.18	701141	4.96	633260	7.67
03	HS21041255-09	408570	4.18	657813	4.96	600212	7.67
04	HS21041169-03MS	469498	4.18	782500	4.96	704947	7.67
05	HS21041169-03MSD	473565	4.18	775320	4.96	690187	7.67
06	HS21041255-01	406868	4.18	644756	4.96	585714	7.67
07	HS21041255-02	396373	4.18	636398	4.97	553304	7.67
08	HS21041255-03	404238	4.18	651048	4.96	562721	7.67
09	HS21041255-04	397702	4.18	643396	4.96	554730	7.67
10	HS21041255-05	403670	4.18	645495	4.96	573540	7.67
11	HS21041255-06	402458	4.18	646435	4.96	563102	7.67
12	HS21041255-07	393890	4.18	635862	4.97	548577	7.67
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID (Standard): X042503 Date Analyzed: 04/25/21

Instrument ID: VOA6 Time Analyzed: 1221

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

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	312518	9.66				
	UPPER LIMIT	625036	10.16				
	LOWER LIMIT	156259	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-210425	271891	9.66				
02	VBLKW-210425	267239	9.66				
03	HS21041255-09	250065	9.66				
04	HS21041169-03MS	338538	9.66				
05	HS21041169-03MSD	321970	9.66				
06	HS21041255-01	246592	9.66				
07	HS21041255-02	243452	9.66				
08	HS21041255-03	243233	9.66				
09	HS21041255-04	236748	9.66				
10	HS21041255-05	255966	9.66				
11	HS21041255-06	230084	9.66				
12	HS21041255-07	222404	9.66				
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

Client ID: BFB

Instrument: voa6.i

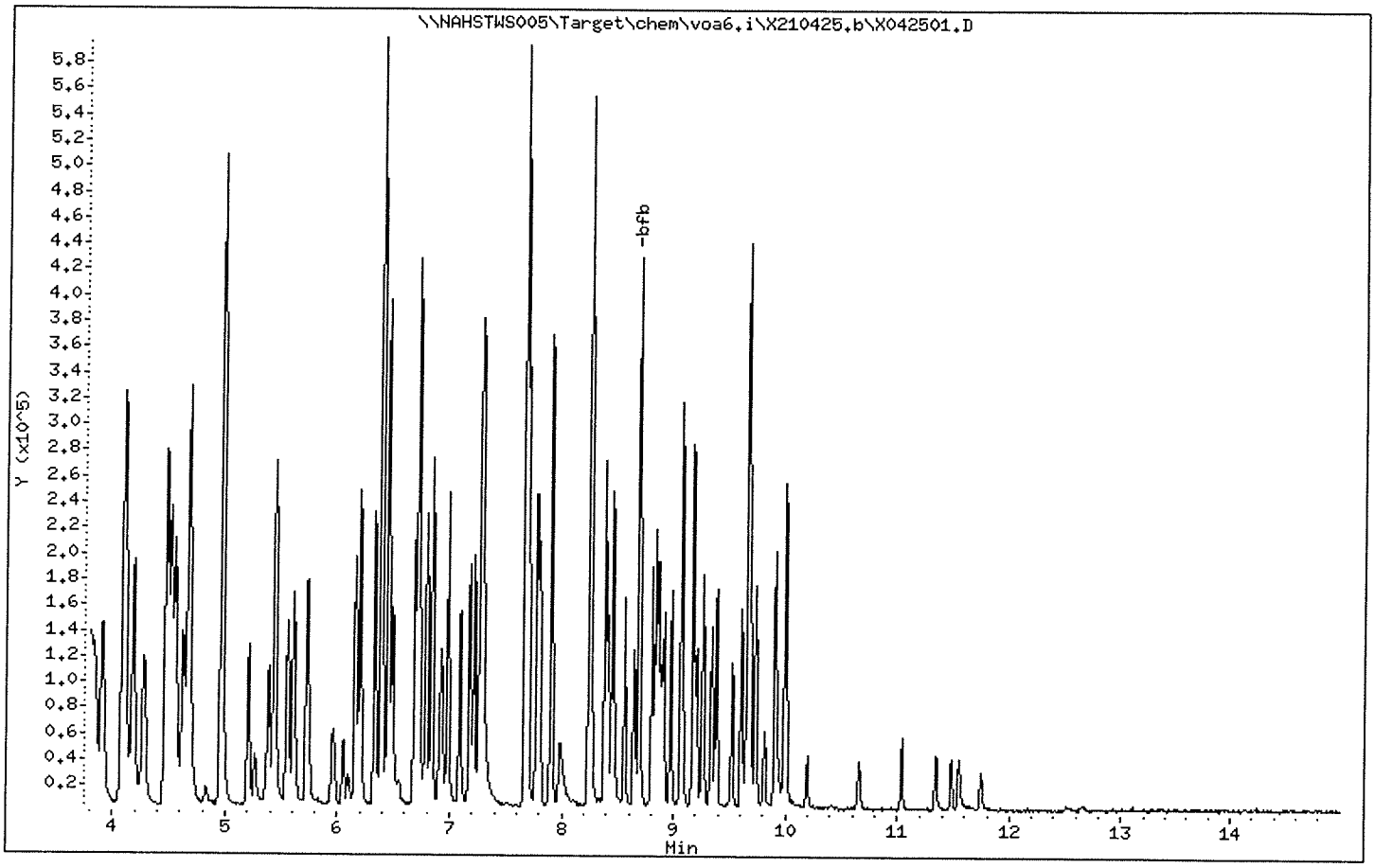
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

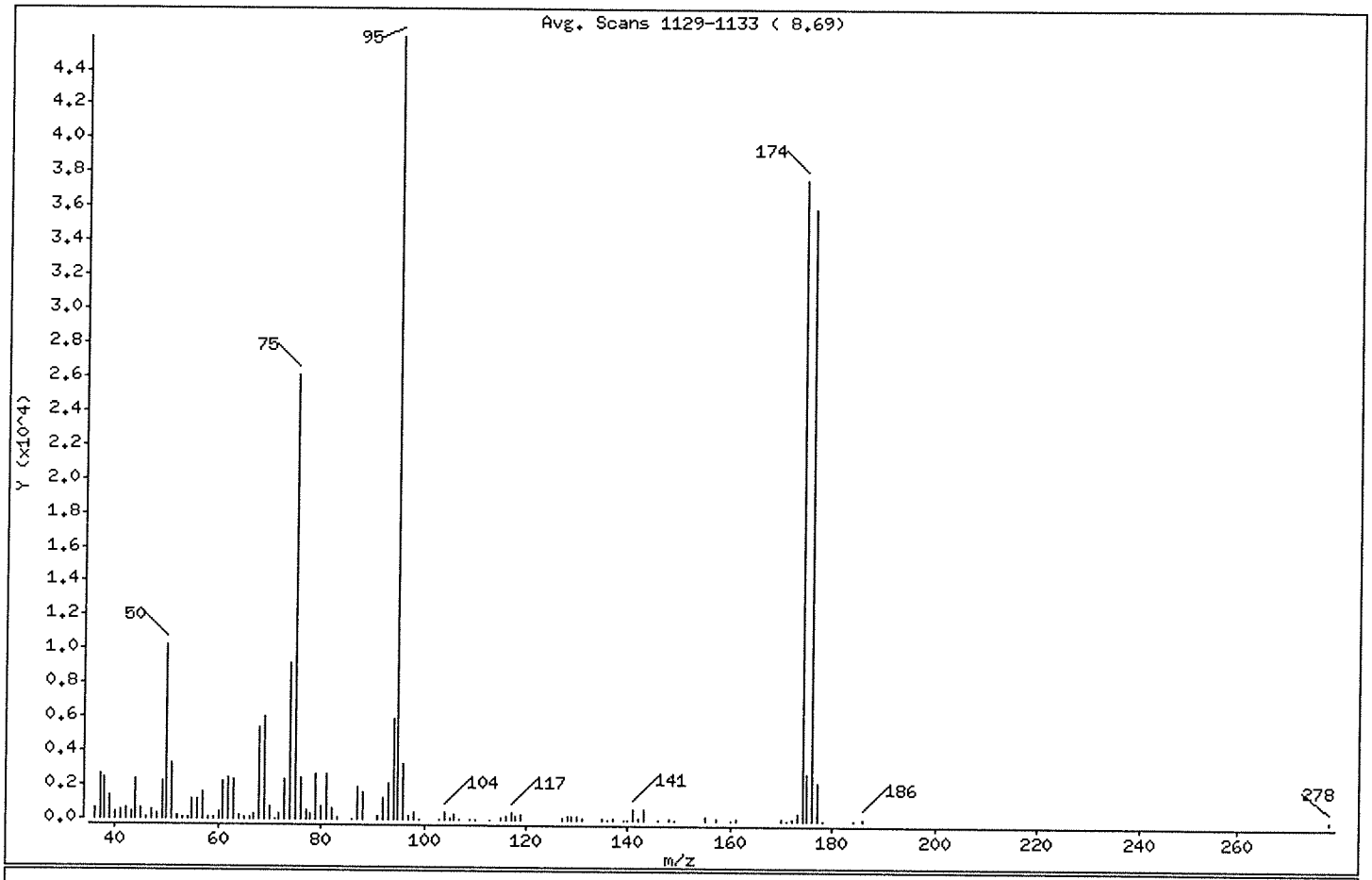
Volume Injected (uL): 2.0

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	22.33
75	30.00 - 60.00% of mass 95	56.74
96	5.00 - 9.00% of mass 95	7.11
173	Less than 2.00% of mass 174	0.99 (1.22)
174	Greater than 50.00% of mass 95	81.83
175	5.00 - 9.00% of mass 174	5.90 (7.21)
176	95.00 - 101.00% of mass 174	78.10 (95.45)
177	5.00 - 9.00% of mass 176	4.91 (6.29)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042501.D

Date : 25-APR-2021 11:39

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: X042501.D
Spectrum: Avg. Scans 1129-1133 (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	609	63.00	2316	94.00	5951	139.00	16
37.00	2672	64.00	209	95.00	45960	140.00	16
38.00	2443	65.00	136	96.00	3267	141.00	679
39.00	1363	66.00	81	97.00	238	142.00	70
40.00	429	67.00	272	98.00	372	143.00	672
41.00	526	68.00	5430	99.00	32	146.00	14
42.00	652	69.00	6073	103.00	37	148.00	89
43.00	453	70.00	748	104.00	379	149.00	42
44.00	2296	71.00	39	105.00	110	155.00	164
45.00	619	72.00	352	106.00	315	157.00	72
46.00	82	73.00	2300	107.00	14	160.00	10
47.00	521	74.00	9185	109.00	17	161.00	94
48.00	333	75.00	26080	110.00	45	170.00	97
49.00	2209	76.00	2385	113.00	34	171.00	44
50.00	10265	77.00	498	115.00	88	172.00	87
51.00	3313	78.00	349	116.00	222	173.00	457
52.00	207	79.00	2620	117.00	457	174.00	37608
53.00	100	80.00	741	118.00	182	175.00	2712
54.00	101	81.00	2642	119.00	297	176.00	35896
55.00	1161	82.00	644	127.00	117	177.00	2257
56.00	1123	83.00	132	128.00	195	178.00	37
57.00	1554	86.00	11	129.00	167	184.00	12
58.00	112	87.00	1909	130.00	198	186.00	124
59.00	86	88.00	1587	131.00	82	278.00	94
60.00	409	91.00	255	135.00	155		
61.00	2270	92.00	1229	136.00	11		
62.00	2435	93.00	2125	137.00	102		

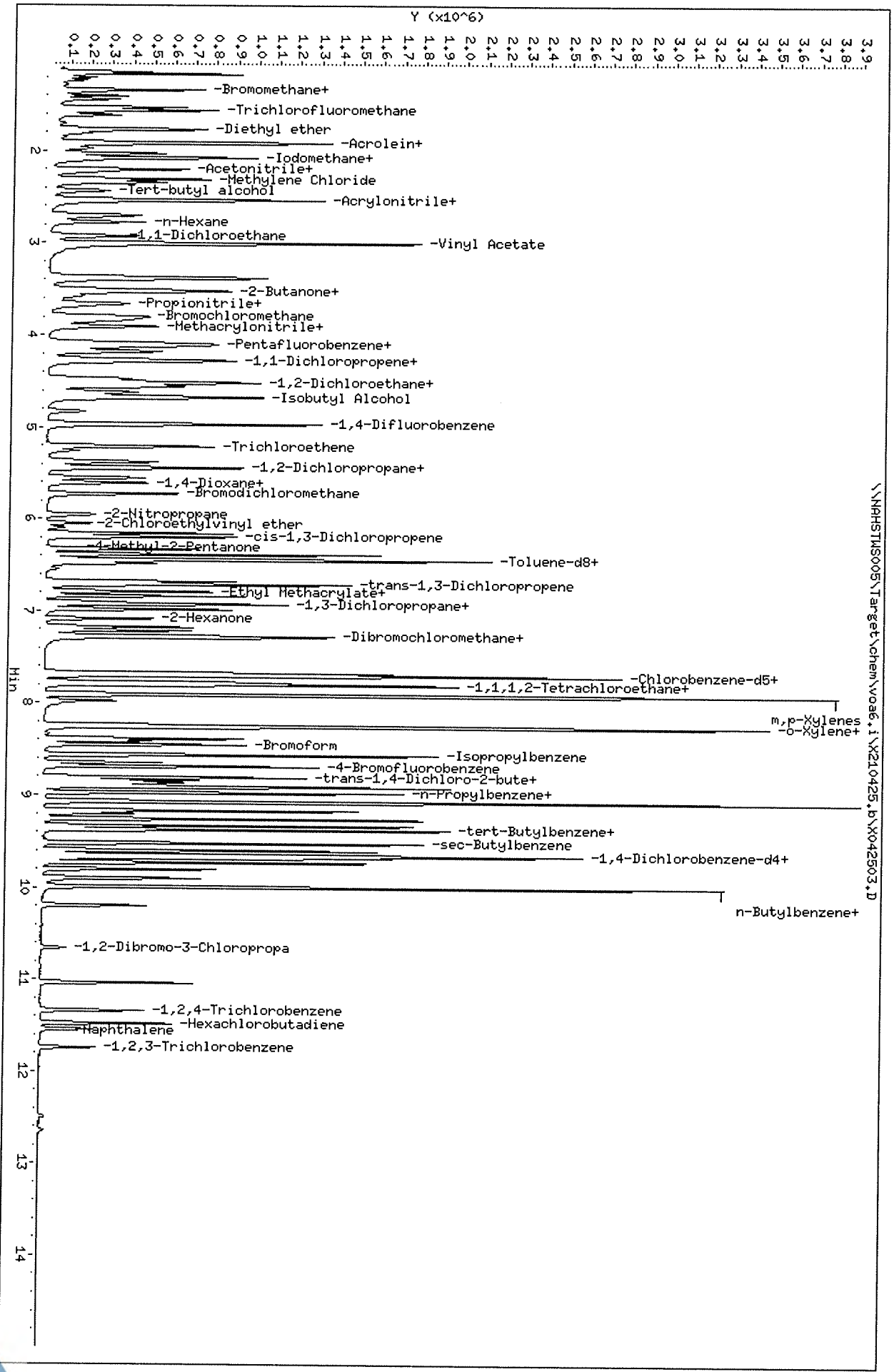
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042503.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 25-APR-2021 12:21
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	387196	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	659117	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	647569	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	312518	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	244665	50.0000	53.64
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	305523	50.0000	55.87
$	48 Toluene-d8	98	6.388	6.388	(0.833)	898204	50.0000	53.81
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	326583	50.0000	52.50
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	205372	50.0000	54.59
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	276766	50.0000	50.20
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	363049	50.0000	52.03
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	264276	50.0000	55.83
	17 Methylene Chloride	84	2.305	2.305	(0.551)	241710	50.0000	57.29
	38 Trichloroethene	130	5.206	5.206	(1.049)	242543	50.0000	53.75
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	320612	50.0000	55.23



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042503.D
Date : 25-APR-2021 12:21
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\X210425.b\X042505.D Page 1
Report Date: 24-May-2021 12:39

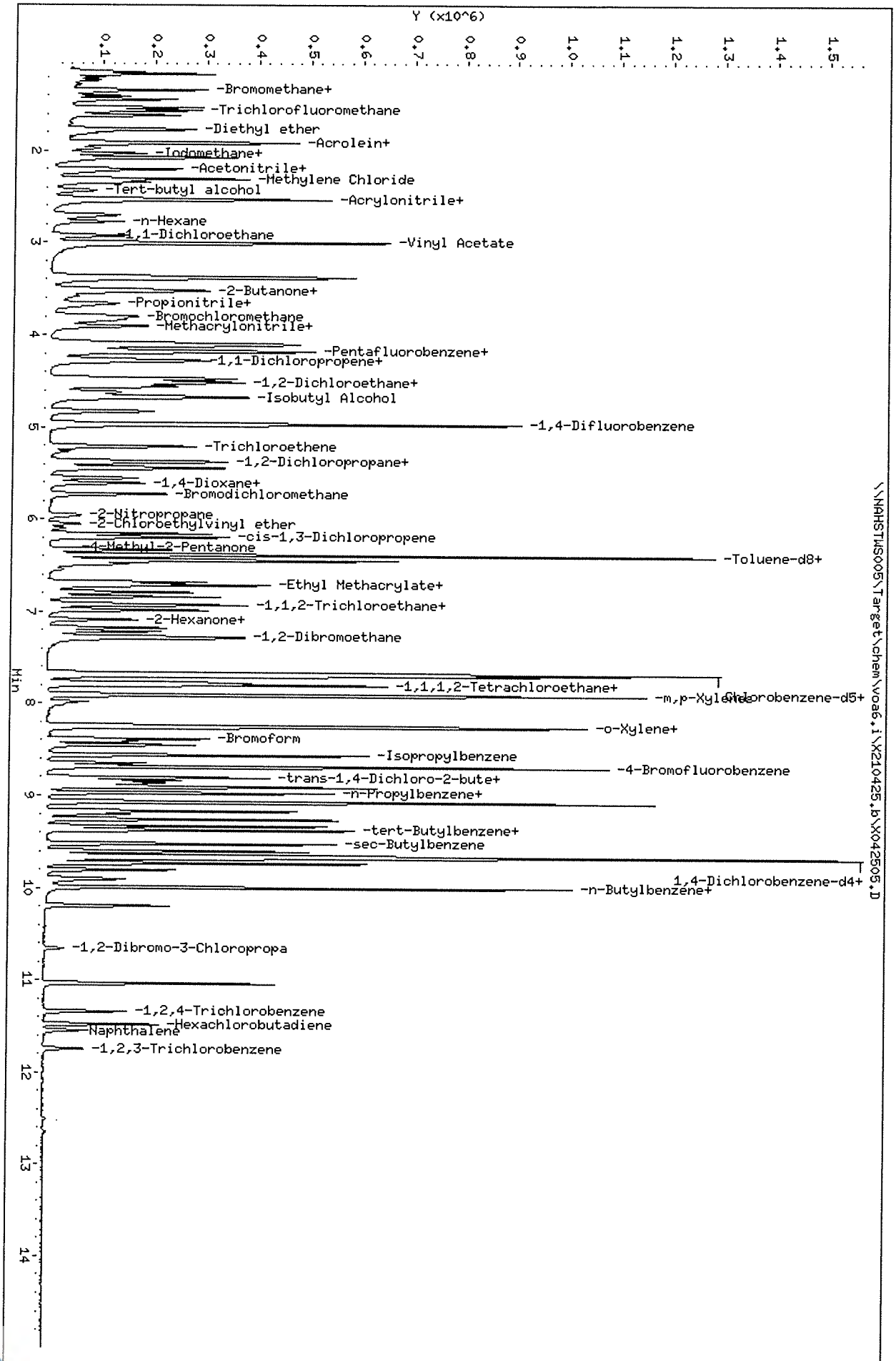
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042505.D
Lab Smp Id: VLCSW-210425 Client Smp ID: VLCSW-210425
Inj Date : 25-APR-2021 13:03
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210425;VLCSW-210425;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	370971	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	630750	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	560862	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271891	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	220250	50.4255	50.42
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	282300	53.9078	53.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	739757	51.2650	51.26
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	270825	50.3392	50.33
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	71617	21.9816	21.98
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	92480	17.5081	17.50
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	136127	20.3895	20.38
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	95628	21.0876	21.08
17 Methylene Chloride	84	2.306	2.305	(0.551)	81778	21.1926	21.19
38 Trichloroethene	130	5.207	5.206	(1.049)	86023	19.9225	19.92
5 Vinyl Chloride	62	1.145	1.145	(0.274)	104413	18.7739	18.77



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042505.D
Date : 25-APR-2021 13:03
Client ID: WLCSW-210425
Sample Info: VLCSW-210425;VLCSW-210425;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\X210425.b\X042507.D Page 1
Report Date: 24-May-2021 12:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042507.D
Lab Smp Id: VBLKW-210425 Client Smp ID: VBLKW-210425
Inj Date : 25-APR-2021 13:45
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210425;VBLKW-210425;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

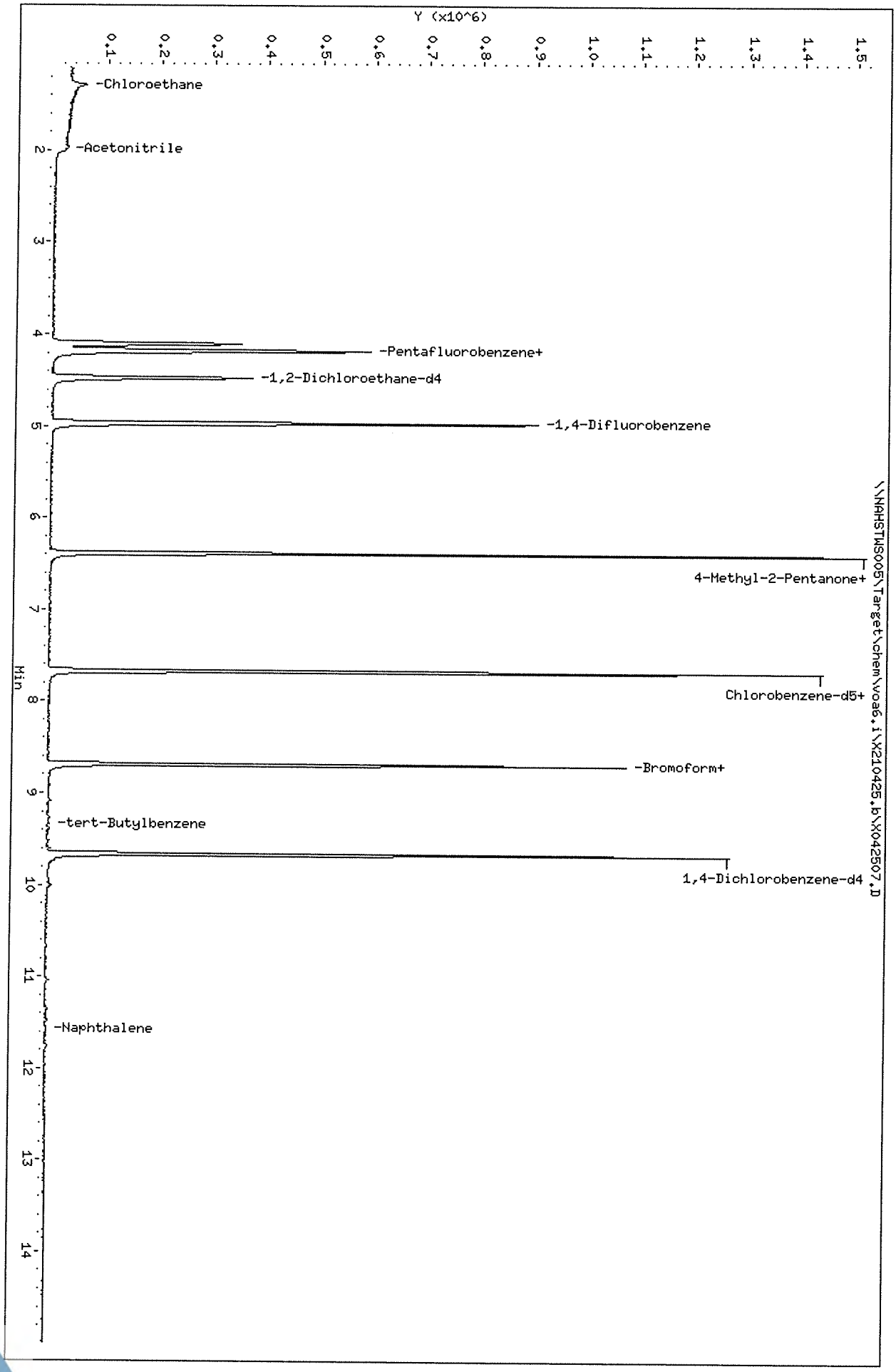
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	437353	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	701141	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	633260	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	267239	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	235635	45.7996	45.79
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	291992	47.3548	47.35
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	875240	53.6308	53.63
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	280643	46.3361	46.33

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042507.D
Date : 25-APR-2021 13:45
Client ID: VBLKW-210425
Sample Info: VBLKW-210425;VBLKW-210425;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\X210425.b\X042509.D Page 1
Report Date: 24-May-2021 12:39

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042509.D
Lab Smp Id: HS21041255-09 Client Smp ID: HS21041255-09
Inj Date : 25-APR-2021 14:27
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-09;HS21041255-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

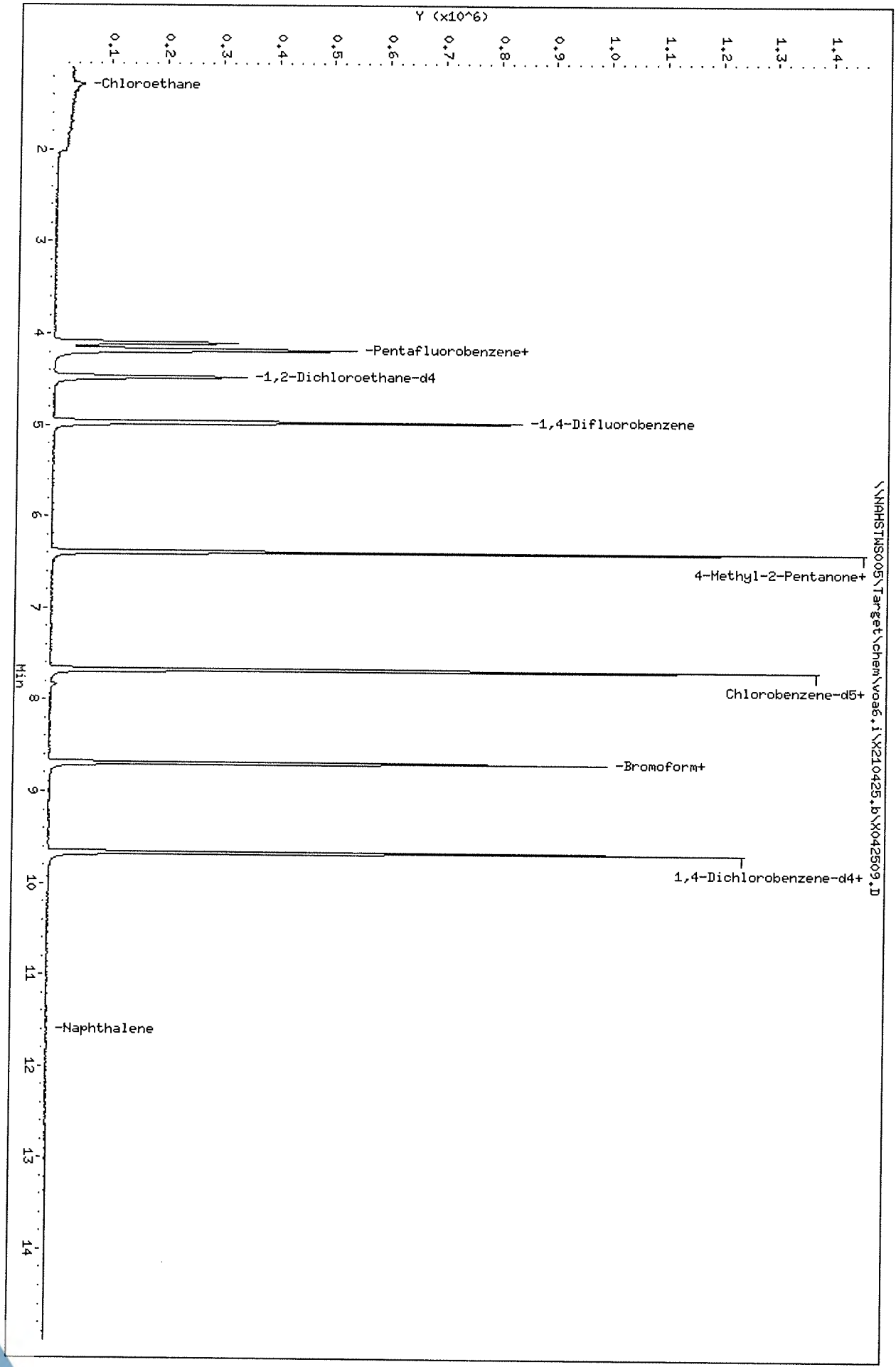
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	408570	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	657813	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	600212	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	250065	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	223023	46.3964	46.39
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	275218	47.7745	47.77
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	837463	54.1238	54.12
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	270855	47.1522	47.15

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042509.D
Date : 25-APR-2021 14:27
Client ID: HS21041255-09
Sample Info: HS21041255-09;HS21041255-09;;;
Purge Volume: 5.0
Column phase: DB624

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



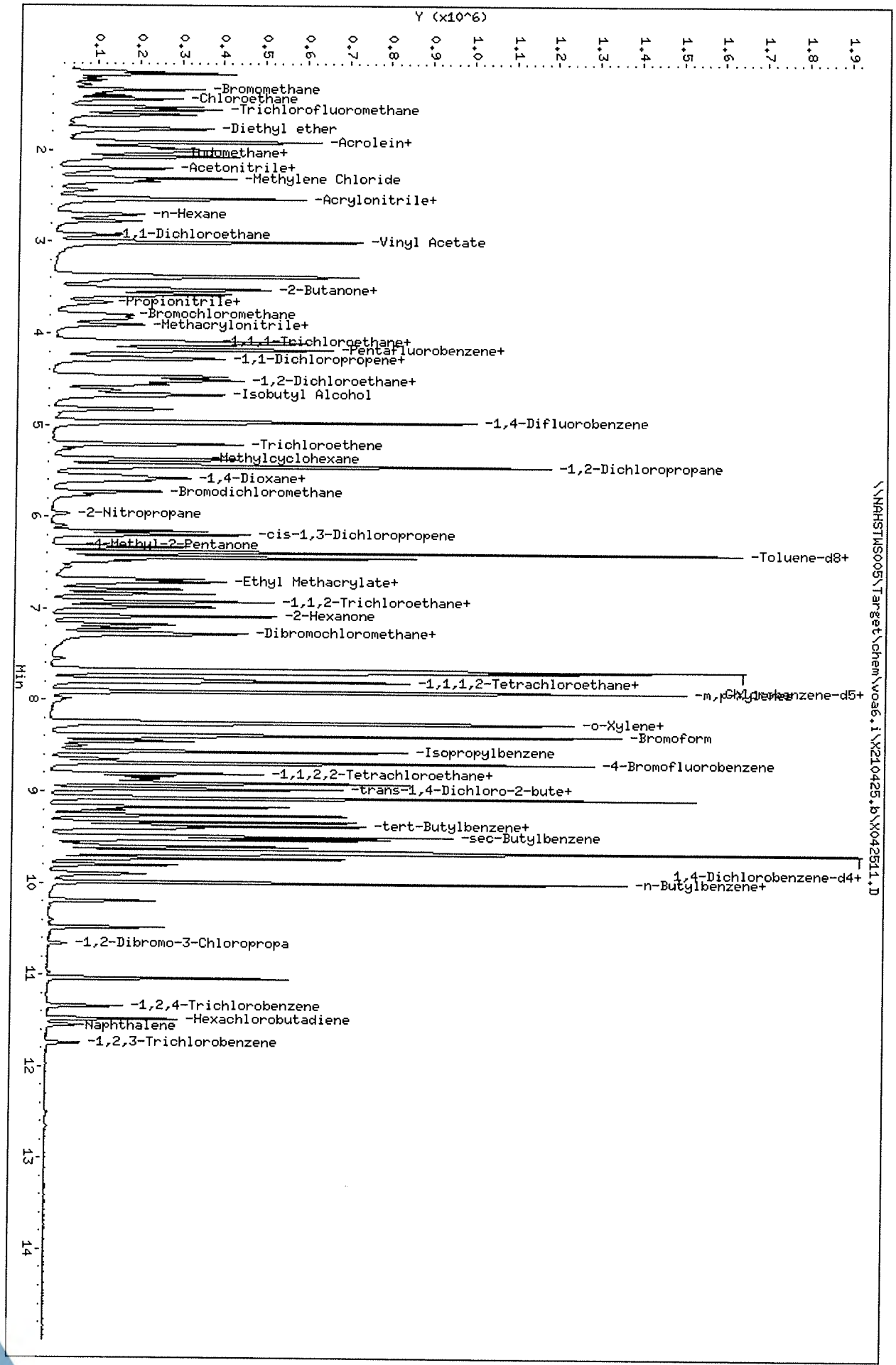
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042511.D
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Inj Date : 25-APR-2021 15:09
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-03MS;HS21041169-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	469498	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	782500	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	704947	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	338538	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	264192	47.8151	47.81
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	320681	48.4356	48.43
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	946083	52.1303	52.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	329390	48.7645	48.76
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	81483	19.8980	19.89
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	120032	17.9554	17.95
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	155418	18.7644	18.76
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	185030	32.2396	32.23
17 Methylene Chloride	84	2.306	2.305	(0.551)	88491	18.3348	18.33
38 Trichloroethene	130	5.207	5.206	(1.049)	130607	24.3820	24.38
5 Vinyl Chloride	62	1.145	1.145	(0.274)	159292	22.6309	22.63



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042511.D
Date : 25-APR-2021 15:09
Client ID: HS21041169-03MS
Sample Info: HS21041169-03MS,HS21041169-03MS,3,,MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D Page 1
Report Date: 24-May-2021 12:39

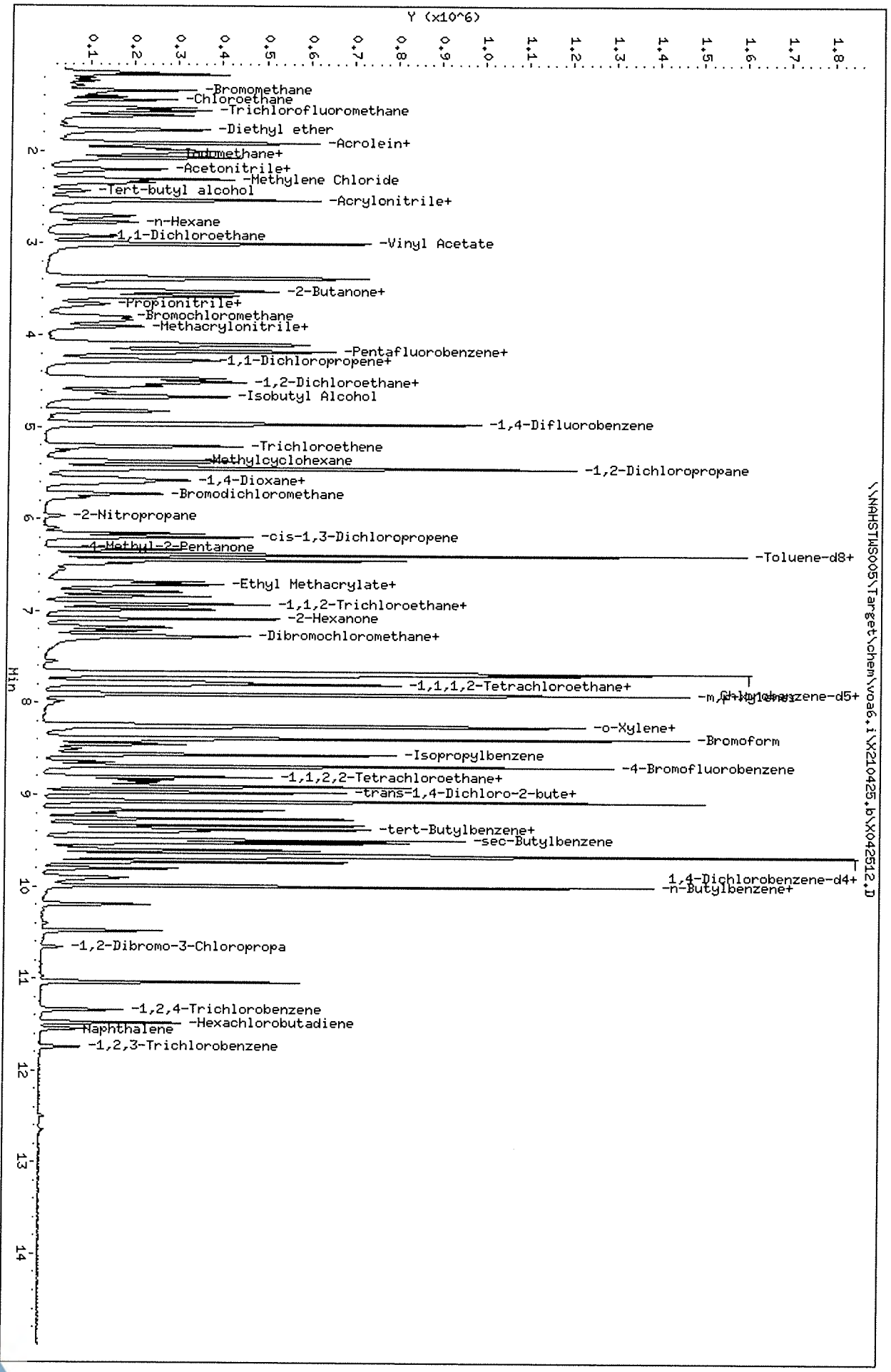
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D
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Inj Date : 25-APR-2021 15:30
Operator : PC Inst ID: voa6.i
Smp Info : HS21041169-03MSD;HS21041169-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	473565	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	775320	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	690187	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	321970	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	261275	46.8896	46.88
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	325472	48.7340	48.73
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	929988	52.3318	52.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	316478	47.8857	47.88
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	81375	20.2966	20.29
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	115466	17.1240	17.12
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	154789	18.8616	18.86
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	189160	32.6762	32.67
17 Methylene Chloride	84	2.305	2.305	(0.551)	90016	18.4780	18.47
38 Trichloroethene	130	5.206	5.206	(1.049)	125104	23.5709	23.57
5 Vinyl Chloride	62	1.145	1.145	(0.274)	155188	21.8585	21.85



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042512.D
Date : 25-APR-2021 15:30
Client ID: HS21041169-03MSD
Sample Info: HS21041169-03MSD;HS21041169-03MSD;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\X210425.b\X042516.D Page 1
Report Date: 24-May-2021 12:39

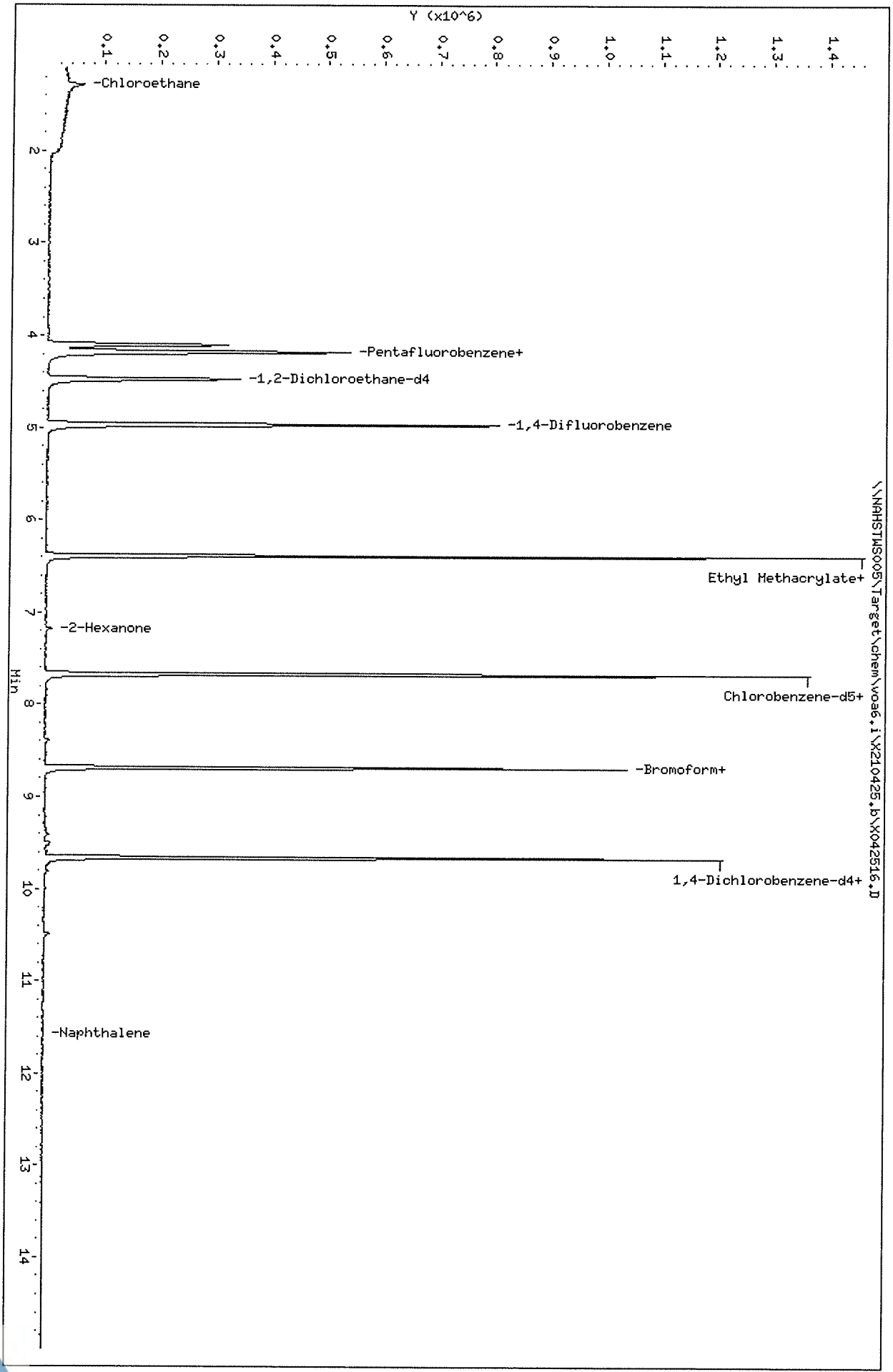
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042516.D
Lab Smp Id: HS21041255-01 Client Smp ID: HS21041255-01
Inj Date : 25-APR-2021 16:54
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-01;HS21041255-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	406868	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	644756	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	585714	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	246592	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	219765	45.9144	45.91
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	274701	47.8831	47.88
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	816749	54.0928	54.09
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	262360	46.8161	46.81


Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042516.D
Date : 25-APR-2021 16:54
Client ID: HS21041255-01
Sample Info: HS21041255-01;HS21041255-01;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
-Chloroethane
-Pentafluorobenzene+
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Ethyl Methacrylate+
-2-Hexanone
Chlorobenzene-d5+
-Bromoform+
1,4-Dichlorobenzene-d4+
-Naphthalene
\\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042516.D
Min
2
3
4
5
6
7
8
9
10
11
12
13
14

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042517.D Page 1
Report Date: 24-May-2021 12:40

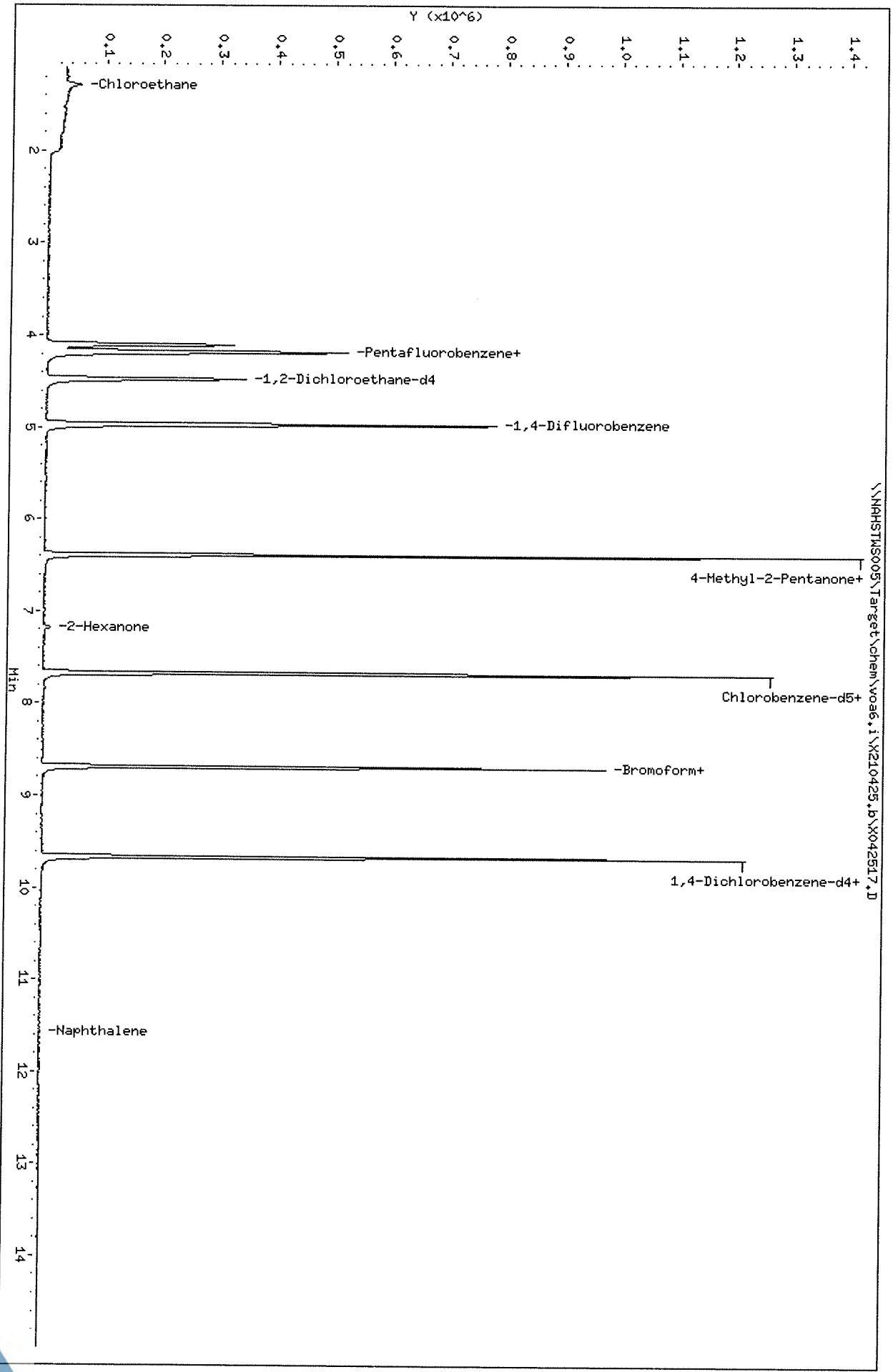
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042517.D
Lab Smp Id: HS21041255-02 Client Smp ID: HS21041255-02
Inj Date : 25-APR-2021 17:16
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-02;HS21041255-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	396373	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	636398	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	553304	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	243452	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	220916	47.3631	47.36
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	274903	49.1739	49.17
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	771895	54.1158	54.11
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	248717	46.9755	46.97



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210425,b\X042517.D
Date : 25-APR-2021 17:16
Client ID: HS21041255-02
Sample Info: HS21041255-02;HS21041255-02;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042518.D Page 1
Report Date: 24-May-2021 12:40

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042518.D
Lab Smp Id: HS21041255-03 Client Smp ID: HS21041255-03
Inj Date : 25-APR-2021 17:37
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-03;HS21041255-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

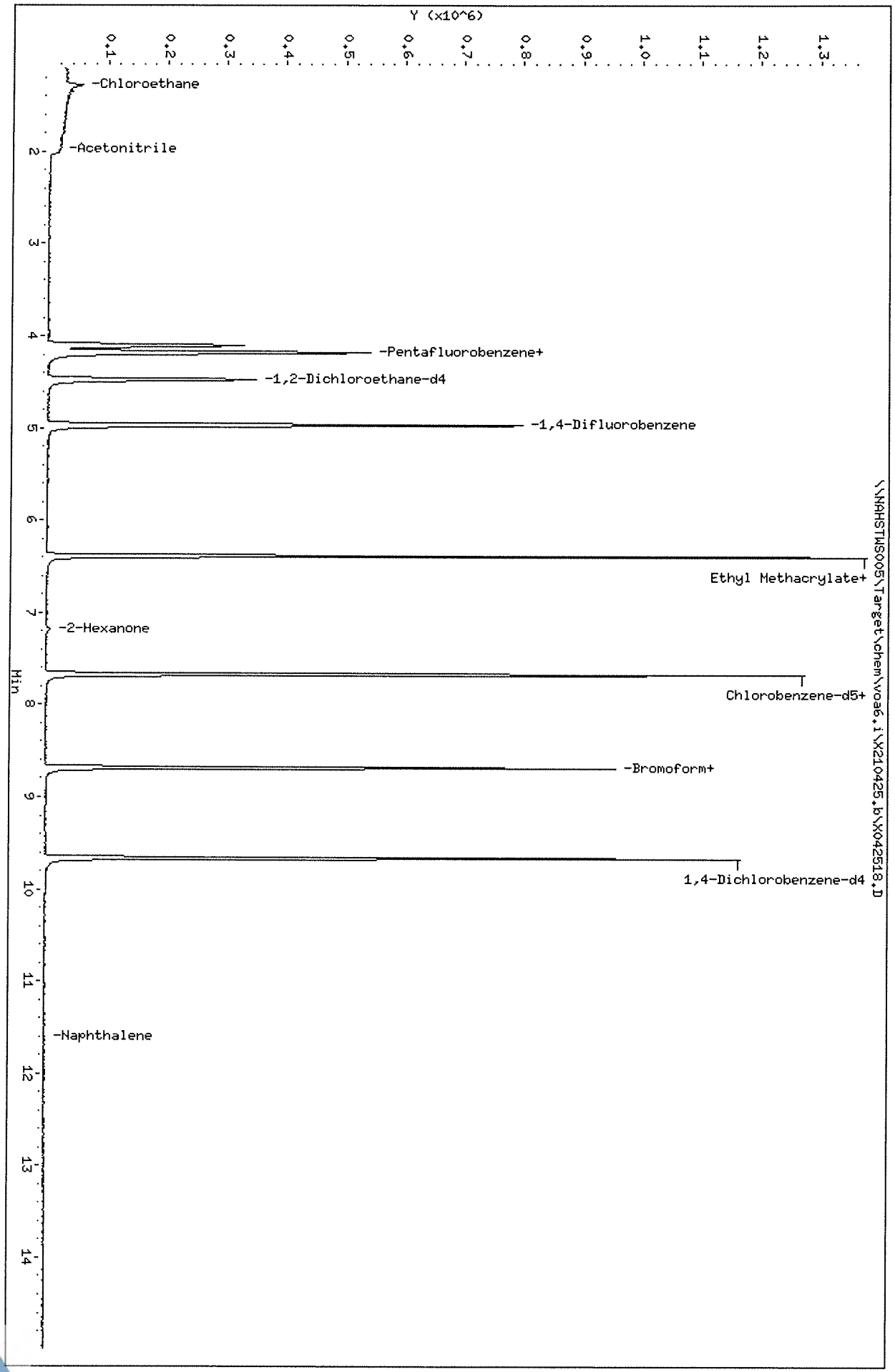
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	404238	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	651048	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	562721	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	243233	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	222689	46.8194	46.81
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	281180	49.3167	49.31
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	770739	53.1643	53.16
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	244797	45.5145	45.51

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042518.D
Date : 25-APR-2021 17:37
Client ID: HS21041255-03
Sample Info: HS21041255-03;HS21041255-03;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042519.D Page 1
Report Date: 24-May-2021 12:40

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042519.D
Lab Smp Id: HS21041255-04 Client Smp ID: HS21041255-04
Inj Date : 25-APR-2021 17:58
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-04;HS21041255-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

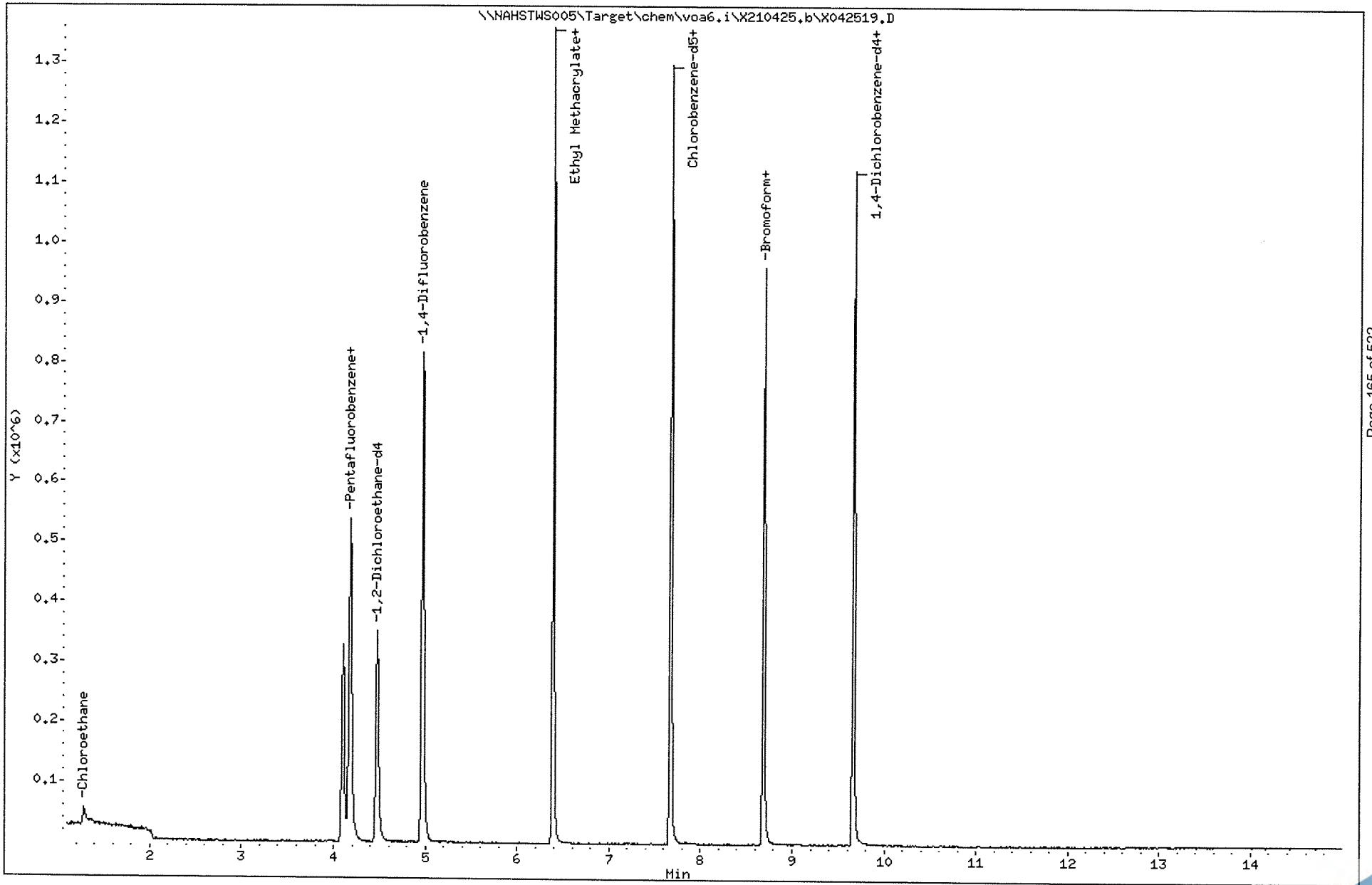
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	397702	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	643396	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	554730	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	236748	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	219165	46.8356	46.83
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	279902	49.8937	49.89
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	771710	53.9690	53.96
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	249821	47.0596	47.05

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042519.D
Date : 25-APR-2021 17:58
Client ID: HS21041255-04
Sample Info: HS21041255-04;HS21041255-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042520.D Page 1
Report Date: 24-May-2021 12:40

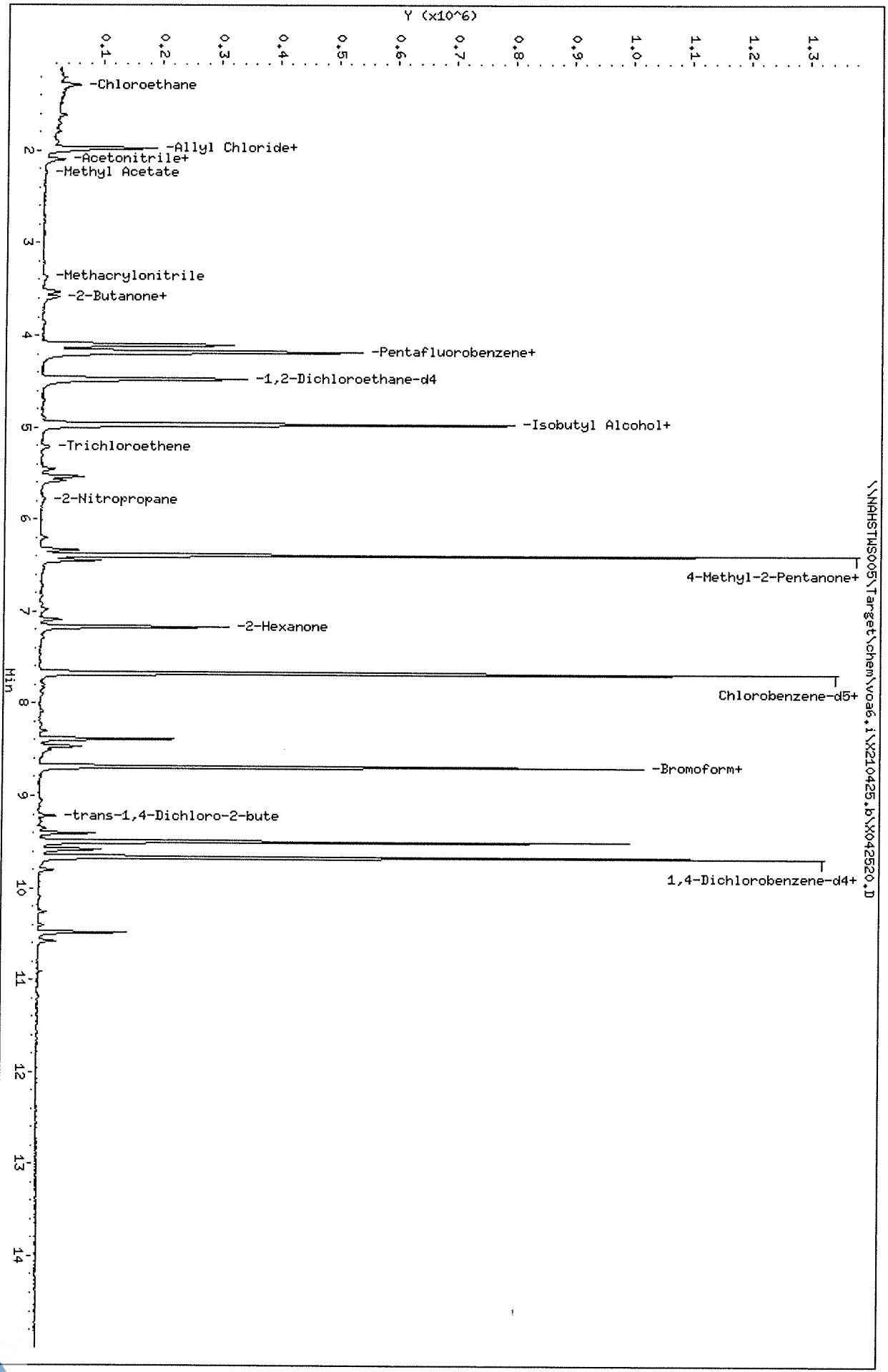
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042520.D
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Inj Date : 25-APR-2021 18:19
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-05;HS21041255-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	403670	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	645495	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	573540	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	255966	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	220520	46.4322	46.43
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	279766	49.1395	49.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	783948	53.0592	53.05
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	255924	46.6433	46.64
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	15372	3.11520	3.11
38 Trichloroethene	130	5.214	5.206	(1.051)	2719	0.61532	0.61



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042520.D
Date : 25-APR-2021 18:19
Client ID: HS21041255-05
Sample Info: HS21041255-05;HS21041255-05;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042520.D

Date : 25-APR-2021 18:19

Client ID: HS21041255-05

Instrument: voa6.i

Sample Info: HS21041255-05;HS21041255-05;;;

Purge Volume: 5.0

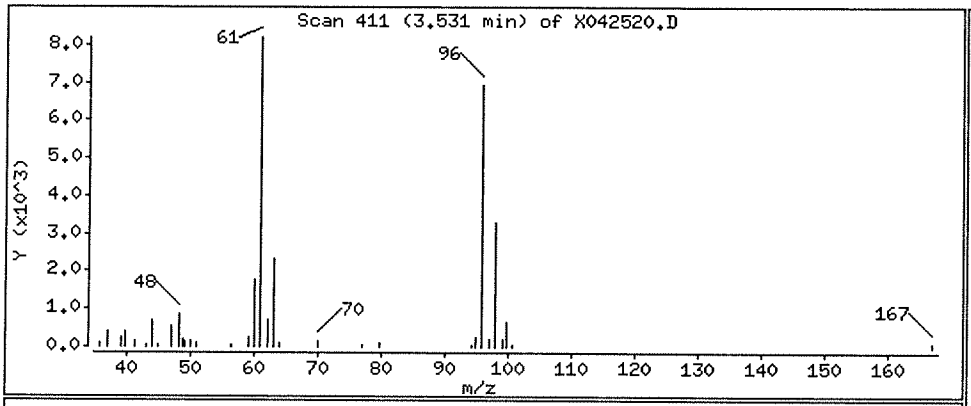
Operator: PC

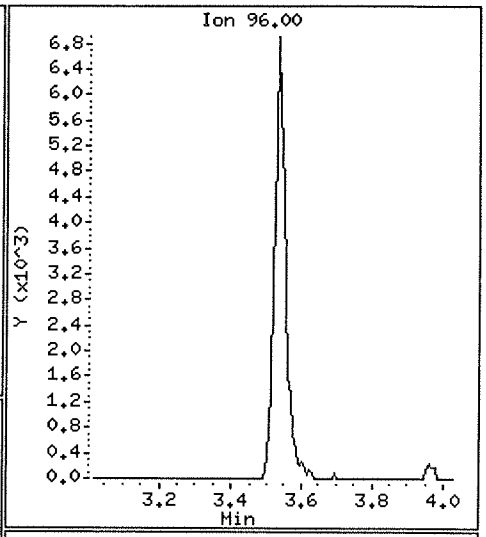
Column phase: DB624

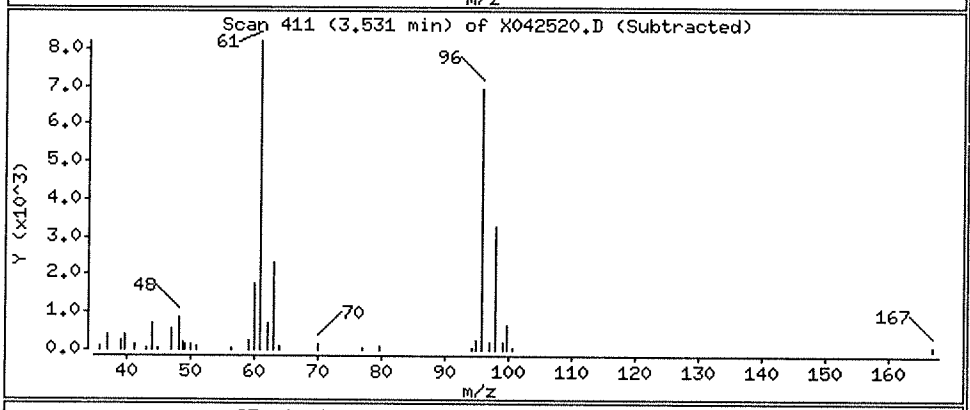
Column diameter: 0.18

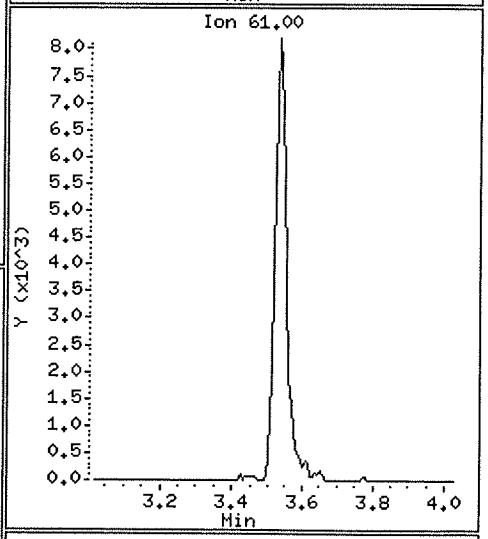
27 cis-1,2-Dichloroethene

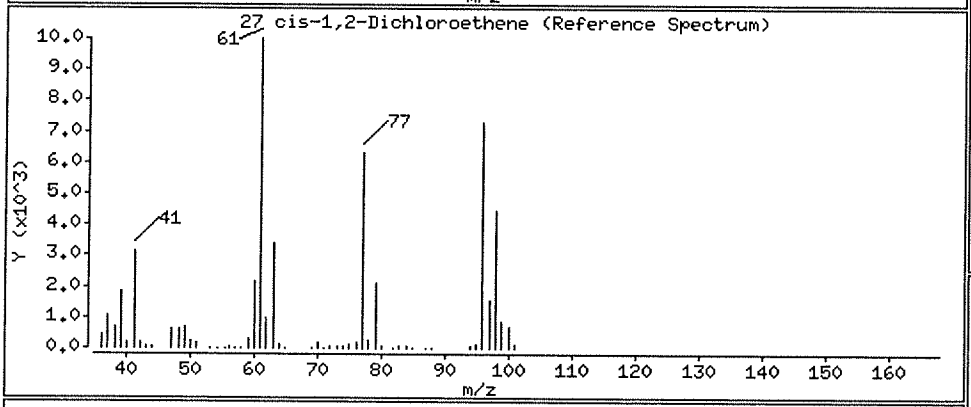
Concentration: 3.11 ug/l

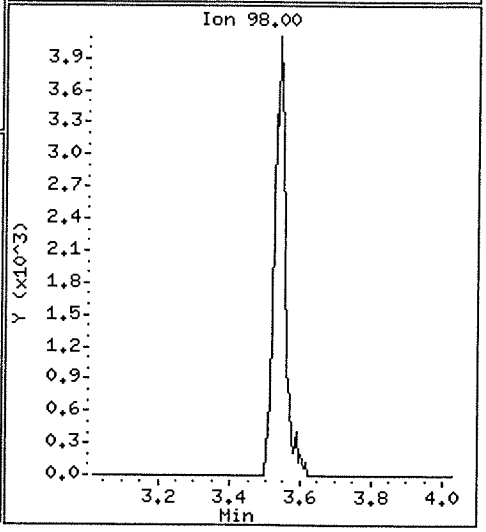


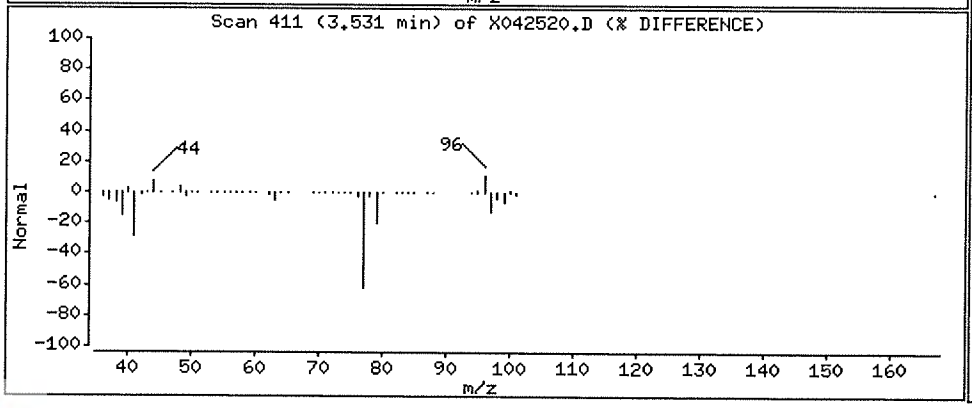












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042520.D

Date : 25-APR-2021 18:19

Client ID: HS21041255-05

Instrument: voa6.i

Sample Info: HS21041255-05;HS21041255-05;;;

Purge Volume: 5.0

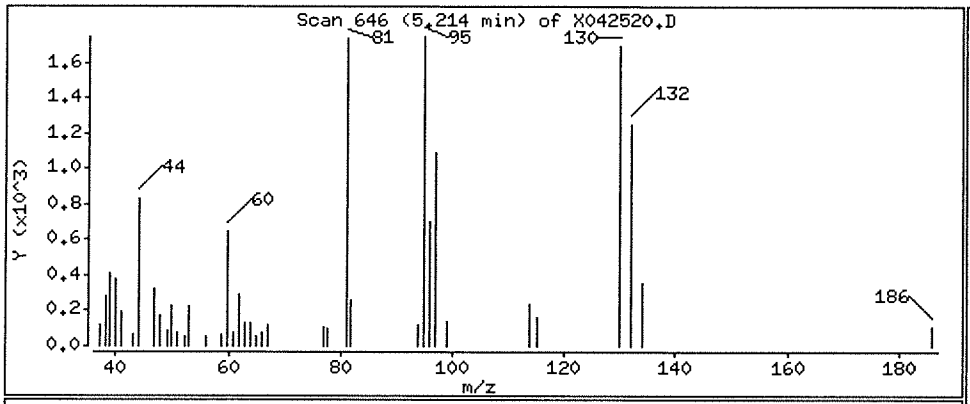
Operator: PC

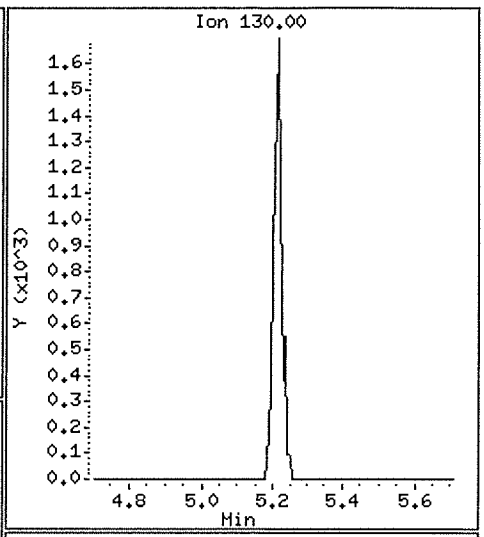
Column phase: DB624

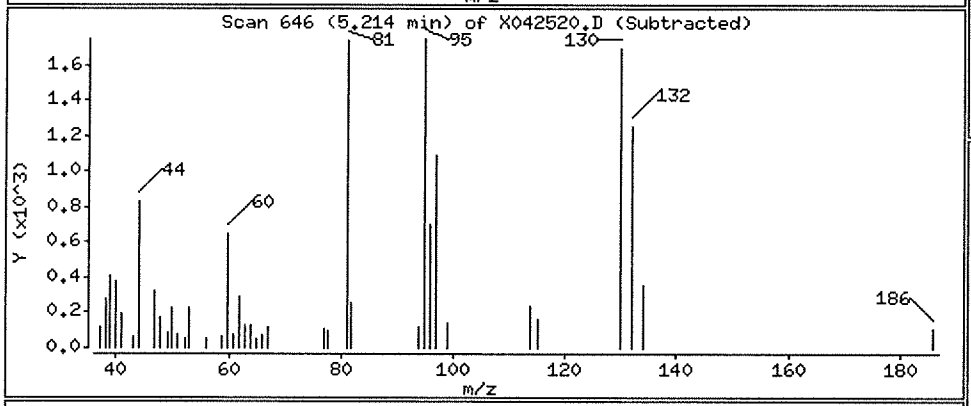
Column diameter: 0.18

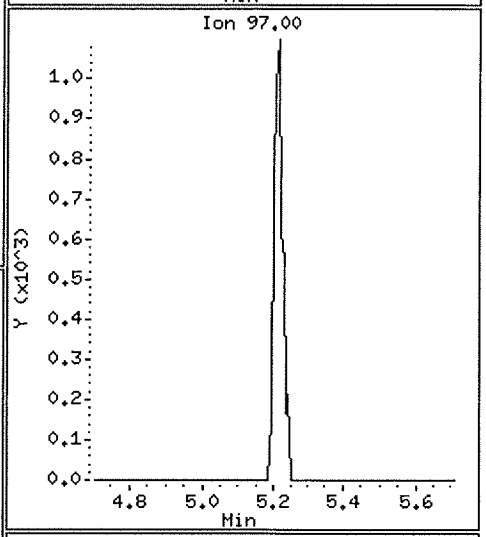
38 Trichloroethene

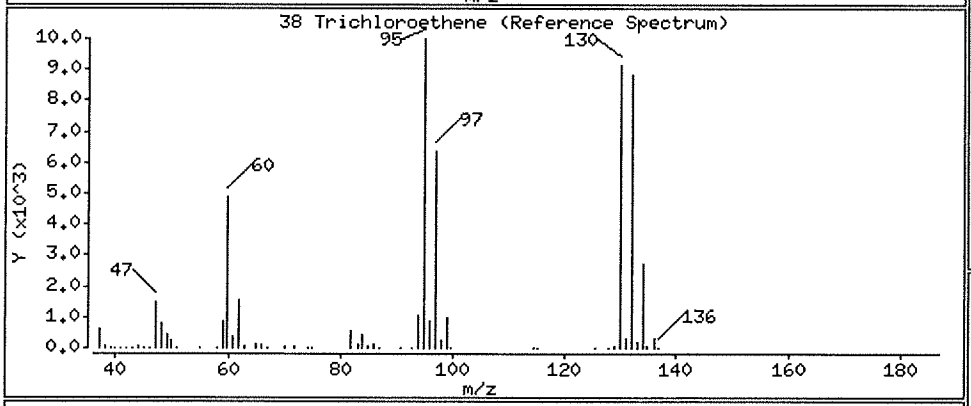
Concentration: 0.61 ug/l

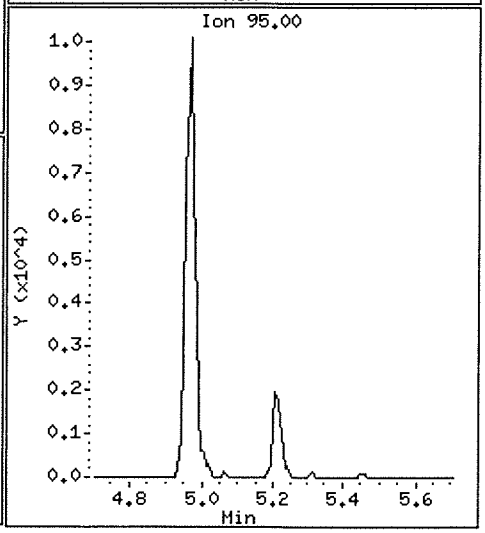


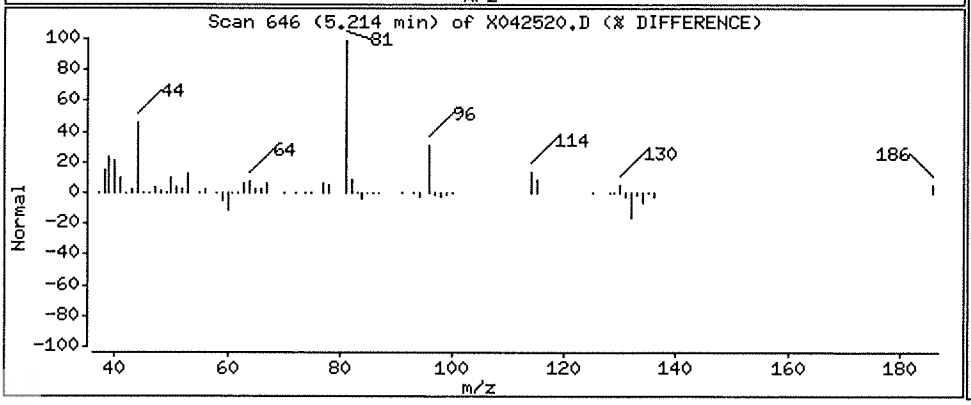












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042521.D Page 1
Report Date: 24-May-2021 12:40

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042521.D
Lab Smp Id: HS21041255-06 Client Smp ID: HS21041255-06
Inj Date : 25-APR-2021 18:40
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-06;HS21041255-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

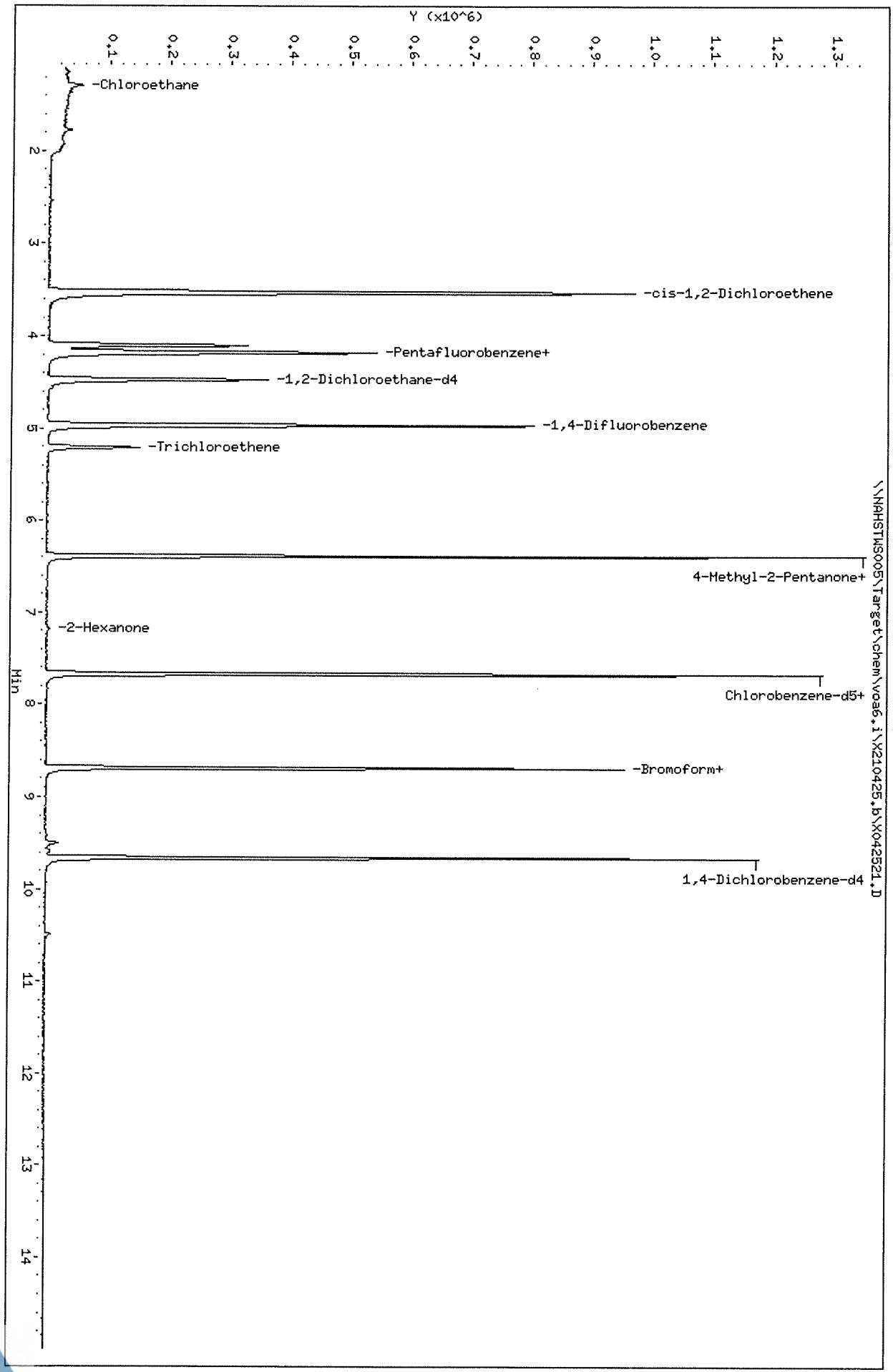
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	402458	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	646435	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	563102	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	230084	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	220547	46.5764	46.57
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	283289	49.9006	49.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	774822	53.4012	53.40
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	250790	46.5580	46.55
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	492073	100.021	100.02
38 Trichloroethene	130	5.206	5.206	(1.049)	46677	10.5479	10.54

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042521.D
Date : 25-APR-2021 18:40
Client ID: HS21041255-06
Sample Info: HS21041255-06;HS21041255-06;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042521.D

Date : 25-APR-2021 18:40

Client ID: HS21041255-06

Instrument: voa6.i

Sample Info: HS21041255-06;HS21041255-06;;;

Purge Volume: 5.0

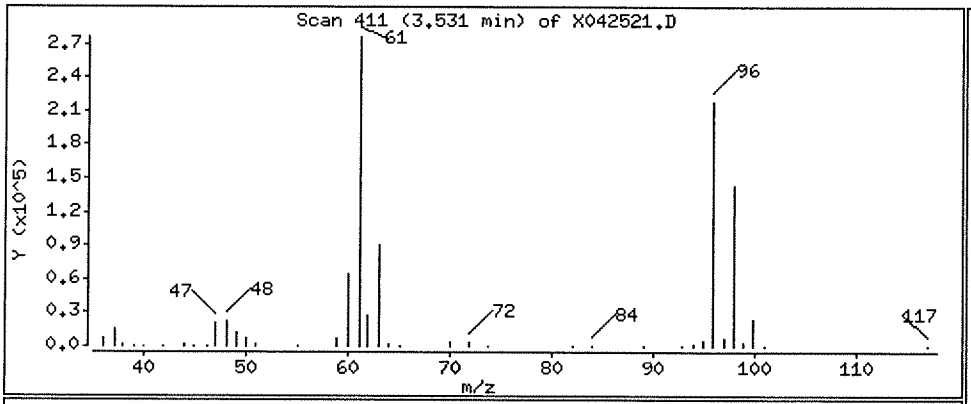
Operator: PC

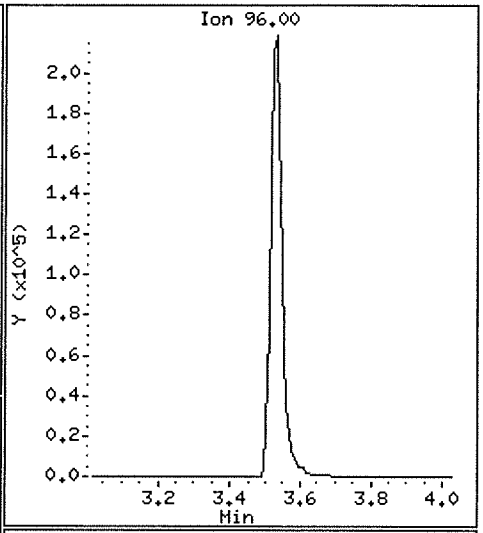
Column phase: DB624

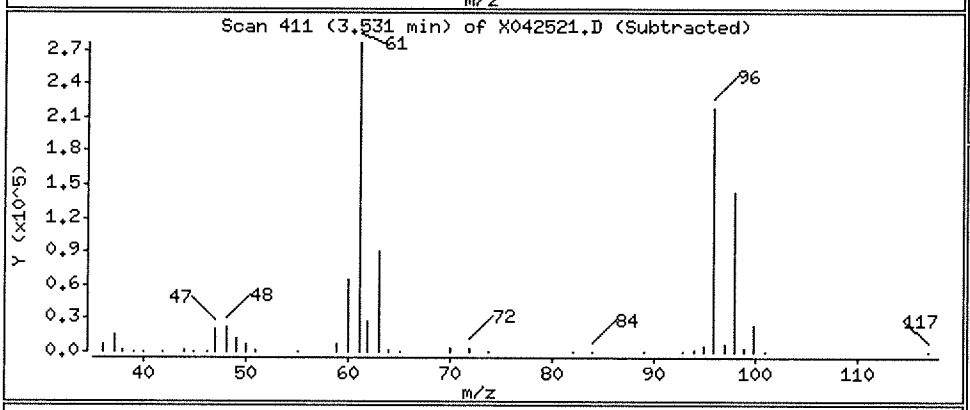
Column diameter: 0.18

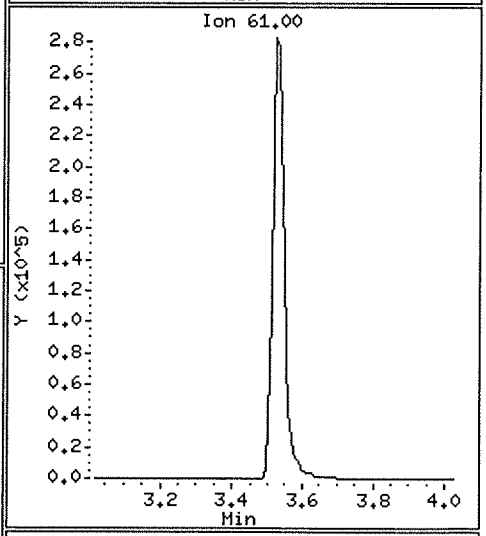
27 cis-1,2-Dichloroethene

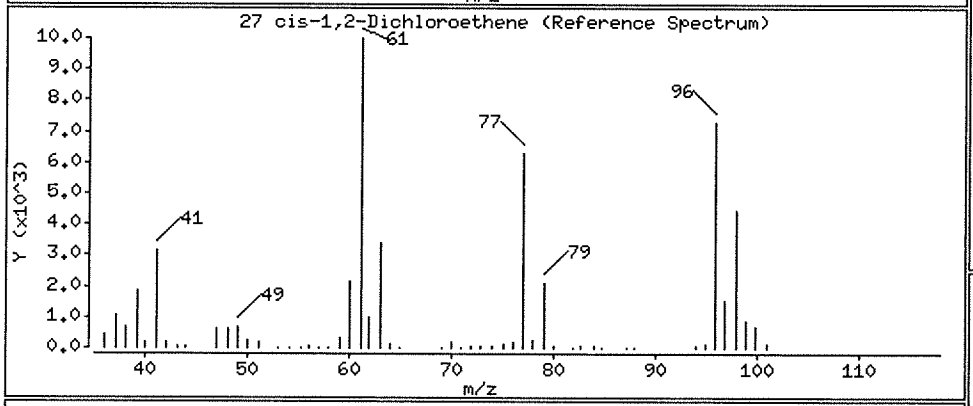
Concentration: 100.02 ug/l

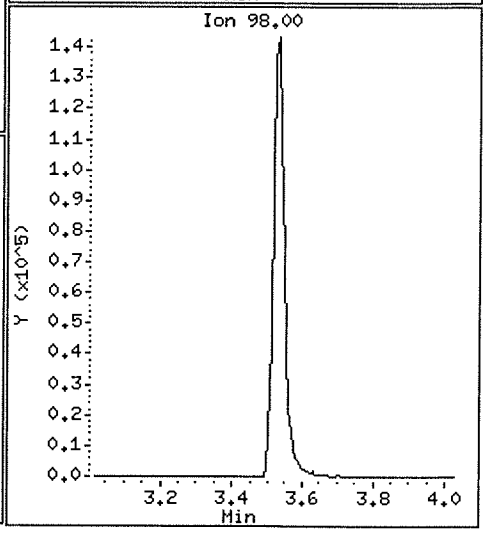


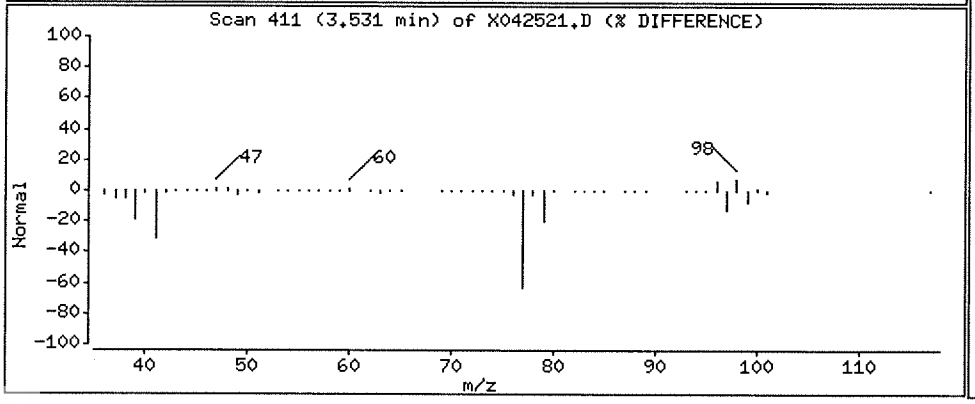












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042521.D

Date : 25-APR-2021 18:40

Client ID: HS21041255-06

Instrument: voa6.i

Sample Info: HS21041255-06;HS21041255-06;;;

Purge Volume: 5.0

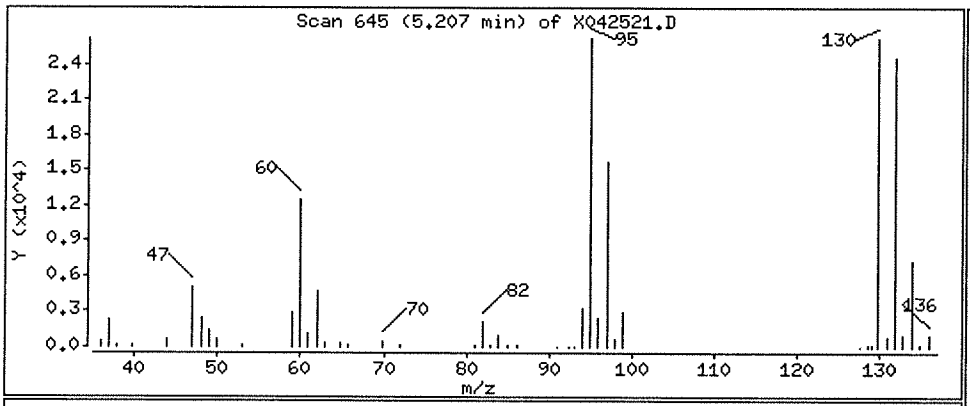
Operator: PC

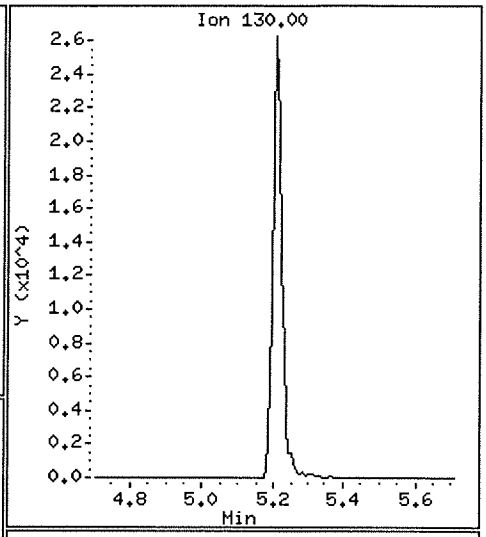
Column phase: DB624

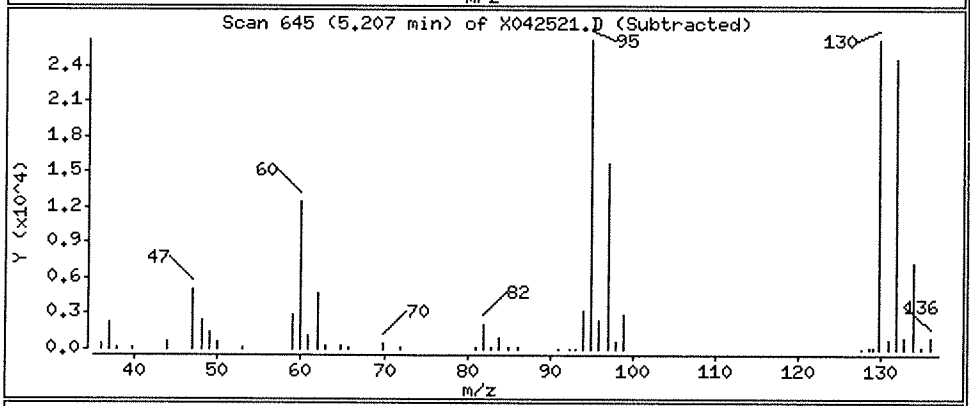
Column diameter: 0.18

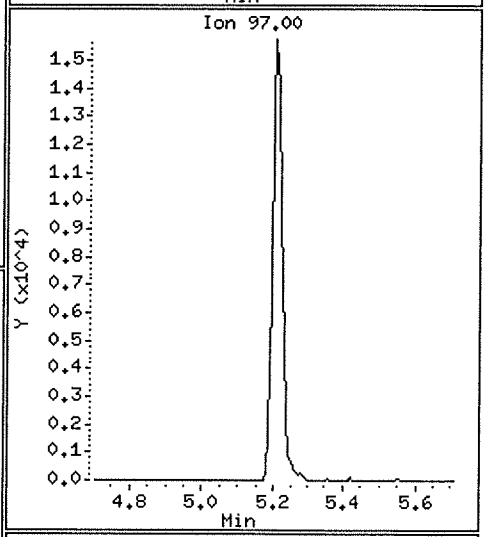
38 Trichloroethene

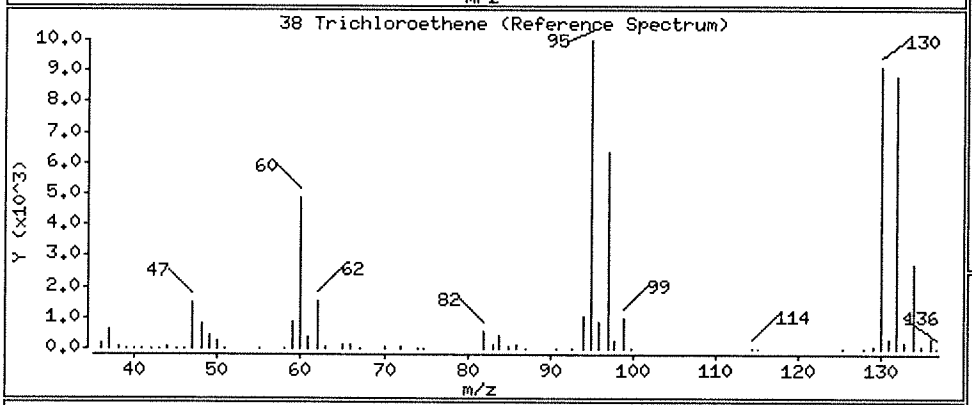
Concentration: 10.54 ug/l

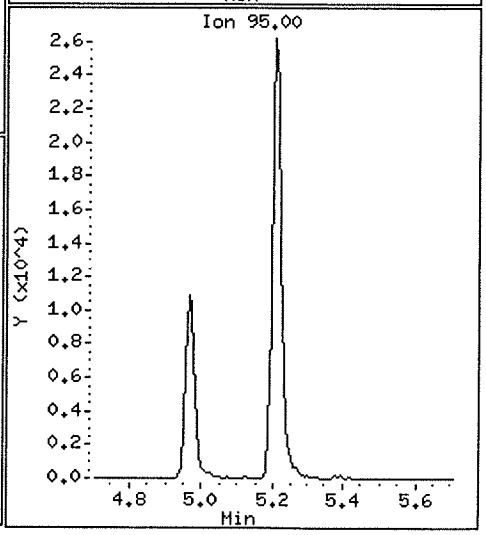


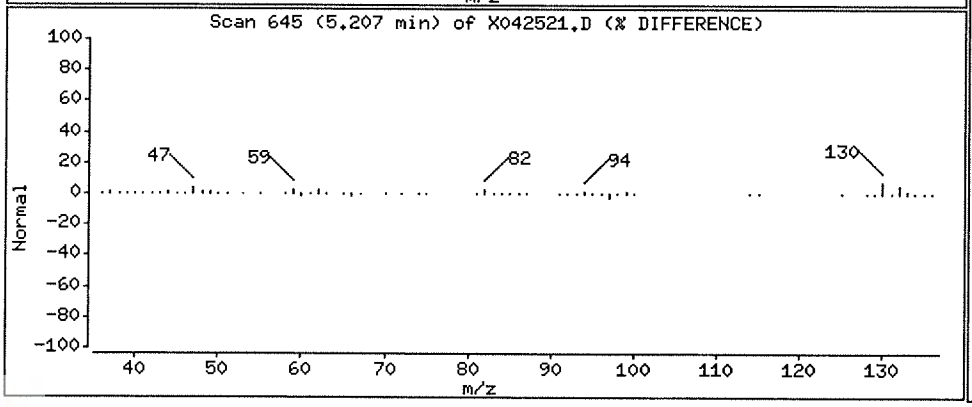












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D Page 1
Report Date: 24-May-2021 12:40

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D
Lab Smp Id: HS21041255-07 Client Smp ID: HS21041255-07
Inj Date : 25-APR-2021 21:49
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-07;HS21041255-07;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 29
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

Name	Value	Description
DF	25.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	393890	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	635862	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	548577	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	222404	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	210943	45.5270	45.52
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	275563	49.5985	49.59
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	763261	53.9765	53.97
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	250029	47.6072	47.60
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	8486	1.51307	37.82(a)
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	10497	1.55963	38.99(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	3398132	705.743	17643.58(A)
38 Trichloroethene	130	5.206	5.206	(1.048)	3056357	702.146	17553.66(A)
5 Vinyl Chloride	62	1.138	1.145	(0.272)	3873	0.65586	16.39

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D

Date : 25-APR-2021 21:49

Client ID: HS21041255-07

Sample Info: HS21041255-07;HS21041255-07;;;

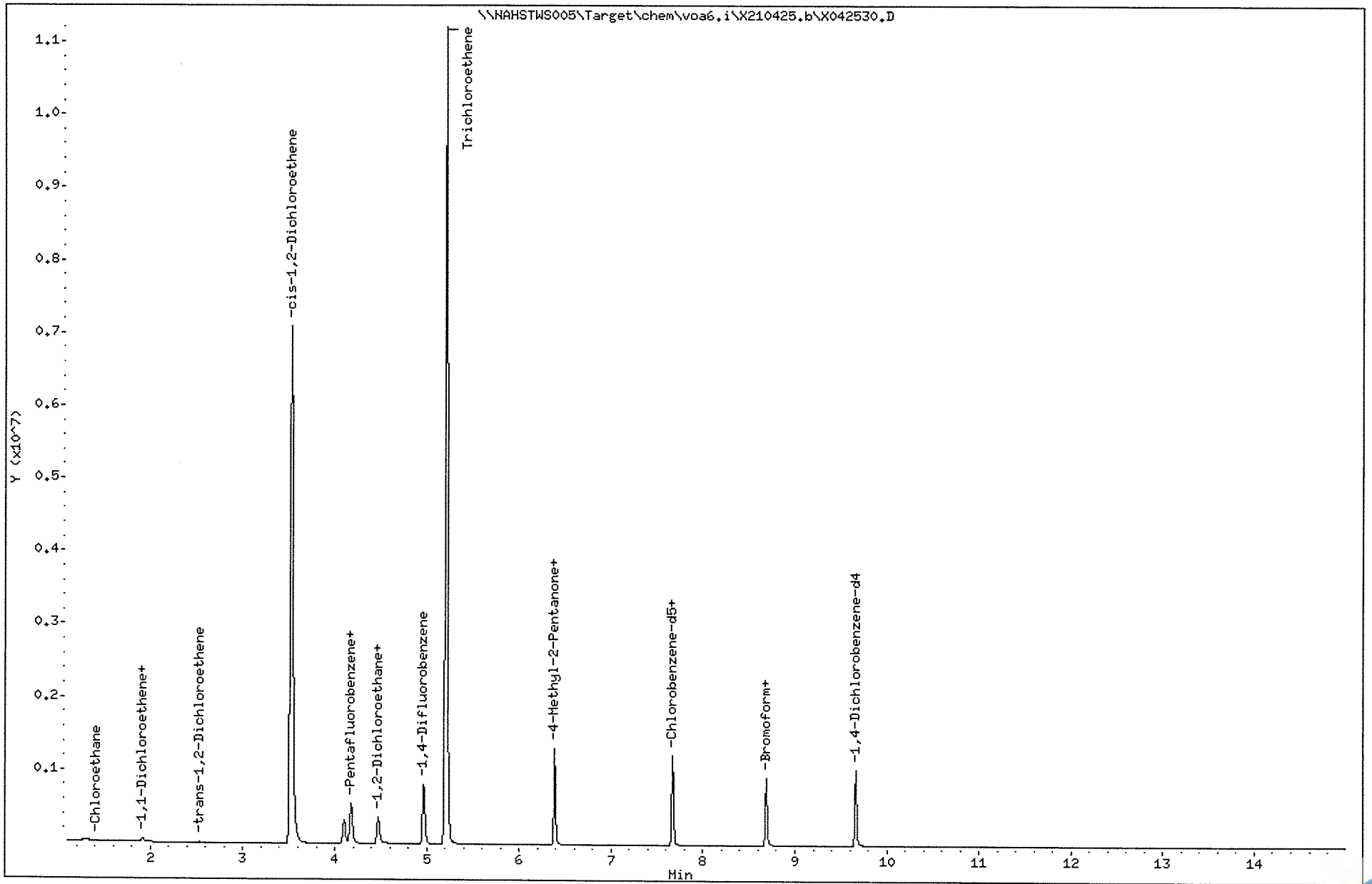
Purge Volume: 5.0

Column phase: DB624

Instrument: voa6.i

Operator: PC

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D

Date : 25-APR-2021 21:49

Client ID: HS21041255-07

Instrument: voa6.i

Sample Info: HS21041255-07;HS21041255-07;;;

Purge Volume: 5.0

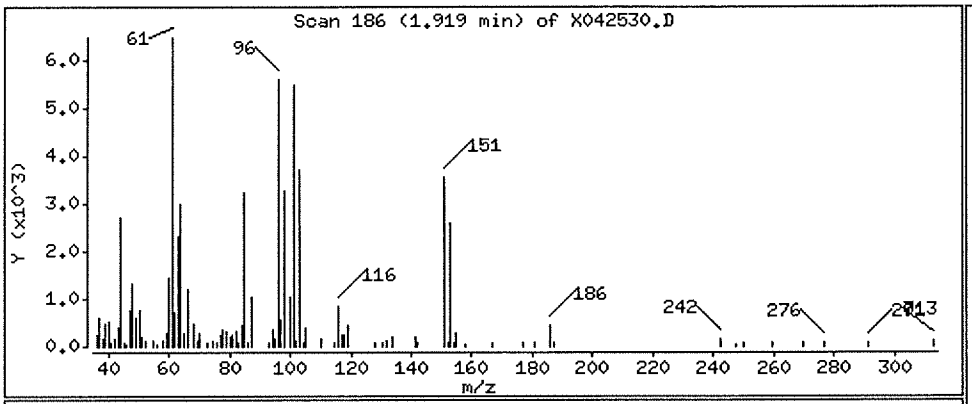
Operator: PC

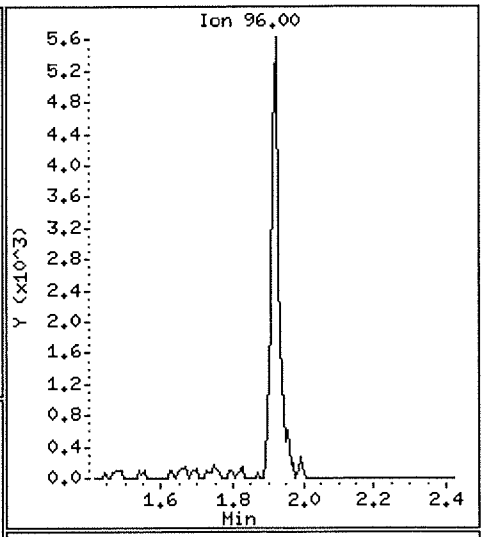
Column phase: DB624

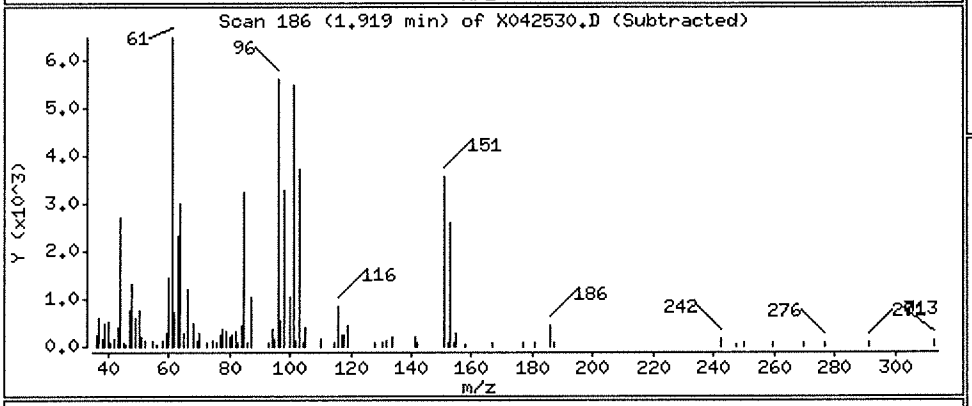
Column diameter: 0.18

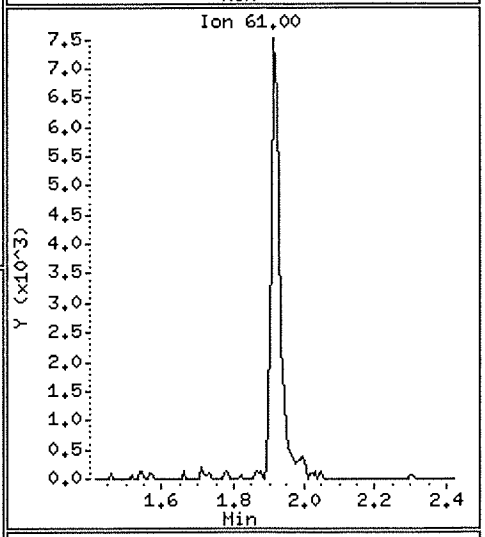
11 1,1-Dichloroethene

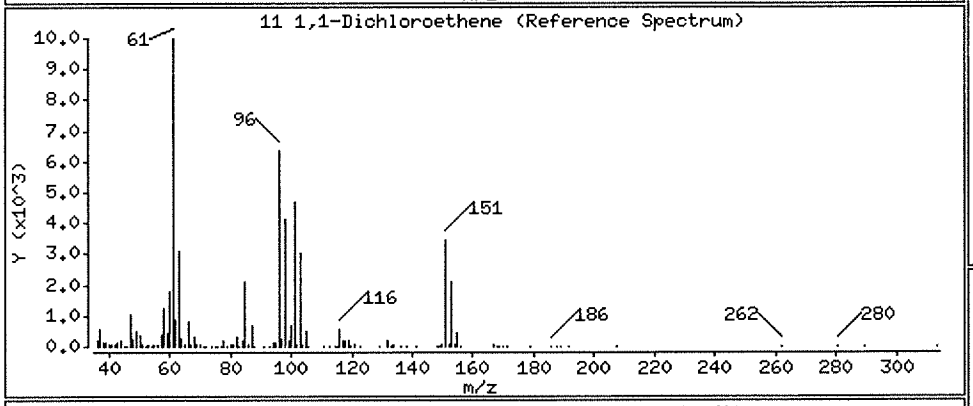
Concentration: 37.82 ug/l

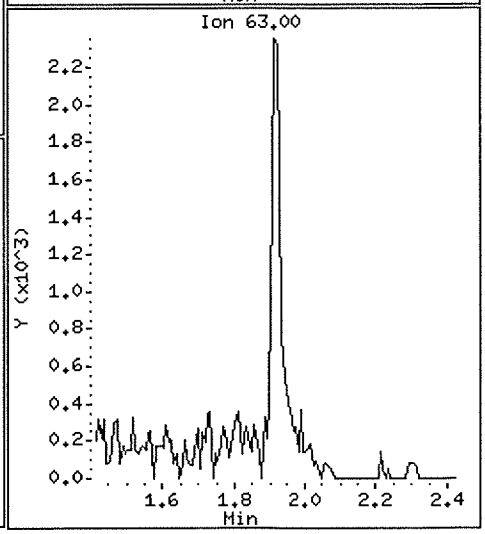


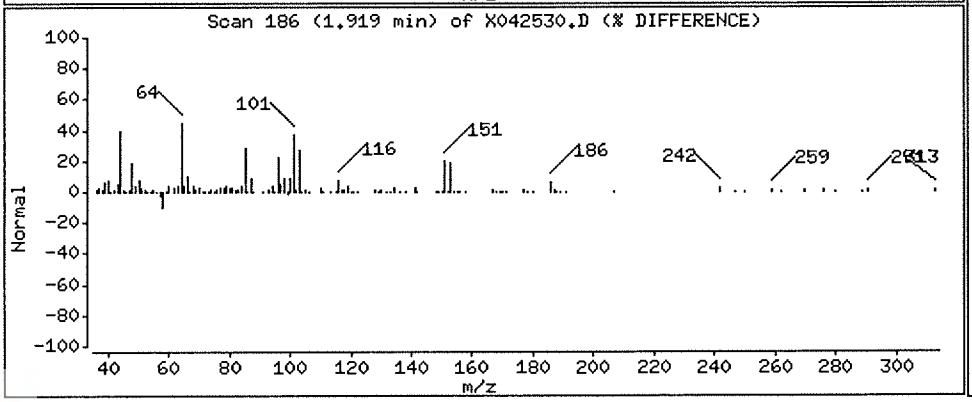












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D

Date : 25-APR-2021 21:49

Client ID: HS21041255-07

Instrument: voa6.i

Sample Info: HS21041255-07;HS21041255-07;;;

Purge Volume: 5.0

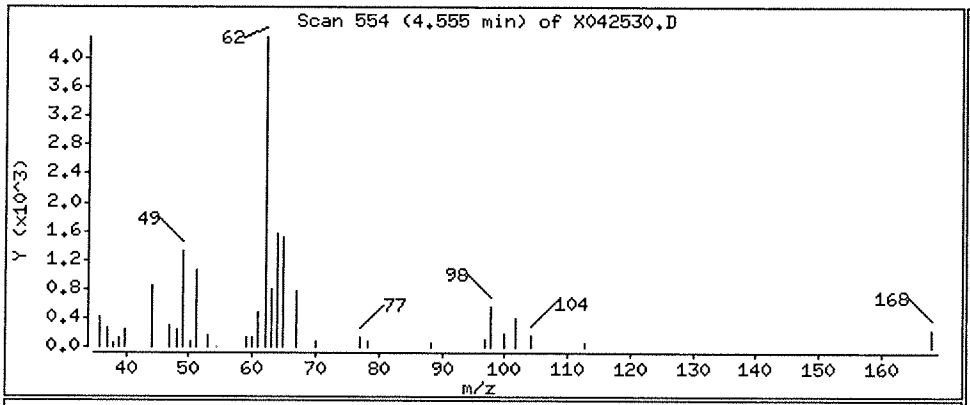
Operator: PC

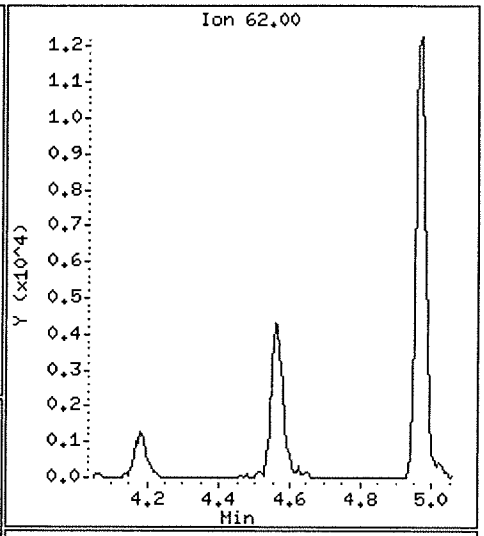
Column phase: DB624

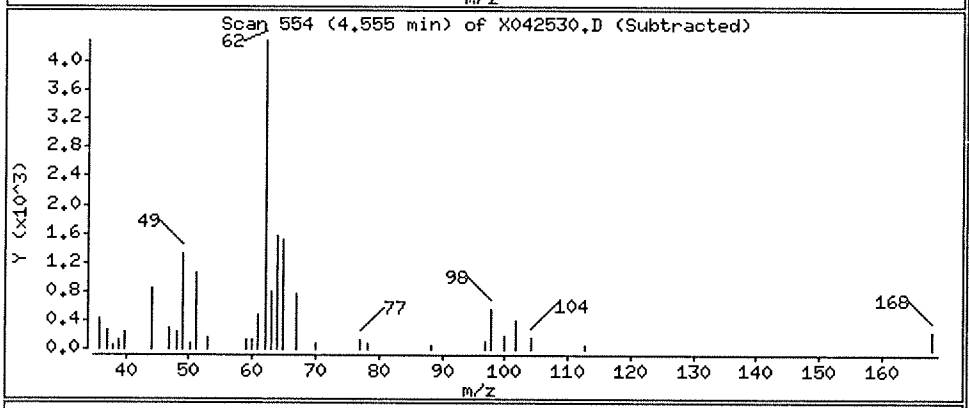
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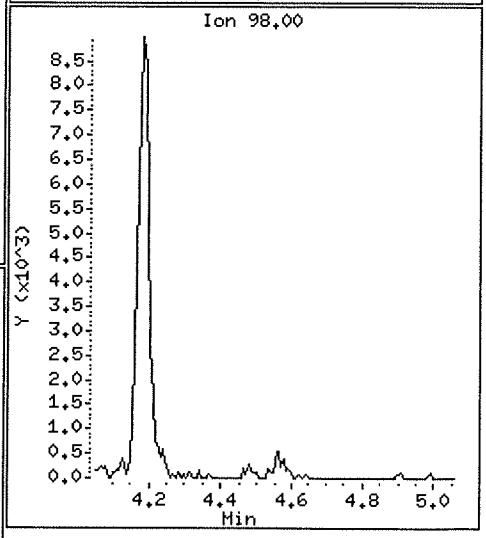
33 1,2-Dichloroethane

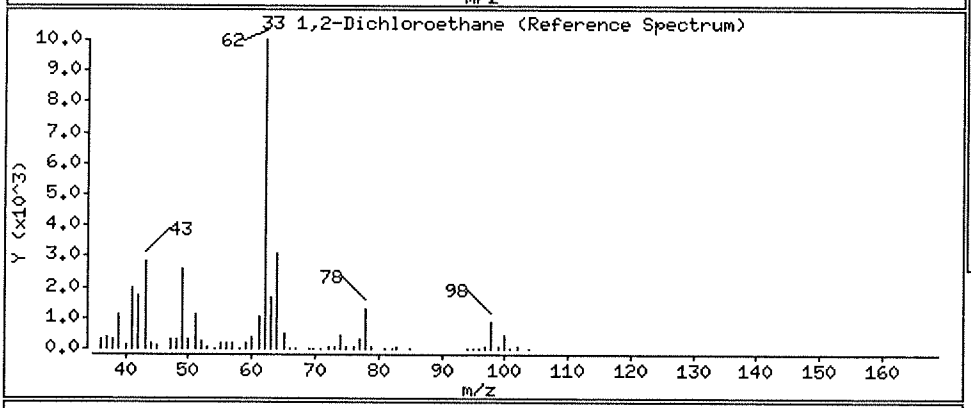
Concentration: 38.99 ug/l

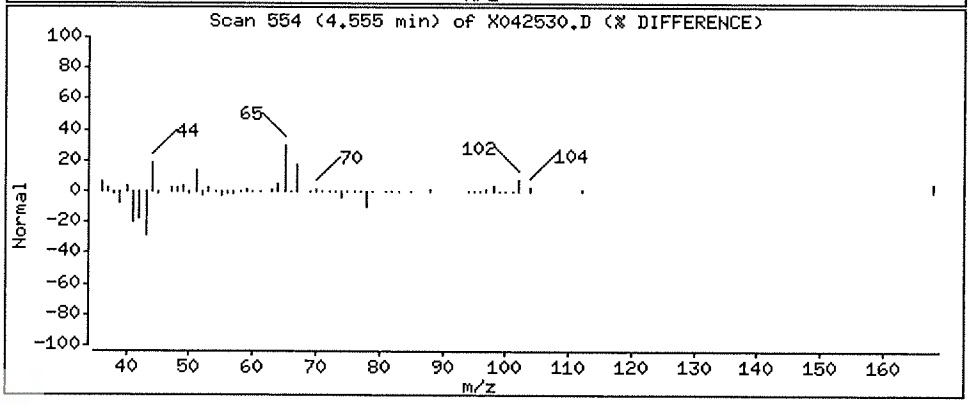












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D

Date : 25-APR-2021 21:49

Client ID: HS21041255-07

Instrument: voa6.i

Sample Info: HS21041255-07;HS21041255-07;;;

Purge Volume: 5.0

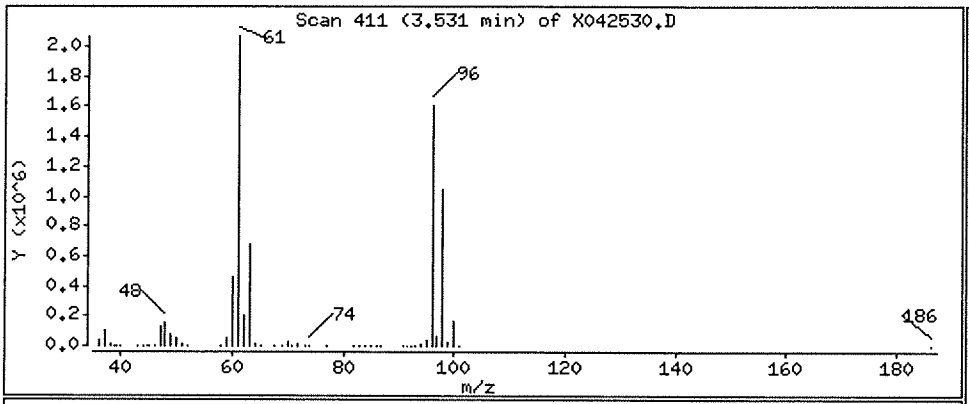
Operator: PC

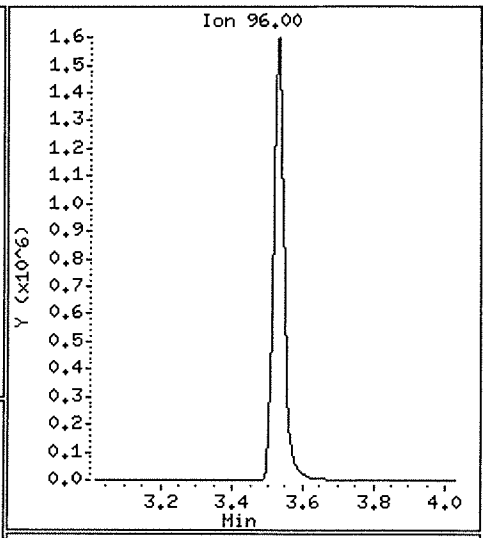
Column phase: DB624

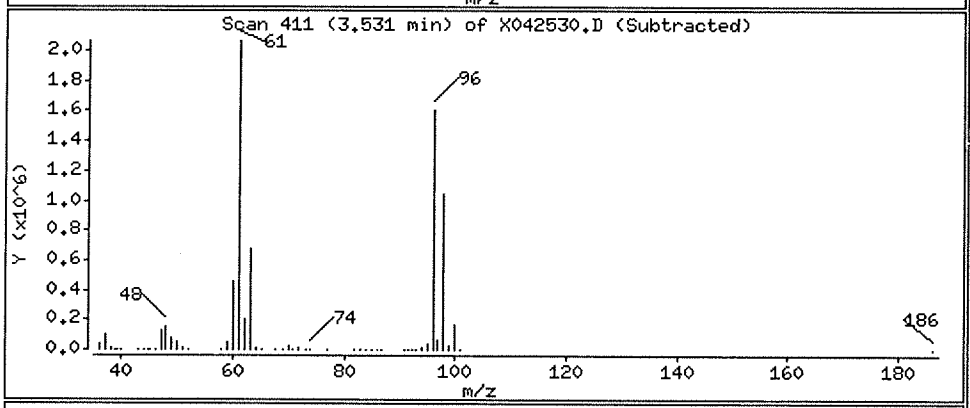
Column diameter: 0.18

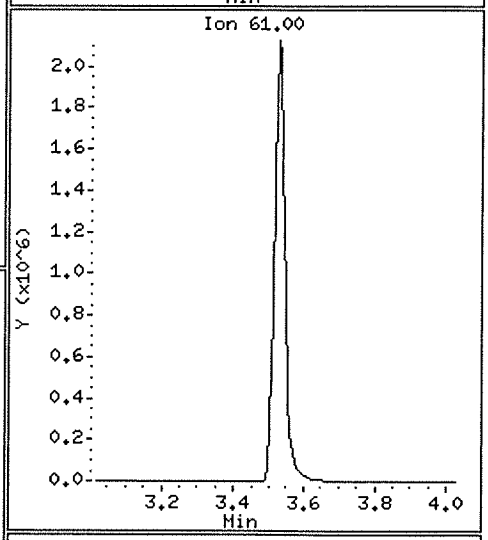
27 cis-1,2-Dichloroethene

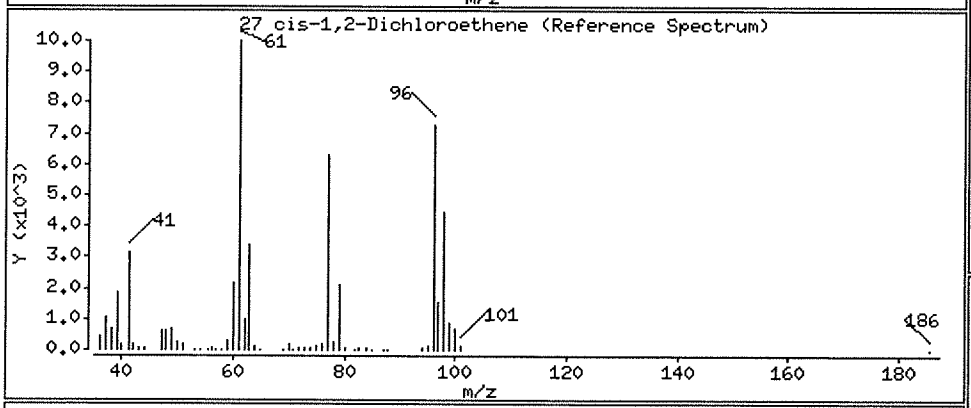
Concentration: 17643.58 ug/l

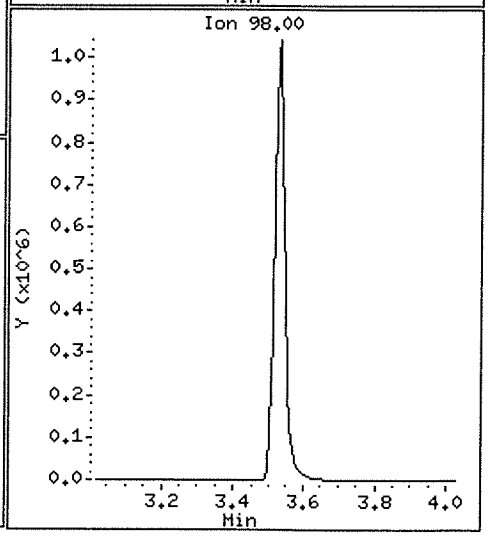


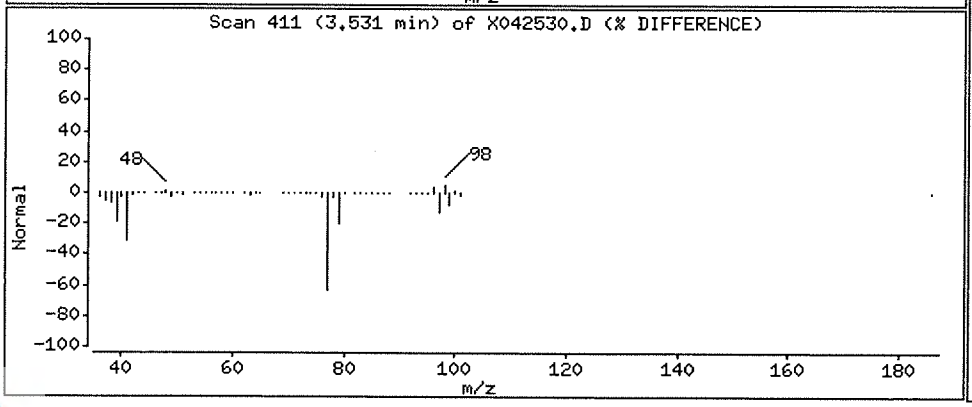












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D

Date : 25-APR-2021 21:49

Client ID: HS21041255-07

Instrument: voa6.i

Sample Info: HS21041255-07;HS21041255-07;;;

Purge Volume: 5.0

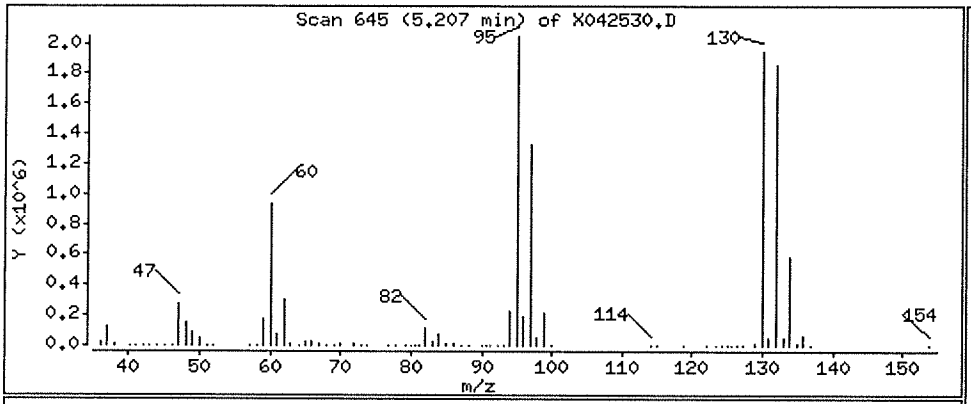
Operator: PC

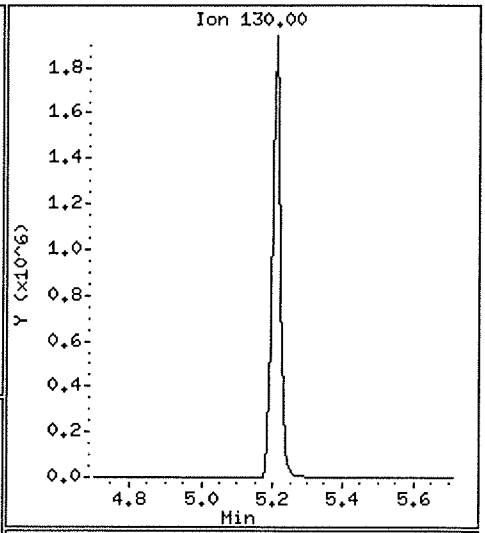
Column phase: DB624

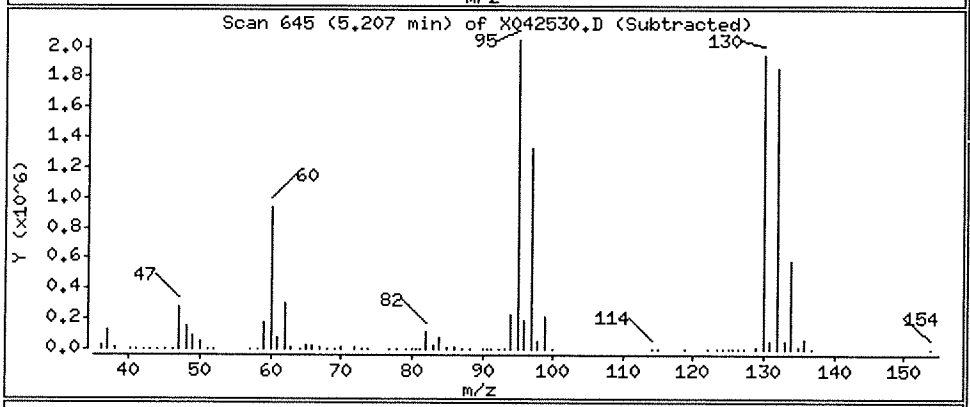
Column diameter: 0.18

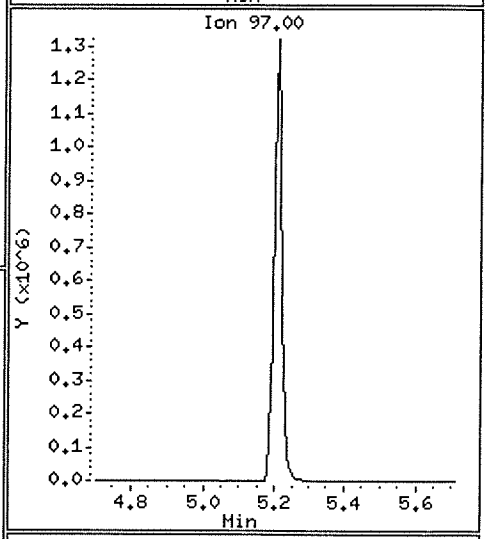
38 Trichloroethene

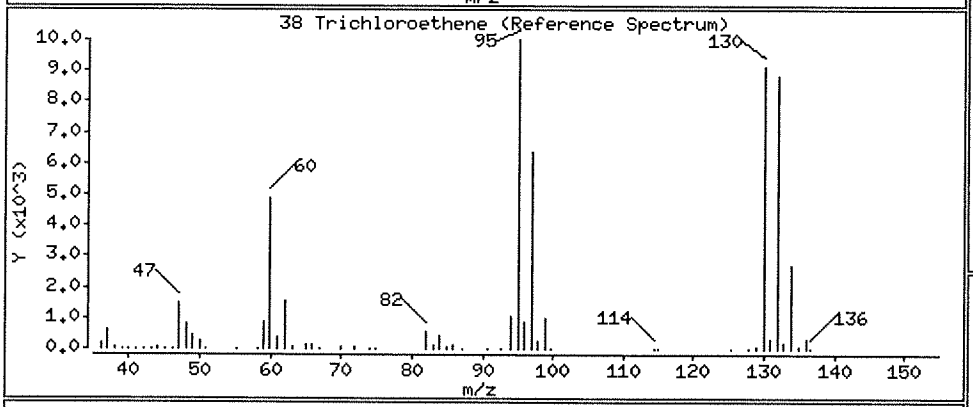
Concentration: 17553.66 ug/l

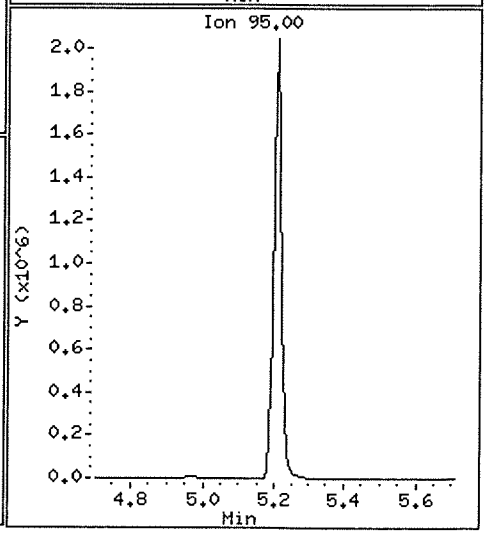


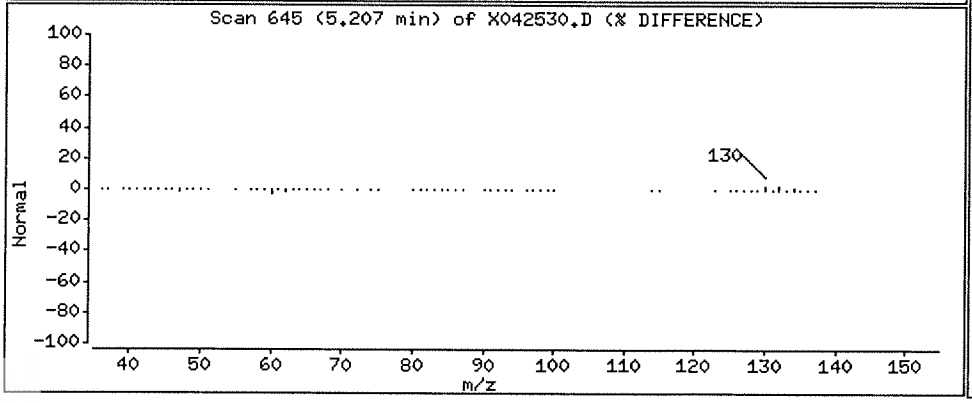












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042530.D

Date : 25-APR-2021 21:49

Client ID: HS21041255-07

Instrument: voa6.i

Sample Info: HS21041255-07;HS21041255-07;;;

Purge Volume: 5.0

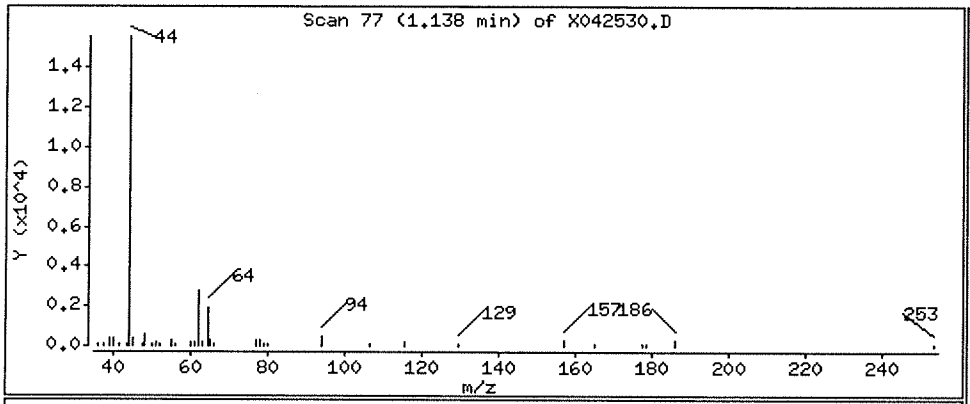
Operator: PC

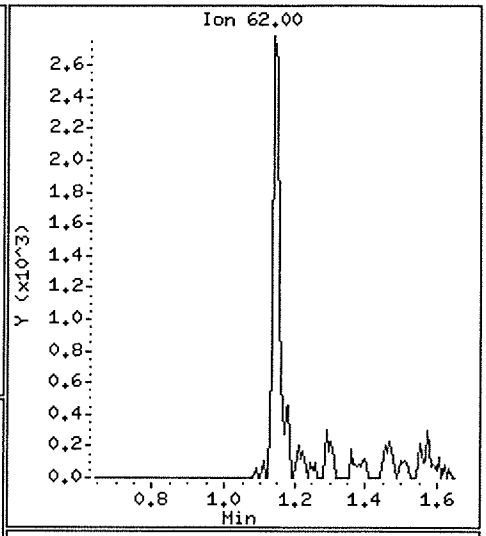
Column phase: DB624

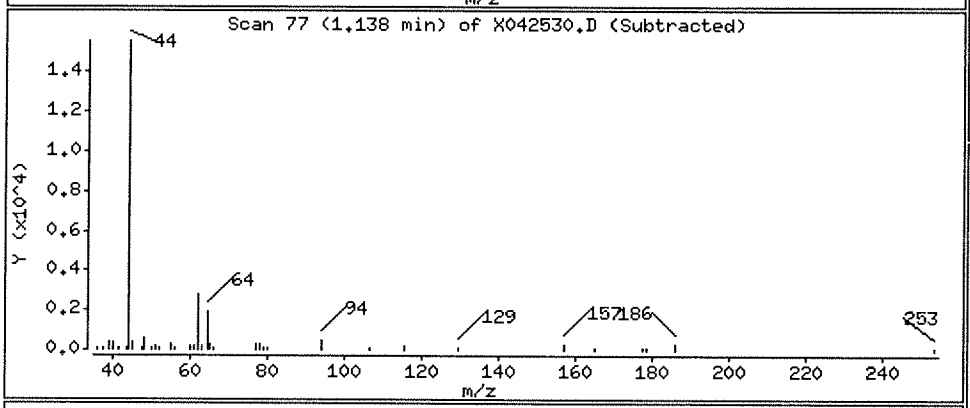
Column diameter: 0.18

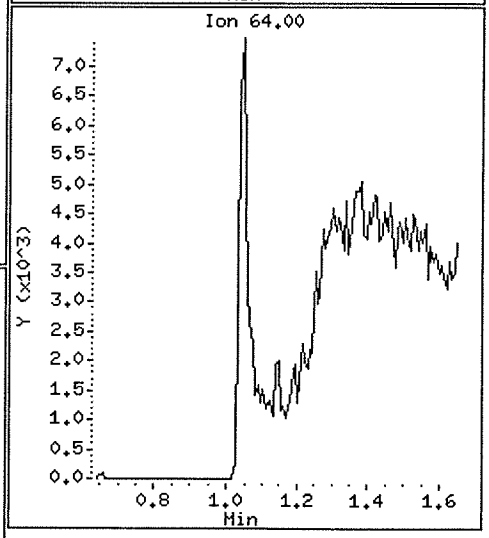
5 Vinyl Chloride

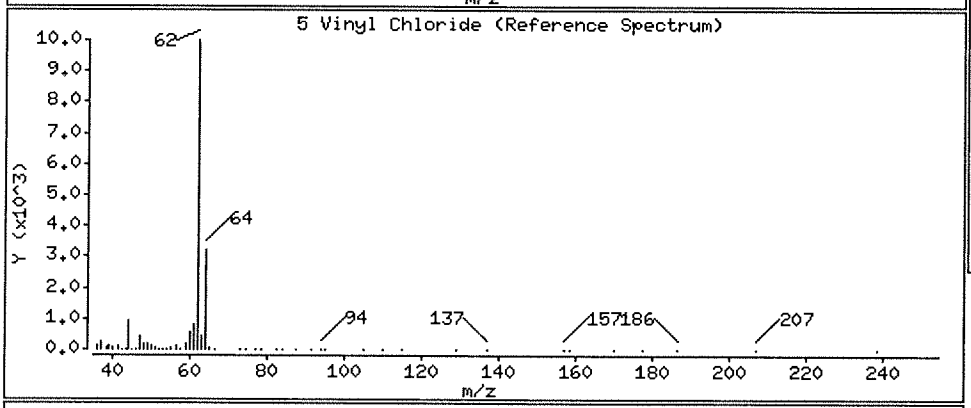
Concentration: 16.39 ug/l

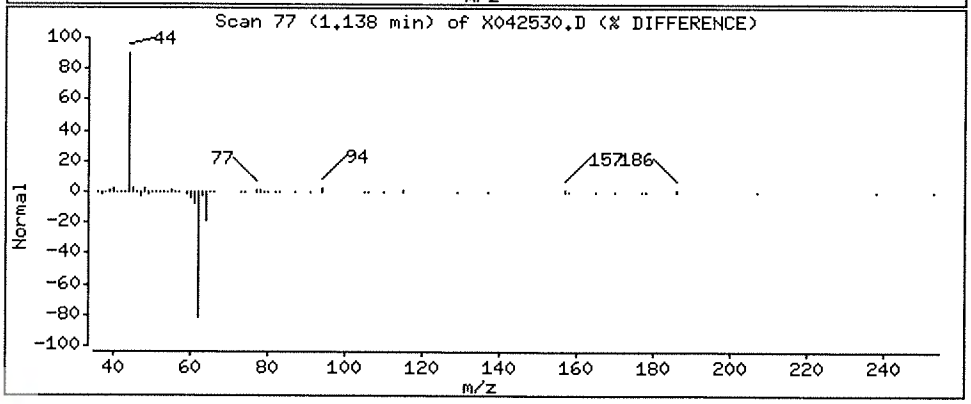












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D Page 1
Report Date: 24-May-2021 12:39

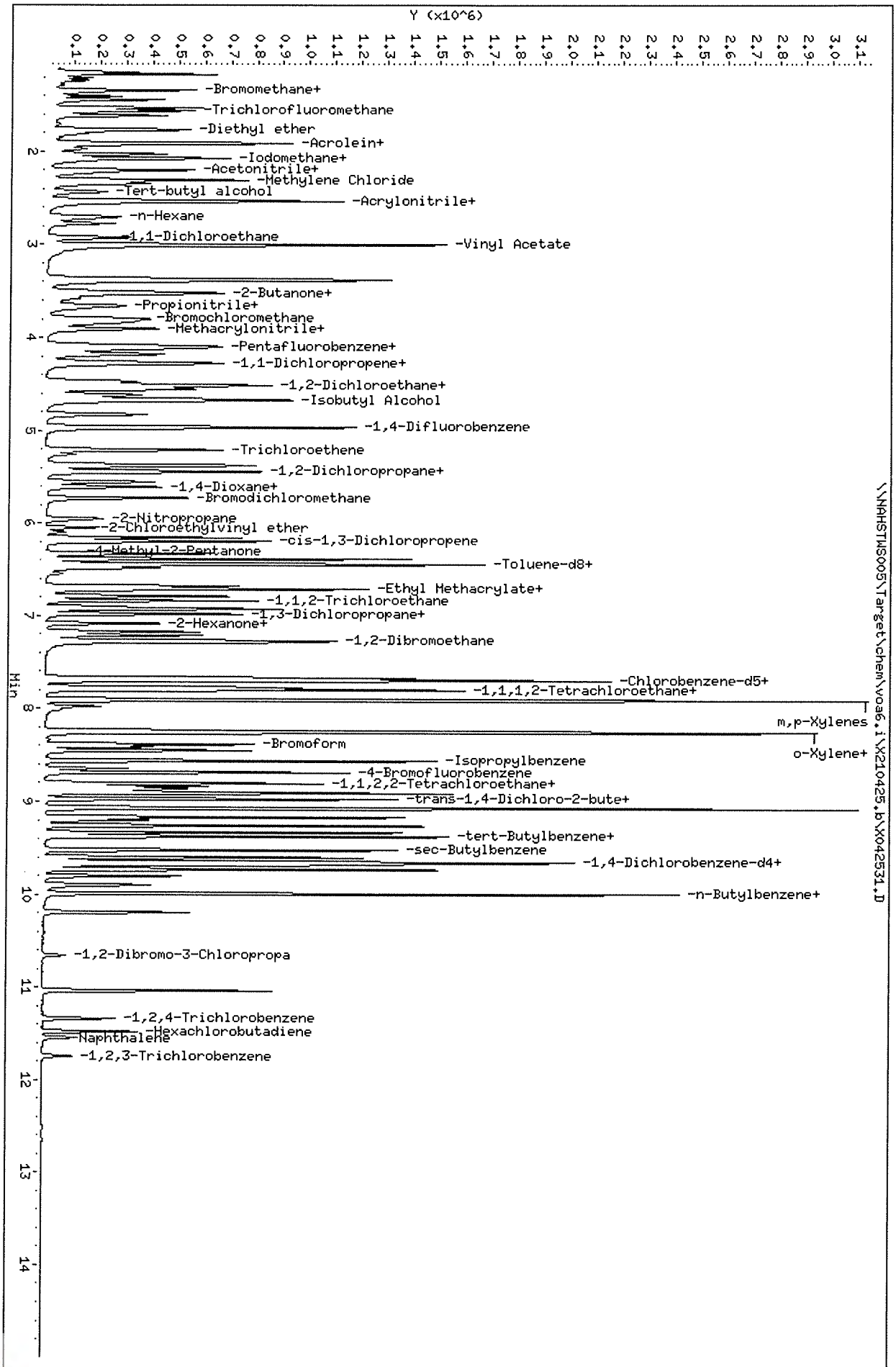
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 25-APR-2021 22:10
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\X210425.b\8260W.m
Meth Date : 24-May-2021 12:39 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	320604	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	588285	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	569948	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271739	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	211735	50.0000	56.04
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	257444	50.0000	56.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	780284	50.0000	53.14
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	288864	50.0000	52.75
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	178483	50.0000	53.90
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	189528	50.0000	41.51
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	318522	50.0000	51.15
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	214226	50.0000	54.66
17 Methylene Chloride	84	2.305	2.305	(0.551)	180986	50.0000	51.95
38 Trichloroethene	130	5.206	5.206	(1.049)	194326	50.0000	48.25
5 Vinyl Chloride	62	1.145	1.145	(0.274)	225419	50.0000	46.89



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210425.b\X042531.D
Date : 25-APR-2021 22:10
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 44546 **Analyst:** Presenta Cabascango

Date: 04-26-2021 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-26-2021 10:48 am	1.00	50 mL	50 mL	X042601.D	Liquid	Y	NA
2	CCV	CCV	04-26-2021 11:09 am	1.00	50 mL	50 mL	X042602.D	Liquid	Y	NA
3	BLANK	SAMP	04-26-2021 11:30 am	1.00	50 mL	50 mL	X042603.D	Liquid	Y	NA
4	CCB	SAMP	04-26-2021 11:51 am	1.00	50 mL	50 mL	X042604.D	Liquid	Y	NA
5	VLCSW-210426	LCS	04-26-2021 12:12 pm	1.00	50 mL	50 mL	X042605.D	Liquid	Y	NA
6	BLANK	SAMP	04-26-2021 12:33 pm	1.00	50 mL	50 mL	X042606.D	Liquid	Y	NA
7	VBLKW-210426	MBLK	04-26-2021 12:54 pm	1.00	50 mL	50 mL	X042607.D	Liquid	Y	NA
8	HS21041306-10	SAMP	04-26-2021 01:15 pm	1.00	50 mL	50 mL	X042608.D	Liquid	Y	NA
9	HS21041306-11	SAMP	04-26-2021 01:36 pm	1.00	50 mL	50 mL	X042609.D	Liquid	Y	NA
10	HS21041306-27	SAMP	04-26-2021 01:57 pm	1.00	50 mL	50 mL	X042610.D	Liquid	Y	NA
11	HS21041255-08	SAMP	04-26-2021 02:18 pm	1000.0	50 µL	50 mL	X042611.D	Liquid	Y	NA
12	HS21041306-09	SAMP	04-26-2021 02:39 pm	1.00	50 mL	50 mL	X042612.D	Liquid	Y	NA
13	HS21041306-17	SAMP	04-26-2021 03:00 pm	1.00	50 mL	50 mL	X042613.D	Liquid	Y	NA
14	HS21041306-09MS	MS	04-26-2021 03:21 pm	1.00	50 mL	50 mL	X042614.D	Liquid	Y	NA
15	HS21041306-09MSD	MSD	04-26-2021 03:42 pm	1.00	50 mL	50 mL	X042615.D	Liquid	Y	NA
16	HS21041306-17MS	MS	04-26-2021 04:03 pm	1.00	50 mL	50 mL	X042616.D	Liquid	Y	NA
17	HS21041306-17MSD	MSD	04-26-2021 04:24 pm	1.00	50 mL	50 mL	X042617.D	Liquid	Y	NA
18	HS21041255-07	SAMP	04-26-2021 04:45 pm	250.0(	200 µL	50 mL	X042618.D	Liquid	Y	NA
19	HS21041306-17	SAMP	04-26-2021 05:07 pm	5.00	10 mL	50 mL	X042619.D	Liquid	Y	NA
20	HS21041306-01	SAMP	04-26-2021 05:28 pm	1.00	50 mL	50 mL	X042620.D	Liquid	Y	NA
21	HS21041306-02	SAMP	04-26-2021 05:49 pm	1.00	50 mL	50 mL	X042621.D	Liquid	Y	NA
22	HS21041306-03	SAMP	04-26-2021 06:10 pm	1.00	50 mL	50 mL	X042622.D	Liquid	Y	NA
23	HS21041306-04	SAMP	04-26-2021 06:31 pm	1.00	50 mL	50 mL	X042623.D	Liquid	Y	NA
24	HS21041306-05	SAMP	04-26-2021 06:52 pm	1.00	50 mL	50 mL	X042624.D	Liquid	Y	NA
25	HS21041306-06	SAMP	04-26-2021 07:13 pm	1.00	50 mL	50 mL	X042625.D	Liquid	Y	NA
26	HS21041306-07	SAMP	04-26-2021 07:34 pm	1.00	50 mL	50 mL	X042626.D	Liquid	Y	NA
27	HS21041306-08	SAMP	04-26-2021 07:55 pm	1.00	50 mL	50 mL	X042627.D	Liquid	Y	NA
28	HS21041306-12	SAMP	04-26-2021 08:16 pm	1.00	50 mL	50 mL	X042628.D	Liquid	Y	NA
29	HS21041306-13	SAMP	04-26-2021 08:37 pm	1.00	50 mL	50 mL	X042629.D	Liquid	Y	NA
30	HS21041306-14	SAMP	04-26-2021 08:58 pm	1.00	50 mL	50 mL	X042630.D	Liquid	Y	NA
31	HS21041306-15	SAMP	04-26-2021 09:19 pm	1.00	50 mL	50 mL	X042631.D	Liquid	Y	NA
32	CCV-END	CCV	04-26-2021 09:40 pm	1.00	50 mL	50 mL	X042632.D	Liquid	Y	NA
33	BLANK	SAMP	04-26-2021 10:01 pm	1.00	50 mL	50 mL	X042640.D	Liquid	Y	NA

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-210426	103	110	103	106	0
02	VBLKW-210426	93	97	107	91	0
03	HS21041255-08	93	97	106	95	0
04	HS21041306-09MS	92	99	101	102	0
05	HS21041306-09MSD	93	99	101	102	0
06	HS21041306-17MS	92	97	103	103	0
07	HS21041306-17MSD	92	96	102	104	0
08	HS21041255-07	93	100	107	93	0
09						
10						
11						
12						
13						
14						
15						
16						
17						
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19						
20						
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22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(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-210426

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID: X042607 Lab Sample ID: VBLKW-210426

Date Analyzed: 04/26/21 Time Analyzed: 1254

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-210426	VLCSW-210426	X042605	1212
02	HS21041255-08	HS21041255-08	X042611	1418
03	HS21041306-09MS	HS21041306-09MS	X042614	1521
04	HS21041306-09MSD	HS21041306-09MSD	X042615	1542
05	HS21041306-17MS	HS21041306-17MS	X042616	1603
06	HS21041306-17MSD	HS21041306-17MSD	X042617	1624
07	HS21041255-07	HS21041255-07	X042618	1645
08				
09				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID: X042601 BFB Injection Date: 04/26/21

Instrument ID: VOA6 BFB Injection Time: 1048

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	22.5
75	30.0 - 60.0% of mass 95	56.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.8 (1.2)1
174	Greater than 50.0% of mass 95	63.8
175	5.0 - 9.0% of mass 174	4.8 (7.5)1
176	95.0 - 101.0% of mass 174	61.1 (95.7)1
177	5.0 - 9.0% of mass 176	4.0 (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	X042602	04/26/21	1109
02	VLCSW-210426	VLCSW-210426	X042605	04/26/21	1212
03	VBLKW-210426	VBLKW-210426	X042607	04/26/21	1254
04	HS21041255-08	HS21041255-08	X042611	04/26/21	1418
05	HS21041306-09MS	HS21041306-09MS	X042614	04/26/21	1521
06	HS21041306-09MSD	HS21041306-09MSD	X042615	04/26/21	1542
07	HS21041306-17MS	HS21041306-17MS	X042616	04/26/21	1603
08	HS21041306-17MSD	HS21041306-17MSD	X042617	04/26/21	1624
09	HS21041255-07	HS21041255-07	X042618	04/26/21	1645
10	CCV-END	CCV-END	X042632	04/26/21	2140
11					
12					
13					
14					
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19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: VOA6 Calibration Date: 04/26/21 Time: 1109

Lab File ID: X042602 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.7617551	0.7617551	0.1	-1.57	20.00	AVRG
Methylene Chloride	48.299974	50.000000	0.5236271	0.1	3.40	20.00	LINR
1,1-Dichloroethene	0.7120000	0.6541063	0.6541063	0.1	8.13	20.00	AVRG
1,2-Dichloroethane	0.5290000	0.5449304	0.5449304	0.1	-3.01	20.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6308088	0.6308088	0.1	-3.24	20.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3197636	0.3197636	0.1	-10.26	20.00	AVRG
Trichloroethene	0.3420000	0.3519500	0.3519500	0.2	-2.91	20.00	AVRG
Dibromofluoromethane	57.070884	50.000000	0.6726326	0.1	-14.14	20.00	LINR
1,2-Dichloroethane-d4	57.866432	50.000000	0.8173618	0.1	-15.73	20.00	LINR
Toluene-d8	56.126715	50.000000	1.4487445	0.1	-12.25	20.00	LINR
4-Bromofluorobenzene	57.048462	50.000000	0.5494117	0.1	-14.10	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: VOA6 Calibration Date: 04/26/21 Time: 2140

Lab File ID: X042632 Init. Calib. Date(s): 04/02/21 04/02/21

Init. Calib. Times: 1053 1423

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.7500000	0.8545195	0.8545195	0.1	-13.94	50.00	AVRG
Methylene Chloride	55.051872	50.000000	0.5991440	0.1	-10.10	50.00	LINR
1,1-Dichloroethene	0.7120000	0.7583050	0.7583050	0.1	-6.50	50.00	AVRG
1,2-Dichloroethane	0.5290000	0.5437872	0.5437872	0.1	-2.80	50.00	AVRG
cis-1,2-Dichloroethene	0.6110000	0.6552662	0.6552662	0.1	-7.24	50.00	AVRG
1,1,2-Trichloroethane	0.2900000	0.3122317	0.3122317	0.1	-7.67	50.00	AVRG
Trichloroethene	0.3420000	0.3488314	0.3488314	0.2	-2.00	50.00	AVRG
Dibromofluoromethane	57.857834	50.000000	0.6819784	0.1	-15.72	50.00	LINR
1,2-Dichloroethane-d4	58.016086	50.000000	0.8194935	0.1	-16.03	50.00	LINR
Toluene-d8	54.814129	50.000000	1.4137061	0.1	-9.63	50.00	LINR
4-Bromofluorobenzene	54.478338	50.000000	0.5239225	0.1	-8.96	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID (Standard): X042602 Date Analyzed: 04/26/21

Instrument ID: VOA6 Time Analyzed: 1109

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	359651	4.18	634593	4.96	569480	7.67
	UPPER LIMIT	719302	4.68	1269186	5.46	1138960	8.17
	LOWER LIMIT	179826	3.68	317297	4.46	284740	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-210426	318690	4.18	551920	4.96	539078	7.67
02	VBLKW-210426	395246	4.18	629504	4.97	544292	7.67
03	HS21041255-08	392411	4.18	626216	4.96	535150	7.67
04	HS21041306-09MS	407238	4.18	656027	4.96	623789	7.67
05	HS21041306-09MSD	403005	4.18	649068	4.97	624144	7.67
06	HS21041306-17MS	417656	4.18	669505	4.96	642299	7.67
07	HS21041306-17MSD	415414	4.18	675542	4.96	648943	7.67
08	HS21041255-07	391249	4.18	634107	4.96	544302	7.67
09							
10							
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15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Lab File ID (Standard): X042602 Date Analyzed: 04/26/21

Instrument ID: VOA6 Time Analyzed: 1109

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	275197	9.66				
	UPPER LIMIT	550394	10.16				
	LOWER LIMIT	137599	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-210426	245189	9.66				
02	VBLKW-210426	216384	9.66				
03	HS21041255-08	224724	9.66				
04	HS21041306-09MS	290577	9.66				
05	HS21041306-09MSD	283717	9.66				
06	HS21041306-17MS	273138	9.66				
07	HS21041306-17MSD	292523	9.66				
08	HS21041255-07	235093	9.66				
09							
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16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042601.D

Date : 26-APR-2021 10:48

Client ID: BFB

Instrument: voa6.i

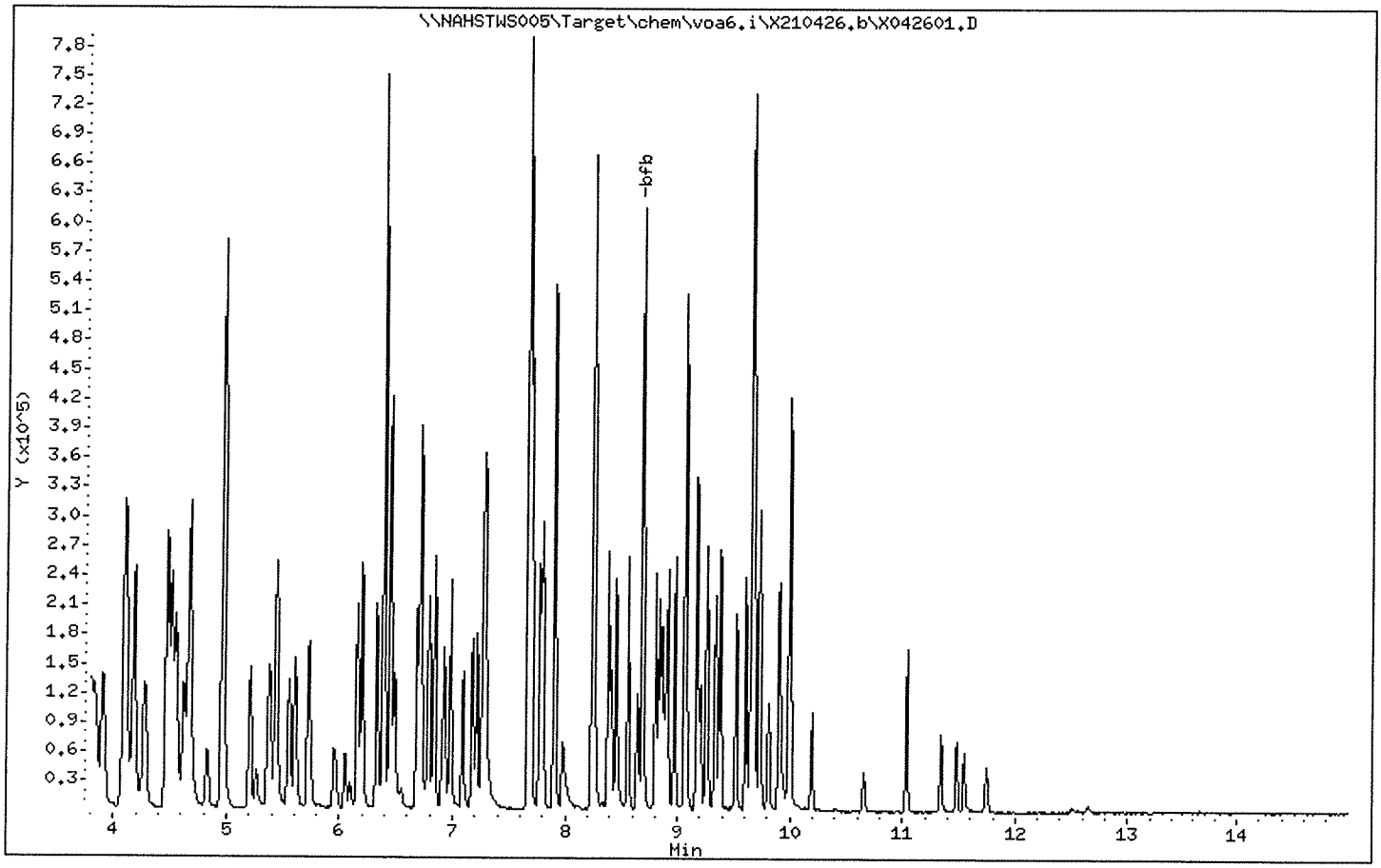
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042601.D

Date : 26-APR-2021 10:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

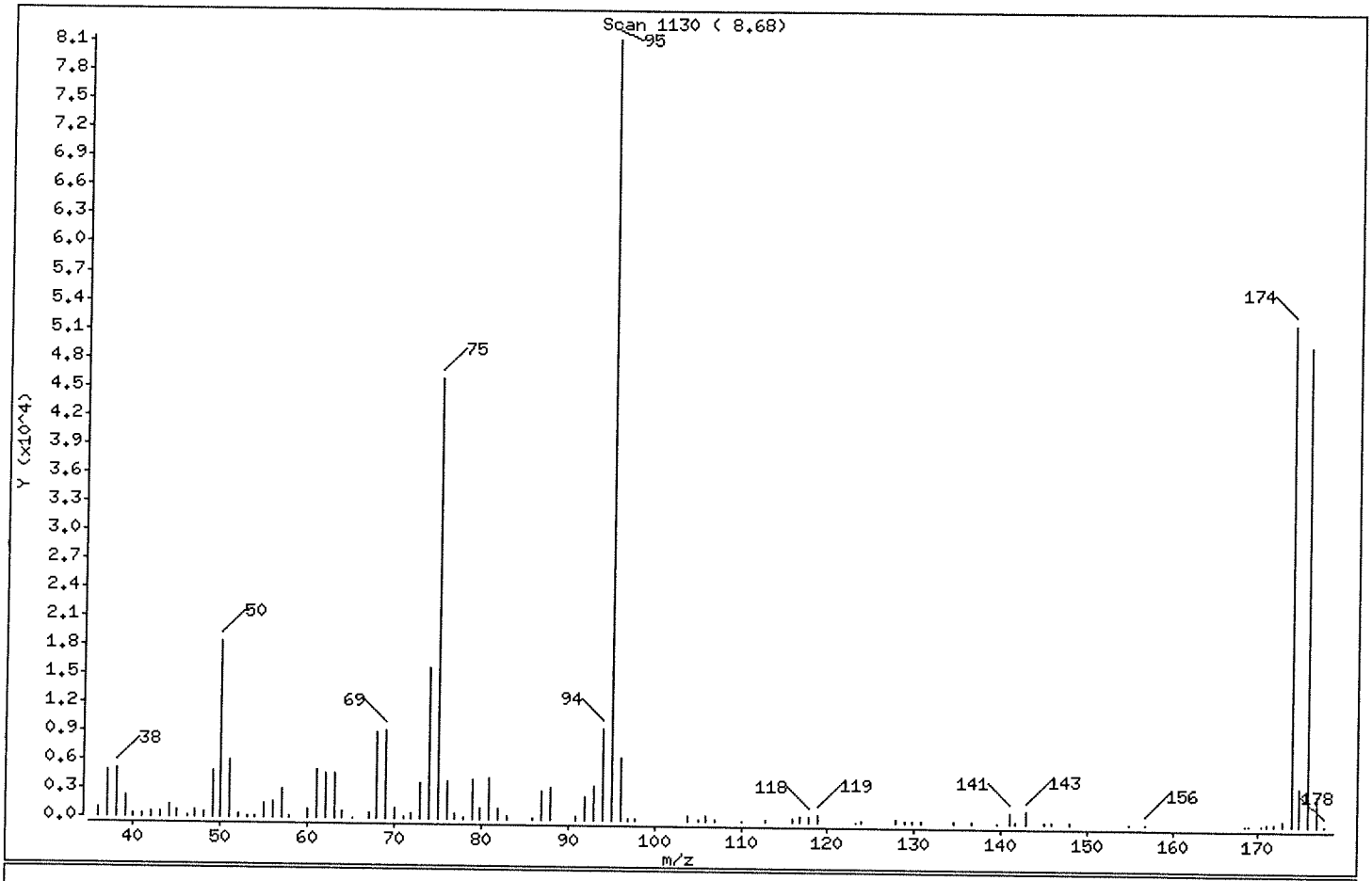
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.48
75	30.00 - 60.00% of mass 95	56.28
96	5.00 - 9.00% of mass 95	8.01
173	Less than 2.00% of mass 174	0.80 (1.25)
174	Greater than 50.00% of mass 95	63.84
175	5.00 - 9.00% of mass 174	4.77 (7.47)
176	95.00 - 101.00% of mass 174	61.09 (95.69)
177	5.00 - 9.00% of mass 176	4.01 (6.57)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042601.D

Date : 26-APR-2021 10:48

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X042601.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	992	61.00	4975	88.00	3287	130.70	220
37.00	4808	62.00	4699	90.90	454	134.60	170
38.00	4980	63.00	4649	92.00	2380	136.70	155
39.00	2337	64.00	656	93.00	3524	139.60	54
39.90	465	65.10	73	94.00	9544	140.90	1130
41.00	363	67.00	487	95.00	81432	141.70	173
42.00	567	68.00	9071	96.00	6520	142.90	1282
43.10	568	69.00	9152	96.90	223	144.90	131
44.00	1281	70.00	1128	97.80	166	145.80	116
45.00	833	71.00	162	103.80	578	147.80	165
46.20	124	71.90	544	105.00	177	154.70	74
47.10	830	73.00	3836	106.00	531	156.60	77
48.00	624	74.00	15657	107.00	242	168.50	74
49.00	4941	75.00	45832	110.00	50	169.00	78
50.00	18304	76.00	4006	112.80	140	170.50	53
51.00	5994	76.90	518	116.00	415	171.00	162
52.10	411	78.00	246	116.80	496	171.90	184
53.10	111	78.90	4083	117.90	549	173.00	649
54.00	207	79.90	1185	118.80	692	173.90	51984
54.90	1429	80.90	4365	123.20	88	174.90	3885
56.00	1758	81.90	1170	123.90	150	175.90	49744
57.00	3048	83.00	281	127.80	370	176.90	3269
57.90	171	85.90	95	128.90	195	177.80	50
59.90	926	87.00	3070	129.80	256		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042602.D Page 1
Report Date: 24-May-2021 12:48

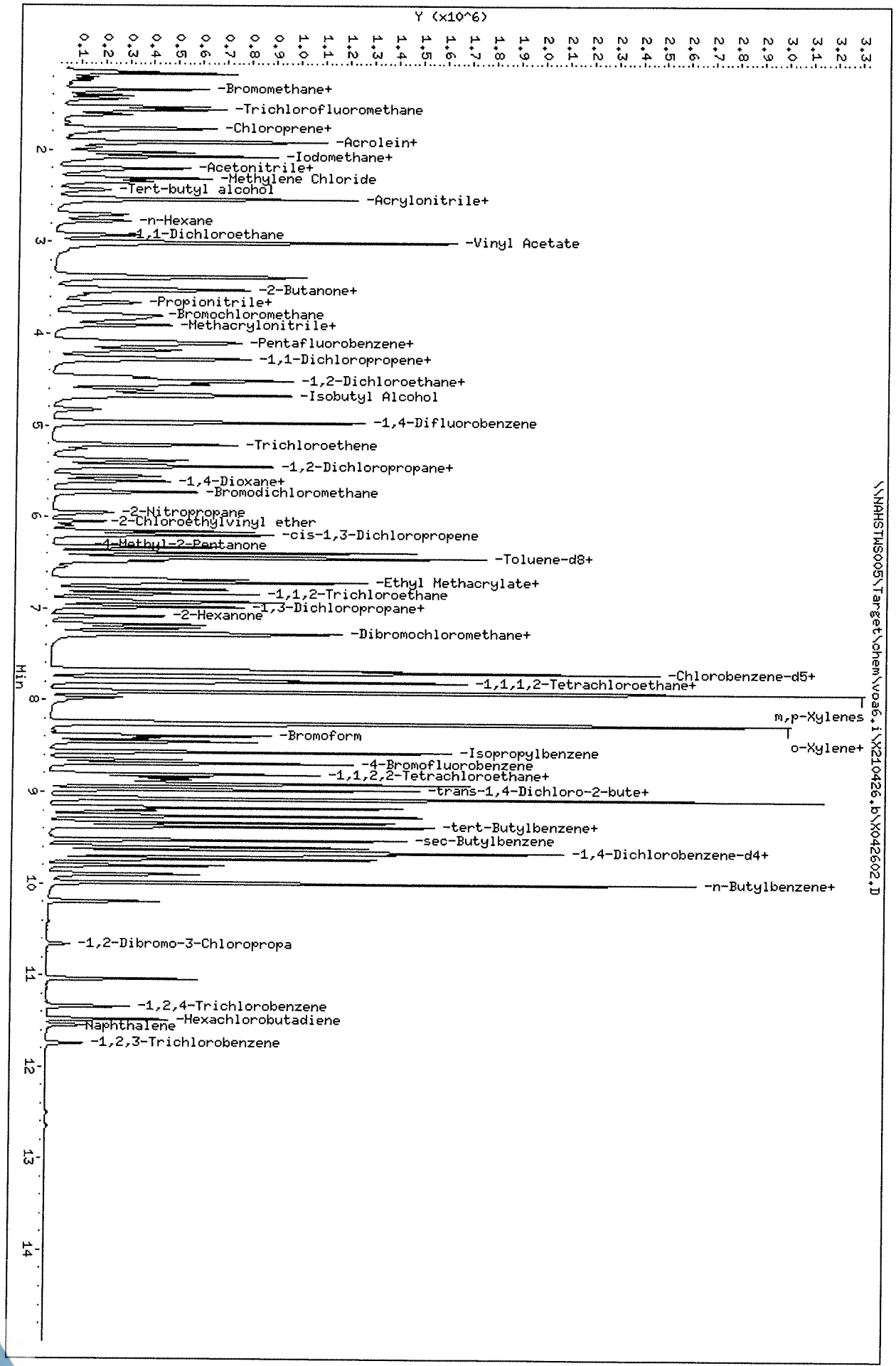
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042602.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 26-APR-2021 11:09
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:48 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	359651	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	634593	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	569480	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	275197	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	241913	50.0000	57.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	293965	50.0000	57.86
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	825031	50.0000	56.12
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	312879	50.0000	57.04
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	182099	50.0000	55.04
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	235250	50.0000	45.93
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	345809	50.0000	51.48
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	226871	50.0000	51.60
17 Methylene Chloride	84	2.305	2.305	(0.551)	188323	50.0000	48.29
38 Trichloroethene	130	5.206	5.206	(1.049)	223345	50.0000	51.41
5 Vinyl Chloride	62	1.145	1.145	(0.274)	273966	50.0000	50.81



Data File: \\NAHSTWS005\Target\chem\voa6,i\X210426,b\X042602,D
Date : 26-APR-2021 11:09
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

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

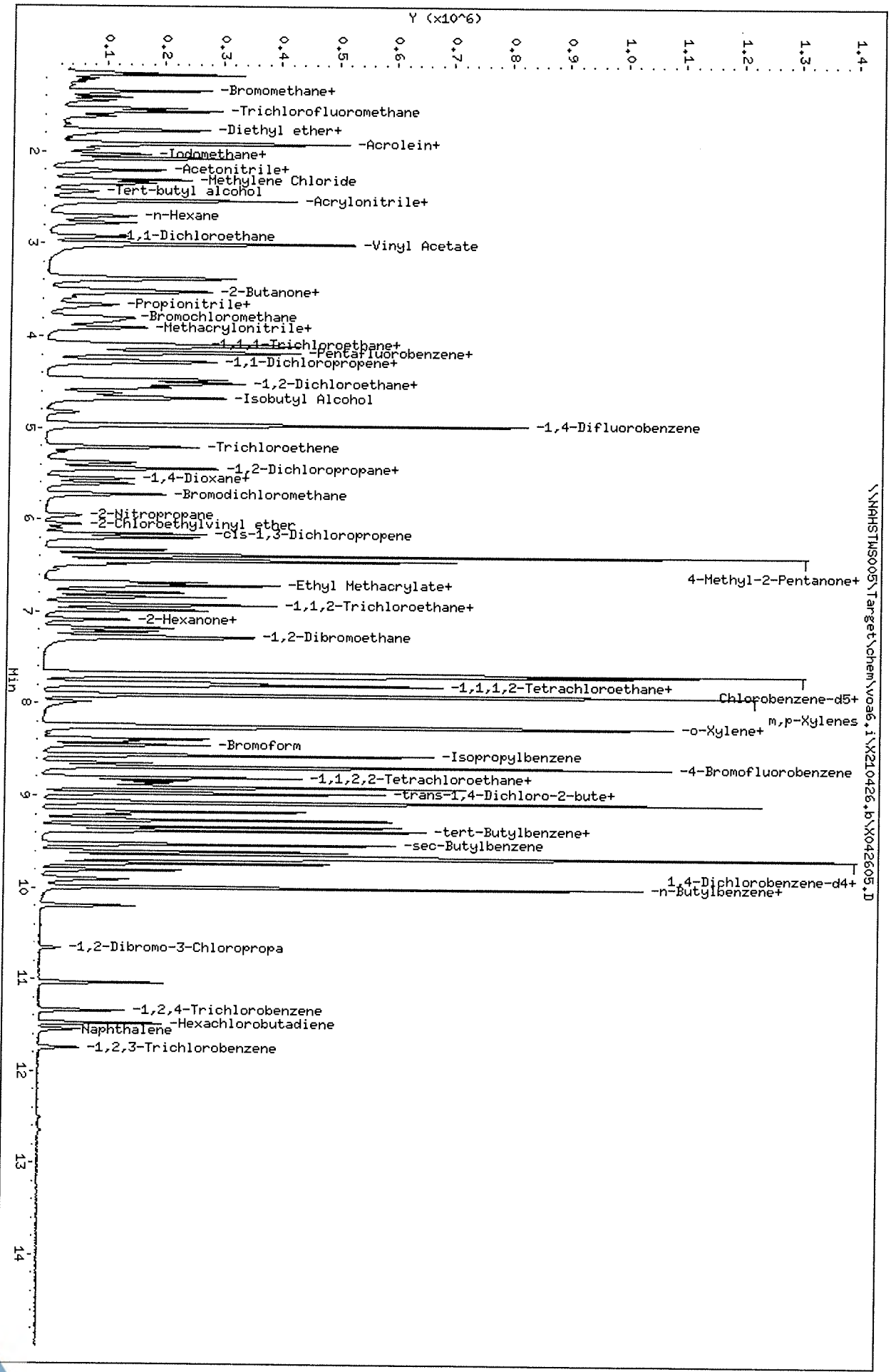
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042605.D
Lab Smp Id: VLCSW-210426 Client Smp ID: VLCSW-210426
Inj Date : 26-APR-2021 12:12
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-210426;VLCSW-210426;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:48 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	318690	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	551920	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	539078	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	245189	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	193514	51.5627	51.56
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	246455	54.7757	54.77
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	714901	51.5343	51.53
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	274954	53.0790	53.07
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	65999	21.0759	21.07
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	96185	21.1968	21.19
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	121352	20.7725	20.77
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	86539	22.2139	22.21
17 Methylene Chloride	84	2.305	2.305	(0.551)	76956	23.0731	23.07
38 Trichloroethene	130	5.206	5.206	(1.049)	78164	20.6879	20.68
5 Vinyl Chloride	62	1.145	1.145	(0.274)	112826	23.6147	23.61



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042605.D
Date : 26-APR-2021 12:12
Client ID: VLCSW-210426
Sample Info: VLCSW-210426;VLCSW-210426;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\X210426.b\X042607.D Page 1
Report Date: 24-May-2021 12:48

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042607.D
Lab Smp Id: VBLKW-210426 Client Smp ID: VBLKW-210426
Inj Date : 26-APR-2021 12:54
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-210426;VBLKW-210426;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:48 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

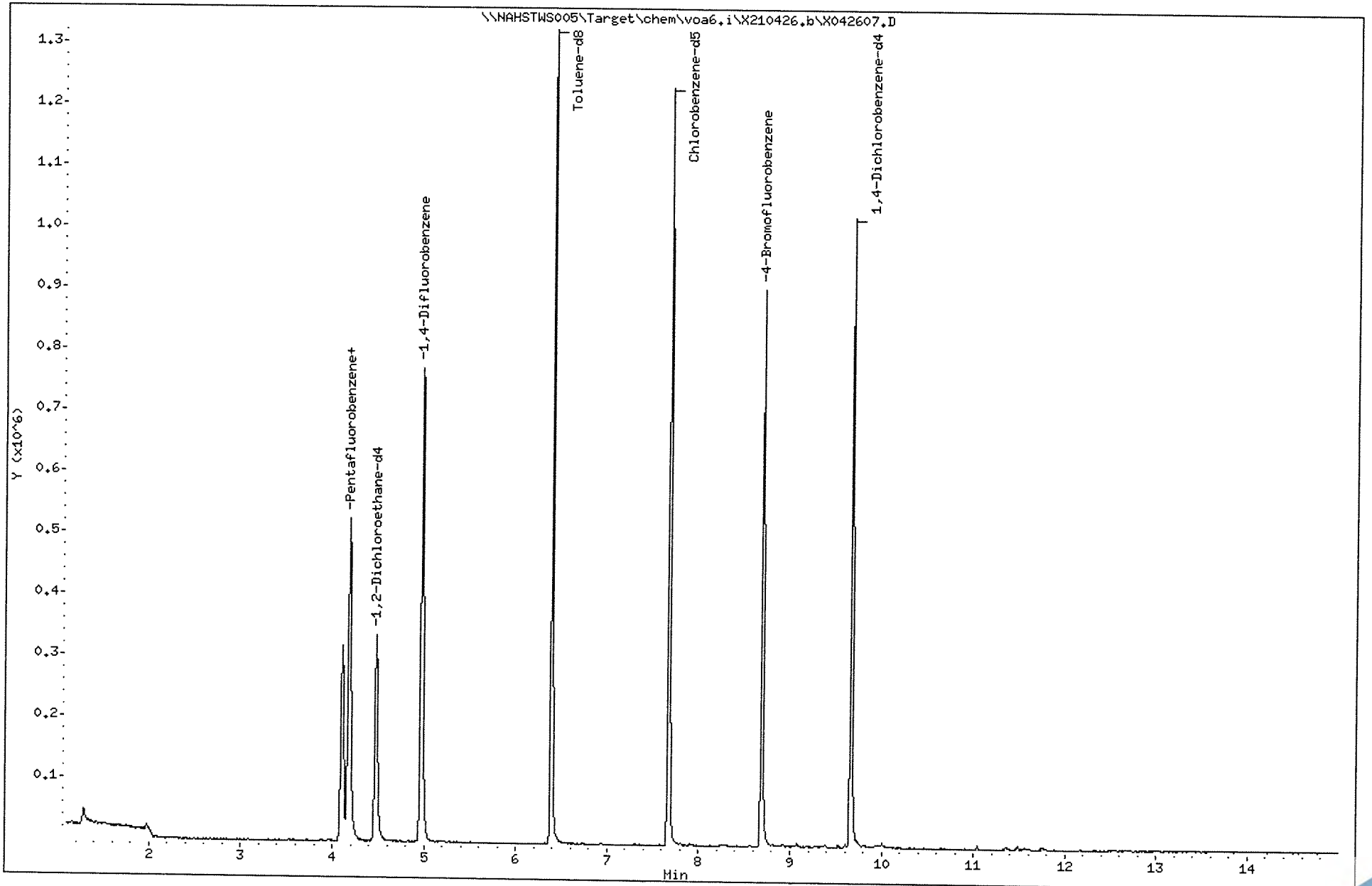
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

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)	395246	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	629504	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	544292	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	216384	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	217069	46.6774	46.67
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	271258	48.6653	48.66
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	751458	53.5745	53.57
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	235761	45.3258	45.32

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042607.D
Date : 26-APR-2021 12:54
Client ID: VBLKW-210426
Sample Info: VBLKW-210426;VBLKW-210426;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\X210426.b\X042611.D Page 1
Report Date: 24-May-2021 12:49

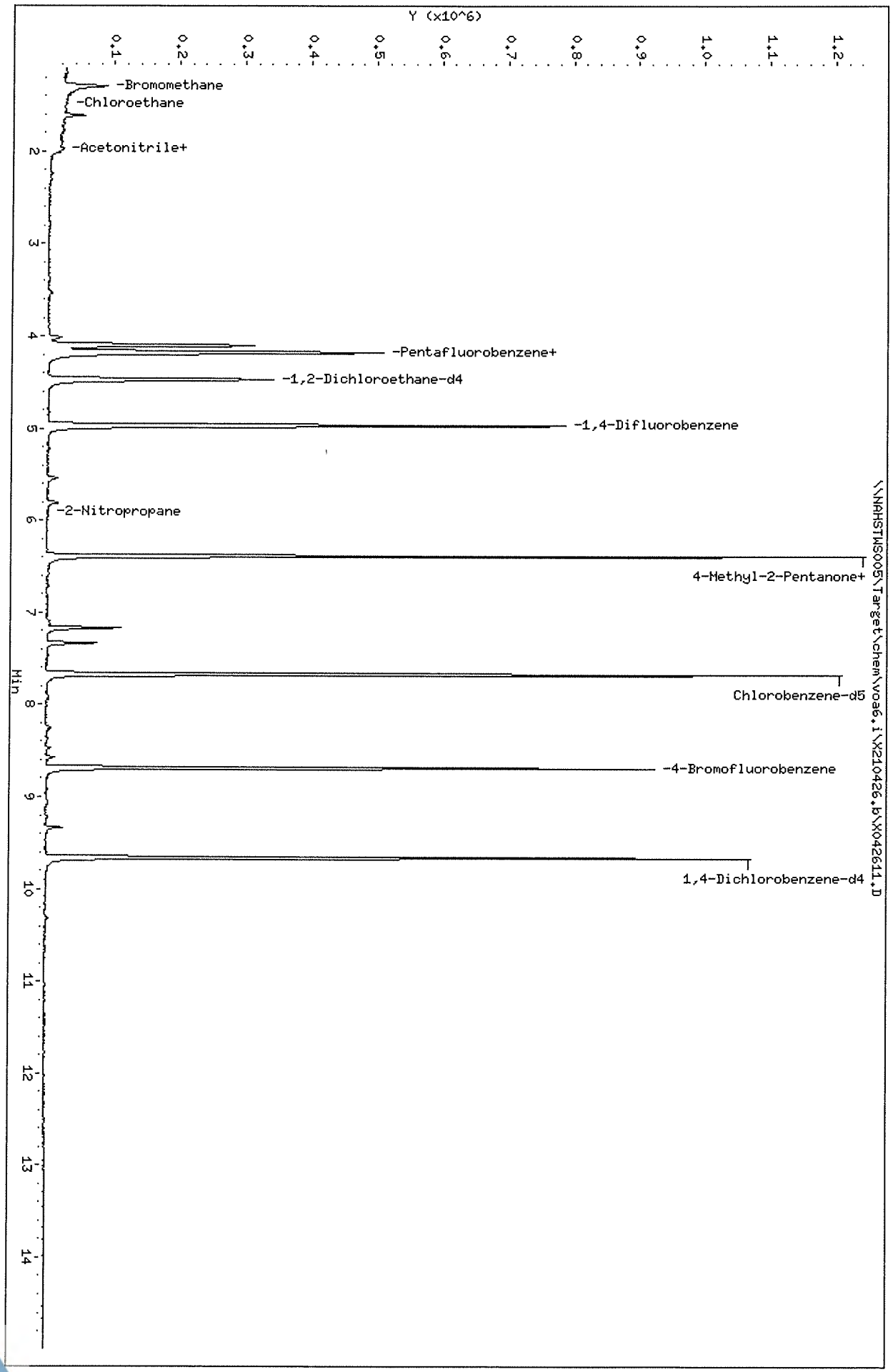
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042611.D
Lab Smp Id: HS21041255-08 Client Smp ID: HS21041255-08
Inj Date : 26-APR-2021 14:18
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-08;HS21041255-08;;;
Misc Info : HS18090001;WATER;0;1000;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:49 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 11
Dil Factor: 1000.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

Name	Value	Description
DF	1000.000	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)	392411	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	626216	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	535150	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	224724	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	214193	46.3944	46.39
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	268540	48.5271	48.52
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	732562	53.1353	53.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	244328	47.6861	47.68



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042611.D
Date : 26-APR-2021 14:18
Client ID: HS21041255-08
Sample Info: HS21041255-08;HS21041255-08;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042614.D Page 1
Report Date: 24-May-2021 12:48

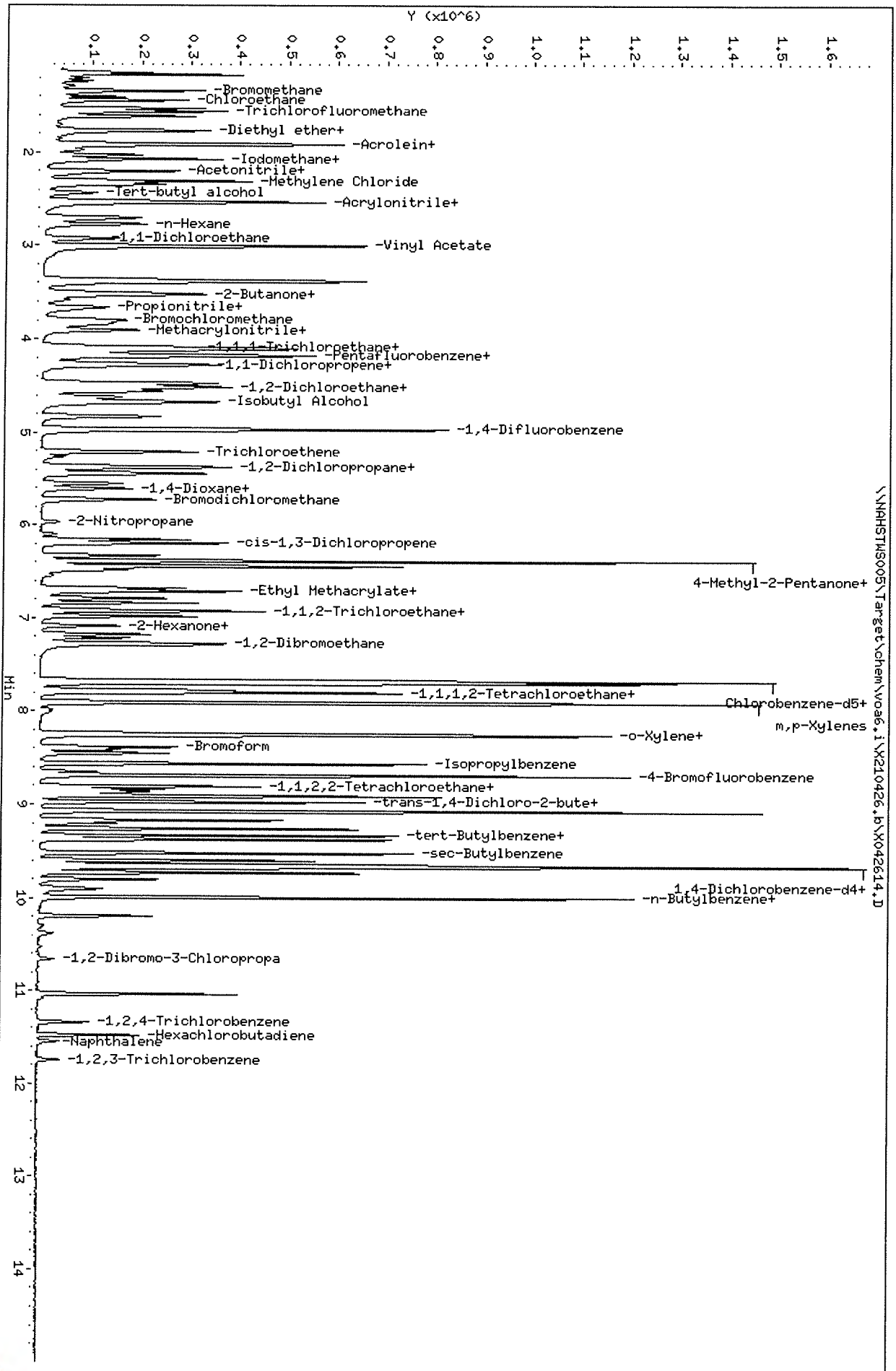
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042614.D
Lab Smp Id: HS21041306-09MS Client Smp ID: HS21041306-09MS
Inj Date : 26-APR-2021 15:21
Operator : PC Inst ID: voa6.i
Smp Info : HS21041306-09MS;HS21041306-09MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:48 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 14 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	407238	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	656027	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	623789	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	290577	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	221664	46.2657	46.26
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	284787	49.5788	49.57
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	807377	50.3414	50.34
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	303778	50.7542	50.75
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	68325	18.8557	18.85
11 1,1-Dichloroethene	96	1.911	1.919	(0.457)	113472	19.5691	19.56
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	138003	19.8740	19.87
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	94831	19.0495	19.04
17 Methylene Chloride	84	2.305	2.305	(0.551)	81909	19.4661	19.46
38 Trichloroethene	130	5.206	5.206	(1.049)	94854	21.1213	21.12
5 Vinyl Chloride	62	1.145	1.145	(0.274)	135885	22.2569	22.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042614.D
Date : 26-APR-2021 15:21
Client ID: HS21041306-09MS
Sample Info: HS21041306-09MS;HS21041306-09MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042615.D Page 1
Report Date: 24-May-2021 12:48

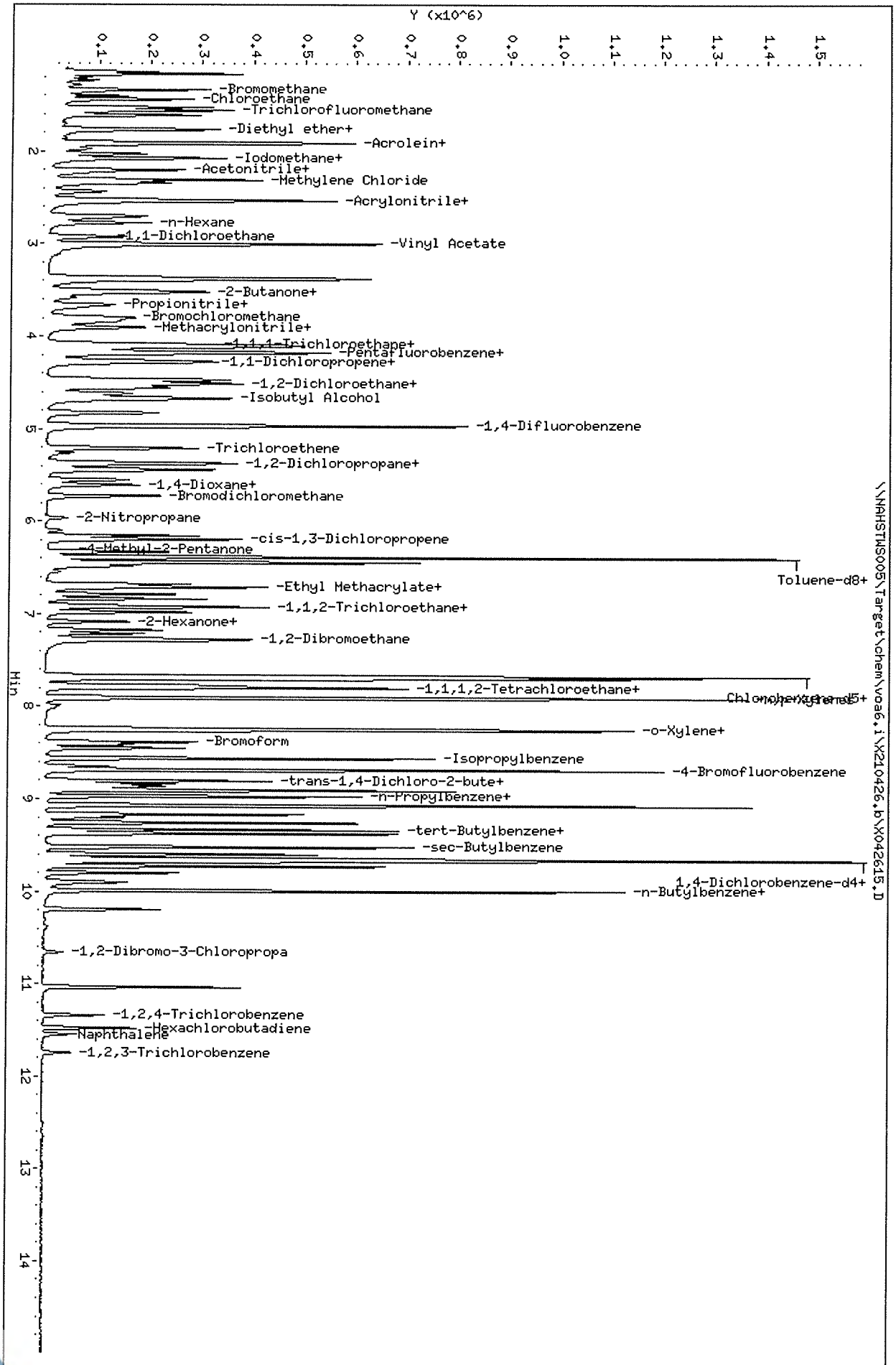
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042615.D
Lab Smp Id: HS21041306-09MSD Client Smp ID: HS21041306-09MSD
Inj Date : 26-APR-2021 15:42
Operator : PC Inst ID: voa6.i
Smp Info : HS21041306-09MSD;HS21041306-09MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:48 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 14 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	403005	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	649068	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	624144	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	283717	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	220845	46.5760	46.57
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	281238	49.4762	49.47
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	809800	50.4593	50.45
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	304849	50.8993	50.89
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	67318	18.5672	18.56
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	110000	19.1696	19.16
33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	131987	19.2114	19.21
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	92072	18.6895	18.68
17 Methylene Chloride	84	2.306	2.305	(0.551)	82658	19.8211	19.82
38 Trichloroethene	130	5.207	5.206	(1.048)	88792	19.9834	19.98
5 Vinyl Chloride	62	1.145	1.145	(0.274)	129620	21.4537	21.45



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042615.D
Date : 26-APR-2021 15:42
Client ID: HS21041306-09HSD
Sample Info: HS21041306-09HSD;HS21041306-09HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042616.D Page 1
Report Date: 24-May-2021 12:48

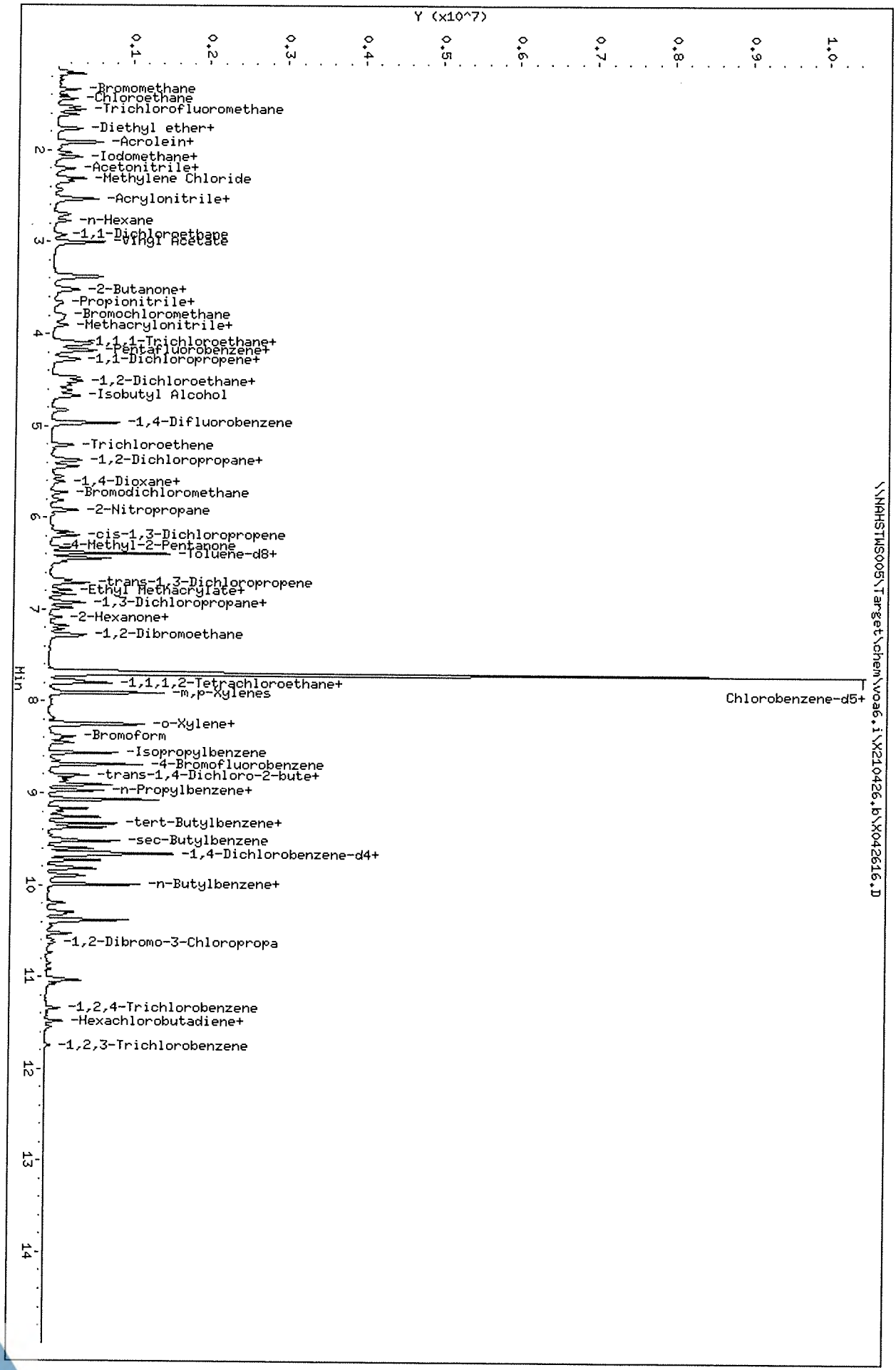
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042616.D
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Inj Date : 26-APR-2021 16:03
Operator : PC Inst ID: voa6.i
Smp Info : HS21041306-17MS;HS21041306-17MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:48 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 15 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	417656	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	669505	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	642299	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	273138	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	225666	45.9293	45.92
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	286301	48.6087	48.60
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	854104	51.6694	51.66
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	317785	51.5380	51.53
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	68124	18.2584	18.25
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	117355	19.7339	19.73
33 1,2-Dichloroethane	62	4.562	4.555	(0.919)	130514	18.4171	18.41
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	96111	18.8250	18.82
17 Methylene Chloride	84	2.306	2.305	(0.551)	85125	19.7060	19.70
38 Trichloroethene	130	5.207	5.206	(1.049)	90442	19.7334	19.73
5 Vinyl Chloride	62	1.145	1.145	(0.274)	135735	21.6777	21.67



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042616.D
Date : 26-APR-2021 16:03
Client ID: HS21041306-17MS
Sample Info: HS21041306-17MS;HS21041306-17MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042617.D Page 1
Report Date: 24-May-2021 12:48

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042617.D
Lab Smp Id: HS21041306-17MSD Client Smp ID: HS21041306-17MSD
Inj Date : 26-APR-2021 16:24
Operator : PC Inst ID: voa6.i
Smp Info : HS21041306-17MSD;HS21041306-17MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:48 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 15 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

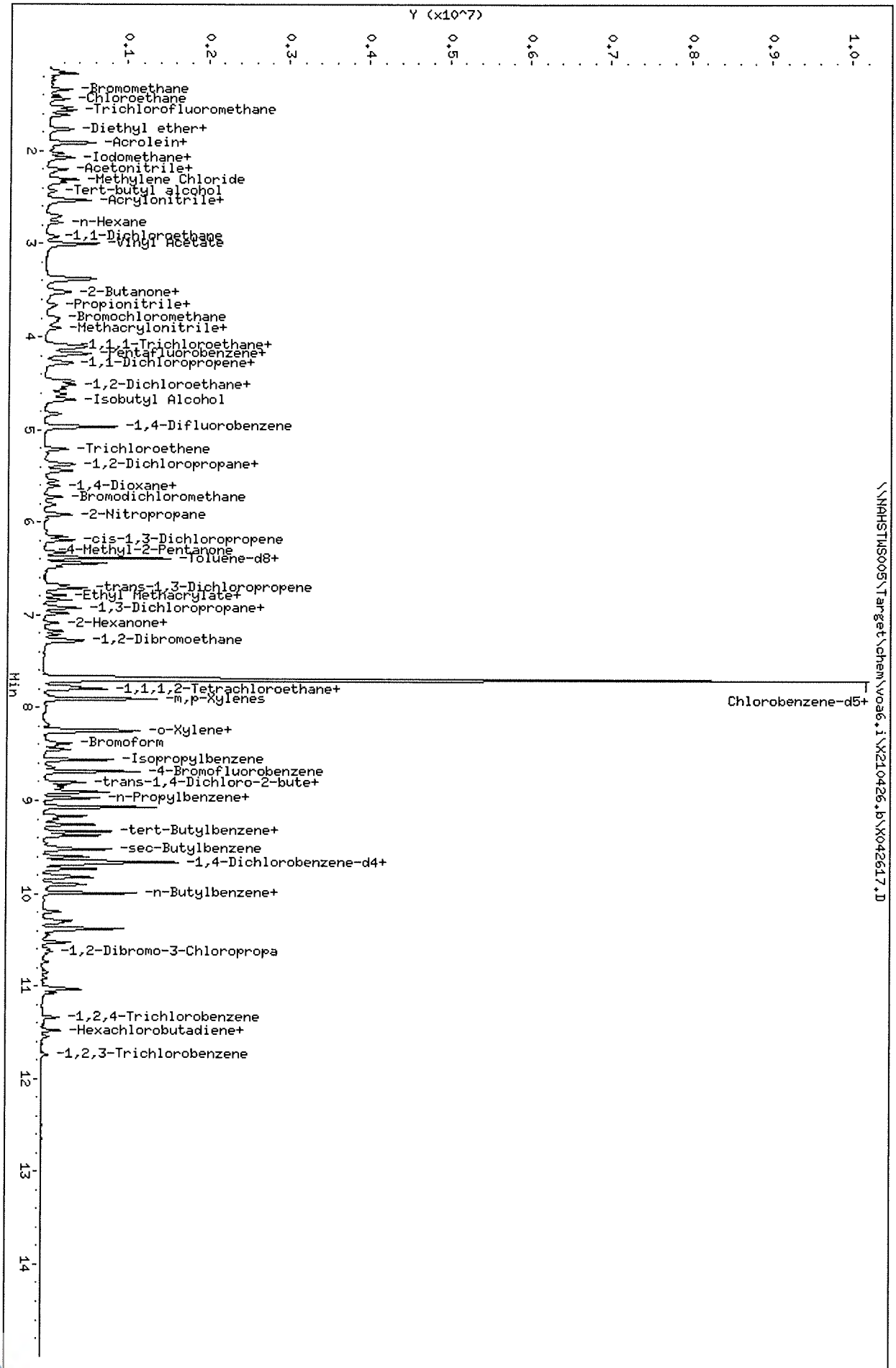
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	415414	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	675542	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	648943	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	292523	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	225551	46.1515	46.15
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	281937	48.1309	48.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	847217	50.7618	50.76
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	323155	51.8616	51.86
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	69002	18.3044	18.30
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	111733	18.8900	18.88
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	131019	18.3232	18.32
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	89394	17.6039	17.60
17 Methylene Chloride	84	2.306	2.305	(0.551)	82657	19.2731	19.27
38 Trichloroethene	130	5.207	5.206	(1.049)	86610	18.7285	18.72
5 Vinyl Chloride	62	1.145	1.145	(0.274)	130735	20.9919	20.99

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042617.D
Date : 26-APR-2021 16:24
Client ID: HS21041306-17MSD
Sample Info: HS21041306-17MSD;HS21041306-17MSD;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\X210426.b\X042618.D Page 1
Report Date: 24-May-2021 12:50

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Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042618.D
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Inj Date : 26-APR-2021 16:45
Operator : PC Inst ID: voa6.i
Smp Info : HS21041255-07;HS21041255-07;;;
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\8260W.m
Meth Date : 24-May-2021 12:49 Qin.Xu Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 16
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

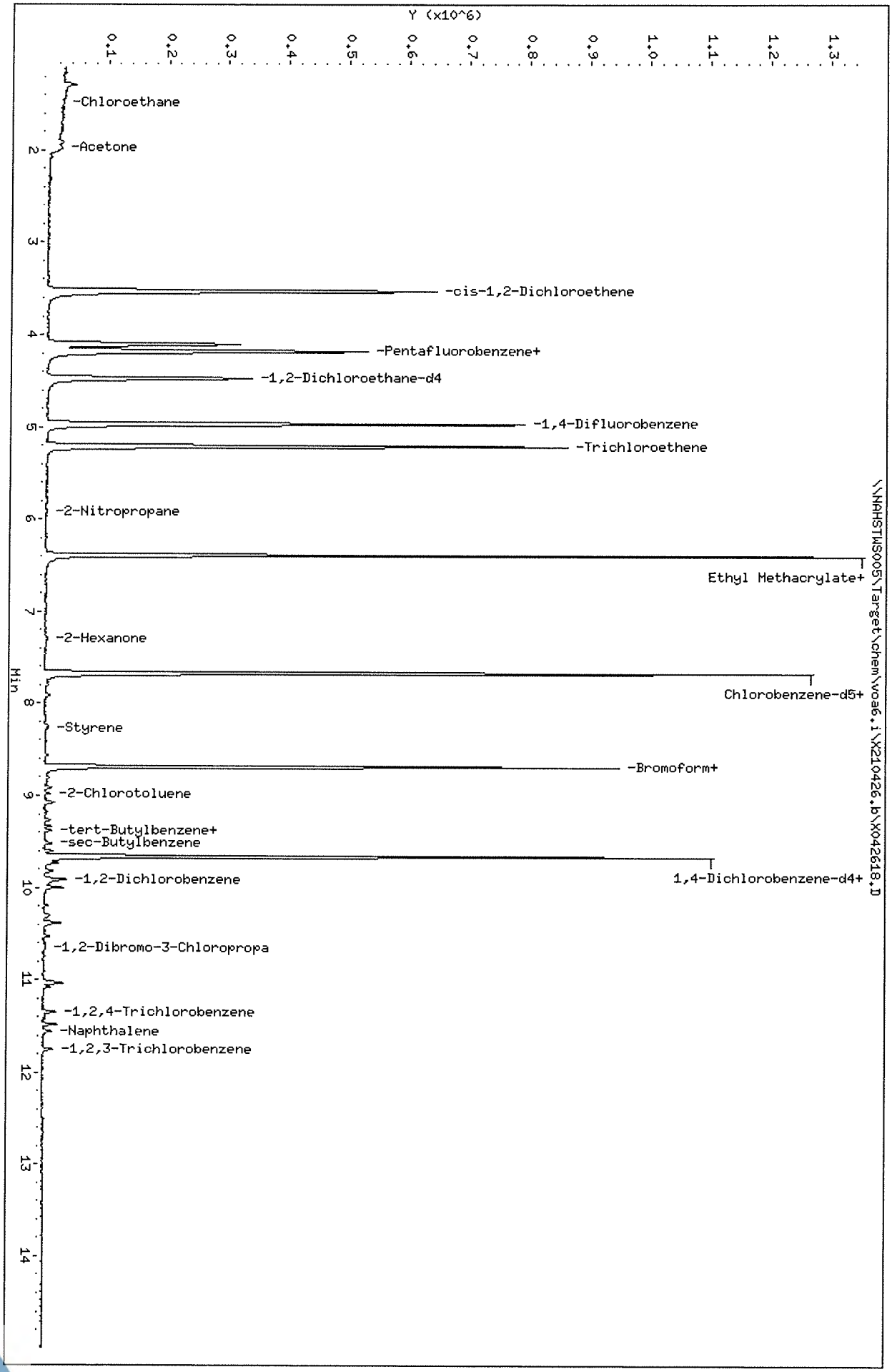
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	250.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	391249	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	634107	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	544302	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	235093	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	214626	46.6241	46.62
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	277358	50.2521	50.25
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	749519	53.4401	53.44
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	242560	46.5845	46.58
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	321843	67.2934	16823.34
38 Trichloroethene	130	5.207	5.206	(1.049)	261490	60.2392	15059.79

Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042618.D
Date : 26-APR-2021 16:45
Client ID: HS21041255-07
Sample Info: HS21041255-07;HS21041255-07;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042618.D

Date : 26-APR-2021 16:45

Client ID: HS21041255-07

Instrument: voa6.i

Sample Info: HS21041255-07;HS21041255-07;;;

Purge Volume: 5.0

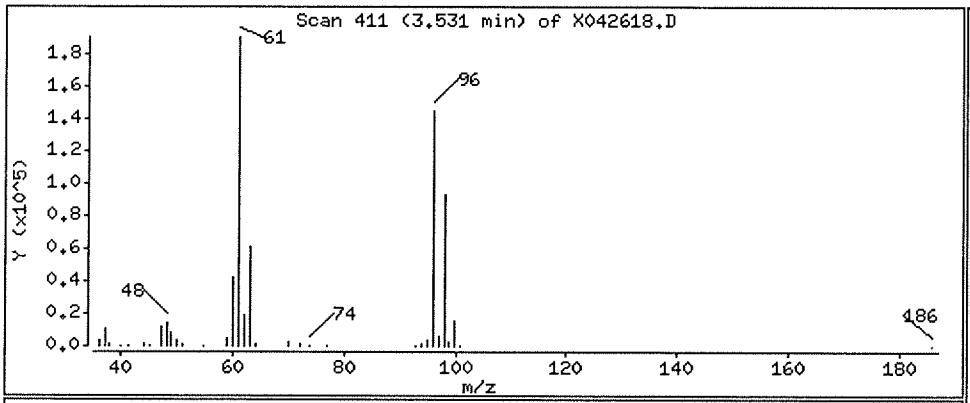
Operator: PC

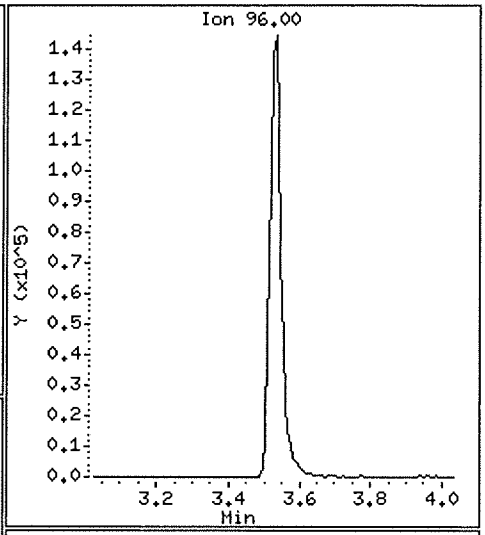
Column phase: DB624

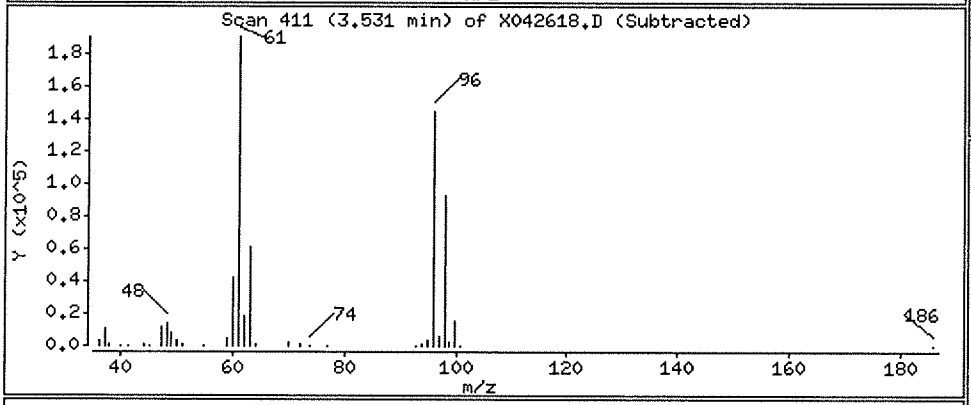
Column diameter: 0.18

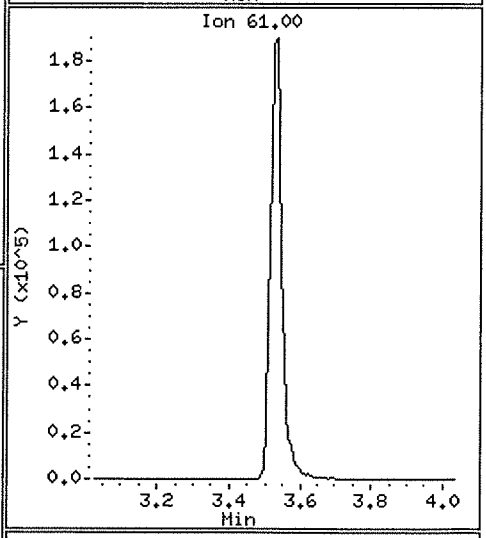
27 cis-1,2-Dichloroethene

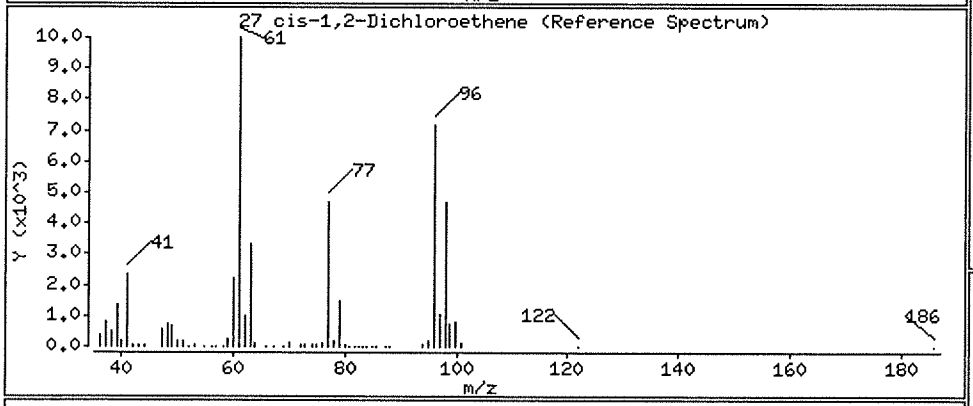
Concentration: 16823.34 ug/l

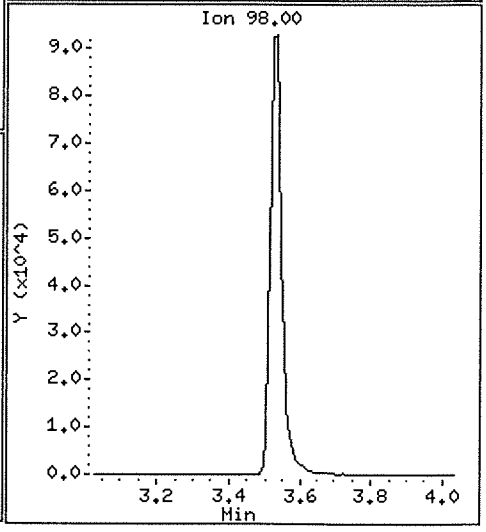


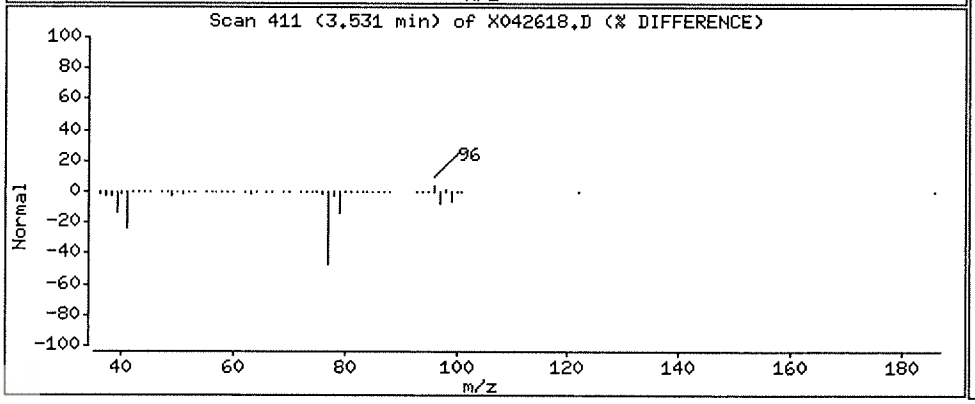












Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042618.D

Date : 26-APR-2021 16:45

Client ID: HS21041255-07

Instrument: voa6.i

Sample Info: HS21041255-07;HS21041255-07;;;

Purge Volume: 5.0

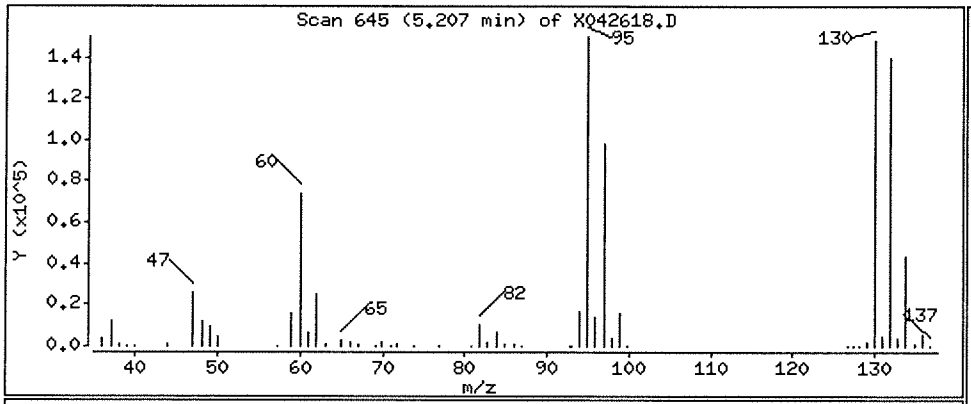
Operator: PC

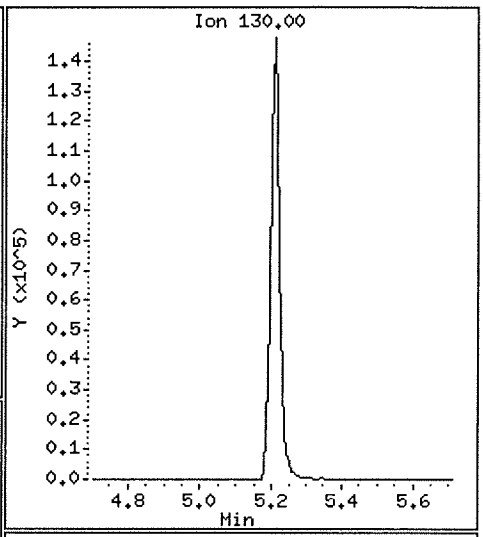
Column phase: DB624

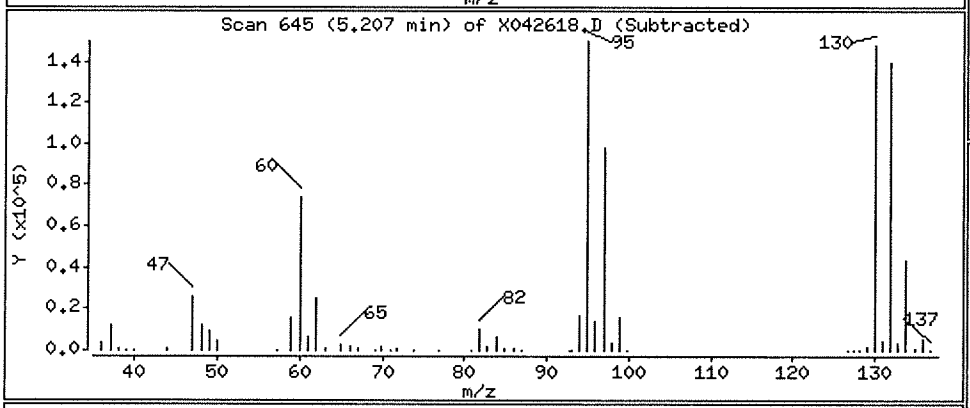
Column diameter: 0.18

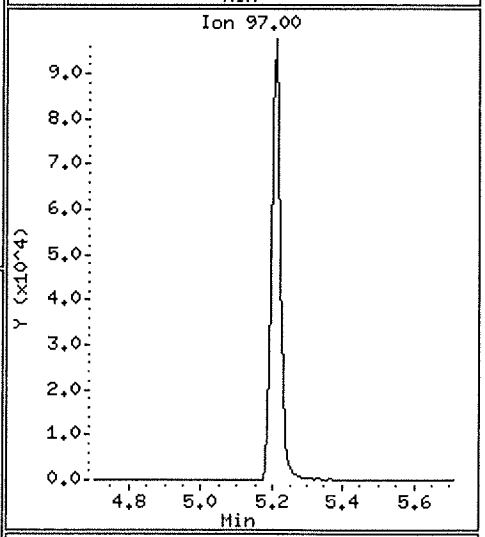
38 Trichloroethene

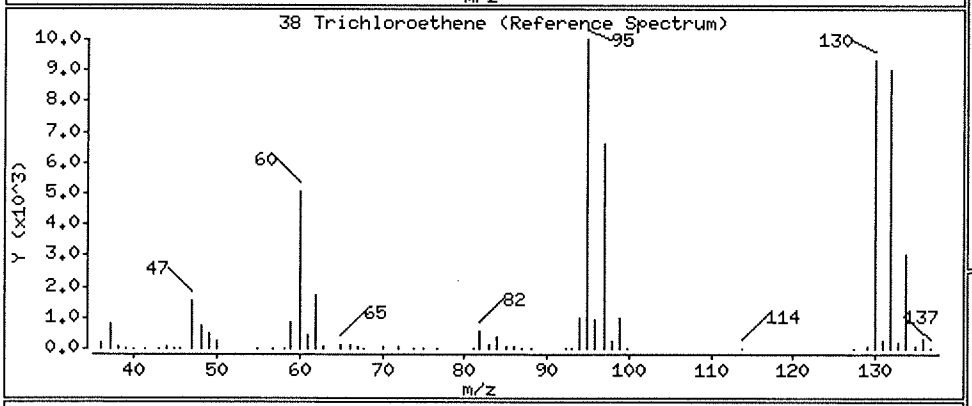
Concentration: 15059.79 ug/l

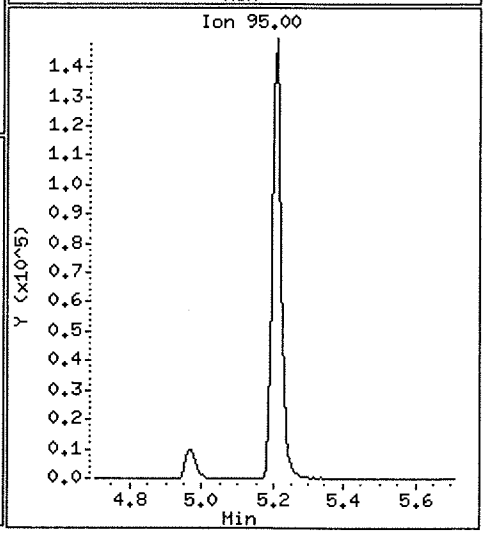


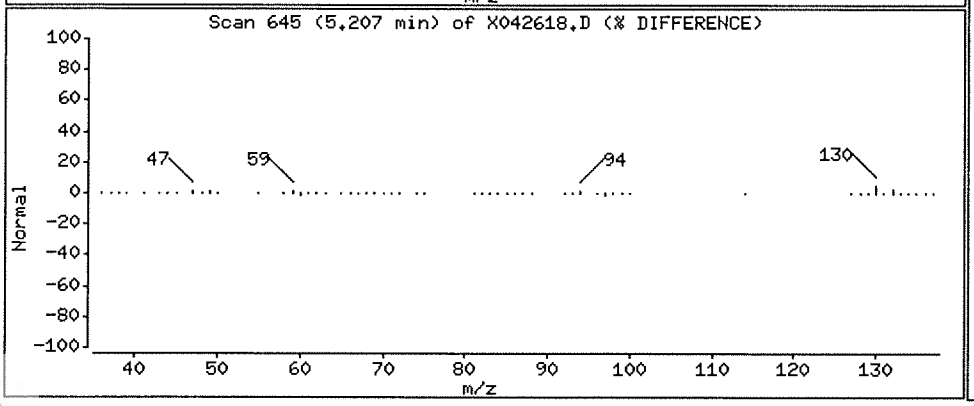












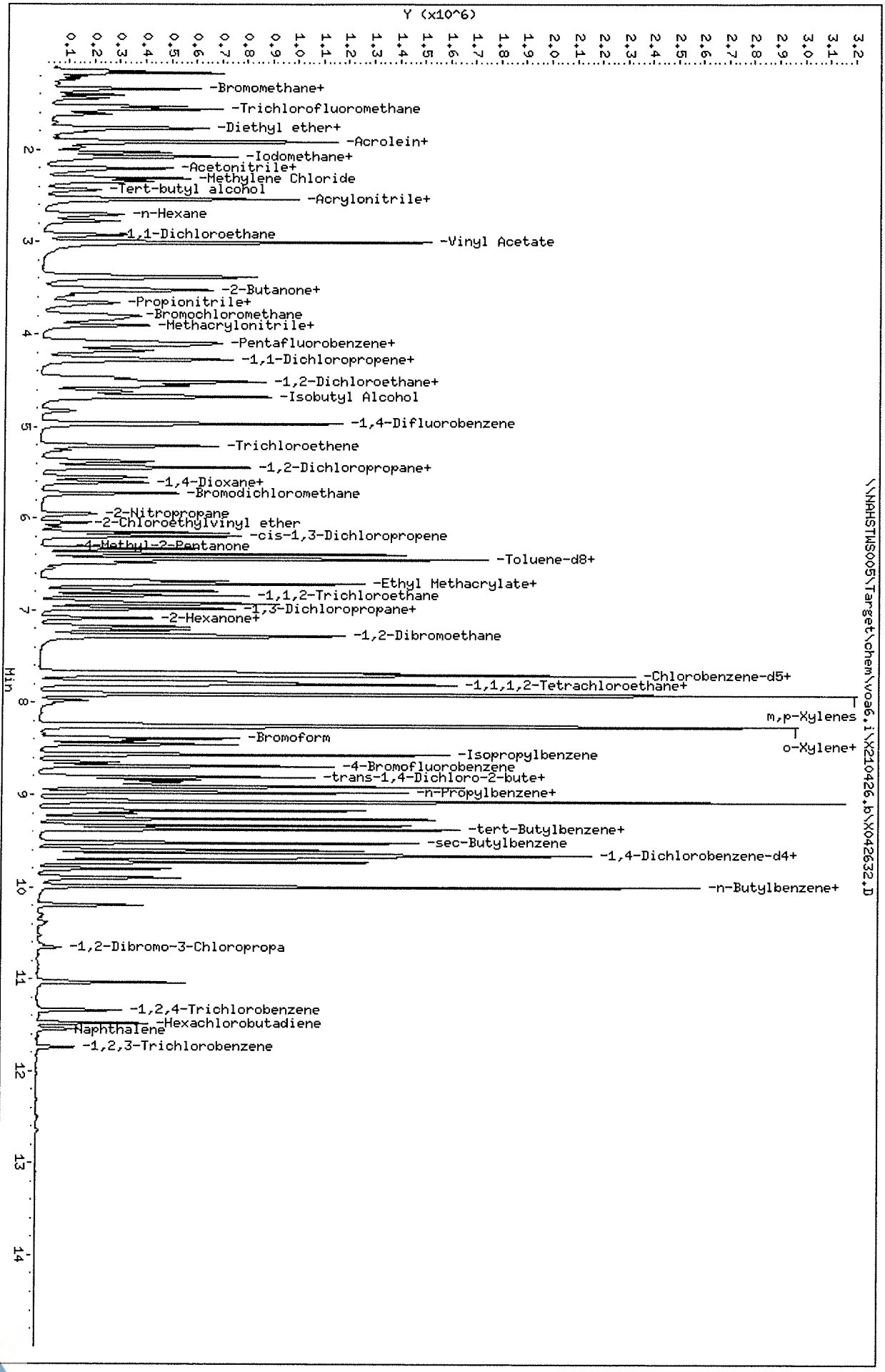
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042632.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 26-APR-2021 21:40
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\X210426.b\8260W.m
Meth Date : 24-May-2021 12:53 voa6.i Quant Type: ISTD
Cal Date : 02-APR-2021 13:20 Cal File: X040208.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI_short1.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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)	312853	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	578331	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	558220	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271093	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	213359	50.0000	57.85
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	256381	50.0000	58.01
$	48 Toluene-d8	98	6.388	6.388	(0.833)	789159	50.0000	54.81
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	292464	50.0000	54.47
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	174294	50.0000	53.74
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	237238	50.0000	53.25
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	314489	50.0000	51.37
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	205002	50.0000	53.60
	17 Methylene Chloride	84	2.306	2.306	(0.551)	187444	50.0000	55.05
	38 Trichloroethene	130	5.207	5.207	(1.049)	201740	50.0000	50.95
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	267339	50.0000	56.99



Data File: \\NAHSTWS005\Target\chem\voa6.i\X210426.b\X042632.D
Date : 26-APR-2021 21:40
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

HS21041255 RSK175 Raw Data

ALS WO# HS21041255

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.090	114	75-125
Methane	9.647	9.597	99	75-125
Ethane	18.043	19.657	109	75-125
Propane	26.463	27.238	103	75-125
N-Butane	34.955	36.010	103	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	535.608	567.359	564.985	516.024	665.282	425.678
Methane	968.912	978.238	1019.699	880.798	960.713	930.704
Ethane	602.493	670.177	658.908	597.201	808.513	817.630
Propane	500	1279	2602	4785	18294	38286
N-Butane	438	936	2034	3864	18446	42817

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2104125

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	828.858	AVRG		586.256273		21.932	
Methane	1081.580	AVRG		974.377787		6.550	
Ethane	999.335	AVRG		736.322546		19.885	
Propane	96509	2ORDR	0.97987006	1.529e-003	-4.58e-009	0.9991365	0
N-Butane	114164	2ORDR	2.46870151	1.834e-003	-5.54e-009	0.9980766	0

FORM VI GASES

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

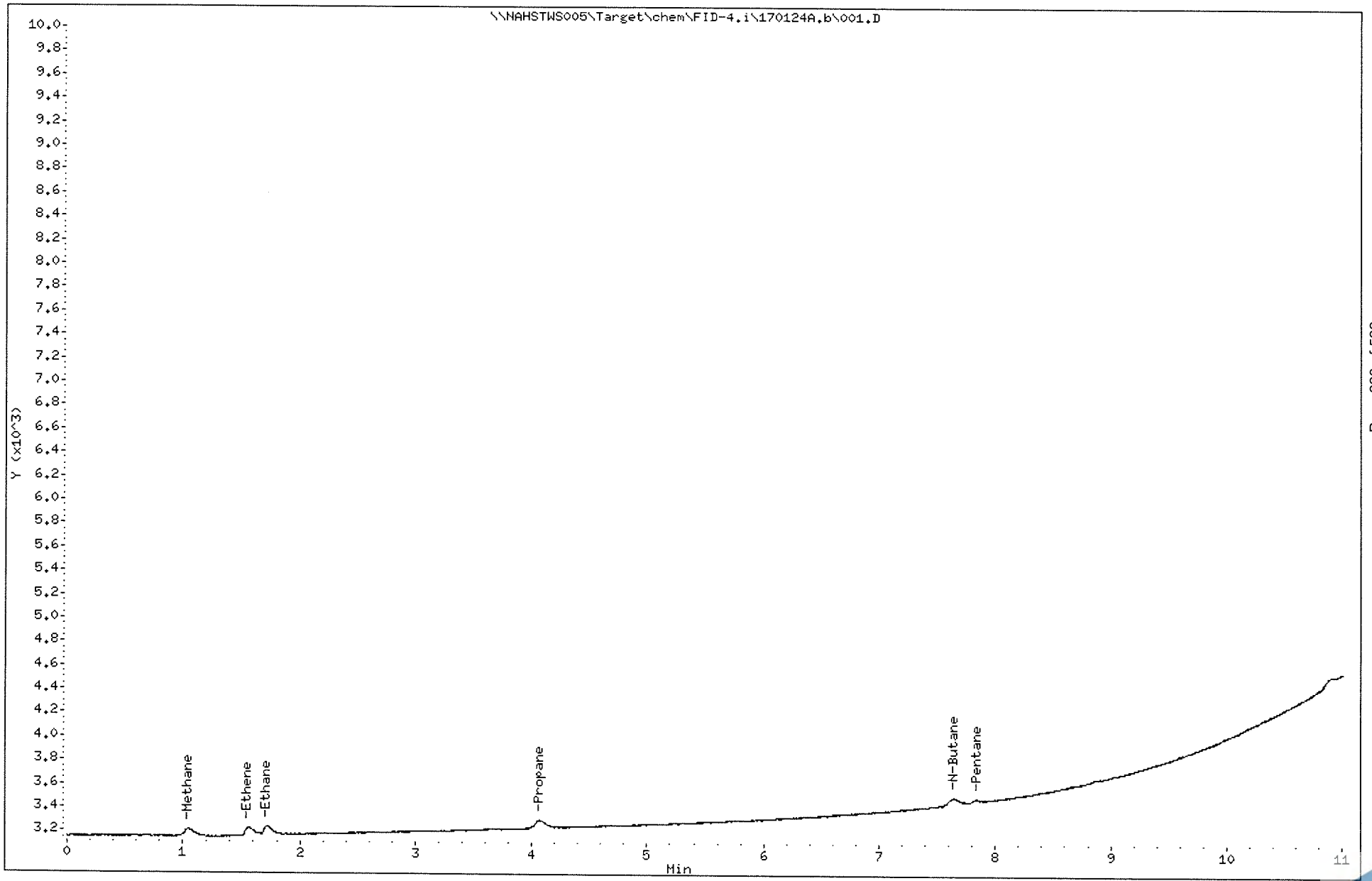
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

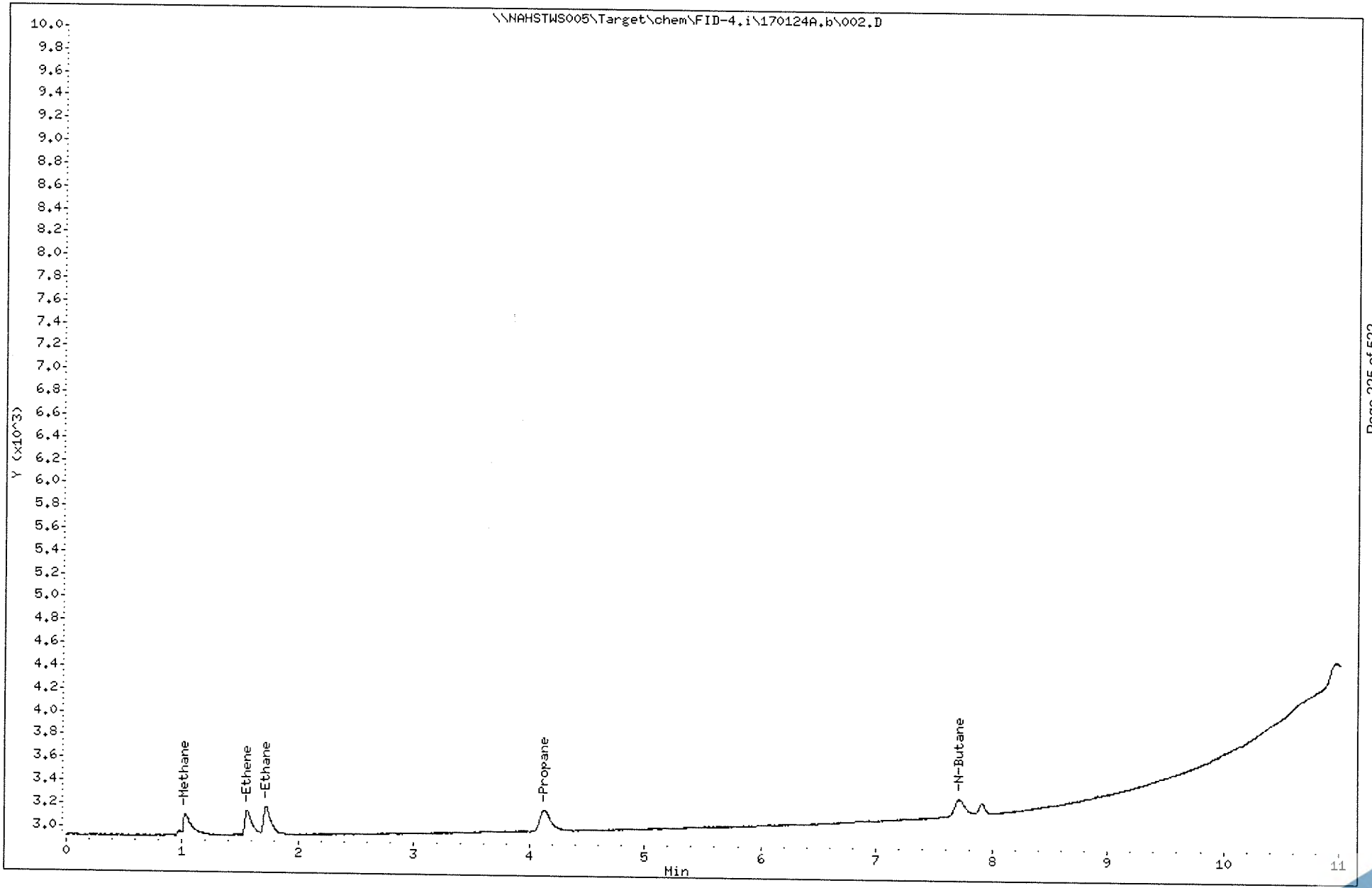
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

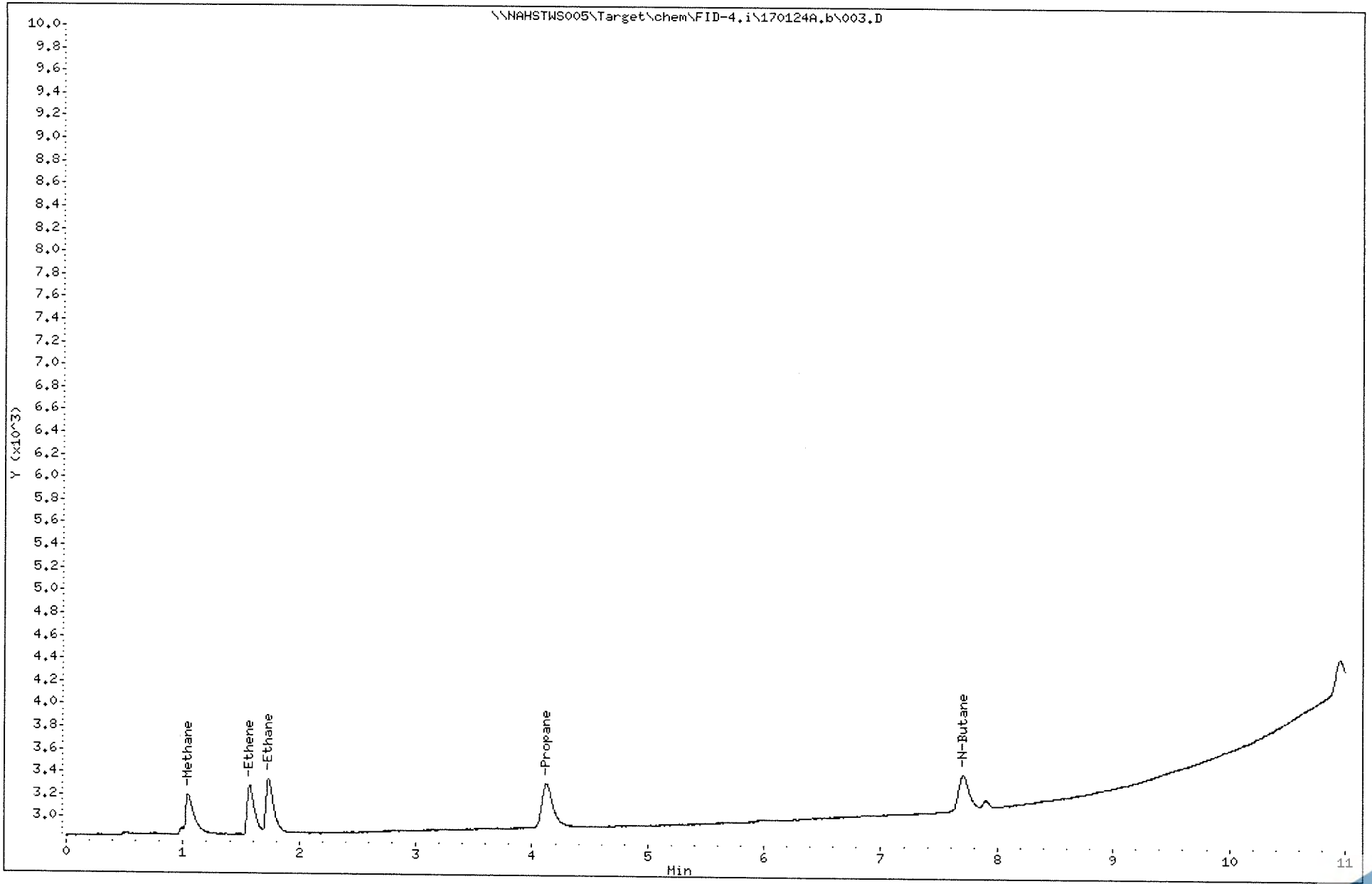
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864	13.9820	9.473(M)

QC Flag Legend

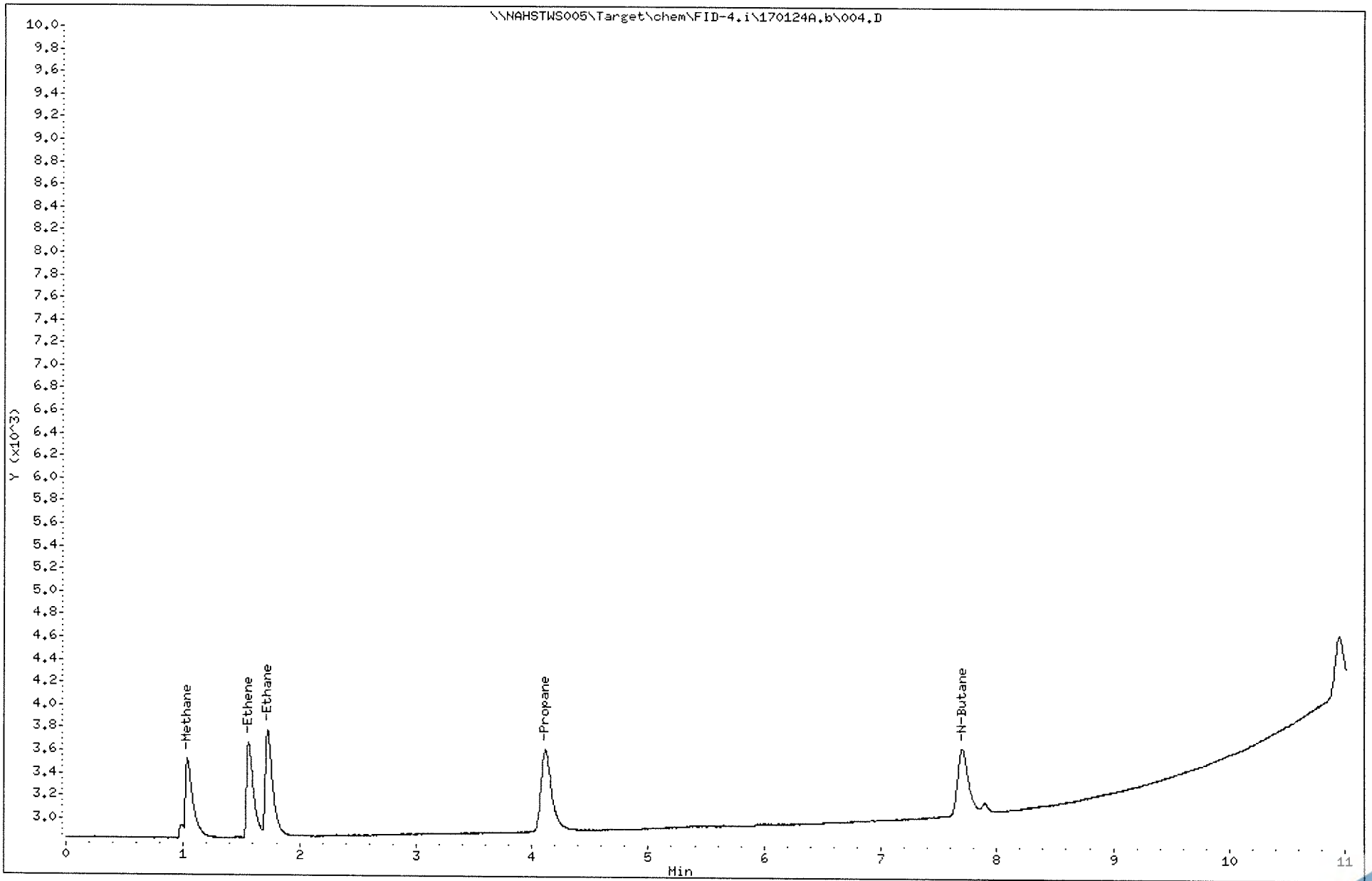
M - Compound response manually integrated.

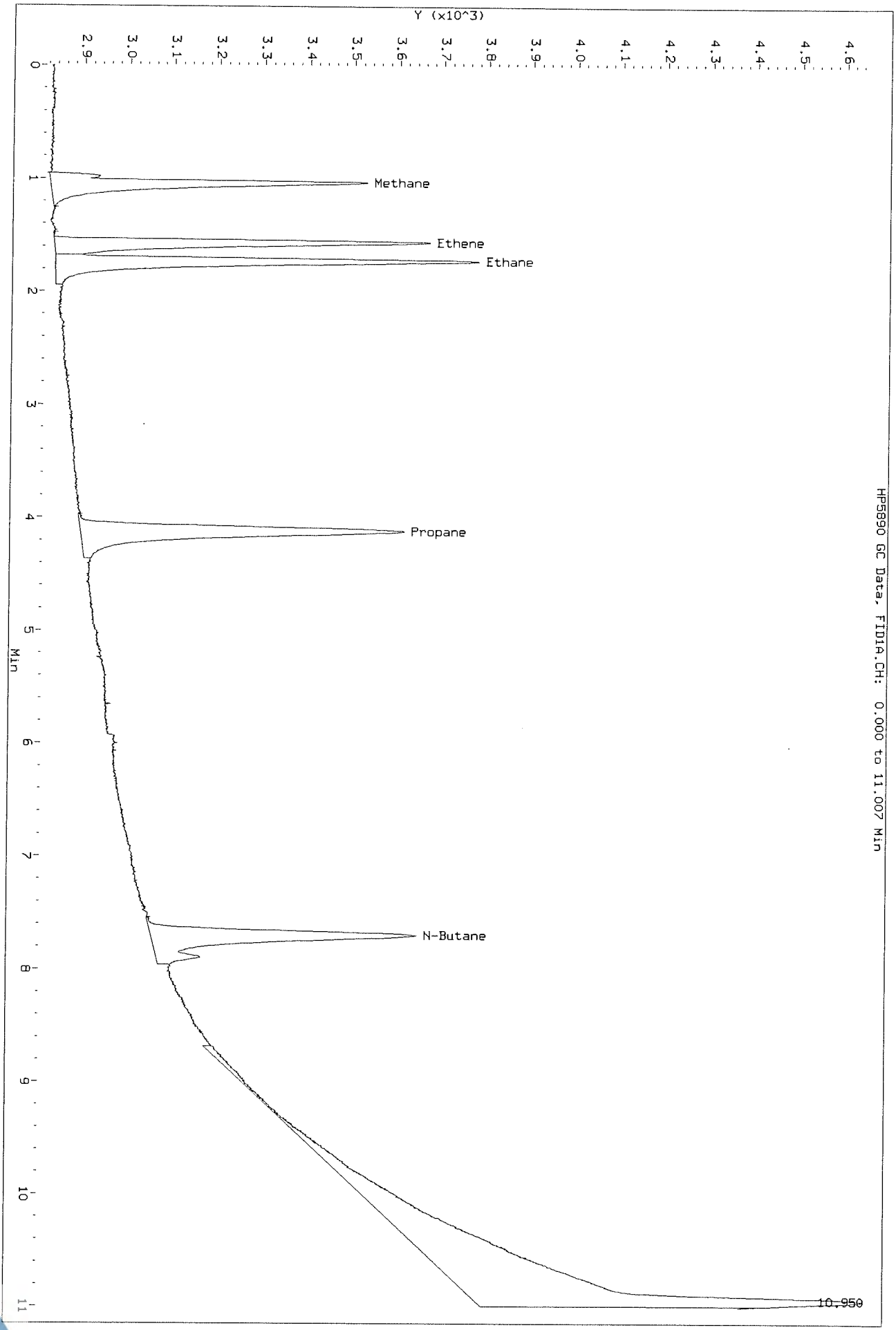
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

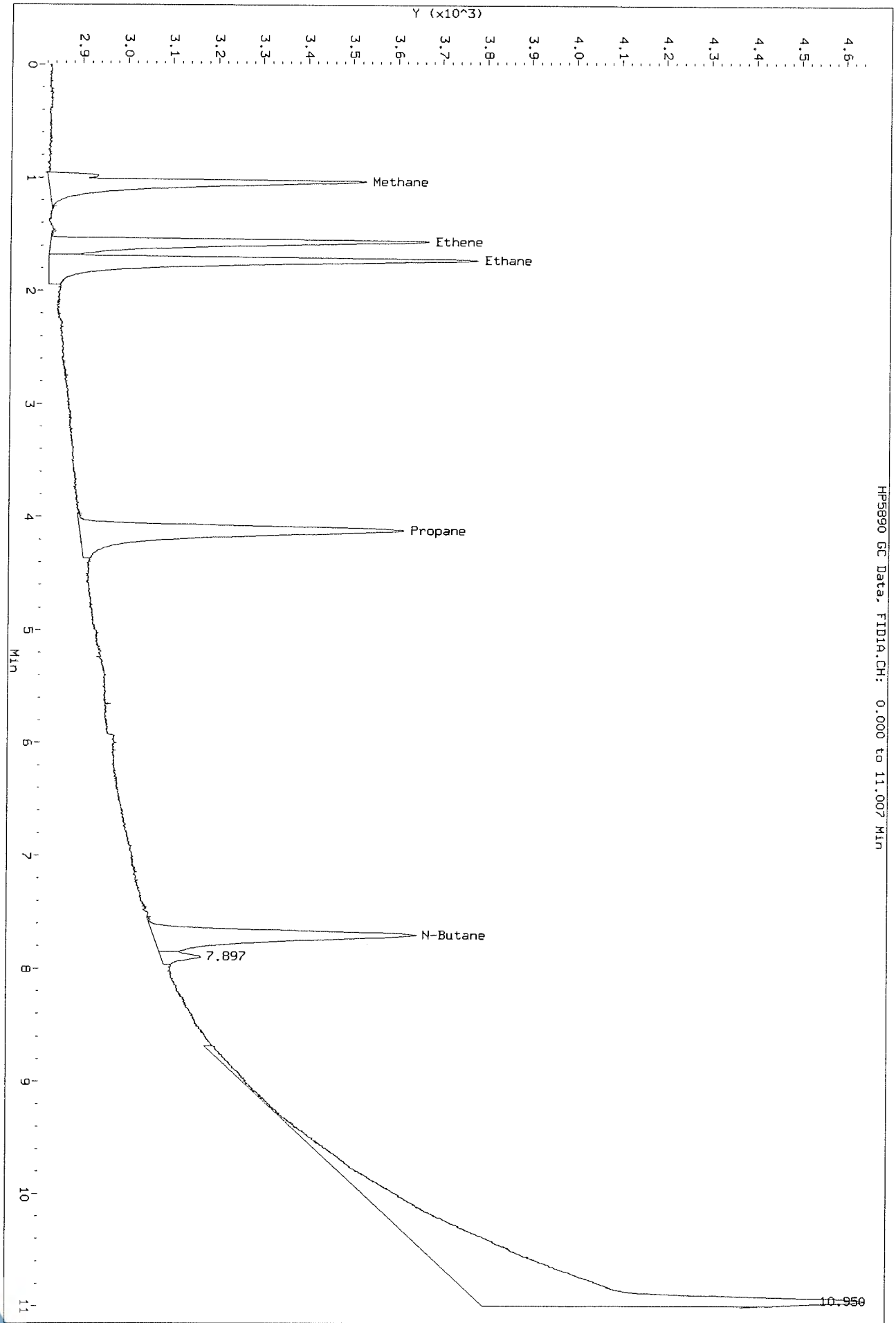
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
10.950


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
Y (x10^3)
Methane
Ethene
Ethane
Propane
N-Butane
7.897
10.950
Min
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

QC Flag Legend

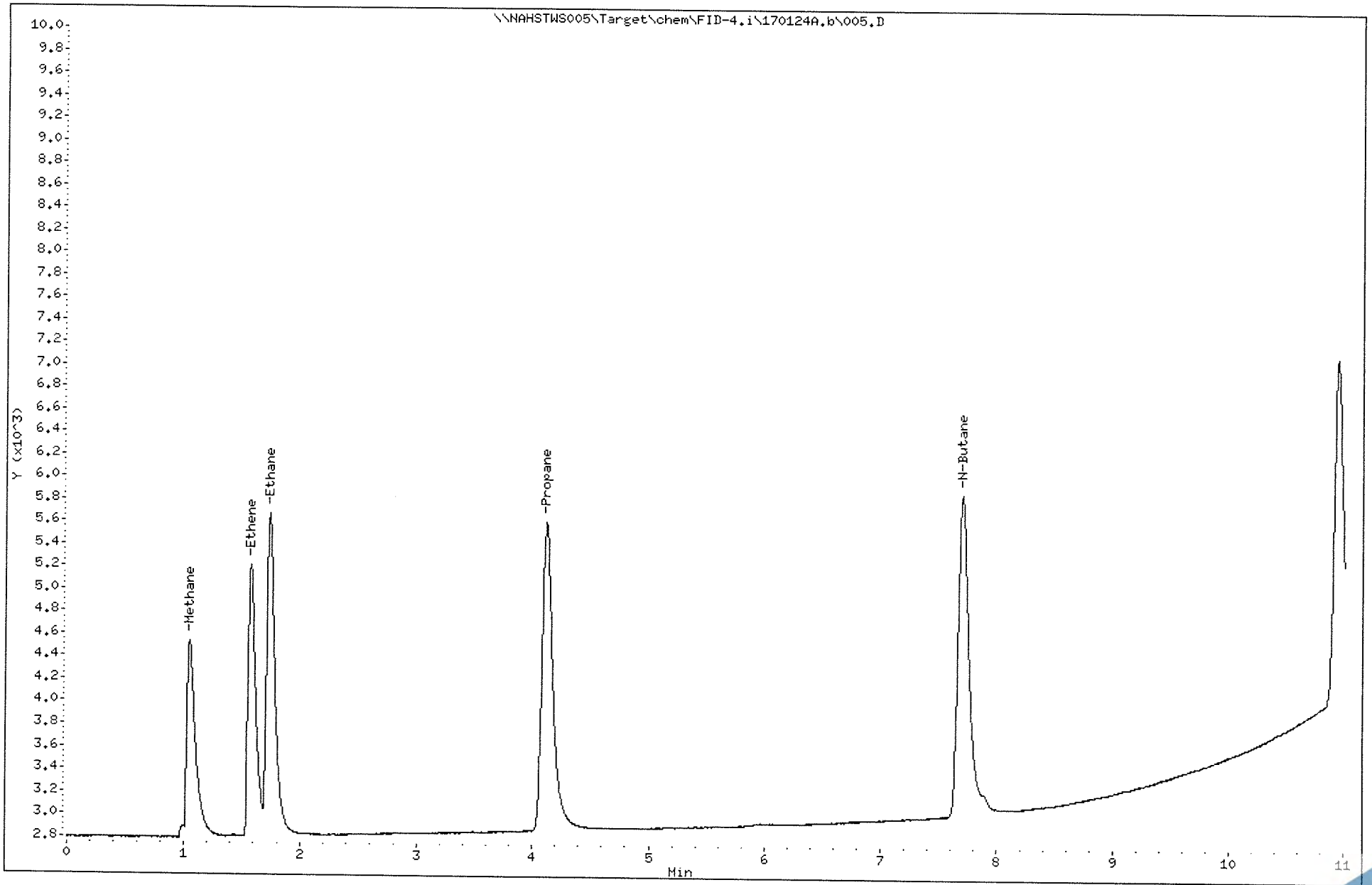
M - Compound response manually integrated.

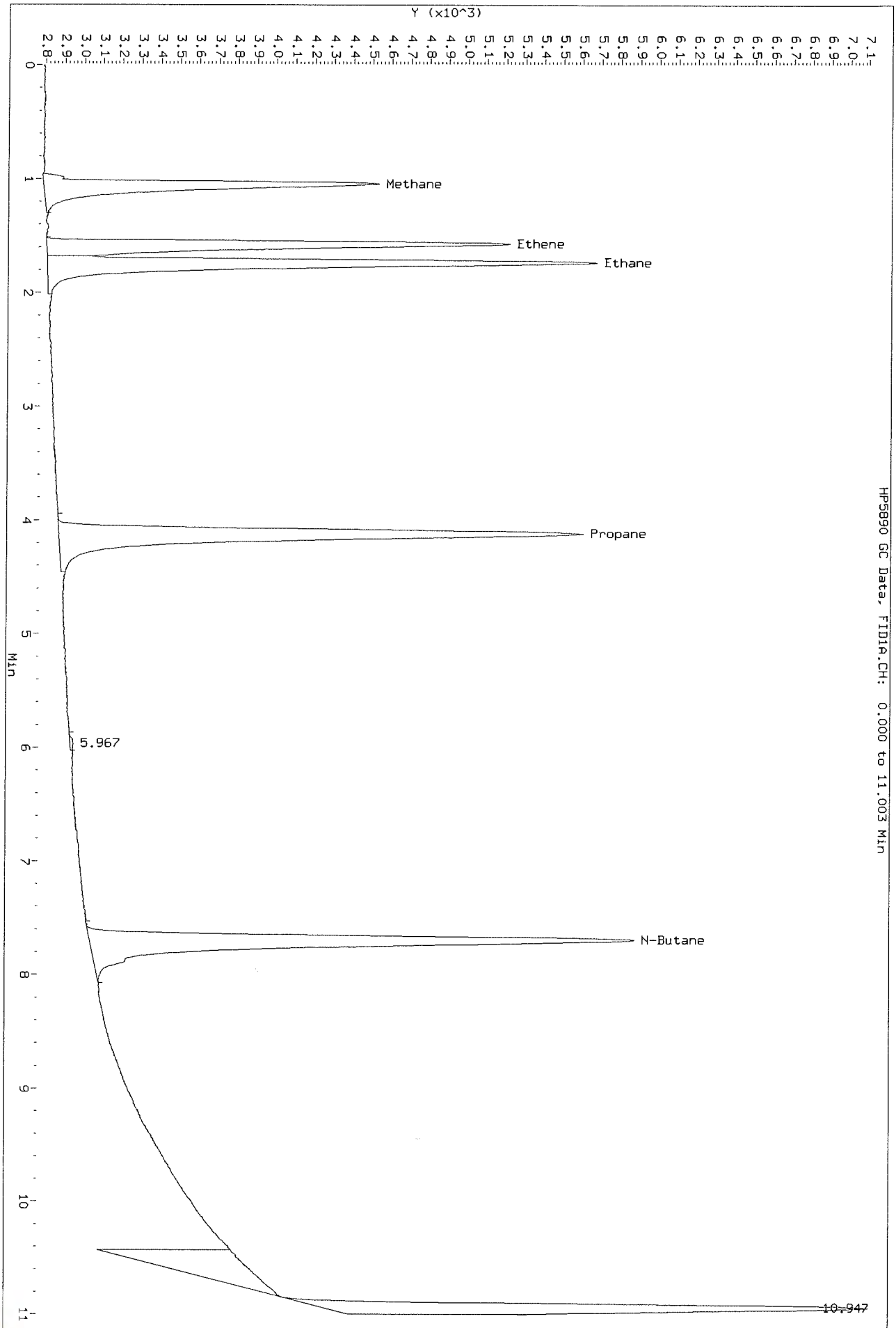
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;

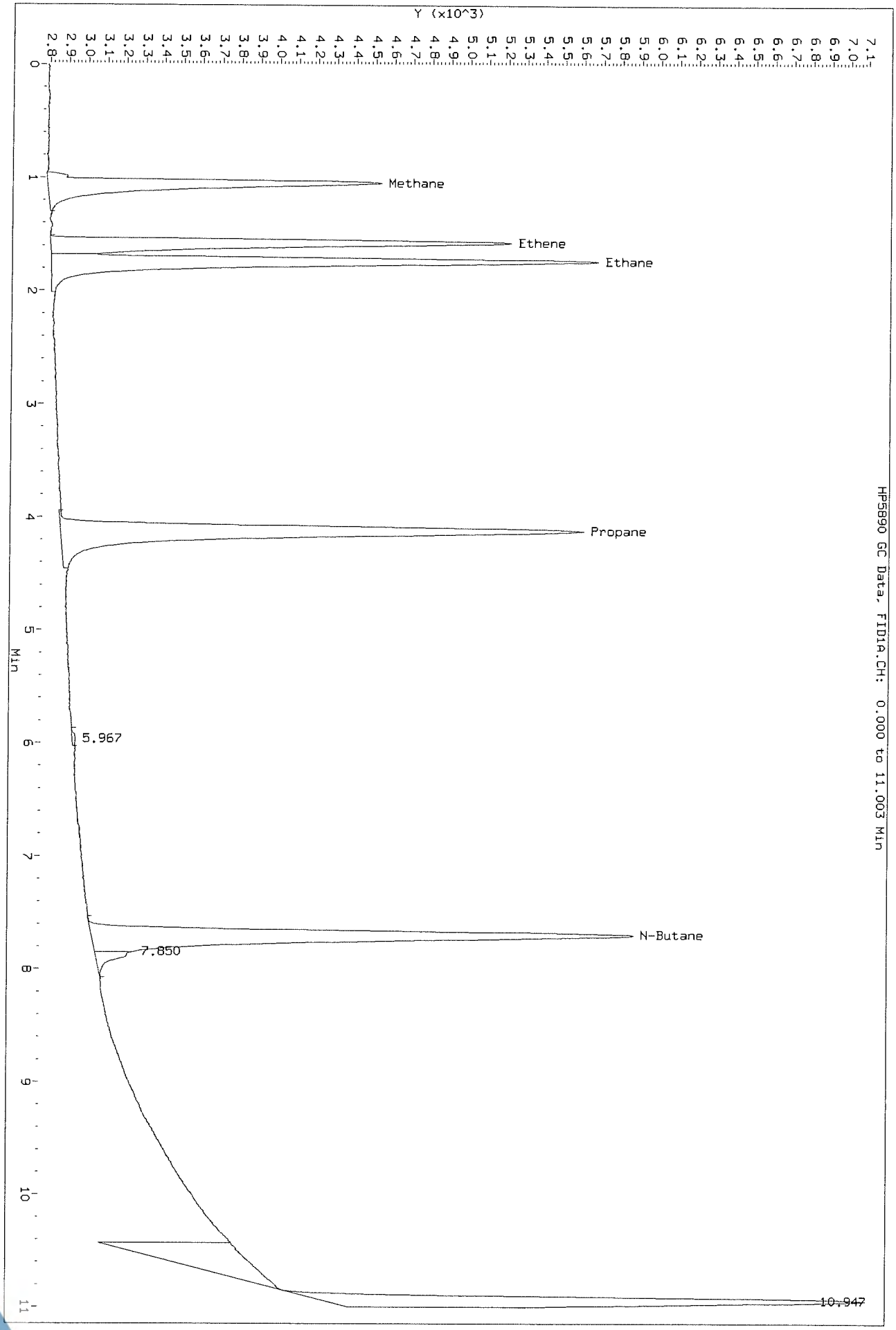
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
Y (x10^3)
Methane
Ethene
Ethane
Propane
N-Butane
5.967
10.947
Min
HP5890 GC Data, FIDiA.CH: 0.000 to 11.003 Min


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
7.850
10.947

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

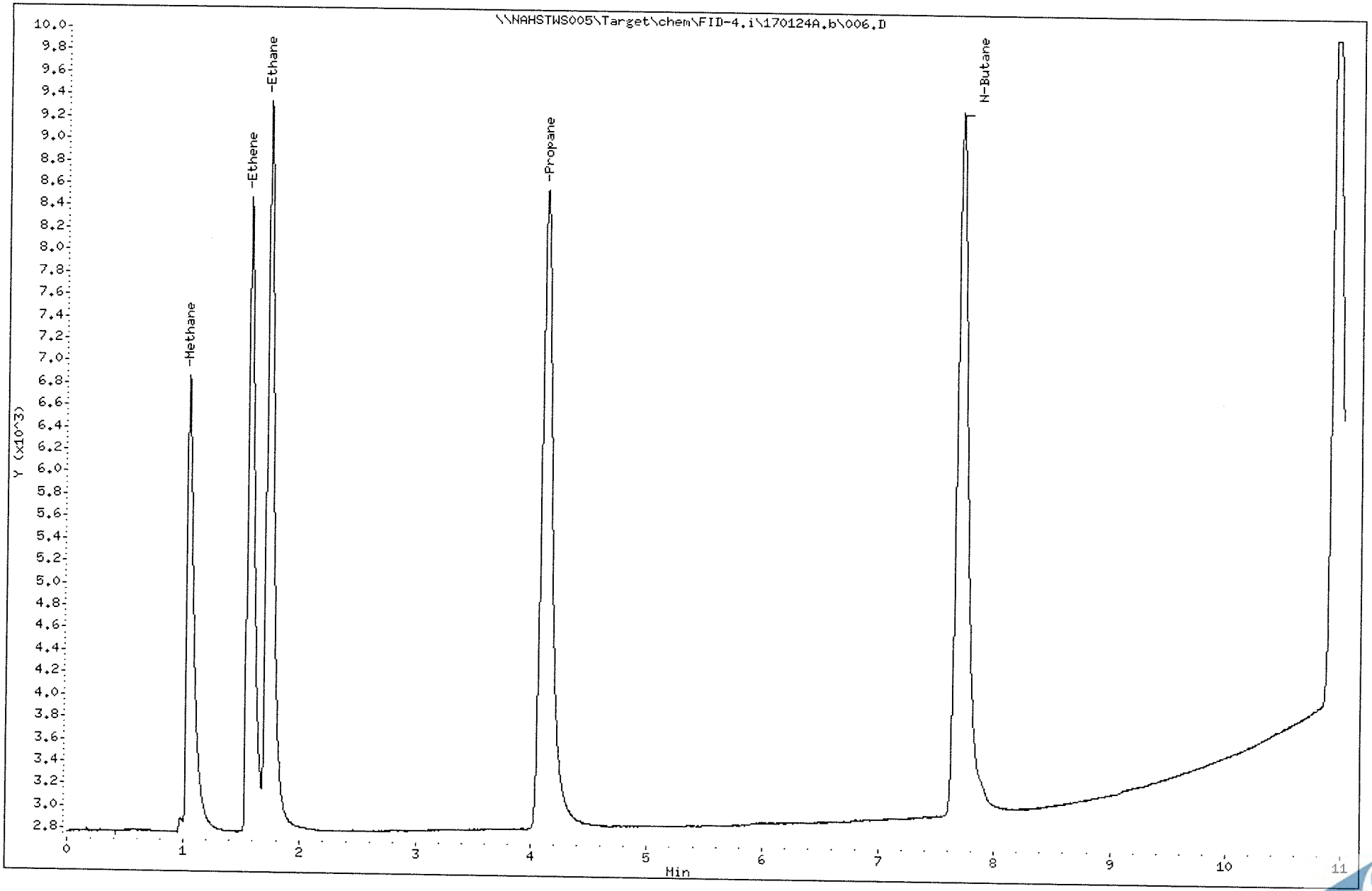
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

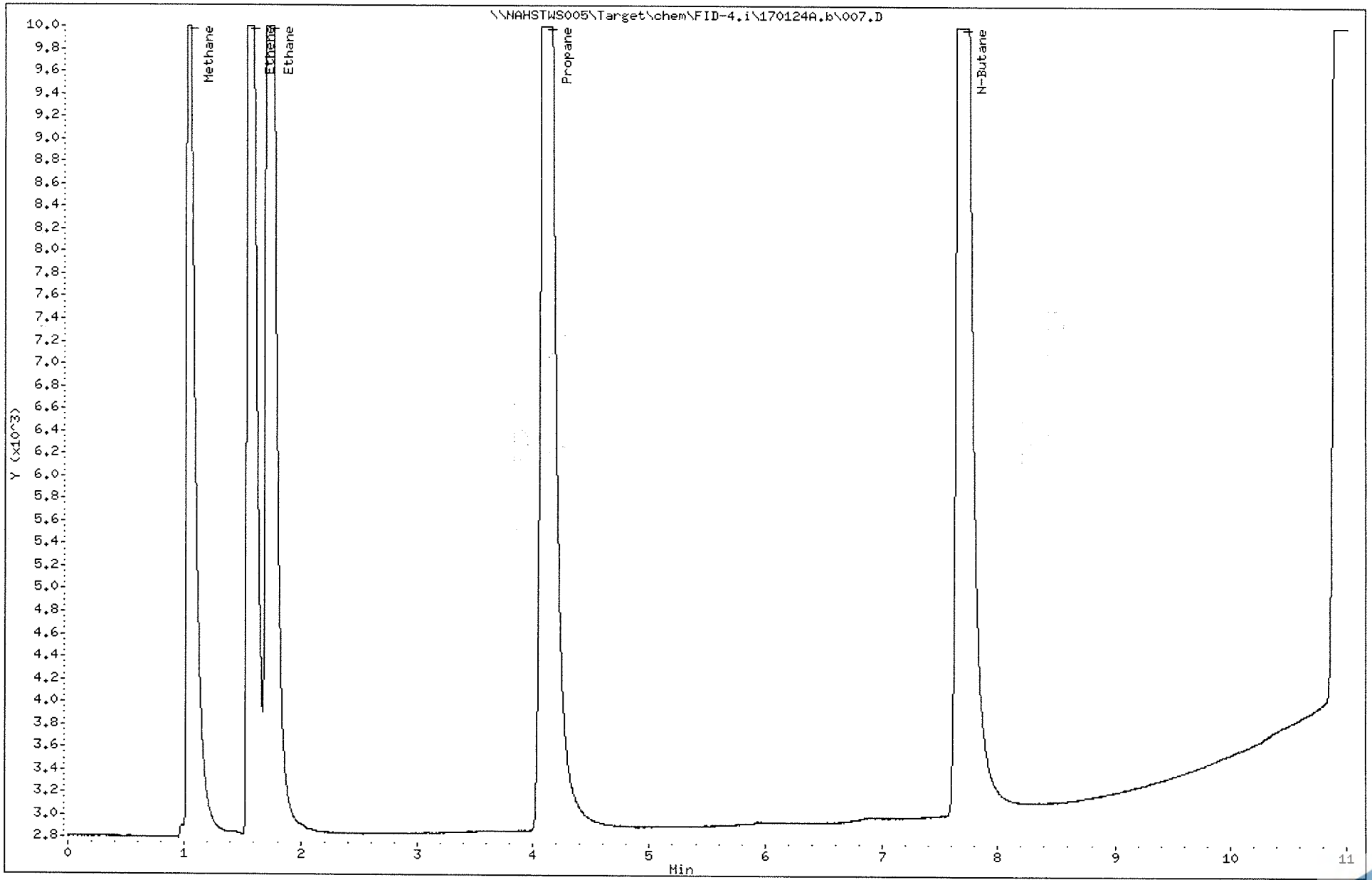
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

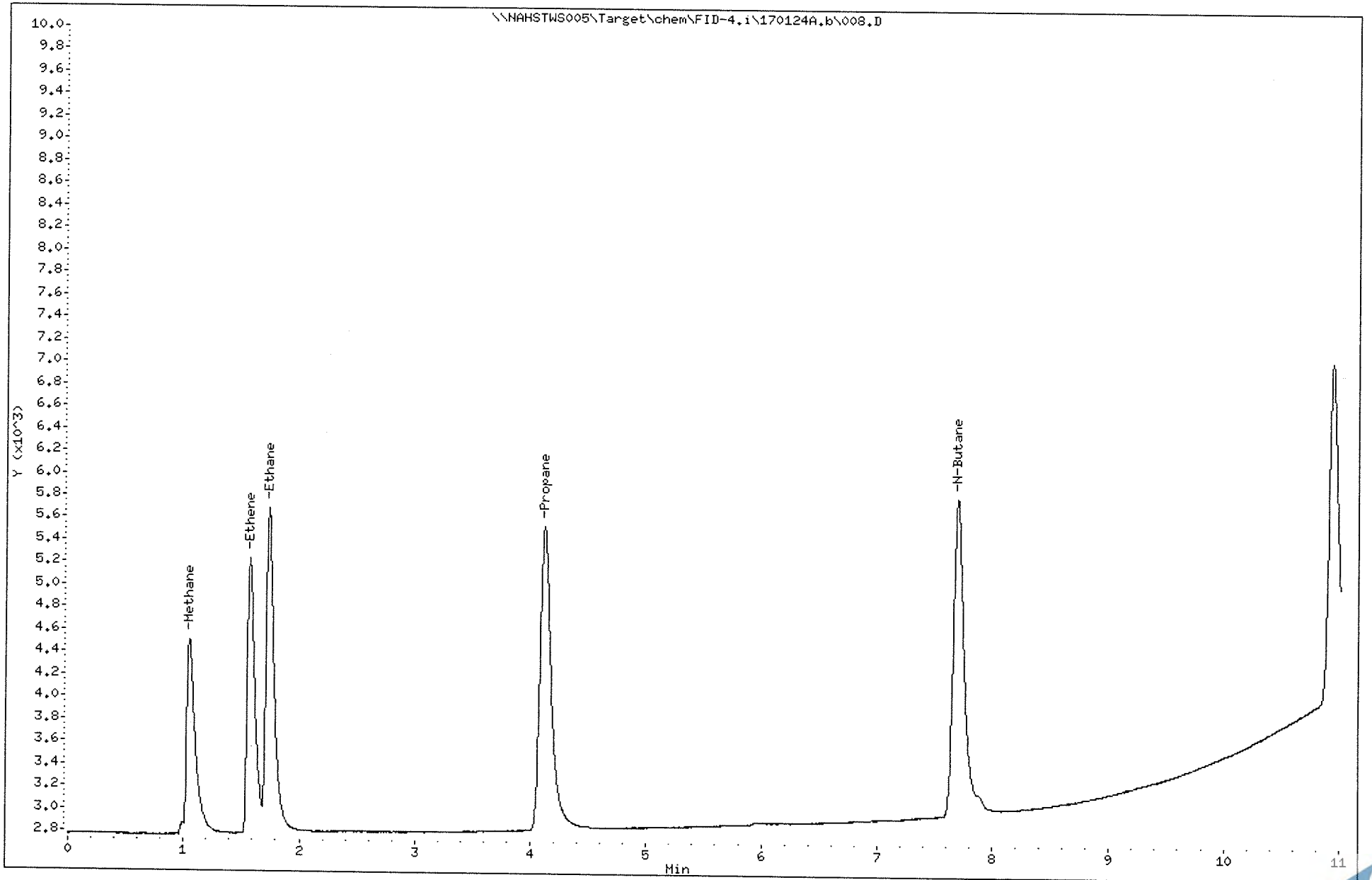
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 44621 **Analyst:** Purvi Lad

Date: 04-27-2021 **Reviewer:**

Method: rsk175 dod **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	04-27-2021 09:31 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-210427	MBLK	04-27-2021 09:48 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-210427	LCS	04-27-2021 09:57 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	LCSD-210427	LCSD	04-27-2021 10:08 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS21041132-05	SAMP	04-27-2021 10:23 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	HS21041132-05DUP	SAMP	04-27-2021 10:35 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	HS21041102-01	SAMP	04-27-2021 10:58 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	HS21041102-02	SAMP	04-27-2021 11:11 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	HS21041102-03	SAMP	04-27-2021 11:23 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	HS21041102-04	SAMP	04-27-2021 11:35 am	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	RSK-CCV	CCV	04-27-2021 11:46 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS21041102-05	SAMP	04-27-2021 12:01 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS21041102-07	SAMP	04-27-2021 12:15 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS21041102-08	SAMP	04-27-2021 12:27 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	HS21041102-09	SAMP	04-27-2021 12:38 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA
16	HS21041102-10	SAMP	04-27-2021 12:48 pm	1.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS21041102-08	SAMP	04-27-2021 12:58 pm	25.00	0.00 mL	0.00 mL	017.D	Liquid	Y	NA
18	HS21041102-09	SAMP	04-27-2021 01:08 pm	10.00	0.00 mL	0.00 mL	018.D	Liquid	Y	NA
19	HS21041102-10	SAMP	04-27-2021 01:58 pm	100.0(	0.00 mL	0.00 mL	019.D	Liquid	Y	NA
20	HS21041276-09	SAMP	04-27-2021 02:15 pm	1.00	0.00 mL	0.00 mL	020.D	Liquid	Y	NA
21	HS21041276-10	SAMP	04-27-2021 02:22 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	NA
22	RSK-CCV	CCV	04-27-2021 02:34 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS21041276-13	SAMP	04-27-2021 02:44 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	NA
24	HS21041276-16	SAMP	04-27-2021 02:59 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	NA
25	HS21041276-19	SAMP	04-27-2021 03:07 pm	1.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA
26	HS21041276-25	SAMP	04-27-2021 03:24 pm	1.00	0.00 mL	0.00 mL	026.D	Liquid	Y	NA
27	HS21041276-10	SAMP	04-27-2021 03:38 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	NA
28	HS21041197-01	SAMP	04-27-2021 03:50 pm	1.00	0.00 mL	0.00 mL	028.D	Liquid	Y	NA
29	HS21041255-05	SAMP	04-27-2021 04:00 pm	1.00	0.00 mL	0.00 mL	029.D	Liquid	Y	NA
30	HS21041255-07	SAMP	04-27-2021 04:08 pm	1.00	0.00 mL	0.00 mL	030.D	Liquid	Y	NA
31	HS21041197-01	SAMP	04-27-2021 04:22 pm	1.00	0.00 mL	0.00 mL	031.D	Liquid	Y	NA
32	HS21041255-05	SAMP	04-27-2021 04:49 pm	200.0(	0.00 mL	0.00 mL	032.D	Liquid	Y	NA
33	RSK-CCV	CCV	04-27-2021 05:02 pm	1.00	0.00 mL	0.00 mL	033.D	Liquid	Y	NA

Chemical	Value
pH Paper	300107057-07
CCV/LC/LSD/MS/MSD	300107043-11

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 0931

Lab File ID: 001 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	859.39145	0.01	-19.44	20.00	AVRG
Methane	974.99200	959.46927	0.01	1.59	20.00	AVRG
Ethene	585.76000	633.41246	0.01	-8.14	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 1146

Lab File ID: 011 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	816.21682	0.01	-13.44	20.00	AVRG
Methane	974.99200	928.78615	0.01	4.74	20.00	AVRG
Ethene	585.76000	608.24926	0.01	-3.84	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 1434

Lab File ID: 022 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	807.73707	0.01	-12.26	20.00	AVRG
Methane	974.99200	936.24961	0.01	3.97	20.00	AVRG
Ethene	585.76000	611.45401	0.01	-4.39	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS HOUSTON Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS21041255

Instrument ID: FID-4 Calibration Date: 04/27/21 Time: 1702

Lab File ID: 033 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	803.46949	0.01	-11.67	20.00	AVRG
Methane	974.99200	948.58505	0.01	2.71	20.00	AVRG
Ethene	585.76000	595.84570	0.01	-1.72	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D Page 1
Report Date: 20-May-2021 12:38

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 09:31
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.460	0.000	9256	9.64700	9.493
2 Ethene	0.703	0.703	0.000	10673	16.8500	18.220(M)
3 Ethane	0.783	0.783	0.000	15506	18.0430	21.551

QC Flag Legend

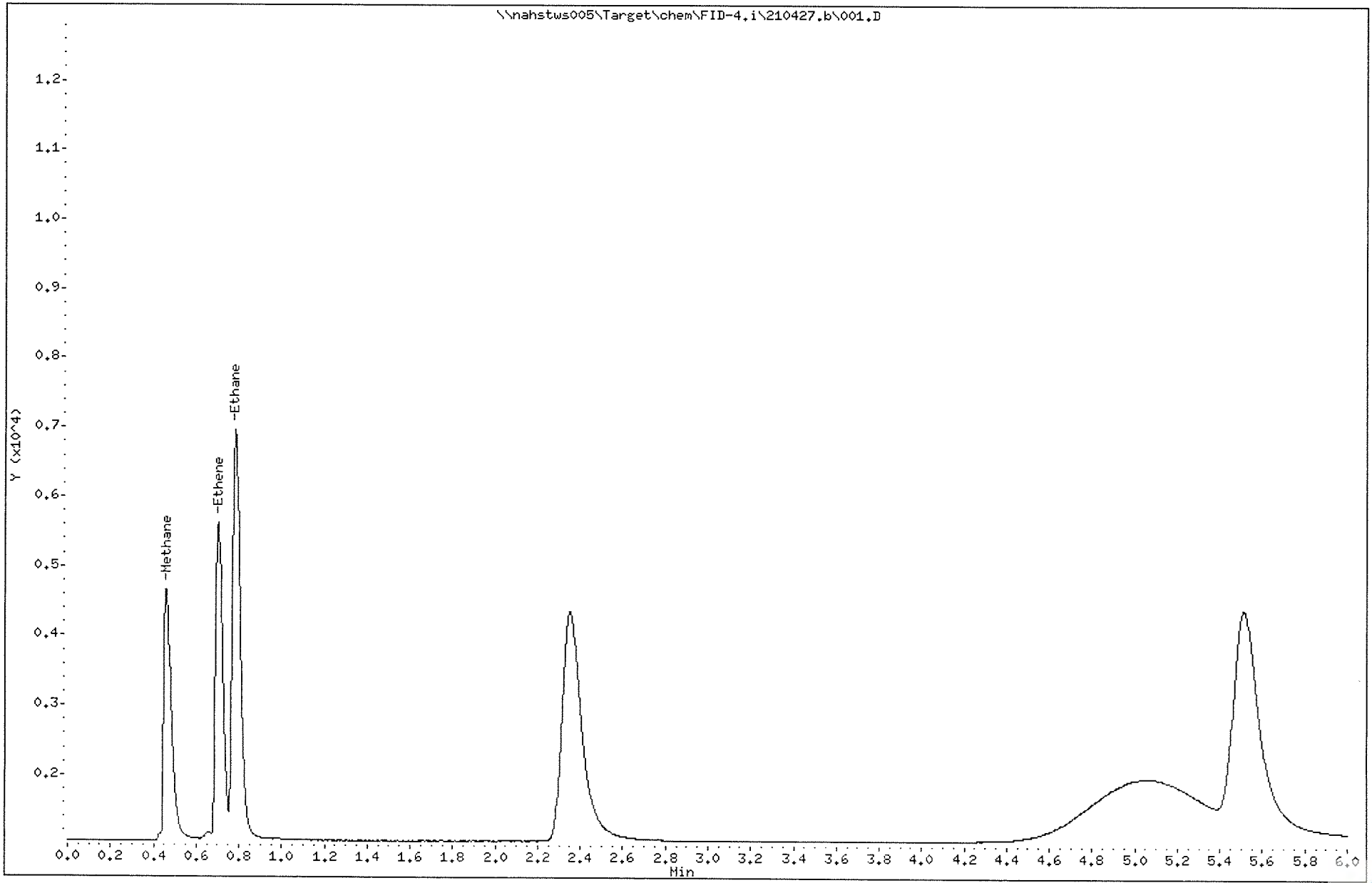
M - Compound response manually integrated.

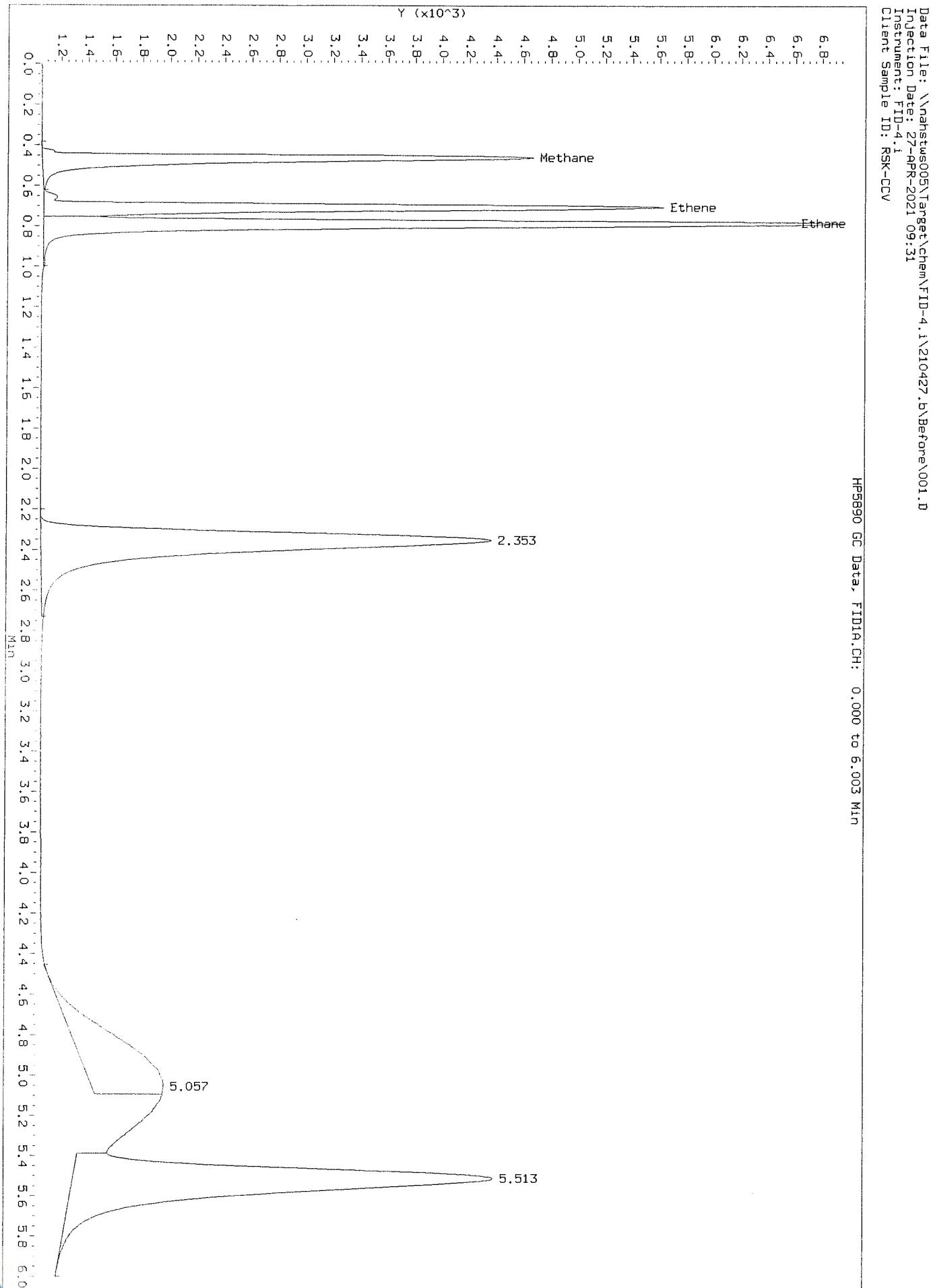
Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Date : 27-APR-2021 09:31
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

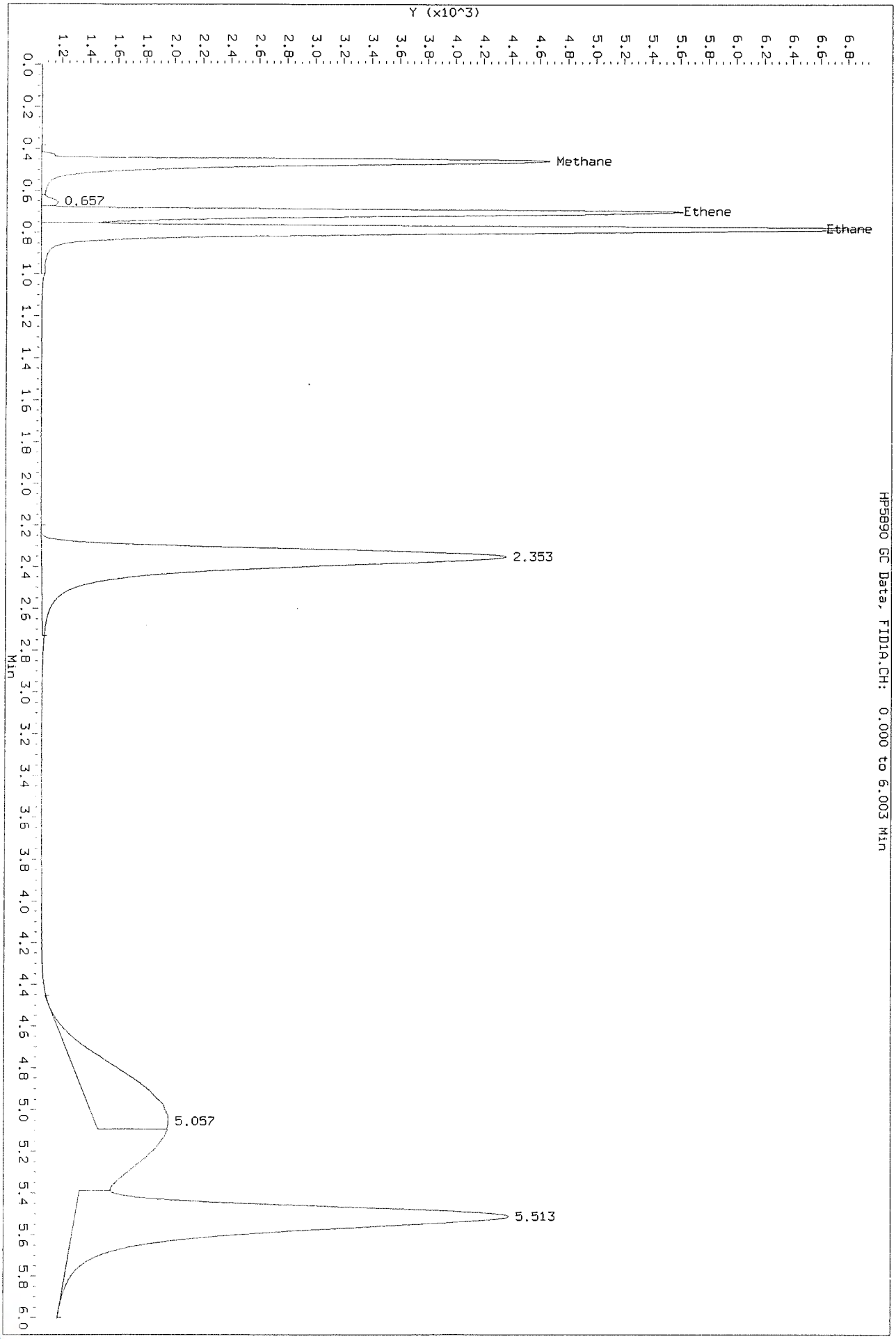
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\001.D
Injection Date: 27-APR-2021 09:31
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.353
5.057
5.513


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\001.D
Injection Date: 27-APR-2021 09:31
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.657
Ethene
Ethane
2.353
5.057
5.513

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\002.D
Lab Smp Id: MBLK-210427 Client Smp ID: MBLK-210427
Inj Date : 27-APR-2021 09:48
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-210427;MBLK-210427;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\002.D

Date : 27-APR-2021 09:48

Client ID: MBLK-210427

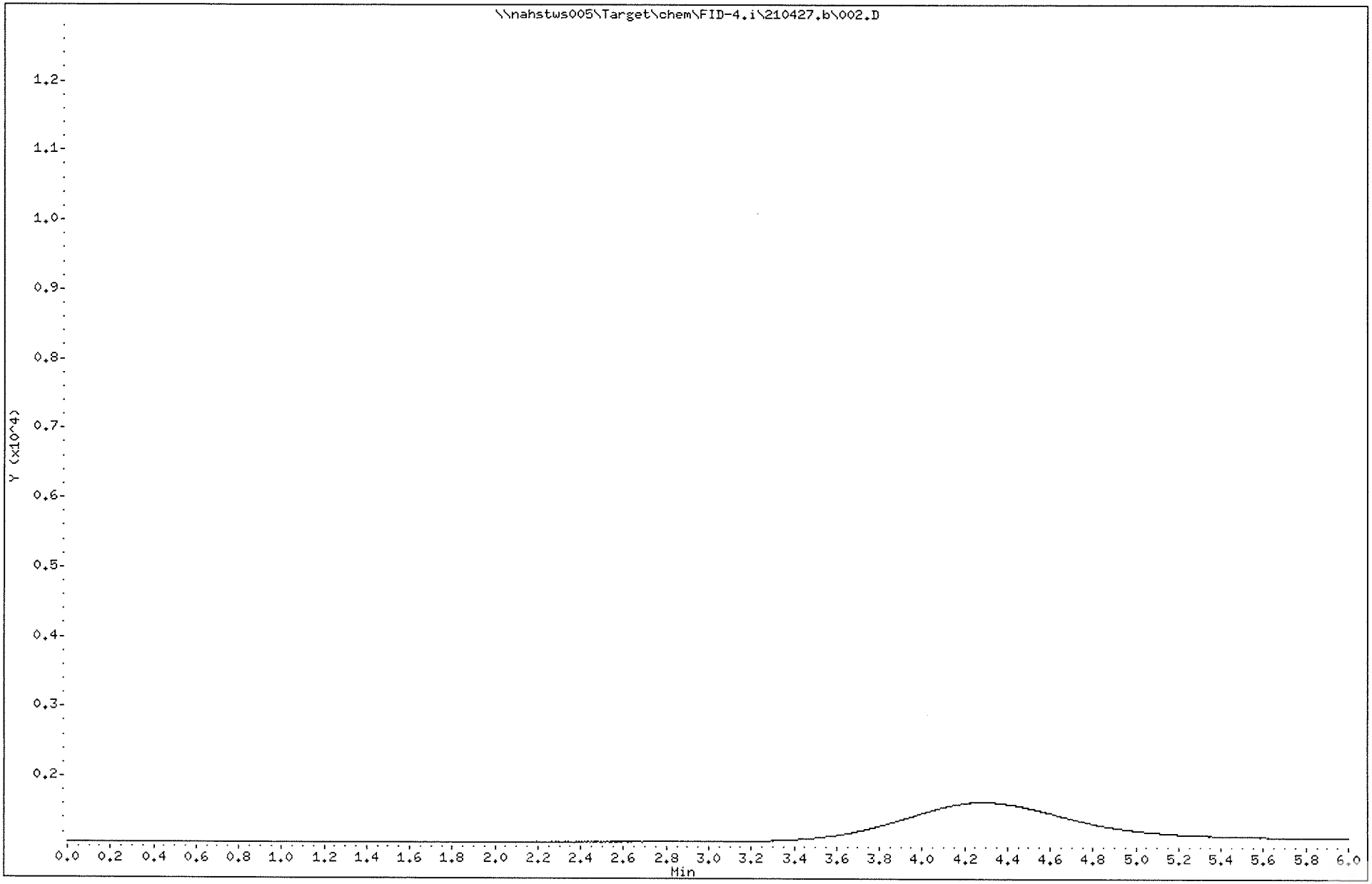
Instrument: FID-4.i

Sample Info: MBLK-210427;MBLK-210427;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\003.D Page 1
Report Date: 20-May-2021 12:38

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\003.D
Lab Smp Id: LCS-210427 Client Smp ID: LCS-210427
Inj Date : 27-APR-2021 09:57
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-210427;LCS-210427;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.463	0.460	0.003	9127	9.36110	9.361
2 Ethene	0.706	0.703	0.003	10755	18.3607	18.360
3 Ethane	0.786	0.783	0.003	15384	21.3818	21.381

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\003.D

Date : 27-APR-2021 09:57

Client ID: LCS-210427

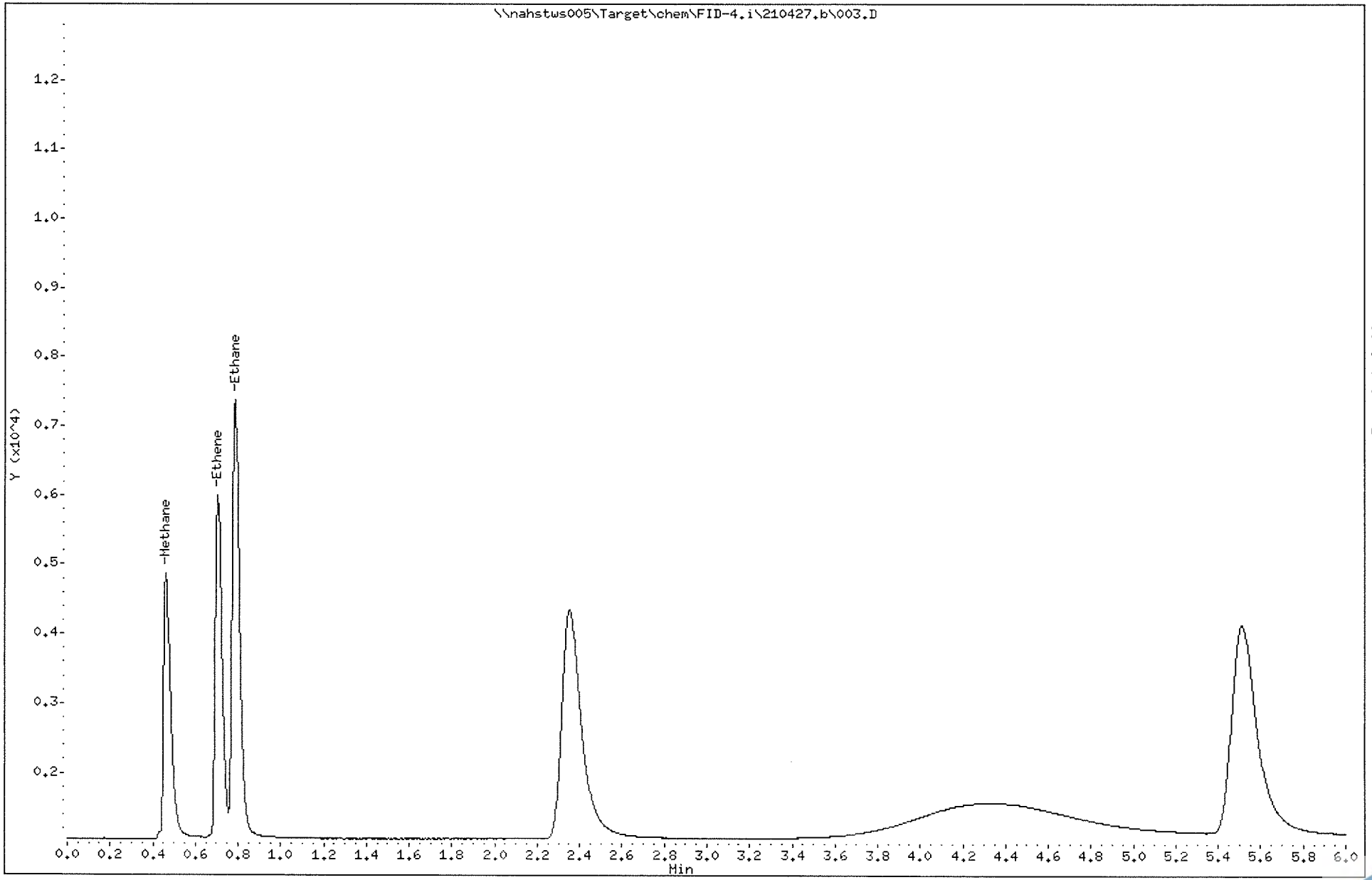
Instrument: FID-4.i

Sample Info: LCS-210427;LCS-210427;3;;LCS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\004.D
Lab Smp Id: LCSD-210427 Client Smp ID: LCSD-210427
Inj Date : 27-APR-2021 10:08
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-210427;LCSD-210427;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:38 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.470	0.460	0.010	9552	9.79700	9.797
2 Ethene	0.713	0.703	0.010	10416	17.7820	17.782(M)
3 Ethane	0.793	0.783	0.010	15025	20.8829	20.882

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\004.D

Date : 27-APR-2021 10:08

Client ID: LCSD-210427

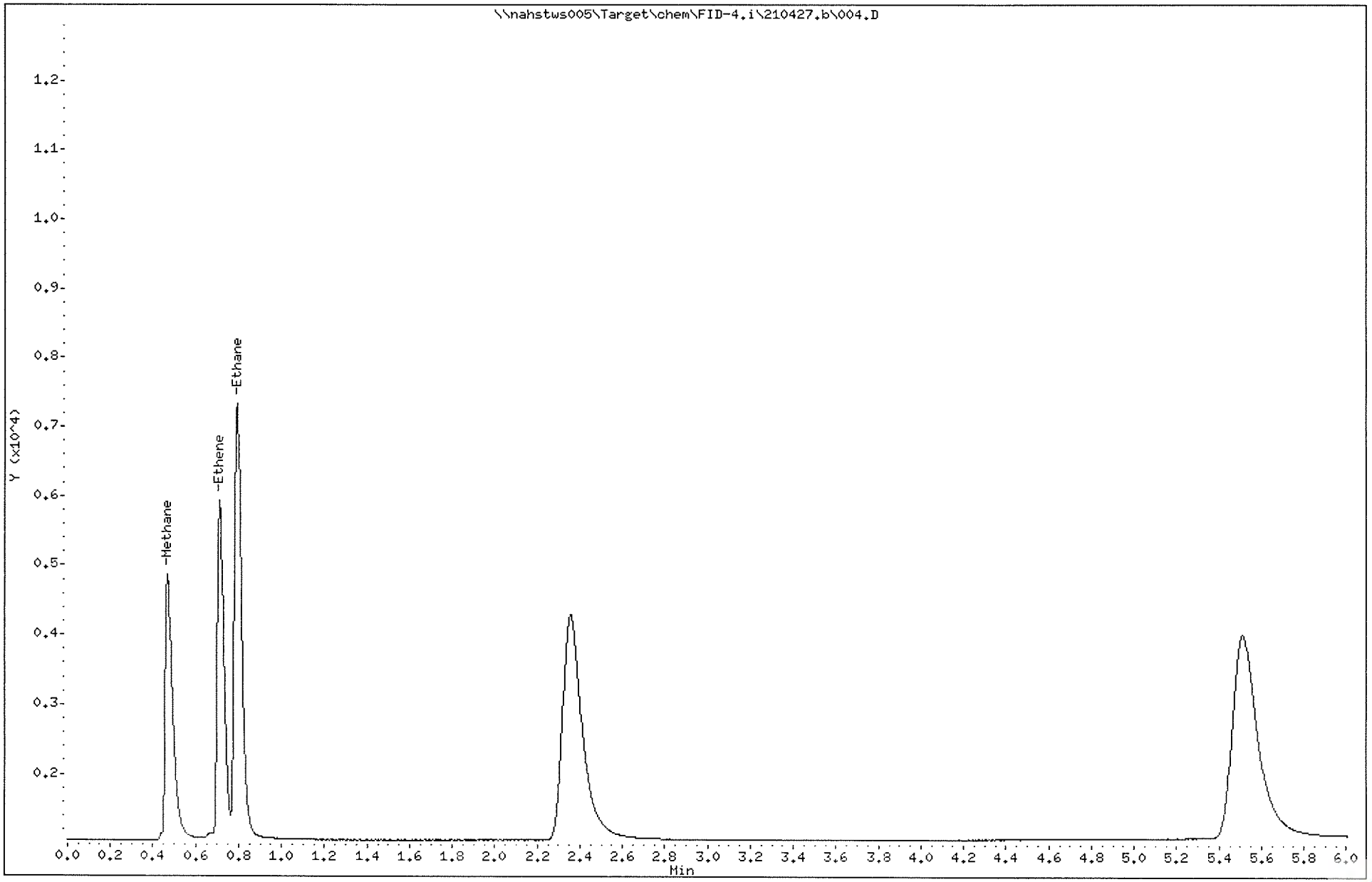
Instrument: FID-4.i

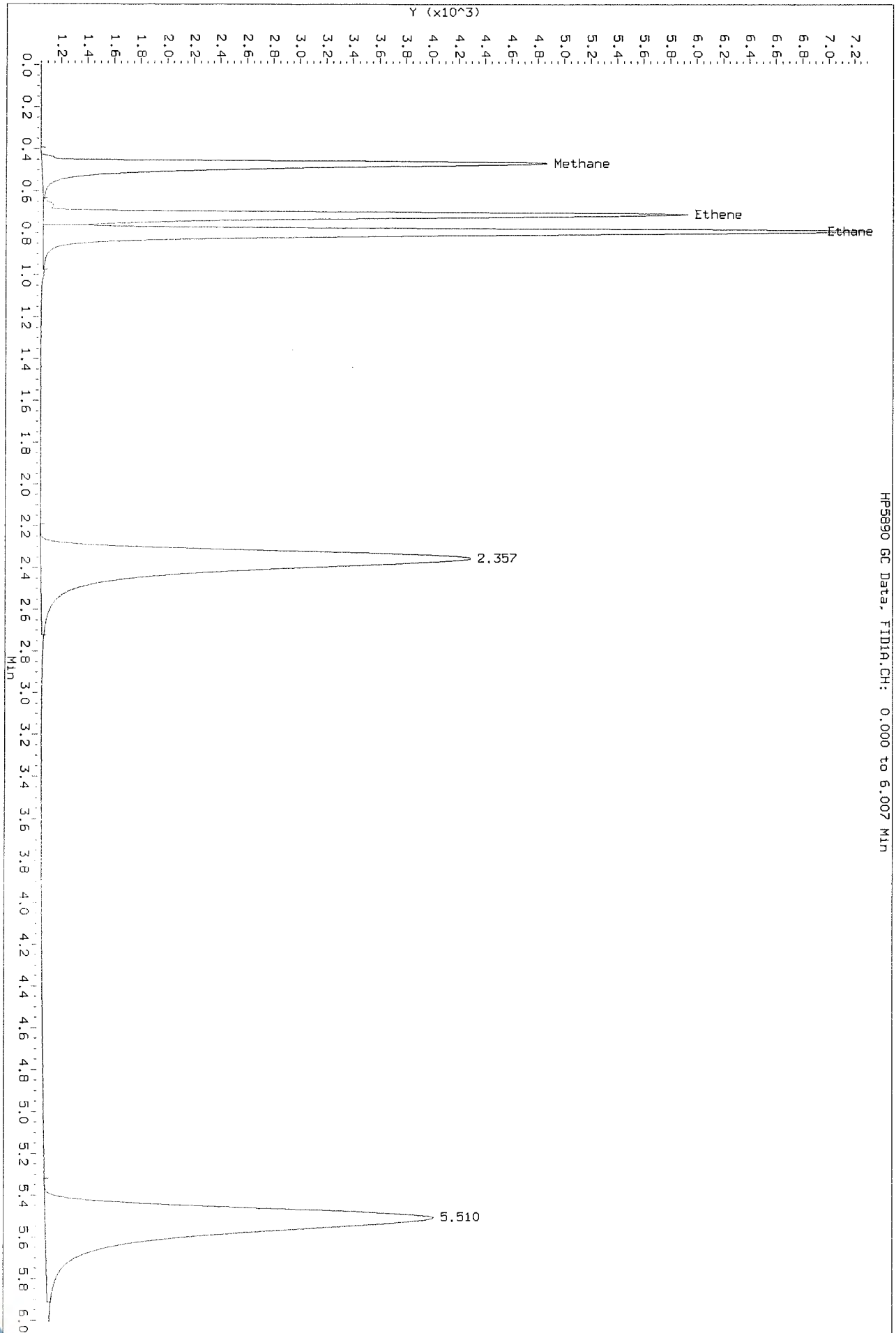
Sample Info: LCSD-210427;LCSD-210427;3;;LCSD

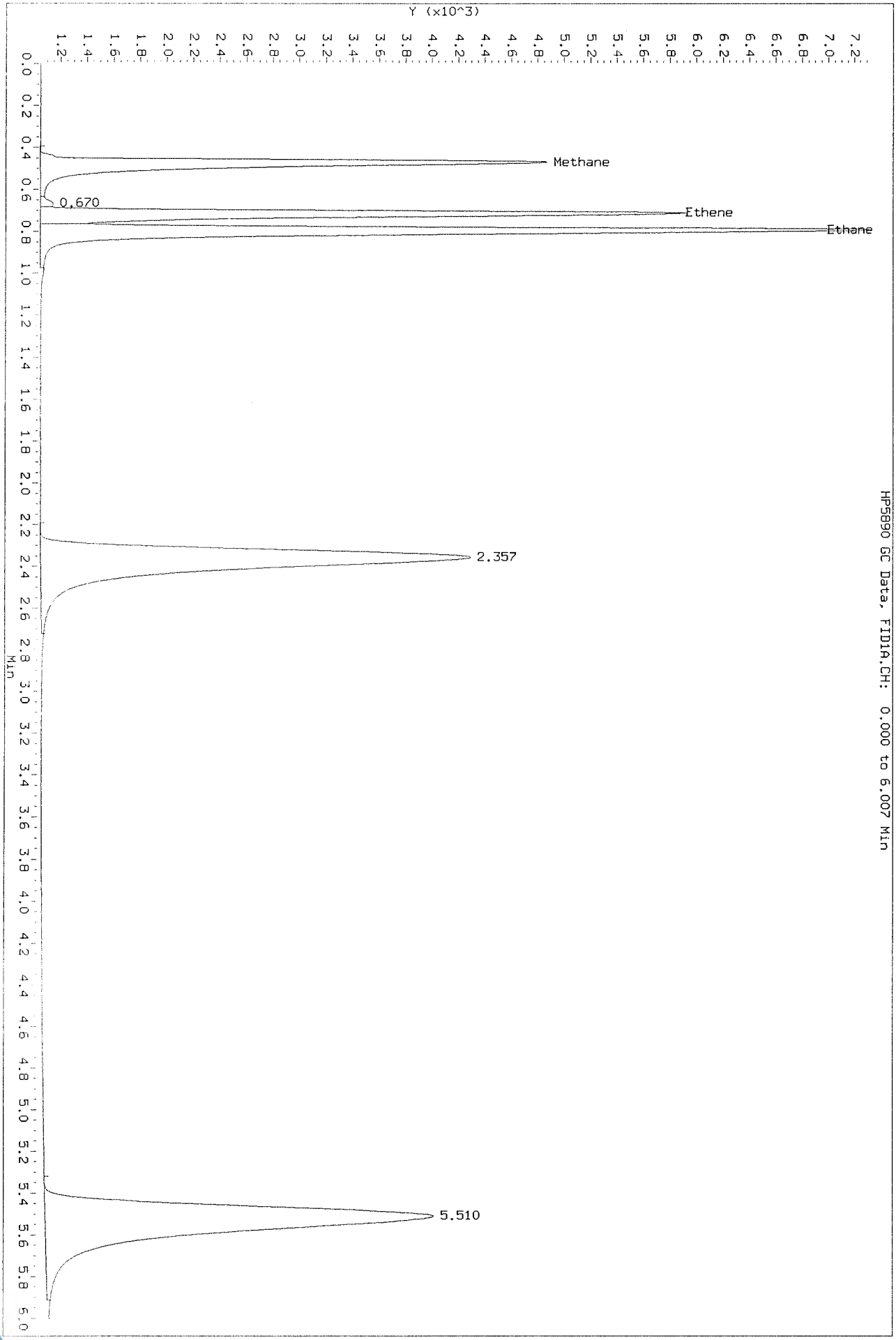
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\Before\004.D
Injection Date: 27-APR-2021 10:08
Instrument: FID-4.i
Client Sample ID: LCSD-210427
HP5890 GC Data, FIDIA.CH: 0.000 to 6.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.357
5.510


Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\004.D
Injection Date: 27-APR-2021 10:08
Instrument: FID-4.i
Client Sample ID: LCSD-210427
HP5890 GC Data, FID1A.CH: 0.000 to 6.007 Min
Y (x10^3)
Min
Methane
0.670
Ethene
Ethane
2.357
5.510

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 11:46
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

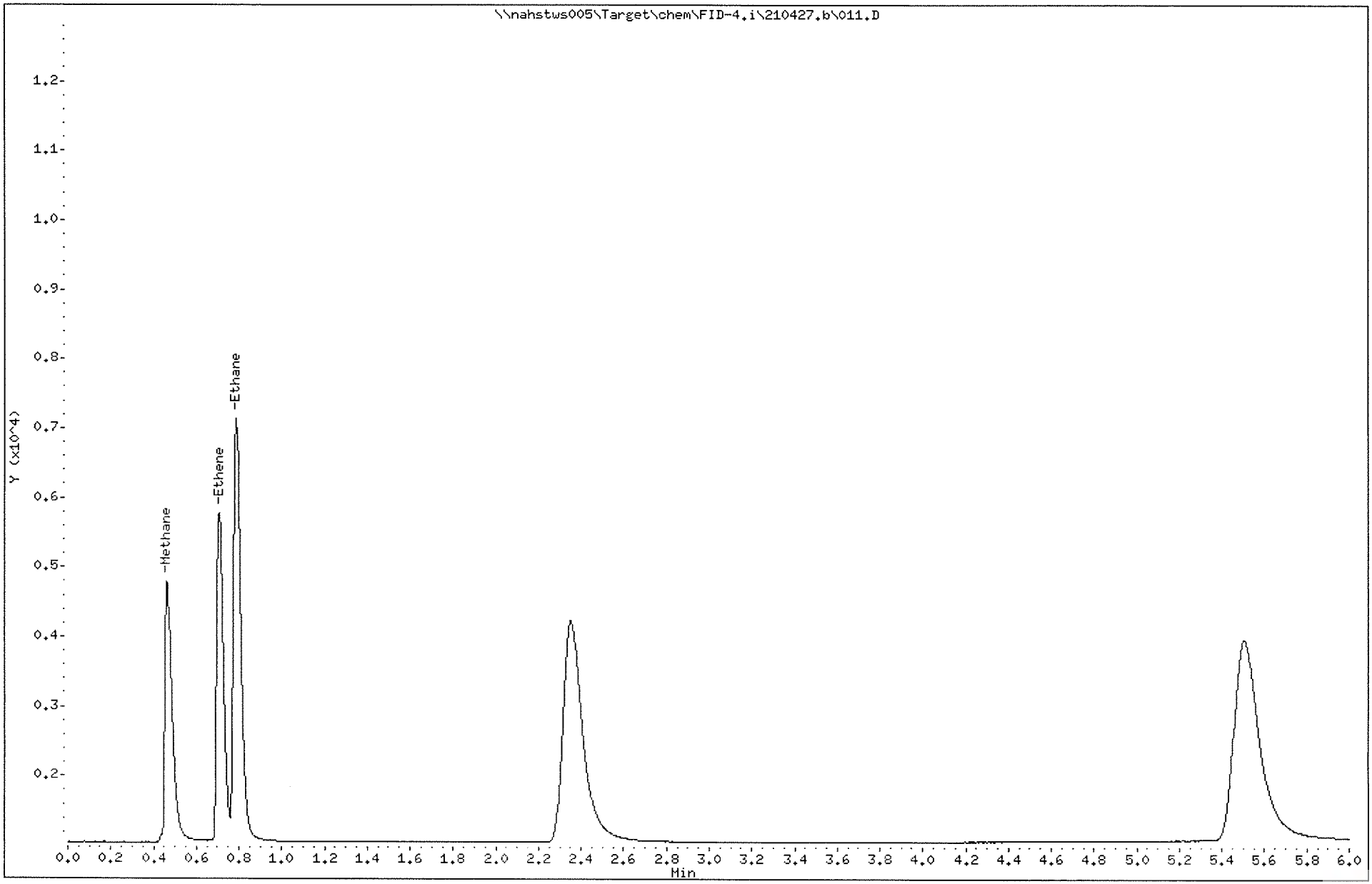
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.463	0.463	0.000	8960	9.64700	9.189
2 Ethene	0.710	0.710	0.000	10249	16.8500	17.496
3 Ethane	0.790	0.790	0.000	14727	18.0430	20.468

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\011.D
Date : 27-APR-2021 11:46
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 14:34
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:45 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	9032	9.64700	9.263
2 Ethene	0.710	0.710	0.000	10303	16.8500	17.589
3 Ethane	0.790	0.790	0.000	14574	18.0430	20.256

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\022.D

Date : 27-APR-2021 14:34

Client ID: RSK-CCV

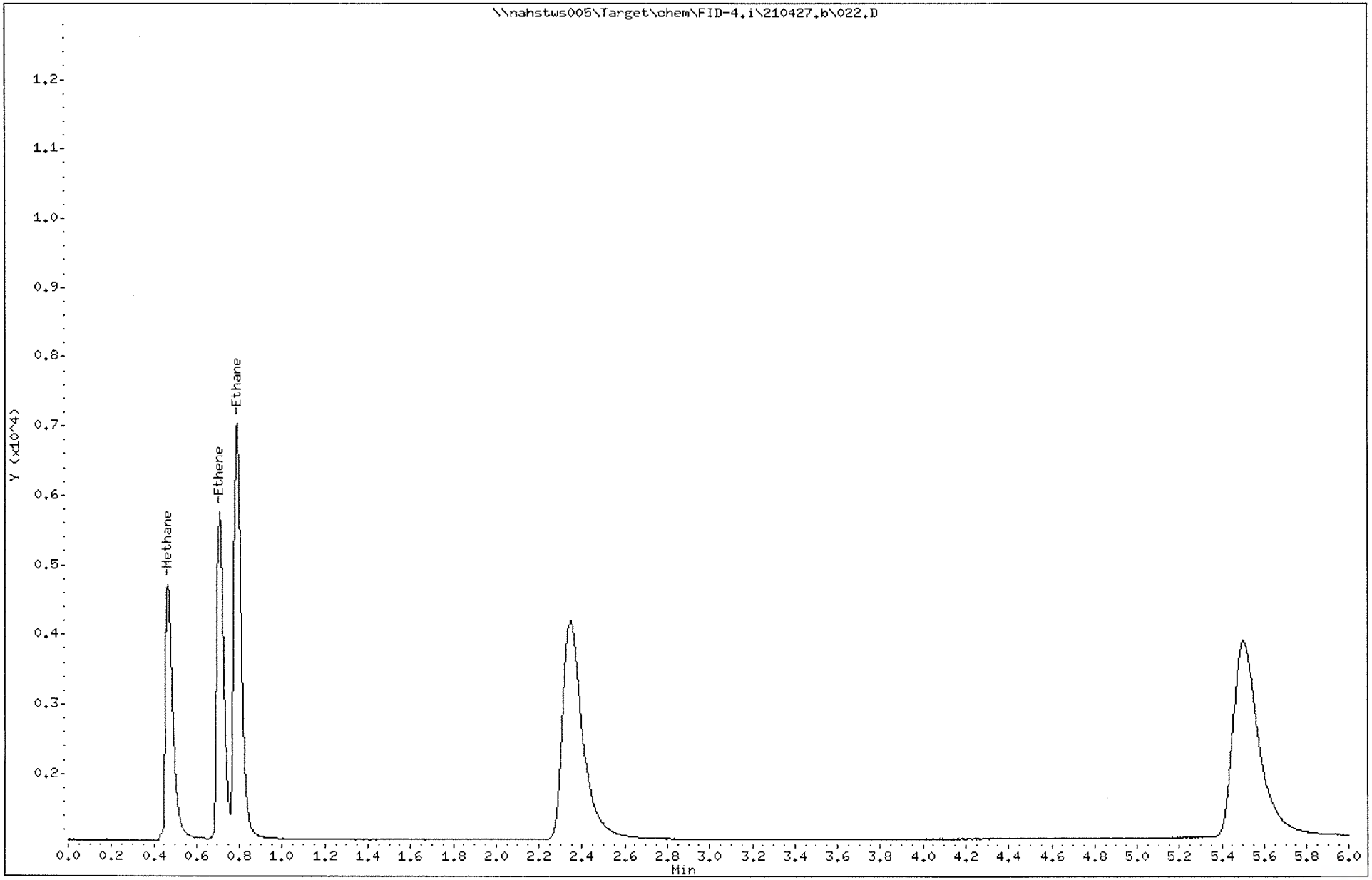
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\029.D Page 1
Report Date: 25-May-2021 09:40

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\029.D
Lab Smp Id: HS21041255-05 Client Smp ID: HS21041255-05
Inj Date : 27-APR-2021 16:00
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041255-05;HS21041255-05
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:57 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.463	0.470	-0.007	3988581	4090.88	4090.884(A)

QC Flag Legend

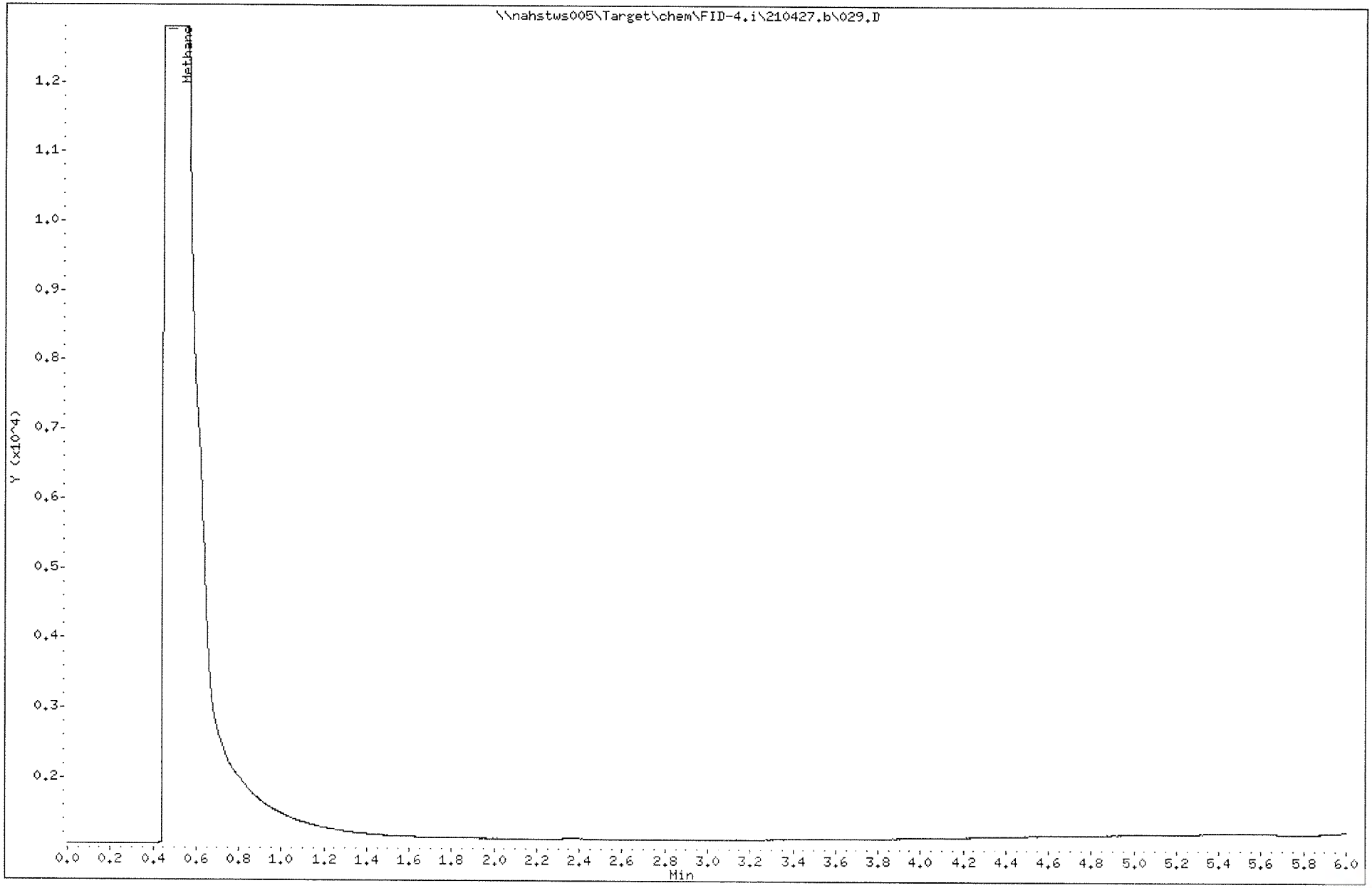
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\029.D
Date : 27-APR-2021 16:00
Client ID: HS21041255-05
Sample Info: HS21041255-05;HS21041255-05

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\030.D
Lab Smp Id: HS21041255-07 Client Smp ID: HS21041255-07
Inj Date : 27-APR-2021 16:08
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041255-07;HS21041255-07
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:57 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 30
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

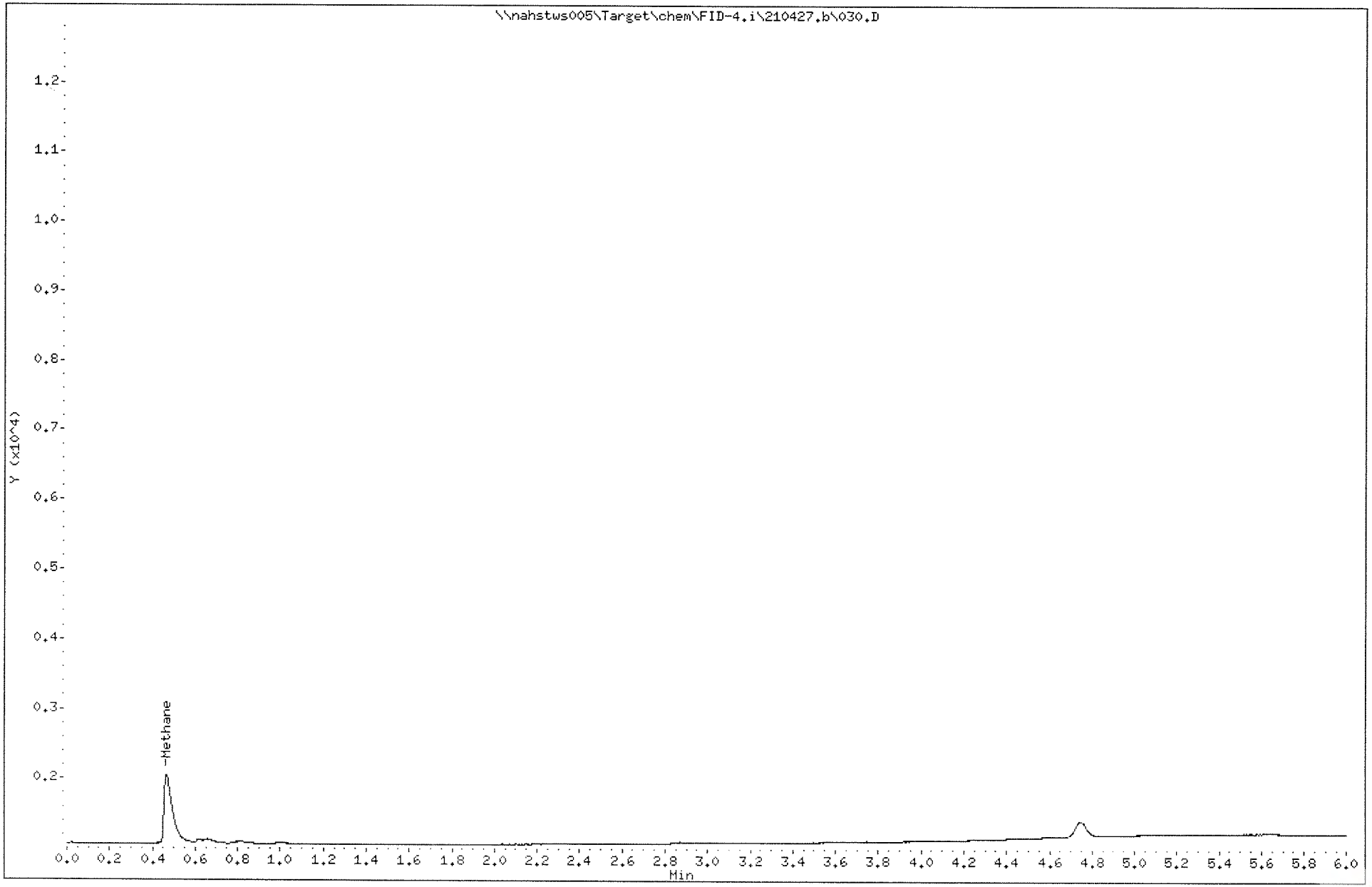
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.466	0.470	-0.004	2760	2.83079	2.830

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\030.D
Date : 27-APR-2021 16:08
Client ID: HS21041255-07
Sample Info: HS21041255-07;HS21041255-07

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\032.D
Lab Smp Id: HS21041255-05 Client Smp ID: HS21041255-05
Inj Date : 27-APR-2021 16:49
Operator : PL Inst ID: FID-4.i
Smp Info : HS21041255-05;HS21041255-05
Misc Info : ;1;0;200
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:57 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 32
Dil Factor: 200.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

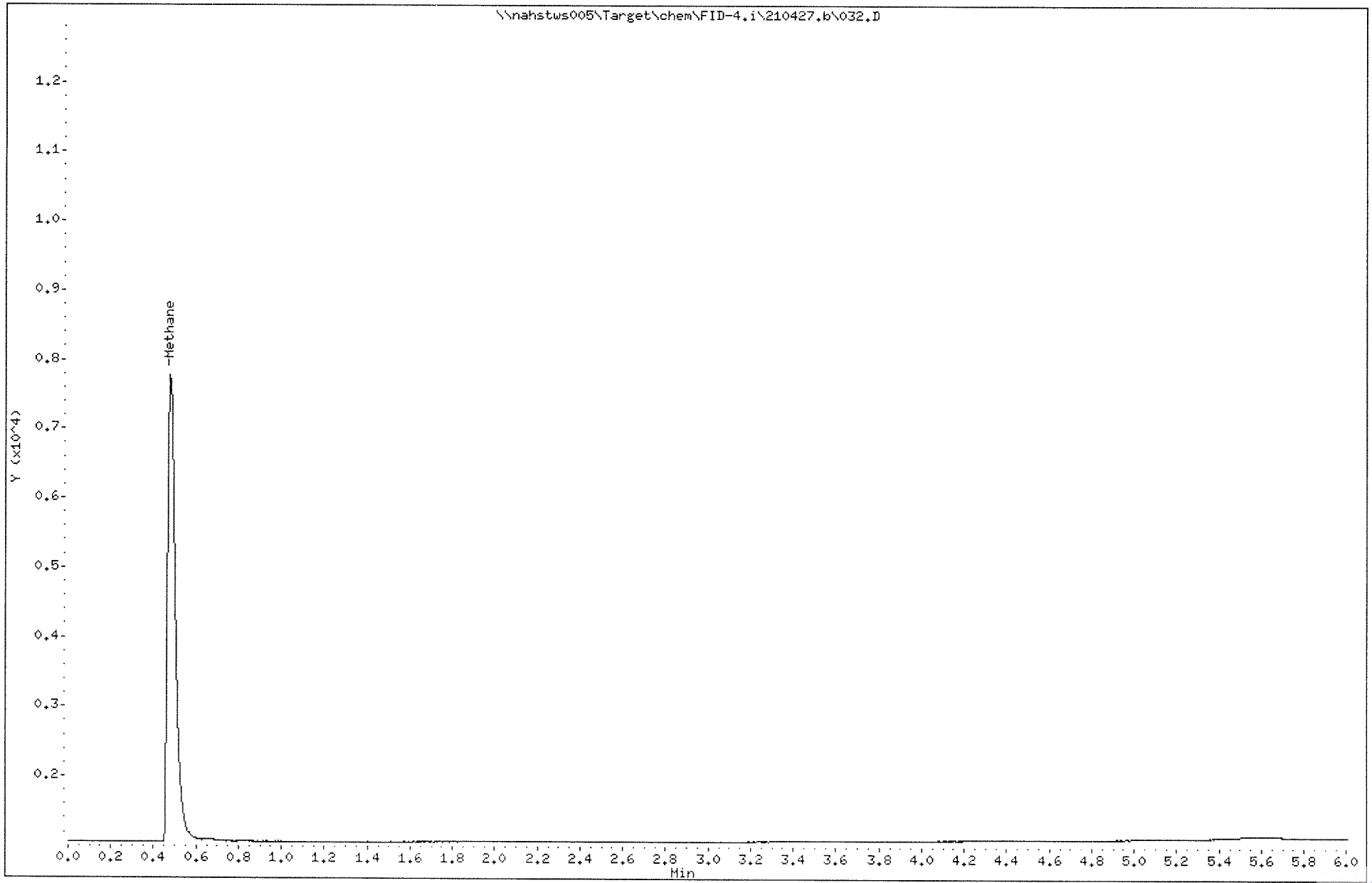
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.476	0.470	0.006	17068	17.5058	3501.155

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\032.D
Date : 27-APR-2021 16:49
Client ID: HS21041255-05
Sample Info: HS21041255-05;HS21041255-05

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\033.D Page 1
Report Date: 20-May-2021 12:57

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\210427.b\033.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 27-APR-2021 17:02
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\210427.b\RSKNI3.m
Meth Date : 20-May-2021 12:57 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 33 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

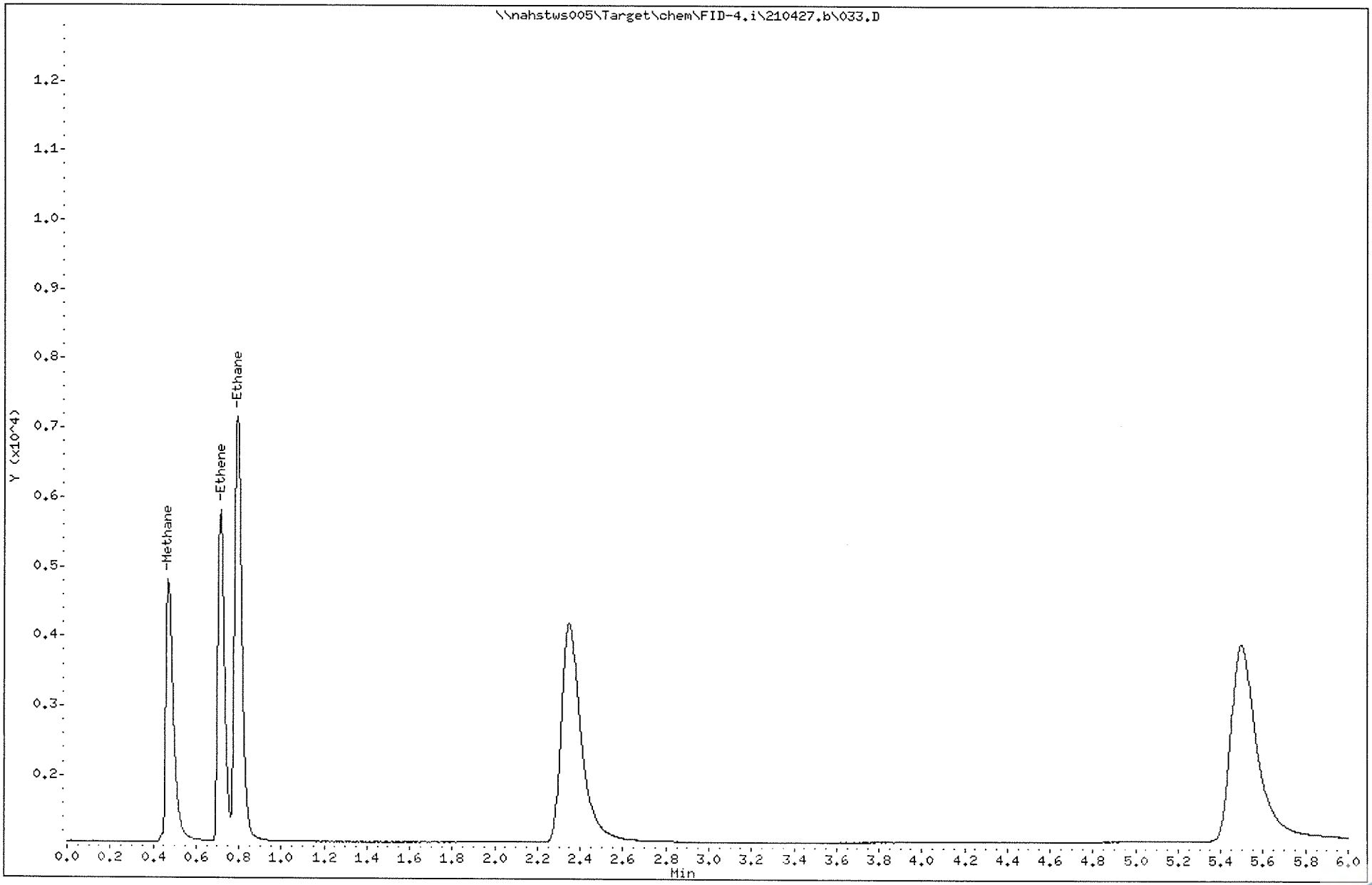
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.470	0.470	0.000	9151	9.64700	9.385
2 Ethene	0.713	0.713	0.000	10040	16.8500	17.140
3 Ethane	0.793	0.793	0.000	14497	18.0430	20.149

Data File: \\nahstws005\Target\chem\FID-4.i\210427.b\033.D
Date : 27-APR-2021 17:02
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



HS21041255 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS21041255

Sequence: 042321
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method
	STD1		Calibration	BE1	1.00	1	Anions Program 06022020.1	Anions Processing Method
	STD2		Calibration	BE2	1.00	2	Anions Program 06022020.1	Anions Processing Method
	STD3		Calibration	BE3	1.00	3	Anions Program 06022020.1	Anions Processing Method
	STD4		Calibration	BE4	1.00	4	Anions Program 06022020.1	Anions Processing Method
	STD5		Calibration	BE5	1.00	5	Anions Program 06022020.1	Anions Processing Method
	STD6		Calibration	BE6	1.00	6	Anions Program 06022020.1	Anions Processing Method
	ICV		Unknown	BE7	1.00		Anions Program 06022020.1	Anions Processing Method
	ICB		Unknown	BE8	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method
	MBLK-		Unknown	R5	1.00		Anions Program 06022020.1	Anions Processing Method
	LCS-		Unknown	R2	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041255-05		Unknown	RE3	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041255-07DF5		Unknown	RE4	5.00		Anions Program 06022020.1	Anions Processing Method
	HS21040612-03DF10		Unknown	RA2	10.00		Anions Program 06022020.1	Anions Processing Method
	HS21040612-03MSDF10		Unknown	RA3	10.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R6	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21040612-03MSDDF10		Unknown	RA4	10.00		Anions Program 06022020.1	Anions Processing Method
	HS21041055-01		Unknown	RB3	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041055-01MS		Unknown	RB4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041055-01MSD		Unknown	RB5	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041056-02DF20		Unknown	RB8	20.00		Anions Program 06022020.1	Anions Processing Method
	HS21041056-02MSDF20		Unknown	RC1	20.00		Anions Program 06022020.1	Anions Processing Method
	HS21041056-02MSDDF20		Unknown	RC2	20.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R6	1.00		Anions Program 06022020.1	Anions Processing Method

Sequence: 042321
Last Update Operator: alshs.nouser

CD	Name	Volume	Status	Inject Time
	STD1	5.0	Finished	4/20/2021 9:54:11 AM -05:00
	STD2	5.0	Finished	4/20/2021 10:12:33 AM -05:00
	STD3	5.0	Finished	4/20/2021 10:30:56 AM -05:00
	STD4	5.0	Finished	4/20/2021 10:49:20 AM -05:00
	STD5	5.0	Finished	4/20/2021 11:07:48 AM -05:00
	STD6	5.0	Finished	4/20/2021 11:28:05 AM -05:00
	ICV	5.0	Finished	4/20/2021 11:46:31 AM -05:00
	ICB	5.0	Finished	4/20/2021 12:25:13 PM -05:00
	CCV	5.0	Finished	4/23/2021 9:57:12 AM -05:00
	CCB	5.0	Finished	4/23/2021 10:15:35 AM -05:00
	MBLK-	5.0	Finished	4/23/2021 11:10:49 AM -05:00
	LCS-	5.0	Finished	4/23/2021 11:29:14 AM -05:00
	HS21041255-05	5.0	Finished	4/23/2021 1:12:18 PM -05:00
	HS21041255-07DF5	5.0	Finished	4/23/2021 1:30:42 PM -05:00
	HS21040612-03DF10	5.0	Finished	4/23/2021 2:25:53 PM -05:00
	HS21040612-03MSDF10	5.0	Finished	4/23/2021 2:44:16 PM -05:00
	CCV1	5.0	Finished	4/23/2021 3:02:43 PM -05:00
	CCB	5.0	Finished	4/23/2021 3:39:30 PM -05:00
	HS21040612-03MSDDF10	5.0	Finished	4/23/2021 3:57:55 PM -05:00
	HS21041055-01	5.0	Finished	4/23/2021 6:06:44 PM -05:00
	HS21041055-01MS	5.0	Finished	4/23/2021 6:25:07 PM -05:00
	HS21041055-01MSD	5.0	Finished	4/23/2021 6:43:34 PM -05:00
	CCV	5.0	Finished	4/23/2021 7:01:59 PM -05:00
	CCB	5.0	Finished	4/23/2021 7:38:46 PM -05:00
	HS21041056-02DF20	5.0	Finished	4/23/2021 8:33:59 PM -05:00
	HS21041056-02MSDF20	5.0	Finished	4/23/2021 8:52:22 PM -05:00
	HS21041056-02MSDDF20	5.0	Finished	4/23/2021 9:10:48 PM -05:00
	CCV1	5.0	Finished	4/23/2021 11:01:17 PM -05:00
	CCB	5.0	Finished	4/23/2021 11:38:08 PM -05:00

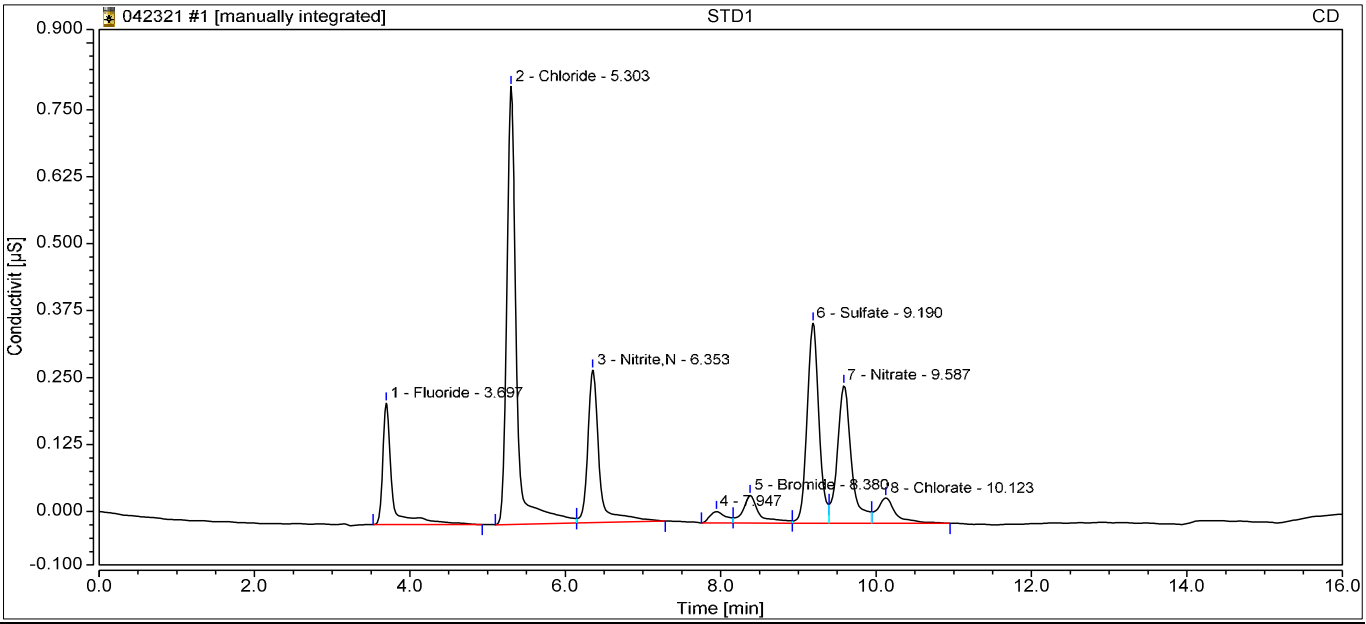
Sequence: 042321
Injection #6: STD6

Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	***Fluoride***	***Lin, WithOffset, 1/***	***Area***	***6***	***18.7874***	***0.99804***	***0.0037***	***0.3228***	***0.0000***
2	Chloride	Lin, WithOffset, 1/	Area	6	4.4845	0.99989	0.0060	0.2088	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	23.2258	0.99660	0.0167	0.4015	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	13.6081	0.99885	0.0031	0.0812	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	4.6885	0.99989	-0.0143	0.1515	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	5.2526	0.99986	-0.0011	0.5393	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	20.9413	0.99684	0.0071	0.0945	0.0000
11	Phosphate	Lin, WithOffset, 1/	Area	5	9.6125	0.99905	-0.0521	0.2007	0.0000
Maximum					**23.2258**	0.99989			
Minimum					4.4845	**0.99660**			

1 STD1			
Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BE1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 09:54**	*Sample Weight:*	**1.0000**

Run Time:



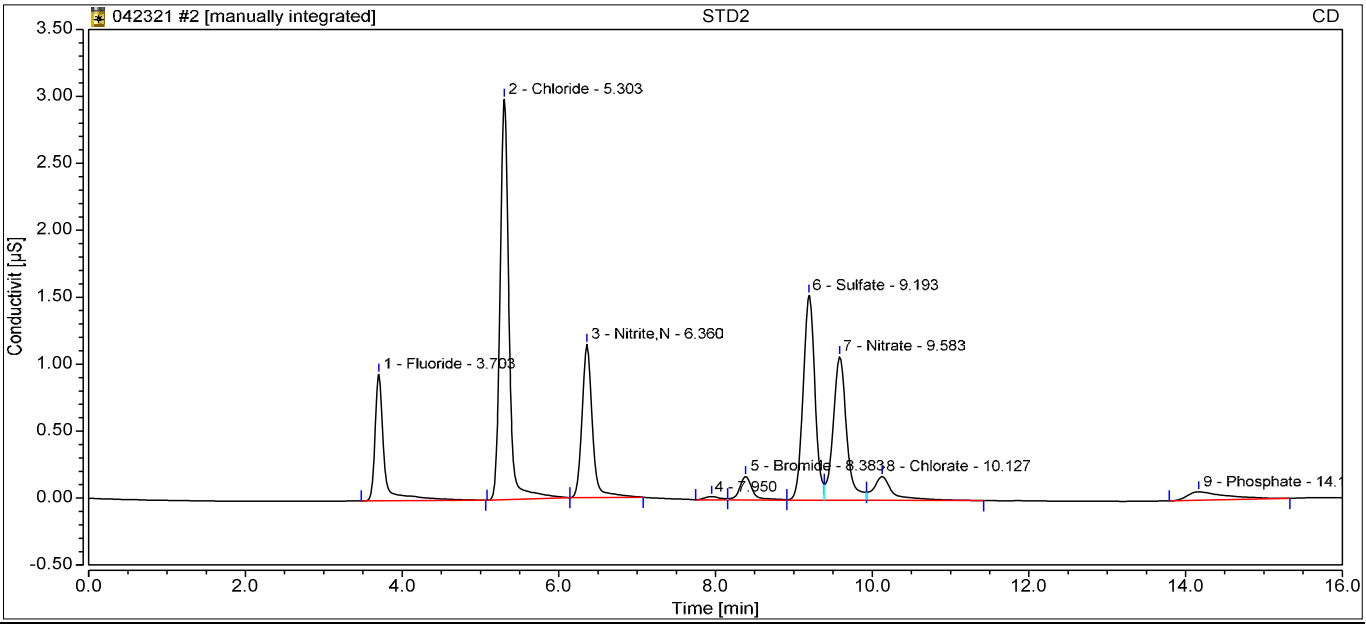
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.032	0.0880	0.0880	1.0000
2	5.30	Chloride	BM *	0.118	0.5381	0.5381	1.0000
3	6.35	Nitrite,N	MB*	0.049	0.0802	0.0802	1.0000
5	8.38	Bromide	M	0.013	0.1188	0.1188	1.0000
6	9.19	Sulfate	M	0.066	0.5285	0.5285	1.0000
7	9.59	Nitrate	M	0.054	0.1022	0.1022	1.0000
8	10.12	Chlorate	MB	0.013	0.0640	0.0640	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.345**		**1.52**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BE2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:12**	*Sample Weight:*	**1.0000**

Run Time:



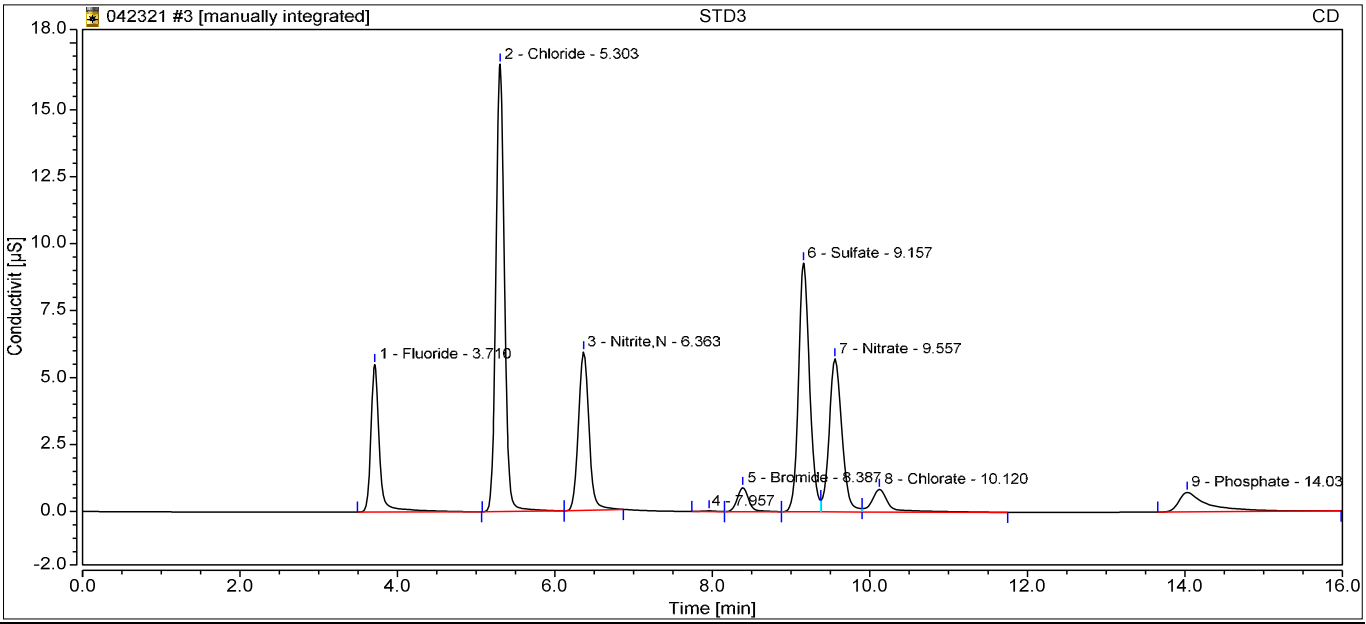
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.129	0.3886	0.3886	1.0000
2	5.30	Chloride	BMb*	0.393	1.8537	1.8537	1.0000
3	6.36	Nitrite,N	bMB*	0.176	0.3975	0.3975	1.0000
5	8.38	Bromide	M	0.033	0.3714	0.3714	1.0000
6	9.19	Sulfate	M	0.266	1.8512	1.8512	1.0000
7	9.58	Nitrate	M	0.213	0.3976	0.3976	1.0000
8	10.13	Chlorate	MB	0.052	0.4776	0.4776	1.0000
9	14.17	Phosphate	BMB	0.036	0.4401	0.4401	1.0000
Total:			**0.000**	**1.300**		**6.18**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BE3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:30**	*Sample Weight:*	**1.0000**

Run Time:



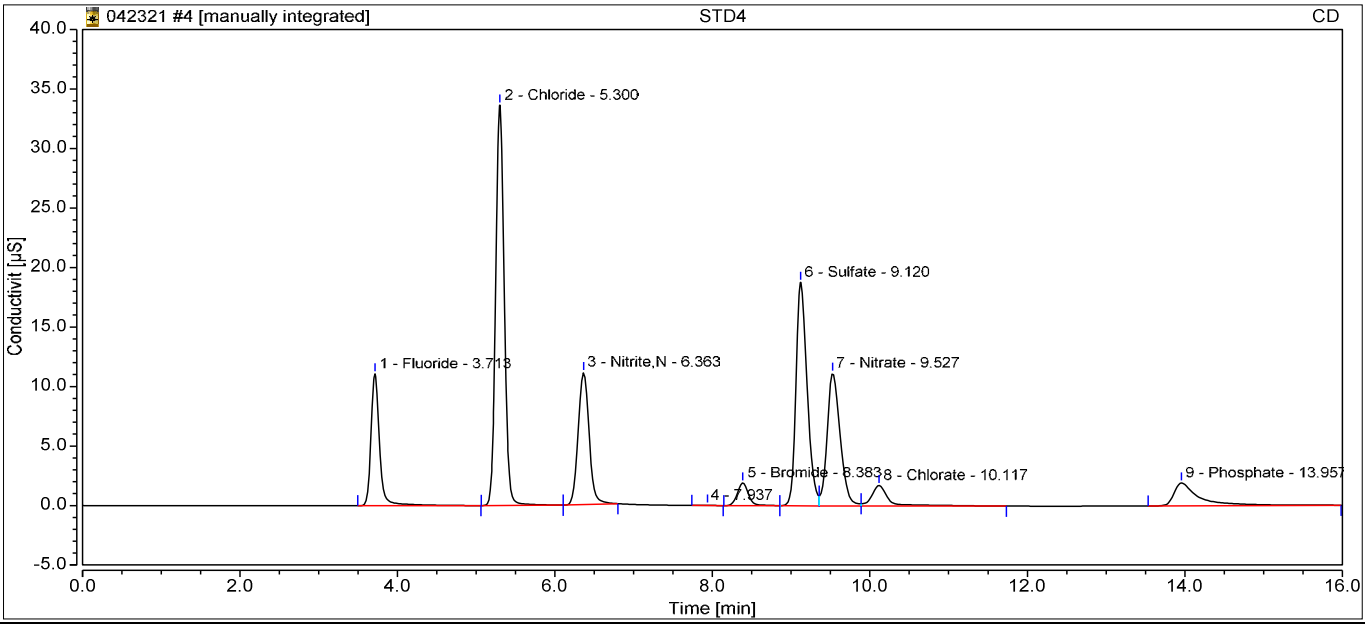
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.701	2.1586	2.1586	1.0000
2	5.30	Chloride	BMb*	2.082	9.9444	9.9444	1.0000
3	6.36	Nitrite,N	bMB*	0.918	2.2461	2.2461	1.0000
5	8.39	Bromide	M	0.152	1.8301	1.8301	1.0000
6	9.16	Sulfate	M	1.509	10.0487	10.0487	1.0000
7	9.56	Nitrate	M	1.072	1.9895	1.9895	1.0000
8	10.12	Chlorate	MB	0.216	2.2126	2.2126	1.0000
9	14.03	Phosphate	BMB	0.322	1.8648	1.8648	1.0000
Total:			**0.000**	**6.971**		**32.29**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BE4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:49**	*Sample Weight:*	**1.0000**

Run Time:



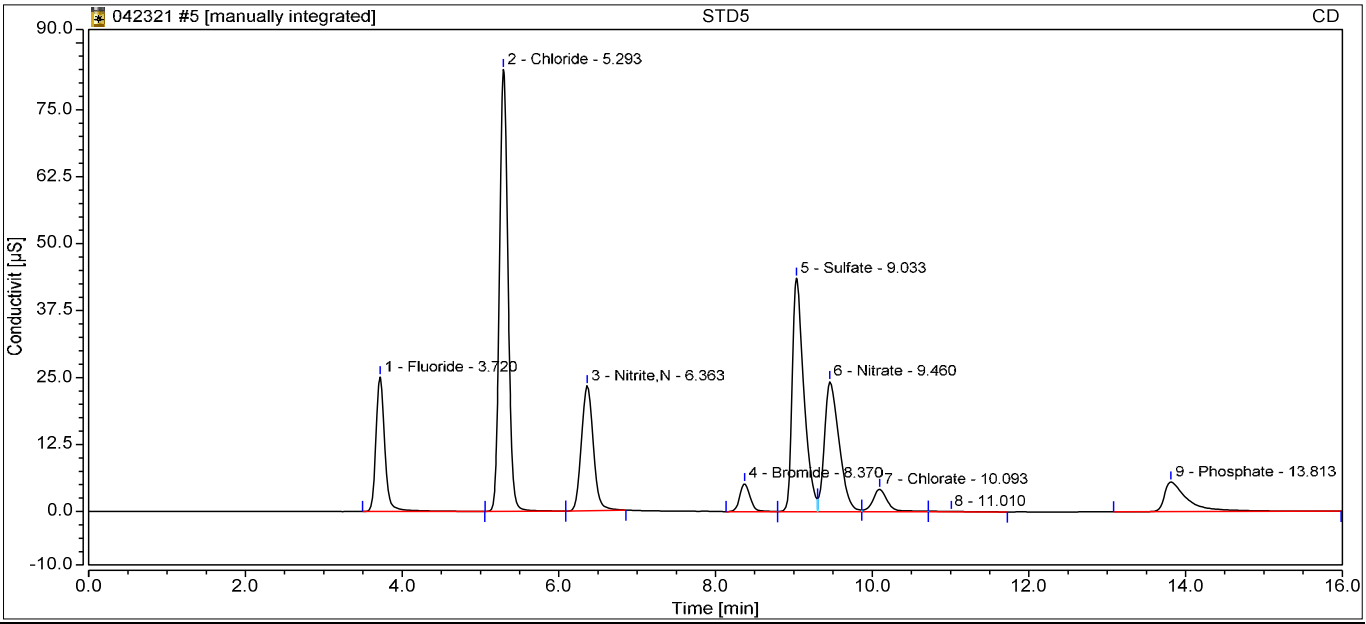
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	1.403	4.3336	4.3336	1.0000
2	5.30	Chloride	BMb*	4.203	20.1063	20.1063	1.0000
3	6.36	Nitrite,N	bMB*	1.787	4.4092	4.4092	1.0000
5	8.38	Bromide	BM	0.313	3.8179	3.8179	1.0000
6	9.12	Sulfate	M	3.063	20.3070	20.3070	1.0000
7	9.53	Nitrate	M	2.148	3.9846	3.9846	1.0000
8	10.12	Chlorate	MB	0.424	4.4085	4.4085	1.0000
9	13.96	Phosphate	BMB	0.719	3.8422	3.8422	1.0000
Total:			**0.000**	**14.060**		**65.21**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BE5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:07**	*Sample Weight:*	**1.0000**

Run Time:



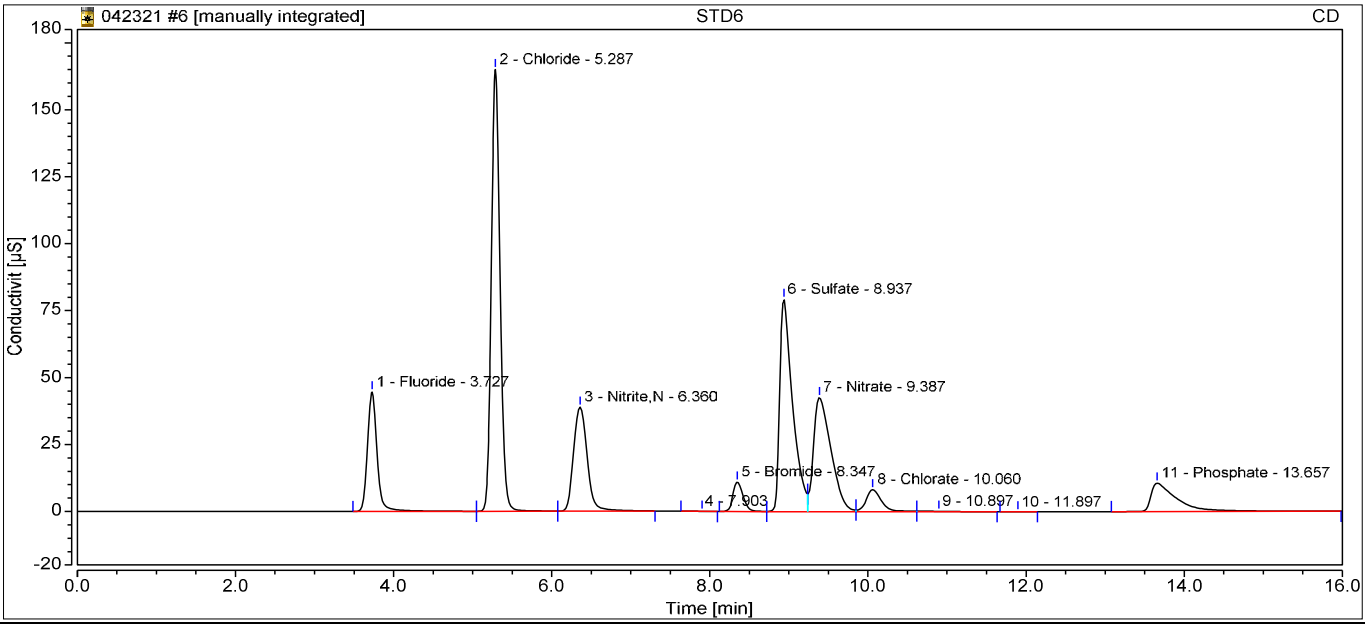
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	3.290	10.1807	10.1807	1.0000
2	5.29	Chloride	BMb*	10.372	49.6551	49.6551	1.0000
3	6.36	Nitrite,N	bMB*	4.114	10.2053	10.2053	1.0000
4	8.37	Bromide	BM	0.808	9.9156	9.9156	1.0000
5	9.03	Sulfate	M	7.557	49.9615	49.9615	1.0000
6	9.46	Nitrate	M	5.301	9.8318	9.8318	1.0000
7	10.09	Chlorate	M	0.936	9.8243	9.8243	1.0000
9	13.81	Phosphate	BMB	1.932	9.8822	9.8822	1.0000
Total:			**0.000**	**34.310**		**159.46**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BE6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:28**	*Sample Weight:*	**1.0000**

Run Time:



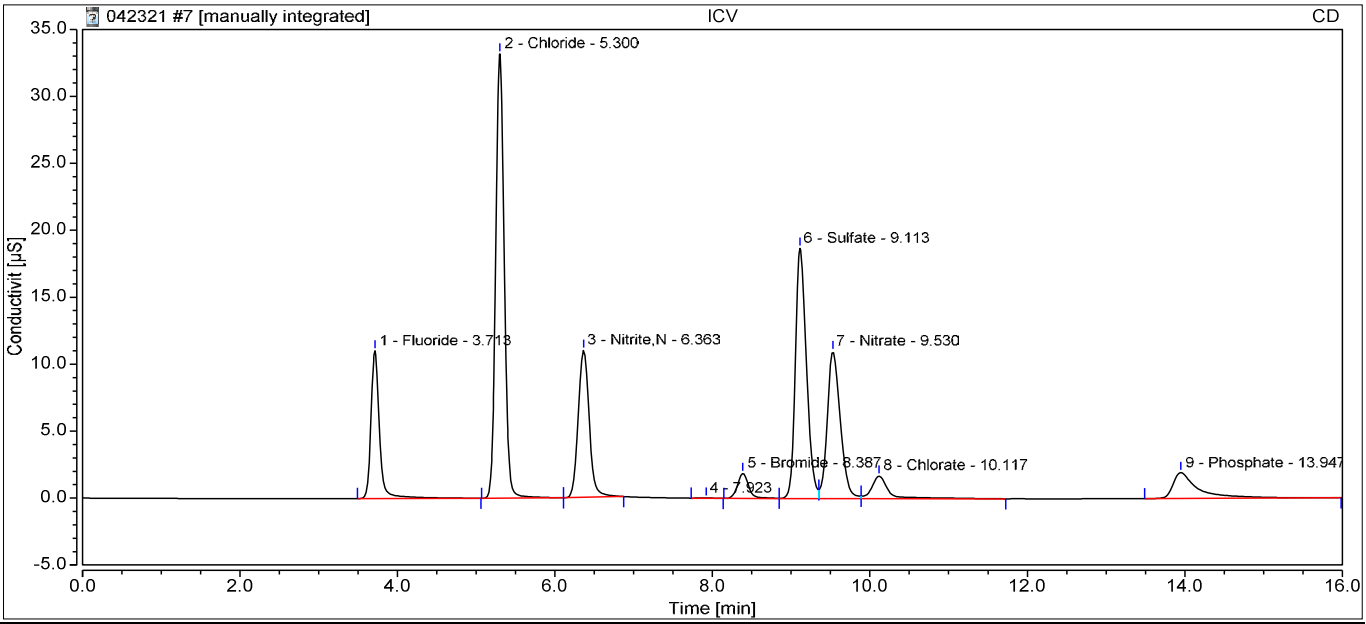
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	6.250	19.3505	19.3505	1.0000
2	5.29	Chloride	BMb*	20.966	100.4024	100.4024	1.0000
3	6.36	Nitrite,N	bMB*	7.710	19.1617	19.1617	1.0000
5	8.35	Bromide	BM	1.662	20.4462	20.4462	1.0000
6	8.94	Sulfate	M	15.110	99.8032	99.8032	1.0000
7	9.39	Nitrate	M	10.889	20.1943	20.1943	1.0000
8	10.06	Chlorate	M	1.852	19.5130	19.5130	1.0000
11	13.66	Phosphate	BMB	4.037	20.3707	20.3707	1.0000
Total:			**0.000**	**68.477**		**319.24**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:46**	*Sample Weight:*	**1.0000**

Run Time:



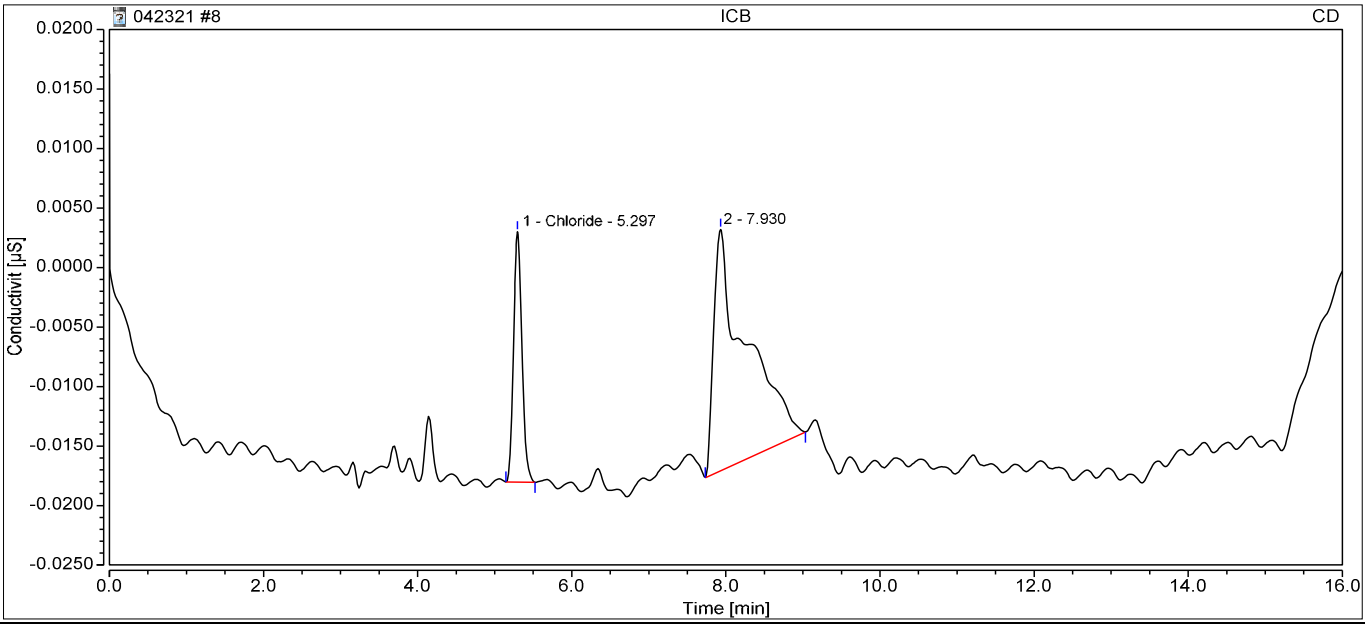
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	1.384	4.2770	4.2770	1.0000
2	5.30	Chloride	BMb*	4.144	19.8205	19.8205	1.0000
3	6.36	Nitrite,N	bMB*	1.777	4.3839	4.3839	1.0000
5	8.39	Bromide	BM	0.309	3.7640	3.7640	1.0000
6	9.11	Sulfate	M	3.024	20.0510	20.0510	1.0000
7	9.53	Nitrate	M	2.119	3.9305	3.9305	1.0000
8	10.12	Chlorate	MB	0.422	4.3868	4.3868	1.0000
9	13.95	Phosphate	BMB	0.725	3.8706	3.8706	1.0000
Total:			**0.000**	**13.903**		**64.48**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BE8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 12:25**	*Sample Weight:*	**1.0000**

Run Time:

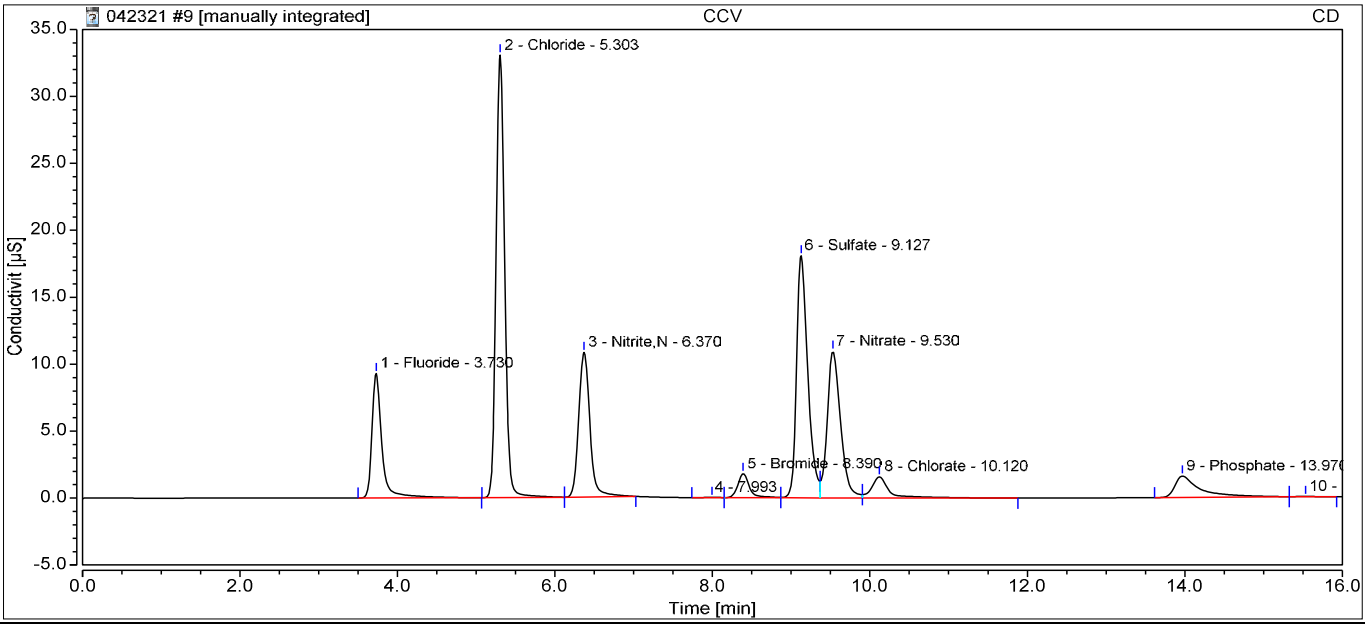


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

9 CCV			
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 09:57**	*Sample Weight:*	**1.0000**

Run Time:



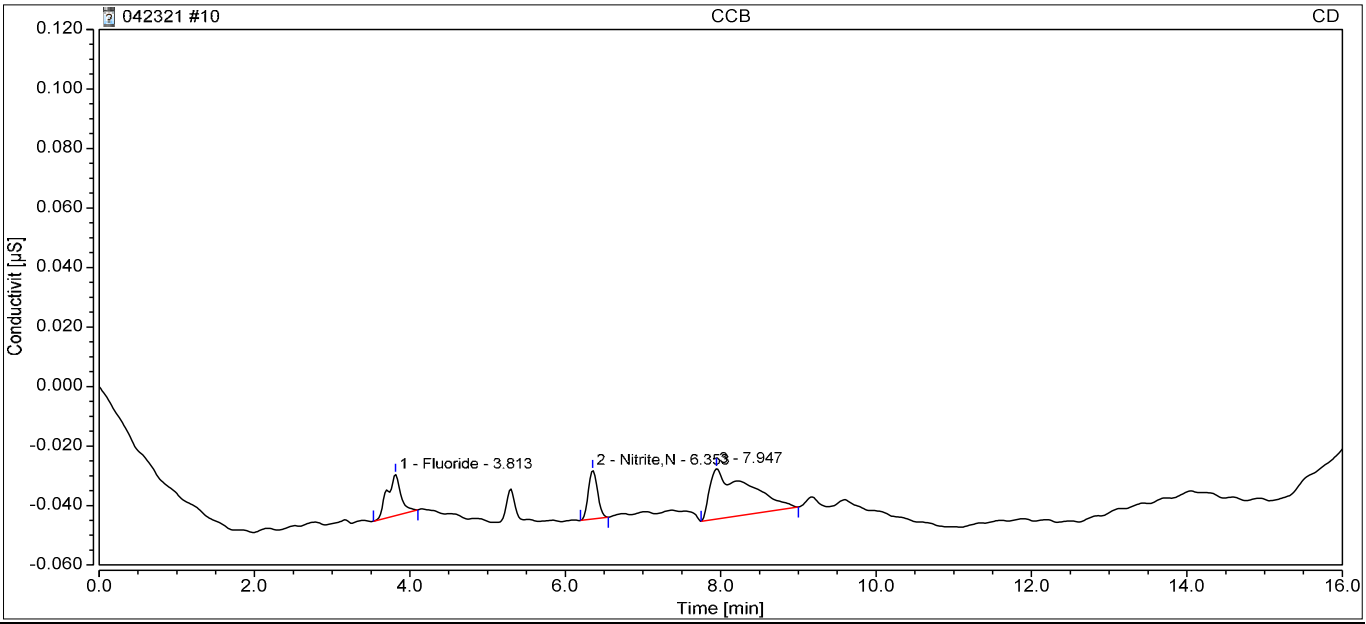
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.367	4.2237	4.2237	1.0000
2	5.30	Chloride	BMb*	4.164	19.9160	19.9160	1.0000
3	6.37	Nitrite,N	bMB*	1.783	4.3996	4.3996	1.0000
5	8.39	Bromide	M	0.310	3.7816	3.7816	1.0000
6	9.13	Sulfate	M	2.981	19.7651	19.7651	1.0000
7	9.53	Nitrate	M	2.152	3.9925	3.9925	1.0000
8	10.12	Chlorate	MB	0.407	4.2257	4.2257	1.0000
9	13.97	Phosphate	BMB	0.591	3.2056	3.2056	1.0000
Total:			**0.000**	**13.755**		**63.51**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 10:15**	*Sample Weight:*	**1.0000**

Run Time:



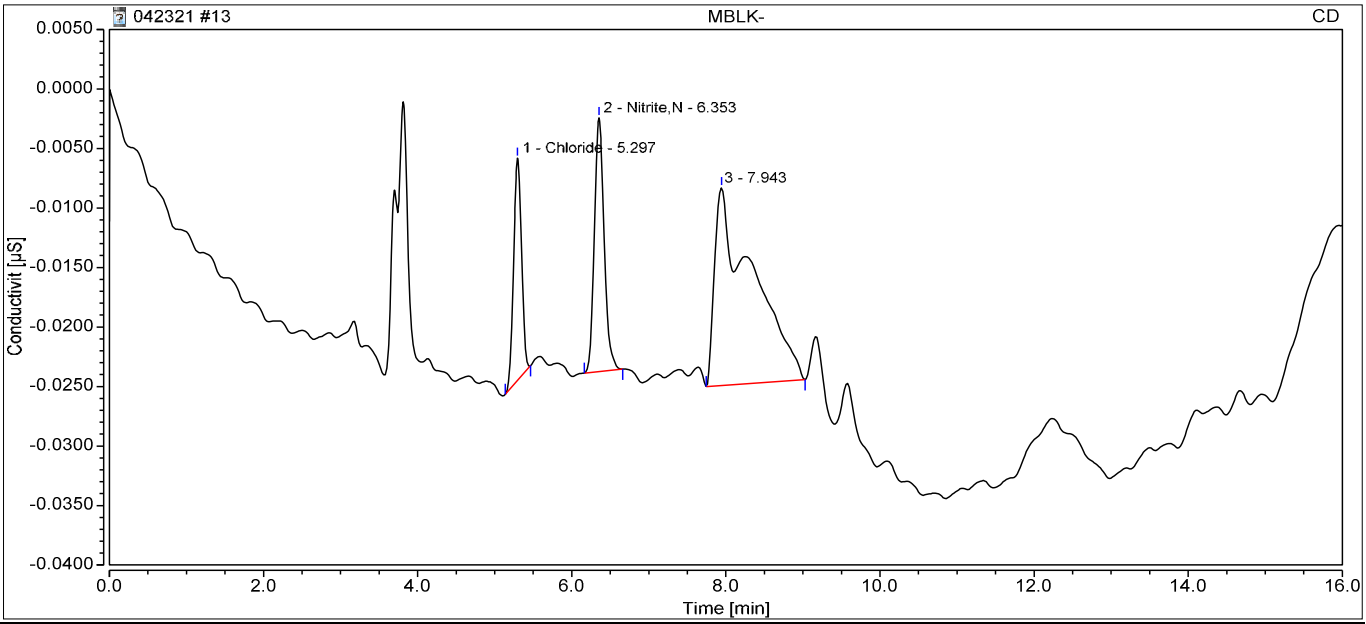
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.81	Fluoride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
2	6.35	Nitrite,N	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.00**	

13 MBLK-

Sample Name:	**MBLK-**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 11:10**	*Sample Weight:*	**1.0000**

Run Time:



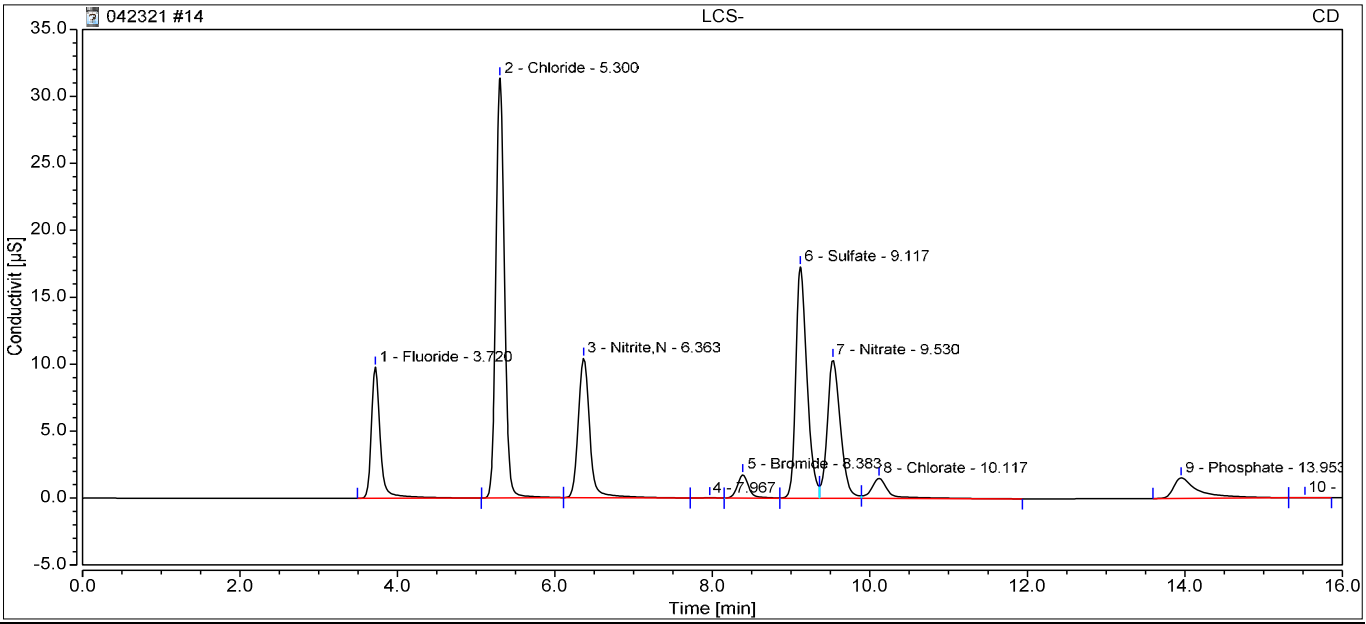
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.002	n.a.	n.a.	1.0000
2	6.35	Nitrite,N	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.00**	

14 LCS-

Sample Name:	**LCS-**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 11:29**	*Sample Weight:*	**1.0000**

Run Time:



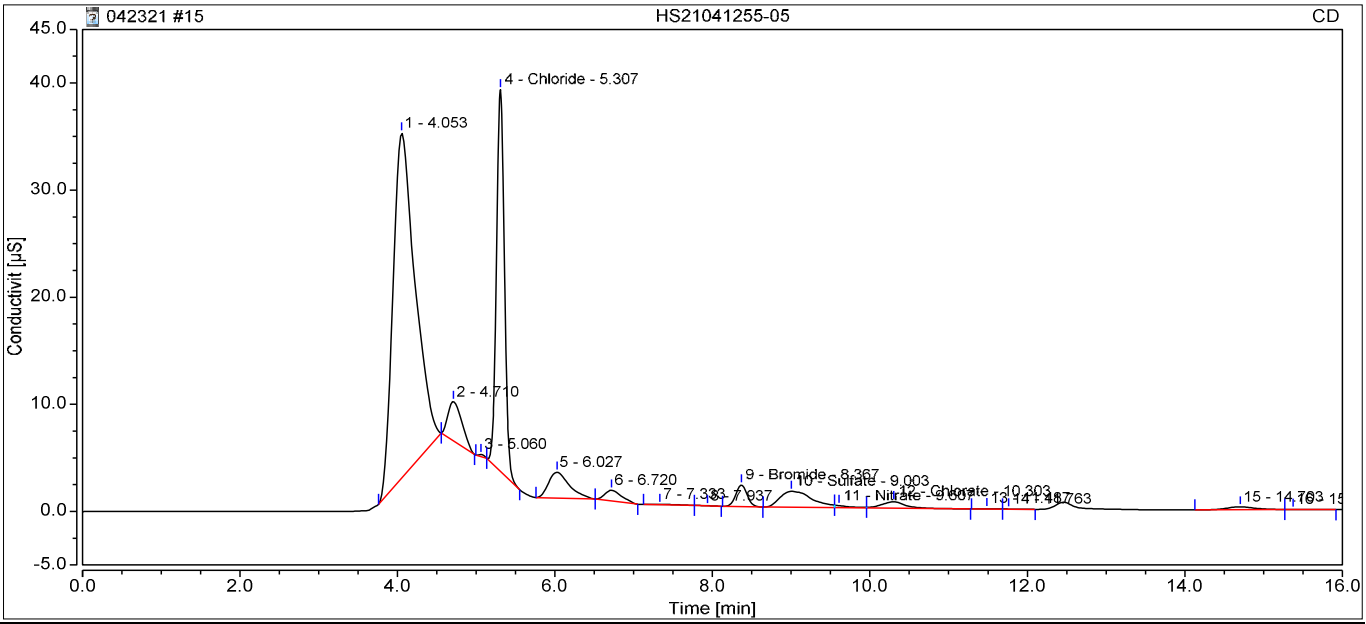
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	1.301	4.0182	4.0182	1.0000
2	5.30	Chloride	BMB	3.950	18.8940	18.8940	1.0000
3	6.36	Nitrite,N	BMB	1.761	4.3445	4.3445	1.0000
5	8.38	Bromide	M	0.292	3.5637	3.5637	1.0000
6	9.12	Sulfate	M	2.834	18.7924	18.7924	1.0000
7	9.53	Nitrate	M	2.009	3.7269	3.7269	1.0000
8	10.12	Chlorate	MB	0.384	3.9839	3.9839	1.0000
9	13.95	Phosphate	BMB	0.555	3.0247	3.0247	1.0000
Total:			**0.000**	**13.086**		**60.35**	

15 HS21041255-05

Sample Name:	**HS21041255-05**	*Injection Volume:*	**5.00**
Vial Number:	**RE3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 13:12**	*Sample Weight:*	**1.0000**

Run Time:



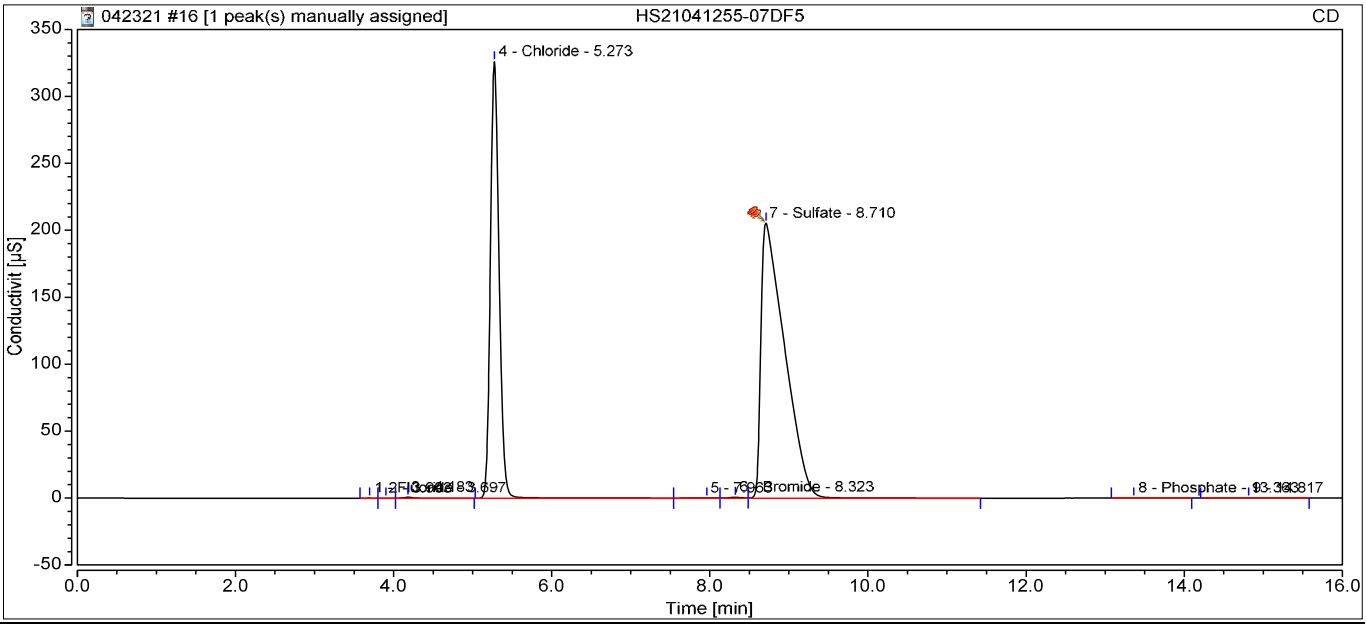
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
4	5.31	Chloride	BMB	4.117	19.6939	19.6939	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
9	8.37	Bromide	BMB	0.338	4.1294	4.1294	1.0000
10	9.00	Sulfate	BM	0.706	4.7532	4.7532	1.0000
11	9.61	Nitrate	M	0.048	0.0908	0.0908	1.0000
12	10.30	Chlorate	MB	0.217	2.2168	2.2168	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**5.426**		**30.88**	

16 HS21041255-07DF5

Sample Name:	**HS21041255-07DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RE4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**04/23/2021 13:30**	*Sample Weight:*	**1.0000**

Run Time:



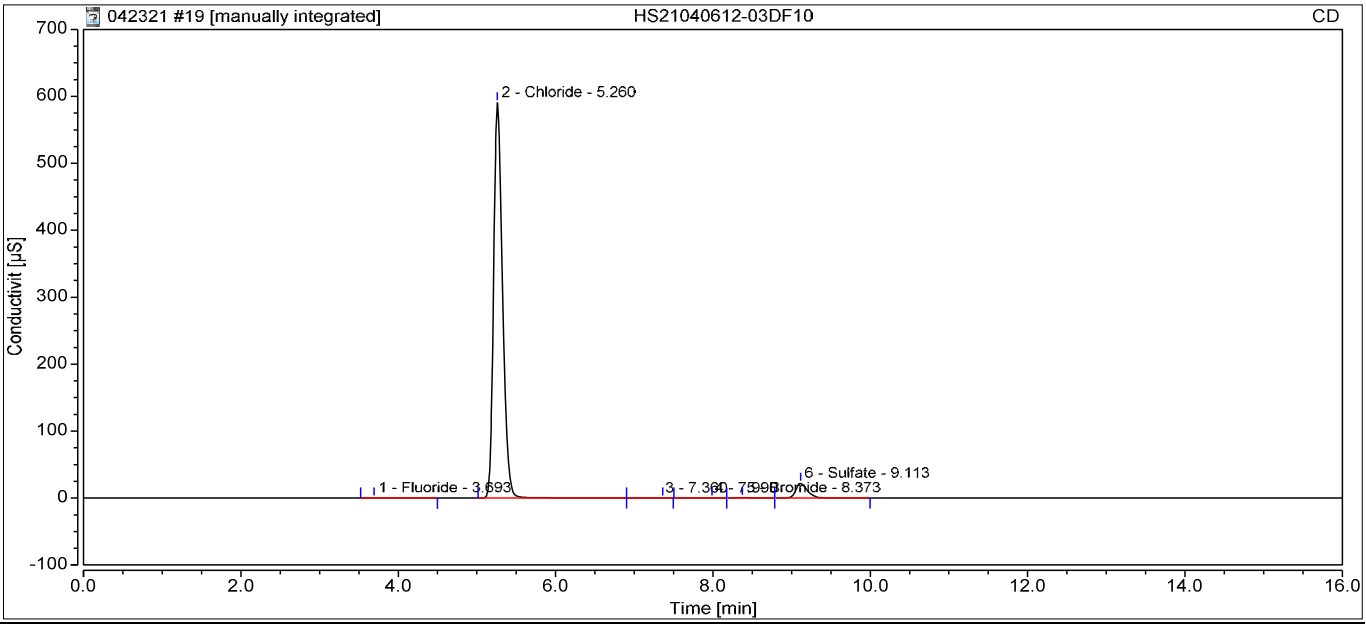
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.006	0.0055	0.0277	5.0000
4	5.27	Chloride	BMB	41.522	198.8690	994.3449	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
6	8.32	Bromide	M	0.126	1.5183	7.5913	5.0000
7	8.71	Sulfate	MB^	70.790	467.2172	2336.0861	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
8	13.36	Phosphate	BMB	0.029	0.4016	2.0078	5.0000
Total:			**0.000**	**112.472**		**3340.06**	

19 HS21040612-03DF10

Sample Name:	**HS21040612-03DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**04/23/2021 14:25**	*Sample Weight:*	**1.0000**

Run Time:



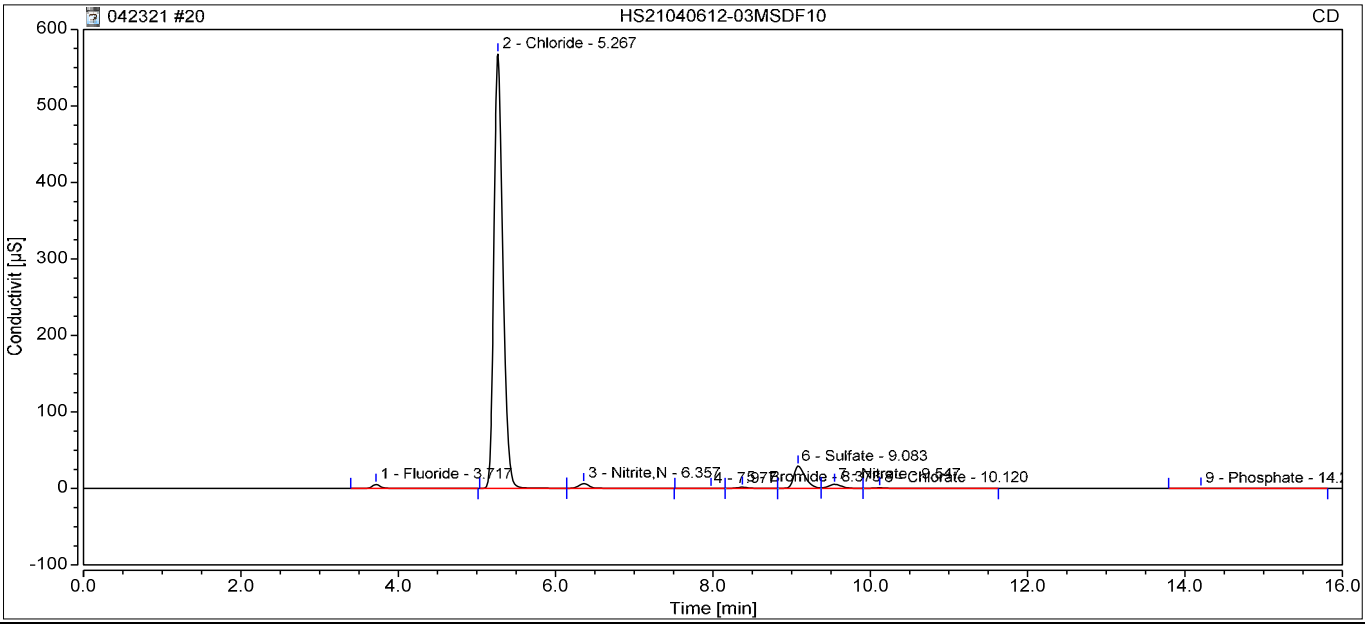
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.69	Fluoride	BMB	0.017	0.0399	0.3990	10.0000
2	5.26	Chloride	BMB	77.672	372.0311	3720.3115	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
5	8.37	Bromide	M *	0.159	1.9217	19.2167	10.0000
6	9.11	Sulfate	MB*	3.798	25.1578	251.5779	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**81.646**		**3991.51**	

20 HS21040612-03MSDF10

Sample Name:	**HS21040612-03MSDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**04/23/2021 14:44**	*Sample Weight:*	**1.0000**

Run Time:



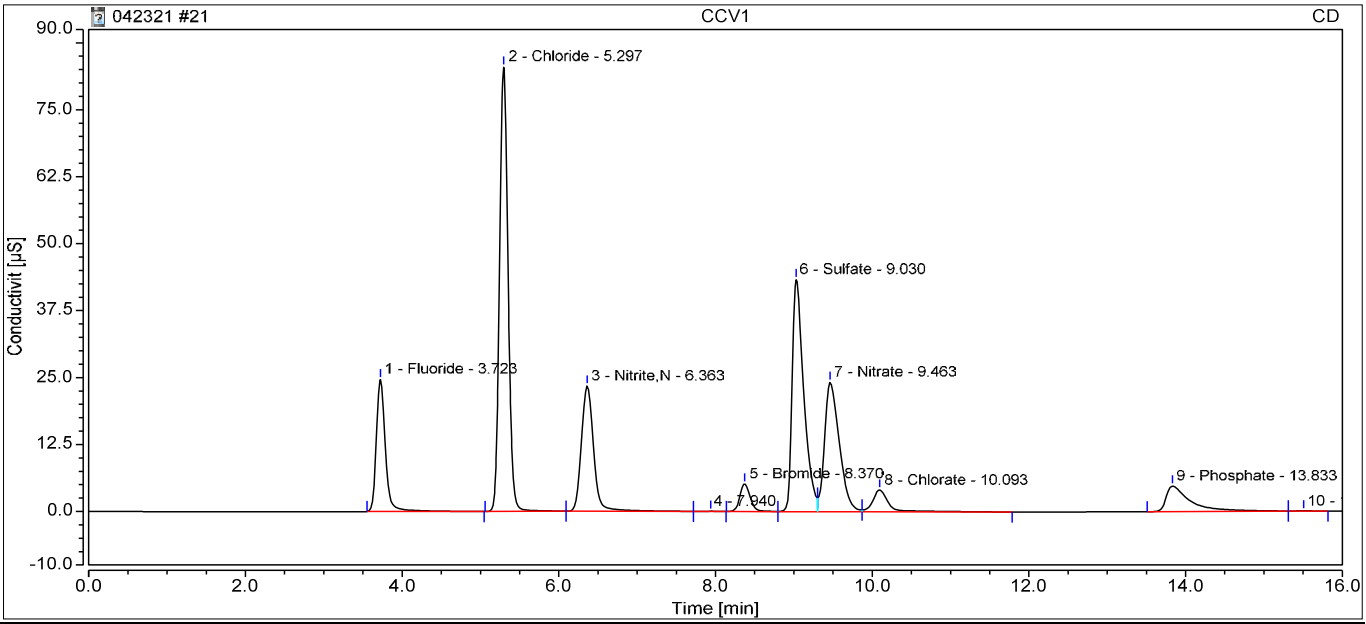
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.724	2.2326	22.3258	10.0000
2	5.27	Chloride	BMB	74.525	356.9552	3569.5523	10.0000
3	6.36	Nitrite,N	BMB	0.976	2.3887	23.8872	10.0000
5	8.37	Bromide	M	0.311	3.7973	37.9726	10.0000
6	9.08	Sulfate	M	5.007	33.1323	331.3234	10.0000
7	9.55	Nitrate	M	1.097	2.0368	20.3681	10.0000
8	10.12	Chlorate	MB	0.222	2.2685	22.6853	10.0000
9	14.20	Phosphate	BMB	0.166	1.0854	10.8538	10.0000
Total:			**0.000**	**83.027**		**4038.97**	

21 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 15:02**	*Sample Weight:*	**1.0000**

Run Time:



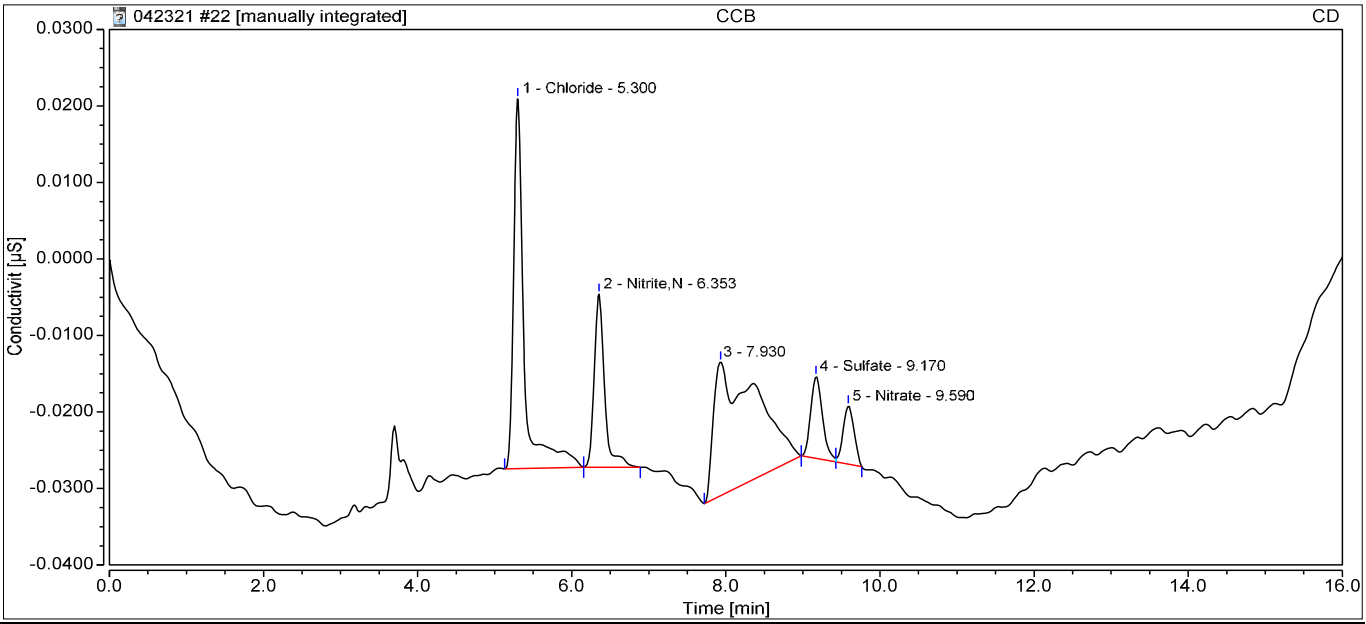
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	3.275	10.1334	10.1334	1.0000
2	5.30	Chloride	BMB	10.421	49.8897	49.8897	1.0000
3	6.36	Nitrite,N	BMB	4.233	10.5033	10.5033	1.0000
5	8.37	Bromide	BM	0.795	9.7527	9.7527	1.0000
6	9.03	Sulfate	M	7.475	49.4230	49.4230	1.0000
7	9.46	Nitrate	M	5.290	9.8111	9.8111	1.0000
8	10.09	Chlorate	MB	0.963	10.1148	10.1148	1.0000
9	13.83	Phosphate	BMB	1.701	8.7354	8.7354	1.0000
Total:			**0.000**	**34.154**		**158.36**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 15:39**	*Sample Weight:*	**1.0000**

Run Time:



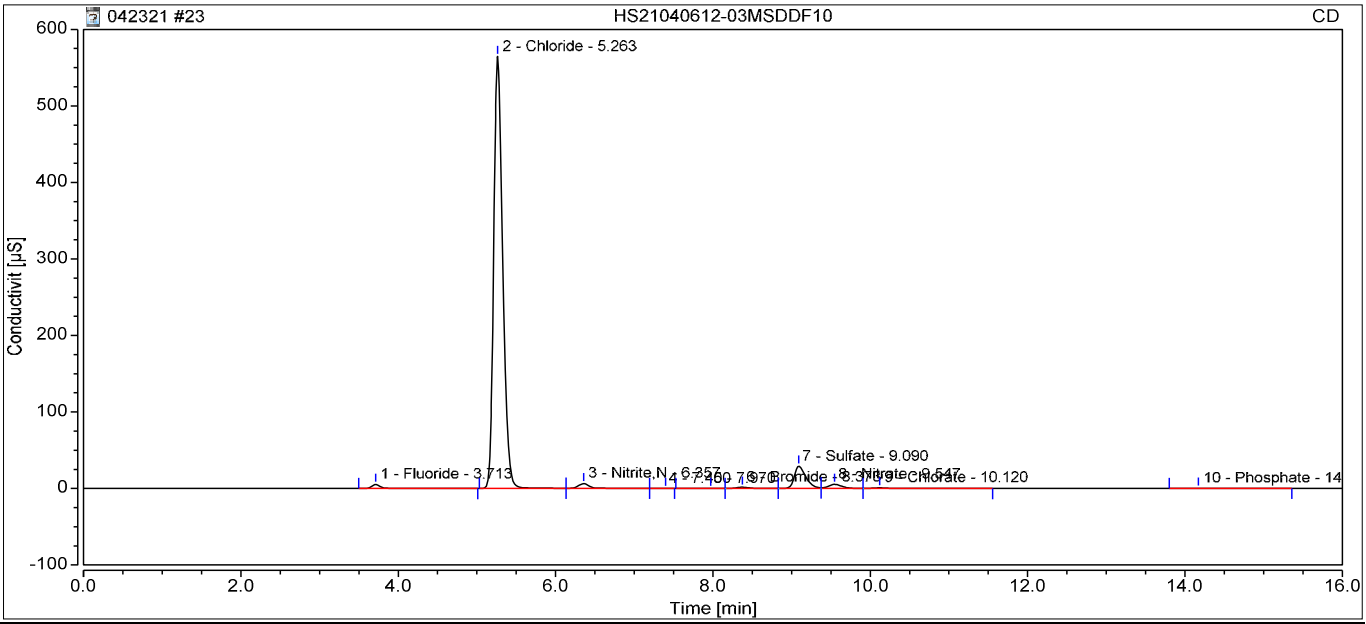
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.008	0.0079	0.0079	1.0000
2	6.35	Nitrite,N	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	9.17	Sulfate	bM *	0.002	0.1068	0.1068	1.0000
5	9.59	Nitrate	MB*	0.001	0.0044	0.0044	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.014**		**0.12**	

23 HS21040612-03MSDDF10

Sample Name:	**HS21040612-03MSDDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**04/23/2021 15:57**	*Sample Weight:*	**1.0000**

Run Time:

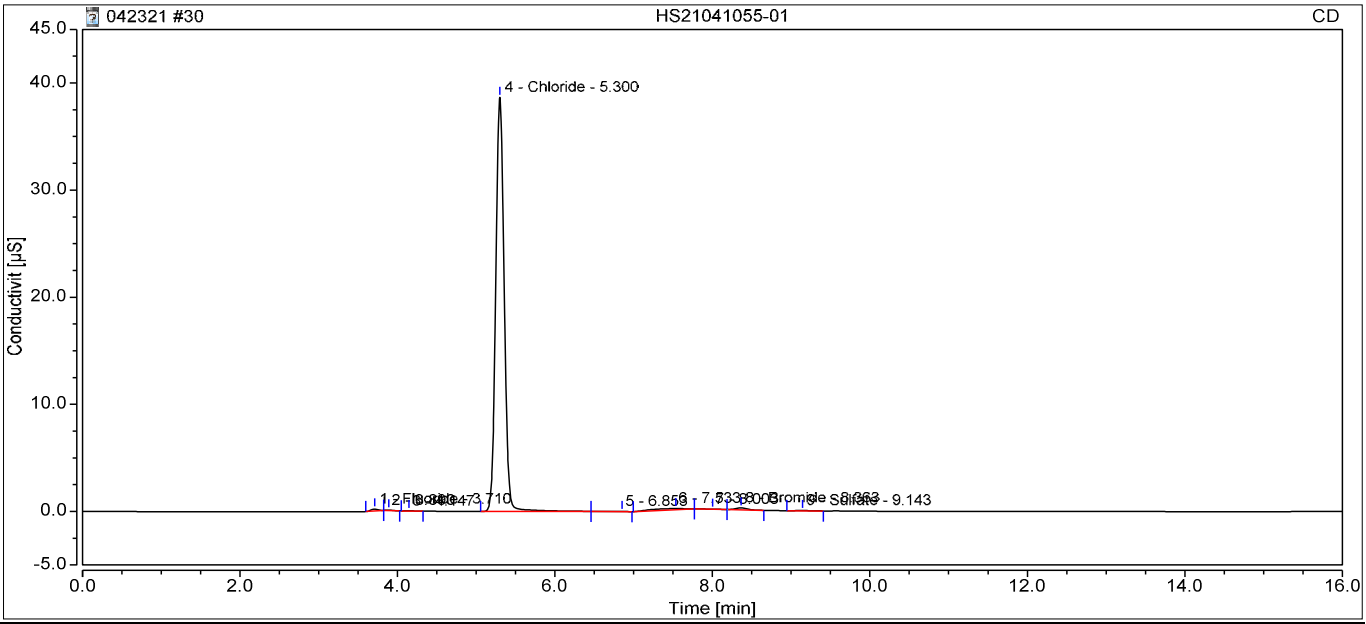


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.724	2.2320	22.3199	10.0000
2	5.26	Chloride	BMB	74.570	357.1721	3571.7206	10.0000
3	6.36	Nitrite,N	BMB	0.955	2.3371	23.3709	10.0000
6	8.37	Bromide	M	0.316	3.8609	38.6087	10.0000
7	9.09	Sulfate	M	4.974	32.9189	329.1893	10.0000
8	9.55	Nitrate	M	1.096	2.0352	20.3517	10.0000
9	10.12	Chlorate	MB	0.222	2.2696	22.6961	10.0000
10	14.17	Phosphate	BMB	0.161	1.0631	10.6308	10.0000
Total:			**0.000**	**83.019**		**4038.89**	

30 HS21041055-01			
Sample Name:	**HS21041055-01**	*Injection Volume:*	**5.00**
Vial Number:	**RB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 18:06**	*Sample Weight:*	**1.0000**

Run Time:



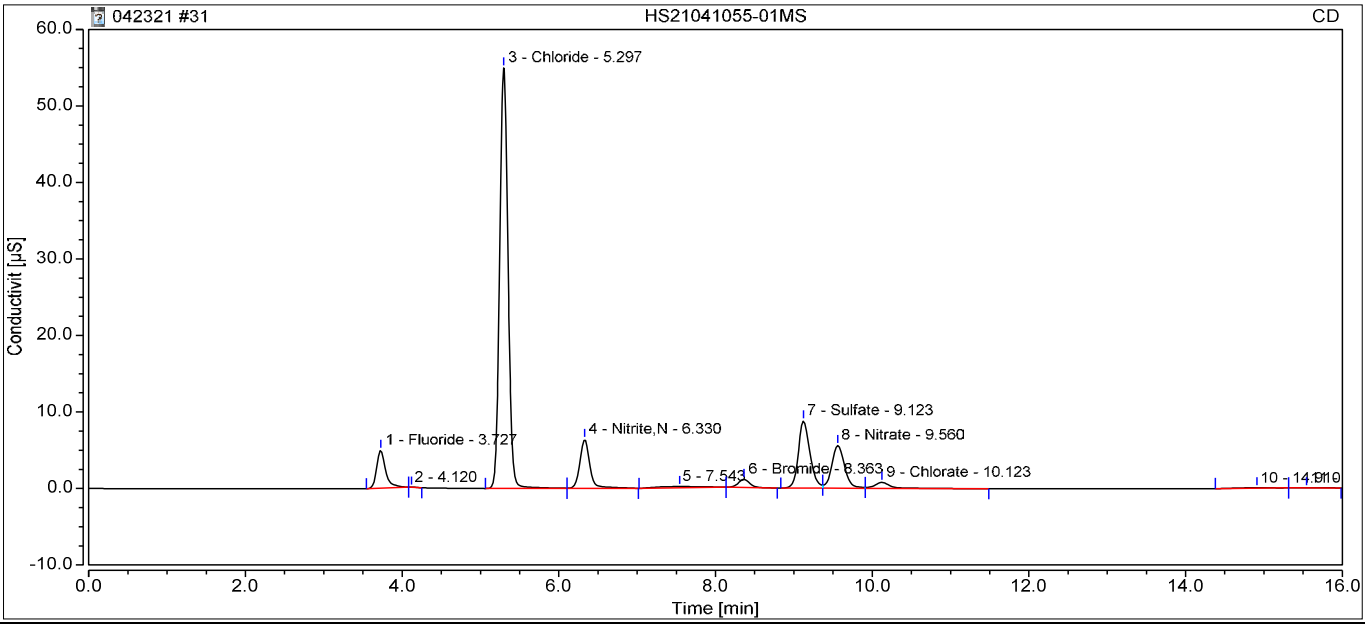
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.018	0.0429	0.0429	1.0000
4	5.30	Chloride	BMB	4.770	22.8212	22.8212	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
8	8.36	Bromide	MB	0.031	0.3425	0.3425	1.0000
9	9.14	Sulfate	BMB	0.006	0.1333	0.1333	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**4.825**		**23.34**	

31 HS21041055-01MS

Sample Name:	**HS21041055-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**RB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 18:25**	*Sample Weight:*	**1.0000**

Run Time:



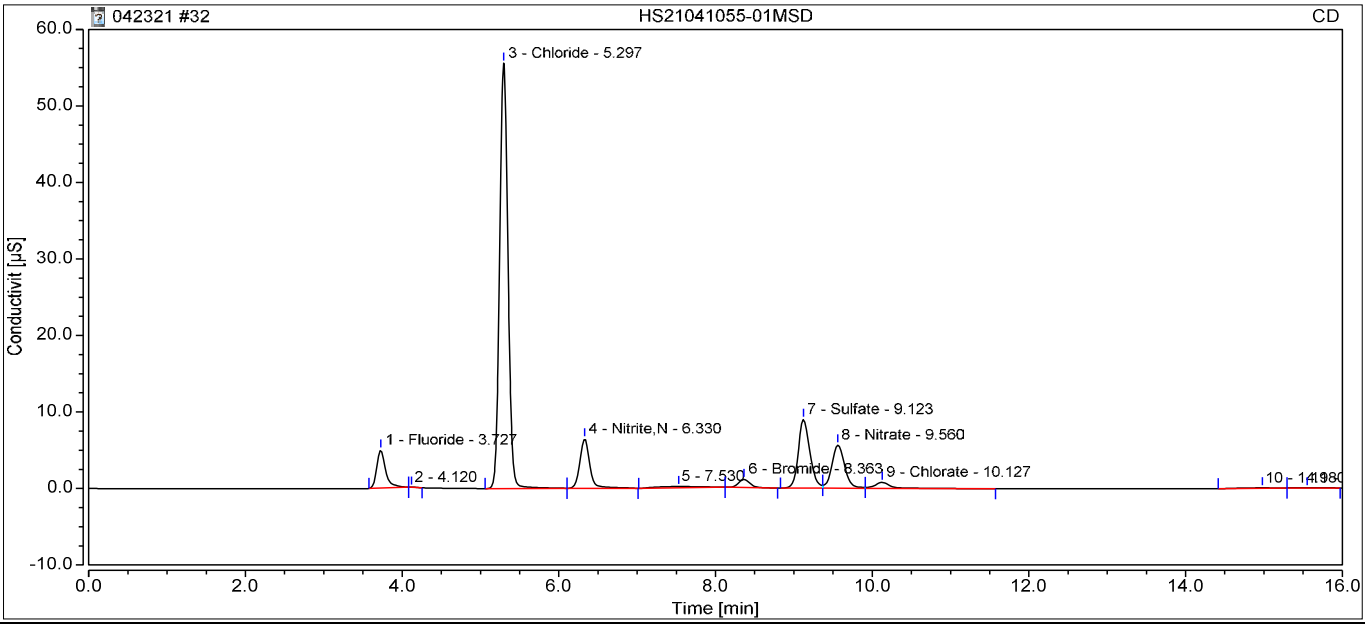
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.650	2.0031	2.0031	1.0000
3	5.30	Chloride	BMB	6.756	32.3336	32.3336	1.0000
4	6.33	Nitrite,N	BMB	0.953	2.3316	2.3316	1.0000
6	8.36	Bromide	BMB	0.180	2.1813	2.1813	1.0000
7	9.12	Sulfate	BM	1.504	10.0186	10.0186	1.0000
8	9.56	Nitrate	M	1.054	1.9562	1.9562	1.0000
9	10.12	Chlorate	MB	0.189	1.9271	1.9271	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**11.286**		**52.75**	

32 HS21041055-01MSD

Sample Name:	**HS21041055-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 18:43**	*Sample Weight:*	**1.0000**

Run Time:



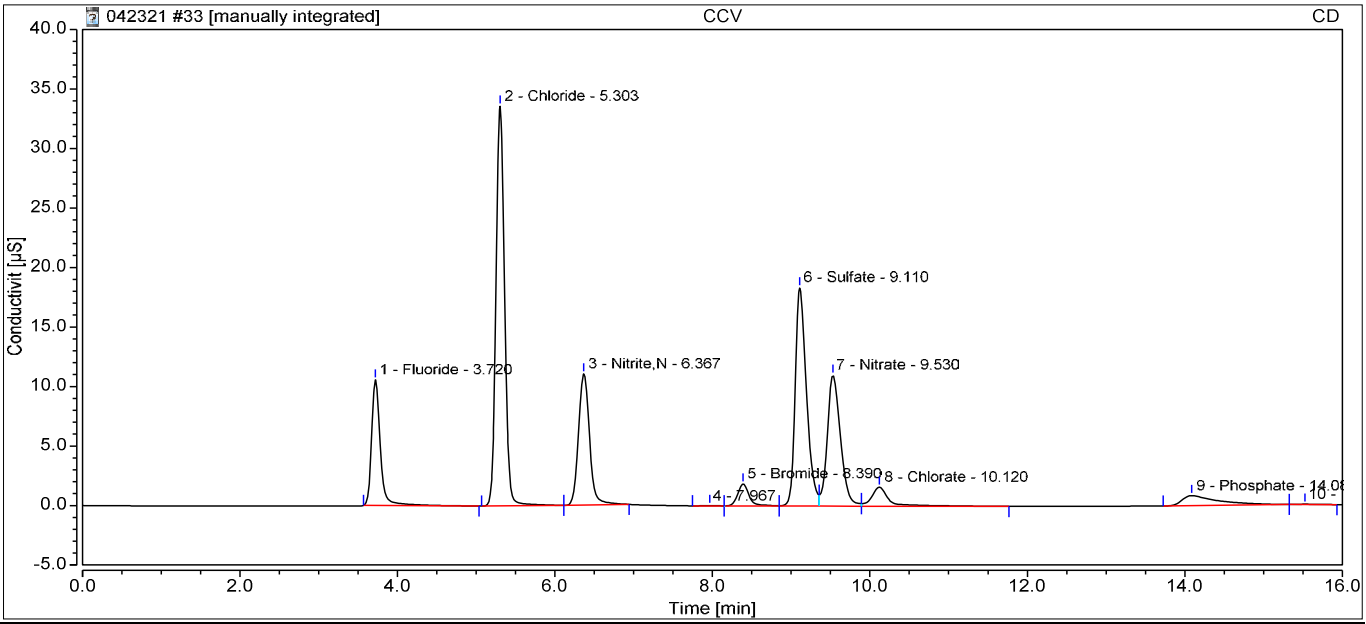
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.649	1.9992	1.9992	1.0000
3	5.30	Chloride	BMB	6.828	32.6801	32.6801	1.0000
4	6.33	Nitrite,N	BMB	0.963	2.3570	2.3570	1.0000
6	8.36	Bromide	BMB	0.180	2.1855	2.1855	1.0000
7	9.12	Sulfate	BM	1.536	10.2291	10.2291	1.0000
8	9.56	Nitrate	M	1.063	1.9726	1.9726	1.0000
9	10.13	Chlorate	MB	0.191	1.9470	1.9470	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**11.411**		**53.37**	

33 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 19:01**	*Sample Weight:*	**1.0000**

Run Time:



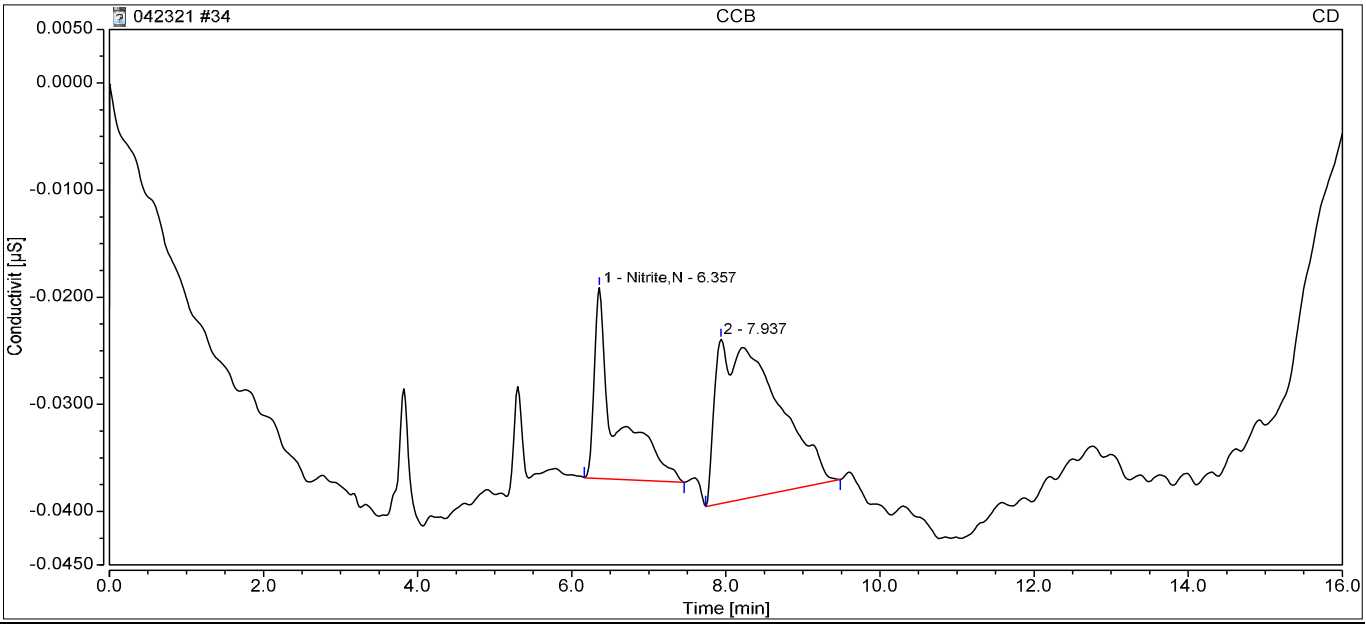
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	1.356	4.1888	4.1888	1.0000
2	5.30	Chloride	BMb*	4.208	20.1272	20.1272	1.0000
3	6.37	Nitrite,N	bMB*	1.792	4.4209	4.4209	1.0000
5	8.39	Bromide	M	0.311	3.7894	3.7894	1.0000
6	9.11	Sulfate	M	3.017	20.0020	20.0020	1.0000
7	9.53	Nitrate	M	2.144	3.9777	3.9777	1.0000
8	10.12	Chlorate	MB	0.413	4.2906	4.2906	1.0000
9	14.09	Phosphate	BMB	0.445	2.4764	2.4764	1.0000
Total:			**0.000**	**13.685**		**63.27**	

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 19:38**	*Sample Weight:*	**1.0000**

Run Time:



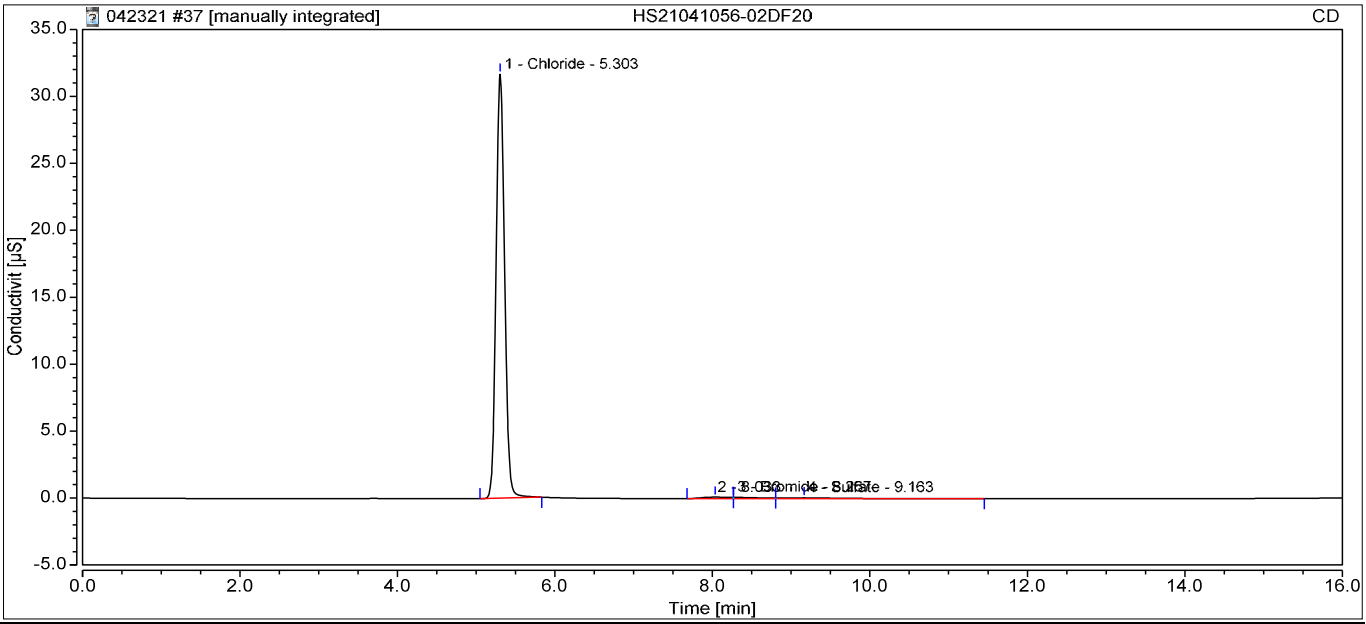
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	6.36	Nitrite,N	BMB	0.006	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.006**		**0.00**	

37 HS21041056-02DF20

Sample Name:	**HS21041056-02DF20**	*Injection Volume:*	**5.00**
Vial Number:	**RB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**04/23/2021 20:33**	*Sample Weight:*	**1.0000**

Run Time:



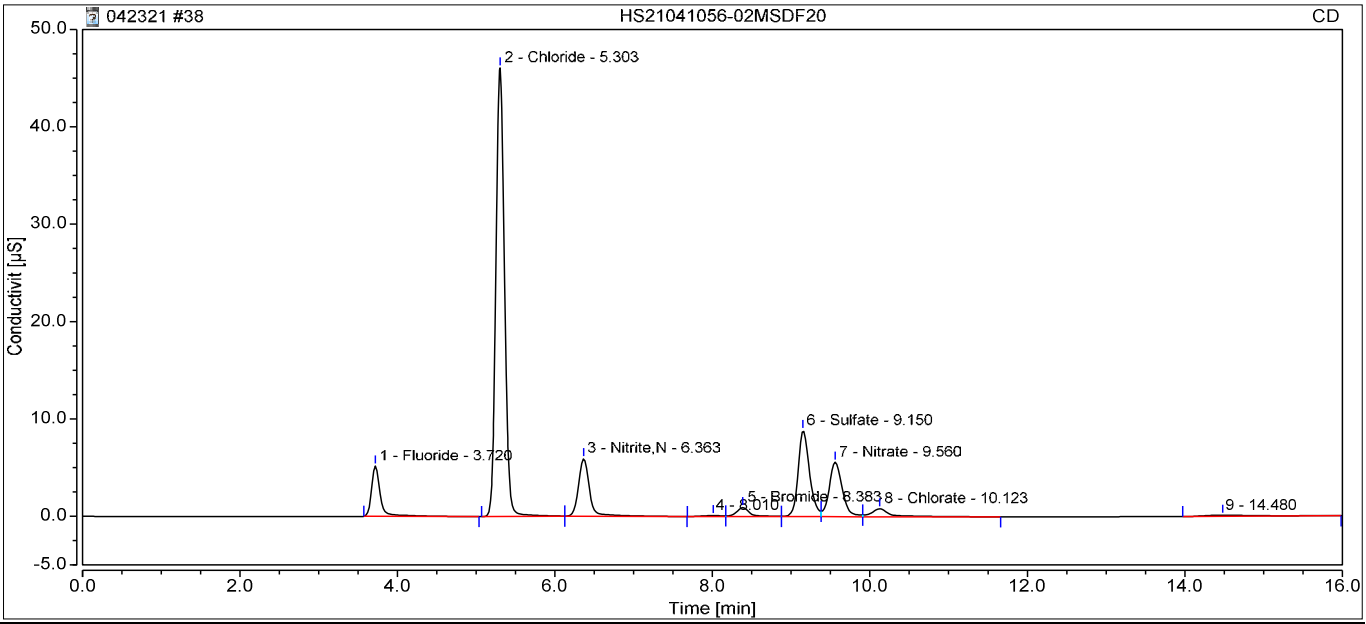
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	20.0000
1	5.30	Chloride	BMB*	3.931	18.8035	376.0709	20.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	20.0000
3	8.27	Bromide	M	0.036	0.4037	8.0738	20.0000
4	9.16	Sulfate	MB	0.052	0.4404	8.8085	20.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**4.020**		**392.95**	

38 HS21041056-02MSDF20

Sample Name:	**HS21041056-02MSDF20**	*Injection Volume:*	**5.00**
Vial Number:	**RC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**04/23/2021 20:52**	*Sample Weight:*	**1.0000**

Run Time:



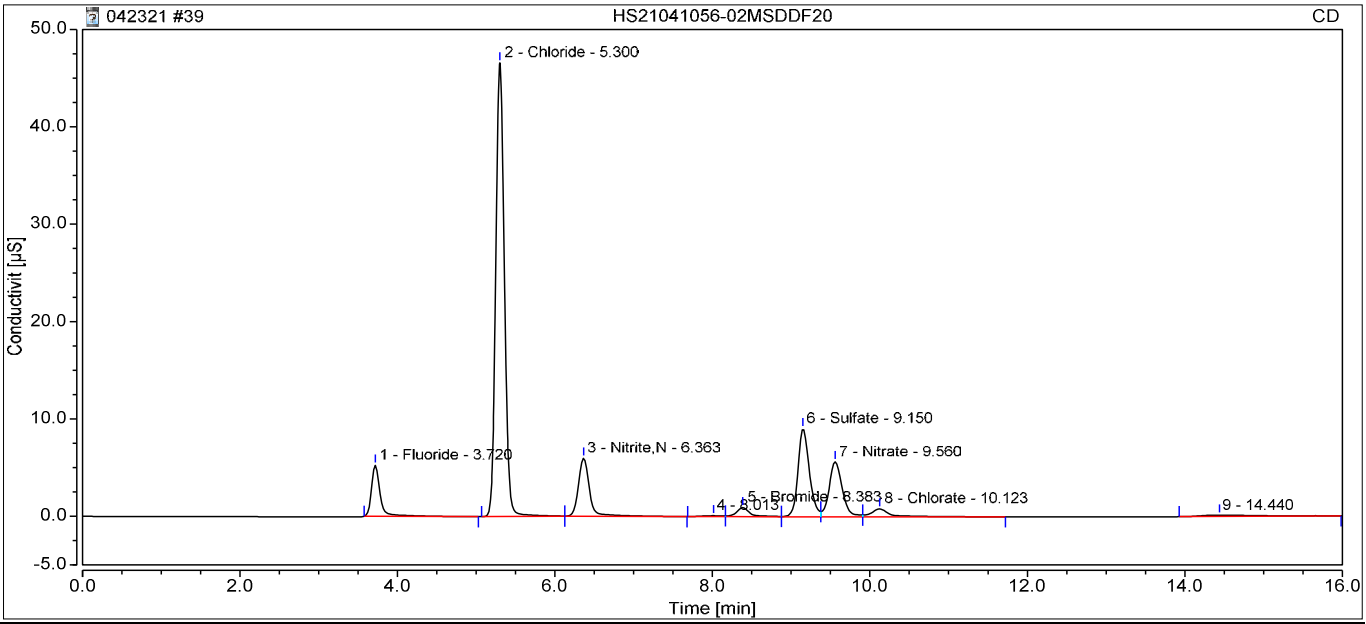
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.671	2.0669	41.3387	20.0000
2	5.30	Chloride	BMB	5.782	27.6675	553.3508	20.0000
3	6.36	Nitrite,N	BMB	0.961	2.3530	47.0604	20.0000
5	8.38	Bromide	M	0.185	2.2375	44.7504	20.0000
6	9.15	Sulfate	M	1.481	9.8653	197.3066	20.0000
7	9.56	Nitrate	M	1.076	1.9965	39.9309	20.0000
8	10.12	Chlorate	MB	0.231	2.3723	47.4452	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**10.387**		**971.18**	

39 HS21041056-02MSDDF20

Sample Name:	**HS21041056-02MSDDF20**	*Injection Volume:*	**5.00**
Vial Number:	**RC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**04/23/2021 21:10**	*Sample Weight:*	**1.0000**

Run Time:



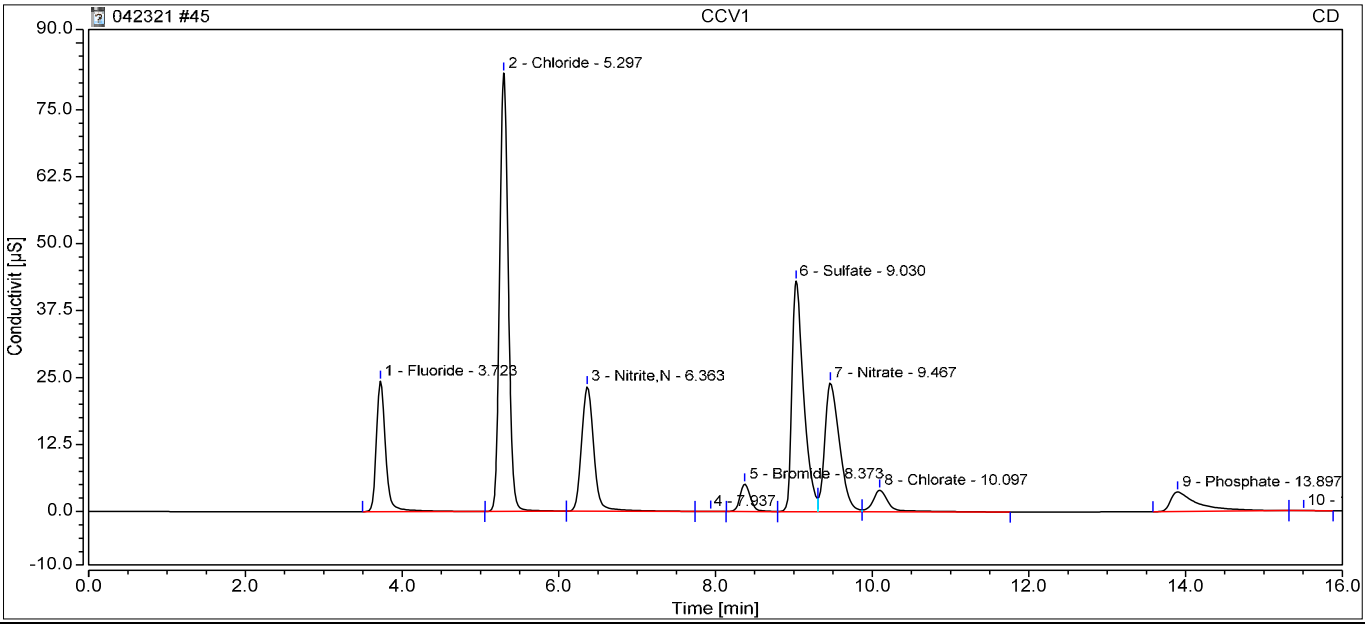
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.677	2.0855	41.7107	20.0000
2	5.30	Chloride	BMB	5.859	28.0354	560.7089	20.0000
3	6.36	Nitrite,N	BMB	0.974	2.3843	47.6853	20.0000
5	8.38	Bromide	M	0.186	2.2516	45.0329	20.0000
6	9.15	Sulfate	M	1.507	10.0384	200.7690	20.0000
7	9.56	Nitrate	M	1.085	2.0147	40.2937	20.0000
8	10.12	Chlorate	MB	0.227	2.3276	46.5523	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**10.515**		**982.75**	

45 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 23:01**	*Sample Weight:*	**1.0000**

Run Time:



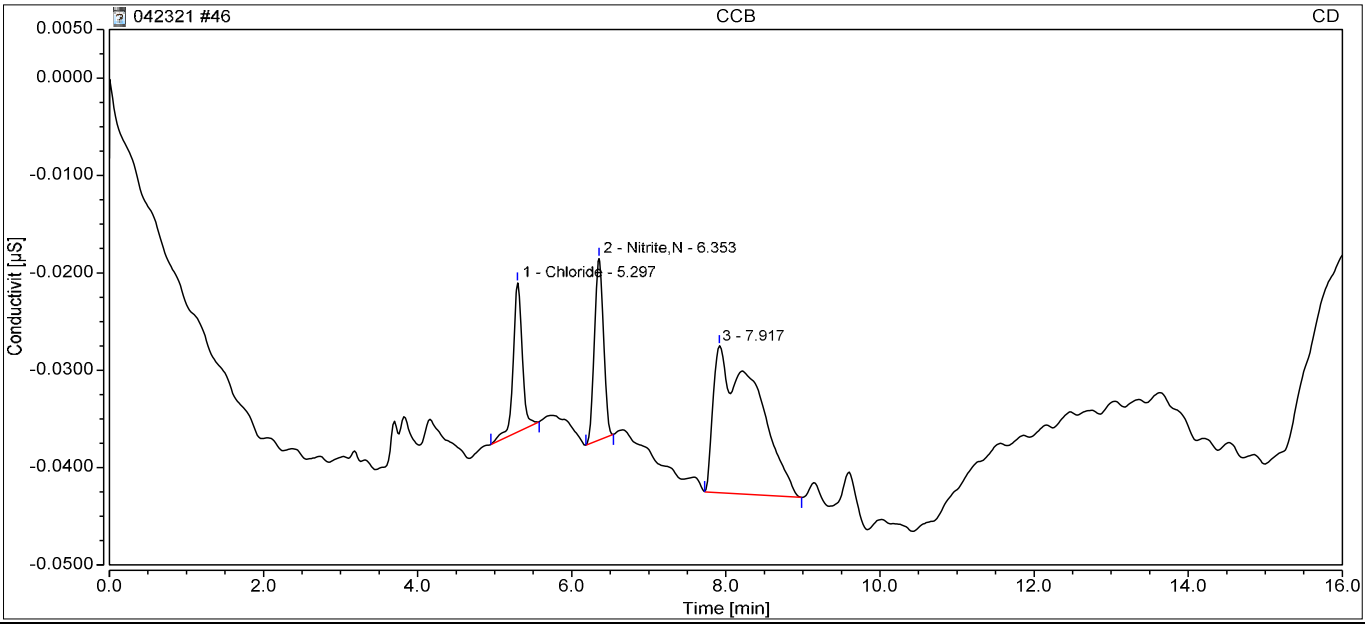
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	3.328	10.2974	10.2974	1.0000
2	5.30	Chloride	BMB	10.401	49.7944	49.7944	1.0000
3	6.36	Nitrite,N	BMB	4.233	10.5023	10.5023	1.0000
5	8.37	Bromide	BM	0.795	9.7580	9.7580	1.0000
6	9.03	Sulfate	M	7.470	49.3884	49.3884	1.0000
7	9.47	Nitrate	M	5.275	9.7842	9.7842	1.0000
8	10.10	Chlorate	MB	0.962	10.0997	10.0997	1.0000
9	13.90	Phosphate	BMB	1.482	7.6428	7.6428	1.0000
Total:			**0.000**	**33.947**		**157.27**	

46 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/23/2021 23:38**	*Sample Weight:*	**1.0000**

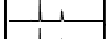
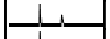
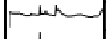
Run Time:



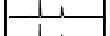
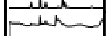
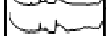
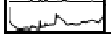
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.002	n.a.	n.a.	1.0000
2	6.35	Nitrite,N	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.00**	

Sequence: 043021
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method
	STD1		Calibration	BE1	1.00	1	Anions Program 06022020.1	Anions Processing Method
	STD2		Calibration	BE2	1.00	2	Anions Program 06022020.1	Anions Processing Method
	STD3		Calibration	BE3	1.00	3	Anions Program 06022020.1	Anions Processing Method
	STD4		Calibration	BE4	1.00	4	Anions Program 06022020.1	Anions Processing Method
	STD5		Calibration	BE5	1.00	5	Anions Program 06022020.1	Anions Processing Method
	STD6		Calibration	BE6	1.00	6	Anions Program 06022020.1	Anions Processing Method
	ICV		Unknown	BE7	1.00		Anions Program 06022020.1	Anions Processing Method
	ICB		Unknown	BE8	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041595-02		Unknown	RA4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041595-02MS		Unknown	RA5	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041595-02MSD		Unknown	RA6	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R8	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method
	HS21041255-07DF50		Unknown	RC2	50.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R6	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV1		Unknown	R3	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R8	1.00		Anions Program 06022020.1	Anions Processing Method
	MBLK-		Unknown	R5	1.00		Anions Program 06022020.1	Anions Processing Method
	LCS-		Unknown	R2	1.00		Anions Program 06022020.1	Anions Processing Method
	CCV		Unknown	R1	1.00		Anions Program 06022020.1	Anions Processing Method
	CCB		Unknown	R4	1.00		Anions Program 06022020.1	Anions Processing Method

Sequence: 043021
Last Update Operator: alshs.nouser

CD	Name	Volume	Status	Inject Time
	STD1	5.0	Finished	4/20/2021 9:54:11 AM -05:00
	STD2	5.0	Finished	4/20/2021 10:12:33 AM -05:00
	STD3	5.0	Finished	4/20/2021 10:30:56 AM -05:00
	STD4	5.0	Finished	4/20/2021 10:49:20 AM -05:00
	STD5	5.0	Finished	4/20/2021 11:07:48 AM -05:00
	STD6	5.0	Finished	4/20/2021 11:28:05 AM -05:00
	ICV	5.0	Finished	4/20/2021 11:46:31 AM -05:00
	ICB	5.0	Finished	4/20/2021 12:25:13 PM -05:00
	CCV	5.0	Finished	4/30/2021 11:19:48 AM -05:00
	CCB	5.0	Finished	4/30/2021 11:38:13 AM -05:00
	HS21041595-02	5.0	Finished	4/30/2021 1:29:07 PM -05:00
	HS21041595-02MS	5.0	Finished	4/30/2021 1:47:31 PM -05:00
	HS21041595-02MSD	5.0	Finished	4/30/2021 2:06:02 PM -05:00
	CCV1	5.0	Finished	4/30/2021 3:03:55 PM -05:00
	CCB	5.0	Finished	4/30/2021 3:42:37 PM -05:00
	CCV	5.0	Finished	4/30/2021 7:17:04 PM -05:00
	CCB	5.0	Finished	4/30/2021 7:35:30 PM -05:00
	HS21041255-07DF50	5.0	Finished	4/30/2021 10:31:25 PM -05:00
	CCV1	5.0	Finished	4/30/2021 11:10:08 PM -05:00
	CCB	5.0	Finished	4/30/2021 11:48:52 PM -05:00
	CCV1	5.0	Finished	5/1/2021 7:27:37 AM -05:00
	CCB	5.0	Finished	5/1/2021 7:46:01 AM -05:00
	MBLK-	5.0	Finished	5/1/2021 8:23:11 AM -05:00
	LCS-	5.0	Finished	5/1/2021 8:41:35 AM -05:00
	CCV	5.0	Finished	5/1/2021 10:51:13 AM -05:00
	CCB	5.0	Finished	5/1/2021 11:28:25 AM -05:00

Sequence: 042321
Injection #6: STD6

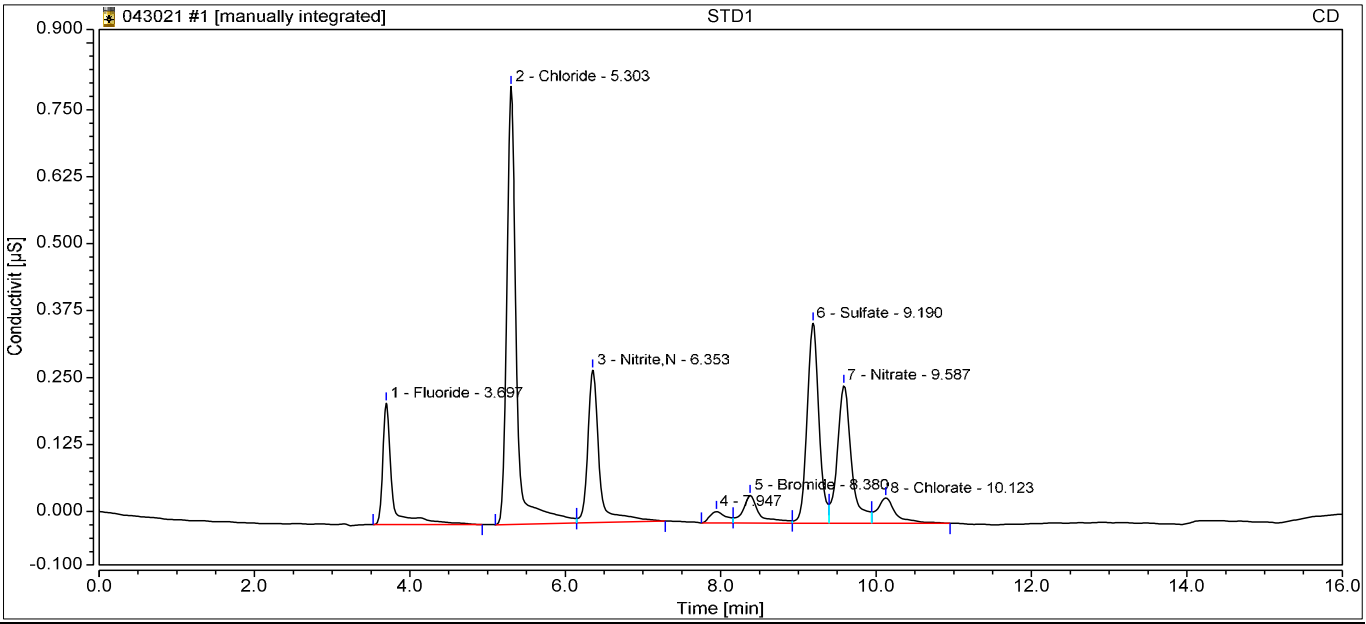
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	***Fluoride***	***Lin, WithOffset, 1/***	***Area***	***6***	***18.7874***	***0.99804***	***0.0037***	***0.3228***	***0.0000***
2	Chloride	Lin, WithOffset, 1/	Area	6	4.4845	0.99989	0.0060	0.2088	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	23.2258	0.99660	0.0167	0.4015	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	13.6081	0.99885	0.0031	0.0812	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	4.6885	0.99989	-0.0143	0.1515	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	5.2526	0.99986	-0.0011	0.5393	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	20.9413	0.99684	0.0071	0.0945	0.0000
11	Phosphate	Lin, WithOffset, 1/	Area	5	9.6125	0.99905	-0.0521	0.2007	0.0000
Maximum					**23.2258**	0.99989			
Minimum					4.4845	**0.99660**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BE1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 09:54**	*Sample Weight:*	**1.0000**

Run Time:



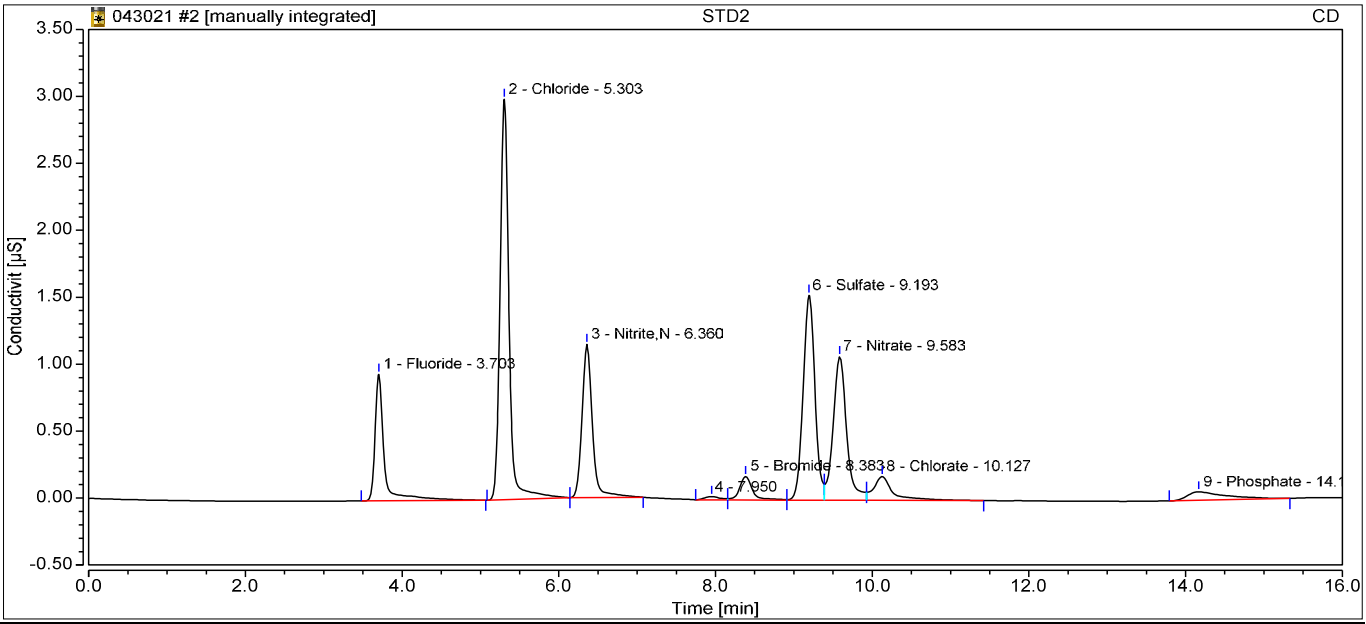
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.032	0.0880	0.0880	1.0000
2	5.30	Chloride	BM *	0.118	0.5381	0.5381	1.0000
3	6.35	Nitrite,N	MB*	0.049	0.0802	0.0802	1.0000
5	8.38	Bromide	M	0.013	0.1188	0.1188	1.0000
6	9.19	Sulfate	M	0.066	0.5285	0.5285	1.0000
7	9.59	Nitrate	M	0.054	0.1022	0.1022	1.0000
8	10.12	Chlorate	MB	0.013	0.0640	0.0640	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.345**		**1.52**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BE2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:12**	*Sample Weight:*	**1.0000**

Run Time:



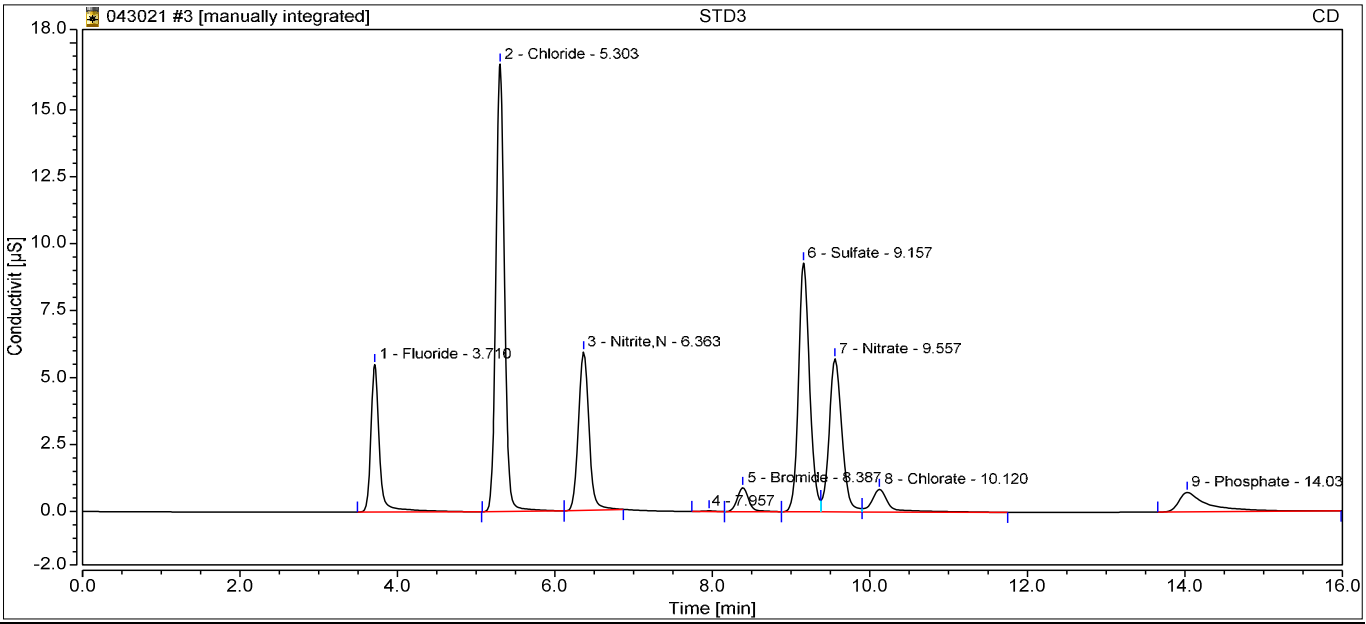
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.129	0.3886	0.3886	1.0000
2	5.30	Chloride	BMb*	0.393	1.8537	1.8537	1.0000
3	6.36	Nitrite,N	bMB*	0.176	0.3975	0.3975	1.0000
5	8.38	Bromide	M	0.033	0.3714	0.3714	1.0000
6	9.19	Sulfate	M	0.266	1.8512	1.8512	1.0000
7	9.58	Nitrate	M	0.213	0.3976	0.3976	1.0000
8	10.13	Chlorate	MB	0.052	0.4776	0.4776	1.0000
9	14.17	Phosphate	BMB	0.036	0.4401	0.4401	1.0000
Total:			**0.000**	**1.300**		**6.18**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BE3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:30**	*Sample Weight:*	**1.0000**

Run Time:



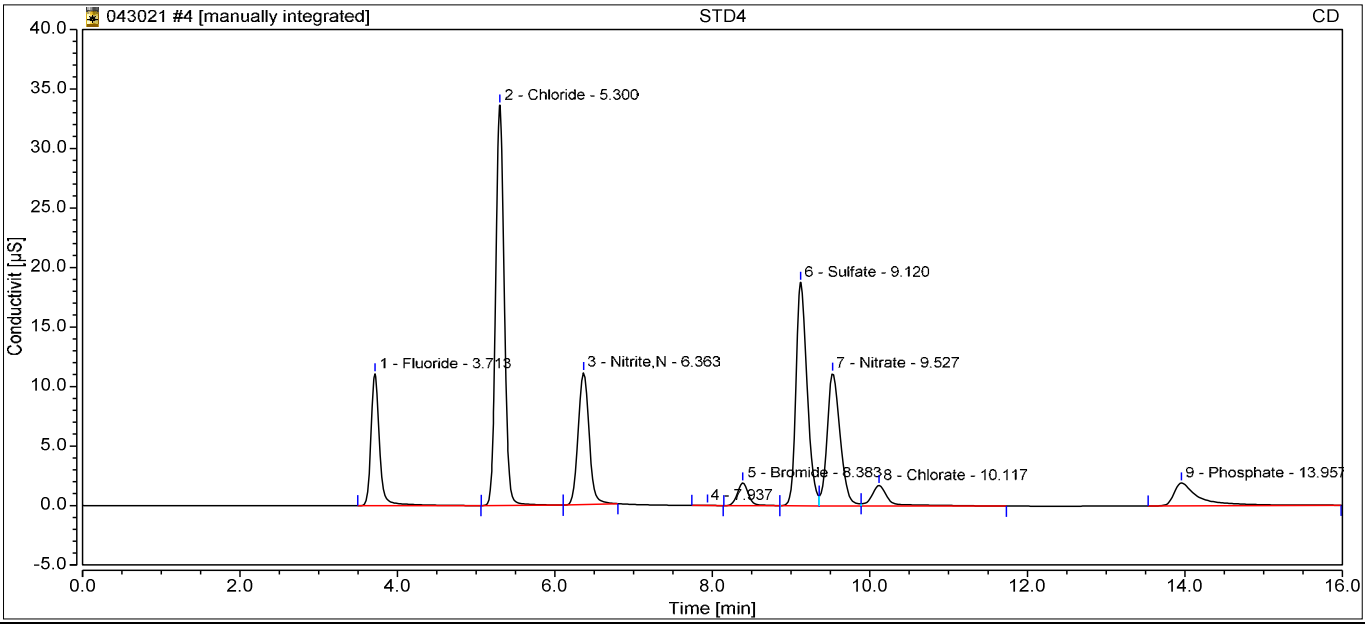
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.701	2.1586	2.1586	1.0000
2	5.30	Chloride	BMb*	2.082	9.9444	9.9444	1.0000
3	6.36	Nitrite,N	bMB*	0.918	2.2461	2.2461	1.0000
5	8.39	Bromide	M	0.152	1.8301	1.8301	1.0000
6	9.16	Sulfate	M	1.509	10.0487	10.0487	1.0000
7	9.56	Nitrate	M	1.072	1.9895	1.9895	1.0000
8	10.12	Chlorate	MB	0.216	2.2126	2.2126	1.0000
9	14.03	Phosphate	BMB	0.322	1.8648	1.8648	1.0000
Total:			**0.000**	**6.971**		**32.29**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BE4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 10:49**	*Sample Weight:*	**1.0000**

Run Time:



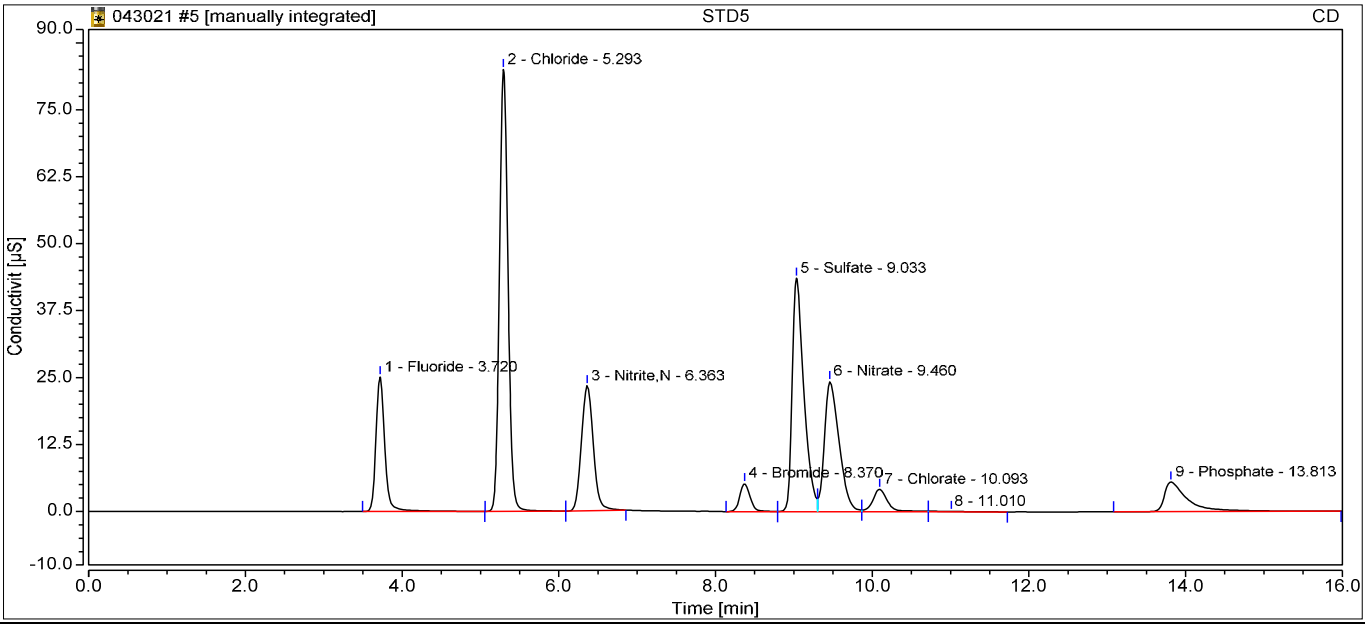
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	1.403	4.3336	4.3336	1.0000
2	5.30	Chloride	BMb*	4.203	20.1063	20.1063	1.0000
3	6.36	Nitrite,N	bMB*	1.787	4.4092	4.4092	1.0000
5	8.38	Bromide	BM	0.313	3.8179	3.8179	1.0000
6	9.12	Sulfate	M	3.063	20.3070	20.3070	1.0000
7	9.53	Nitrate	M	2.148	3.9846	3.9846	1.0000
8	10.12	Chlorate	MB	0.424	4.4085	4.4085	1.0000
9	13.96	Phosphate	BMB	0.719	3.8422	3.8422	1.0000
Total:			**0.000**	**14.060**		**65.21**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BE5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:07**	*Sample Weight:*	**1.0000**

Run Time:



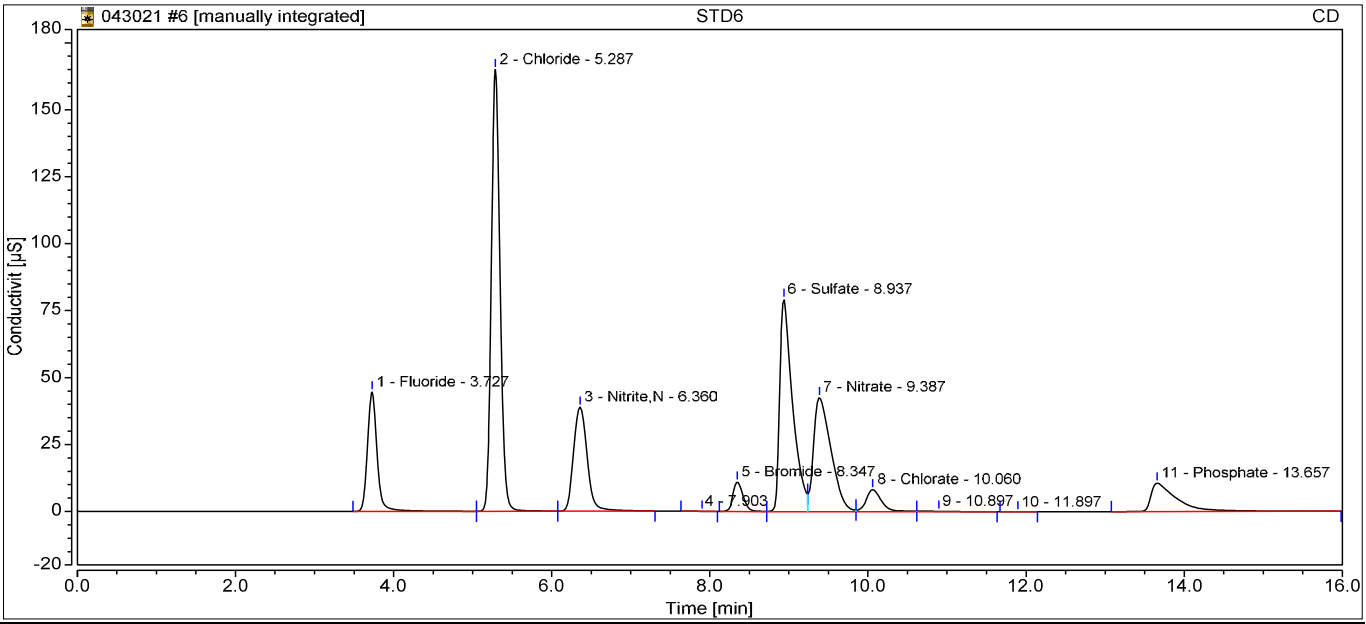
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	3.290	10.1807	10.1807	1.0000
2	5.29	Chloride	BMb*	10.372	49.6551	49.6551	1.0000
3	6.36	Nitrite,N	bMB*	4.114	10.2053	10.2053	1.0000
4	8.37	Bromide	BM	0.808	9.9156	9.9156	1.0000
5	9.03	Sulfate	M	7.557	49.9615	49.9615	1.0000
6	9.46	Nitrate	M	5.301	9.8318	9.8318	1.0000
7	10.09	Chlorate	M	0.936	9.8243	9.8243	1.0000
9	13.81	Phosphate	BMB	1.932	9.8822	9.8822	1.0000
Total:			**0.000**	**34.310**		**159.46**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BE6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:28**	*Sample Weight:*	**1.0000**

Run Time:



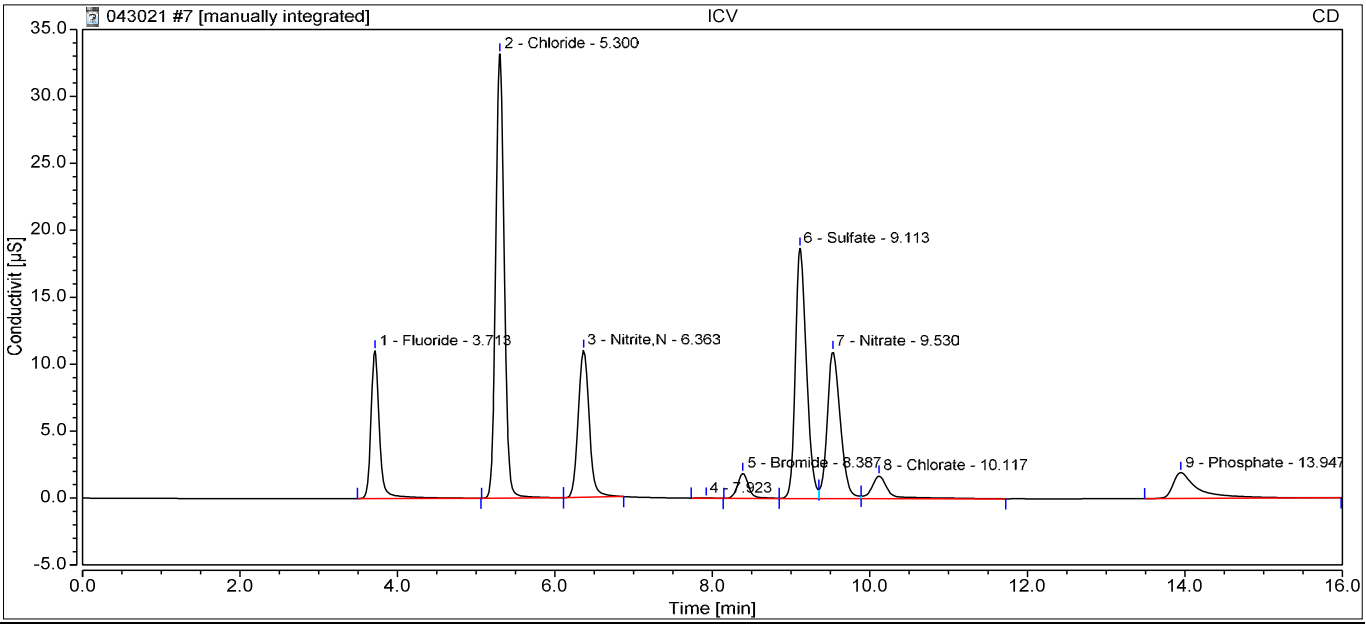
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	6.250	19.3505	19.3505	1.0000
2	5.29	Chloride	BMb*	20.966	100.4024	100.4024	1.0000
3	6.36	Nitrite,N	bMB*	7.710	19.1617	19.1617	1.0000
5	8.35	Bromide	BM	1.662	20.4462	20.4462	1.0000
6	8.94	Sulfate	M	15.110	99.8032	99.8032	1.0000
7	9.39	Nitrate	M	10.889	20.1943	20.1943	1.0000
8	10.06	Chlorate	M	1.852	19.5130	19.5130	1.0000
11	13.66	Phosphate	BMB	4.037	20.3707	20.3707	1.0000
Total:			**0.000**	**68.477**		**319.24**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 11:46**	*Sample Weight:*	**1.0000**

Run Time:



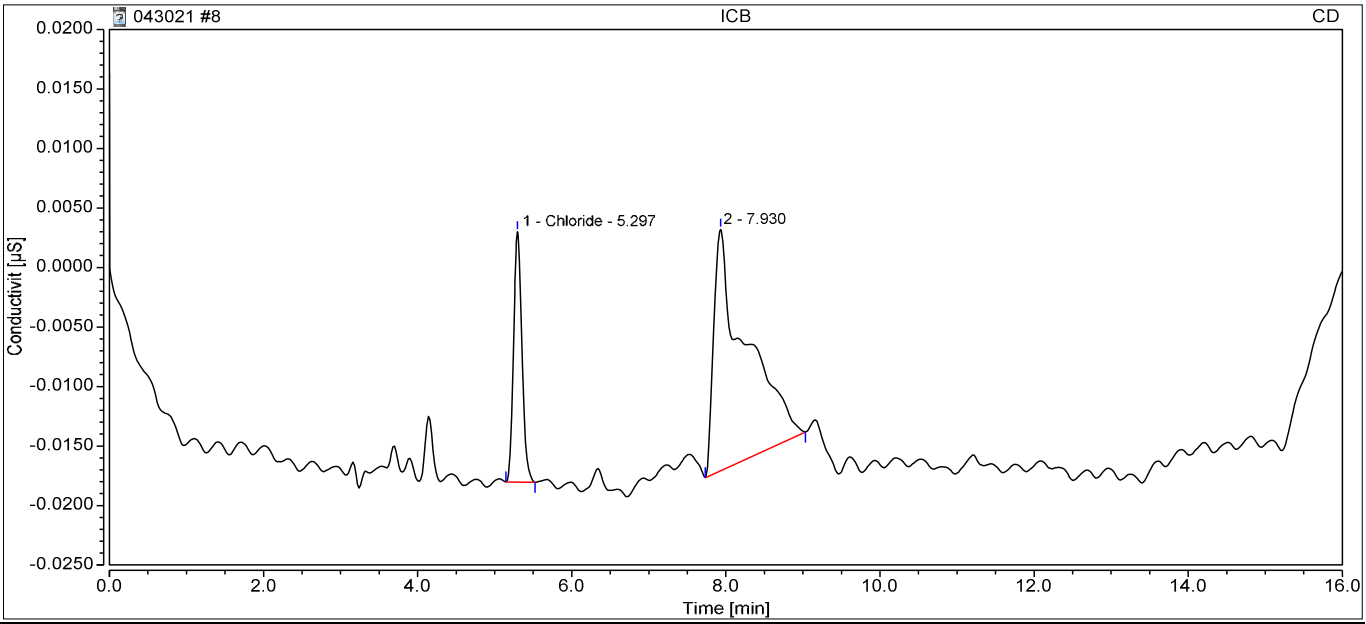
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	1.384	4.2770	4.2770	1.0000
2	5.30	Chloride	BMb*	4.144	19.8205	19.8205	1.0000
3	6.36	Nitrite,N	bMB*	1.777	4.3839	4.3839	1.0000
5	8.39	Bromide	BM	0.309	3.7640	3.7640	1.0000
6	9.11	Sulfate	M	3.024	20.0510	20.0510	1.0000
7	9.53	Nitrate	M	2.119	3.9305	3.9305	1.0000
8	10.12	Chlorate	MB	0.422	4.3868	4.3868	1.0000
9	13.95	Phosphate	BMB	0.725	3.8706	3.8706	1.0000
Total:			**0.000**	**13.903**		**64.48**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BE8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/20/2021 12:25**	*Sample Weight:*	**1.0000**

Run Time:



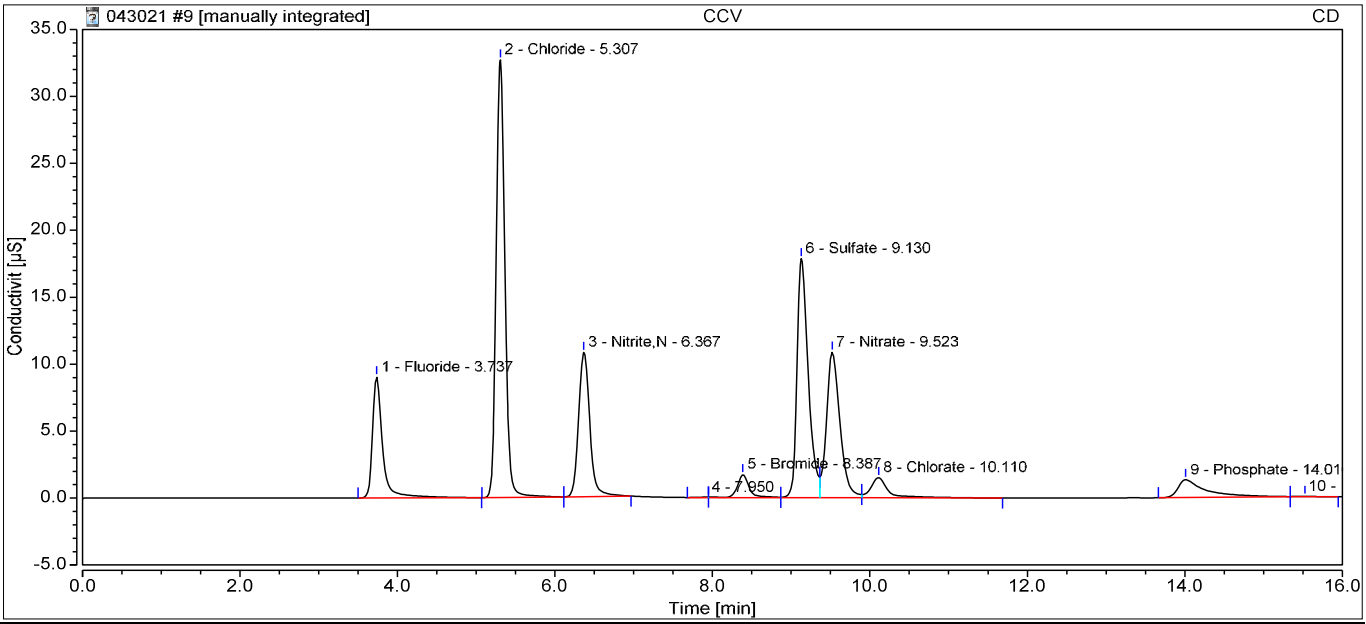
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

9 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 11:19**	*Sample Weight:*	**1.0000**

Run Time:



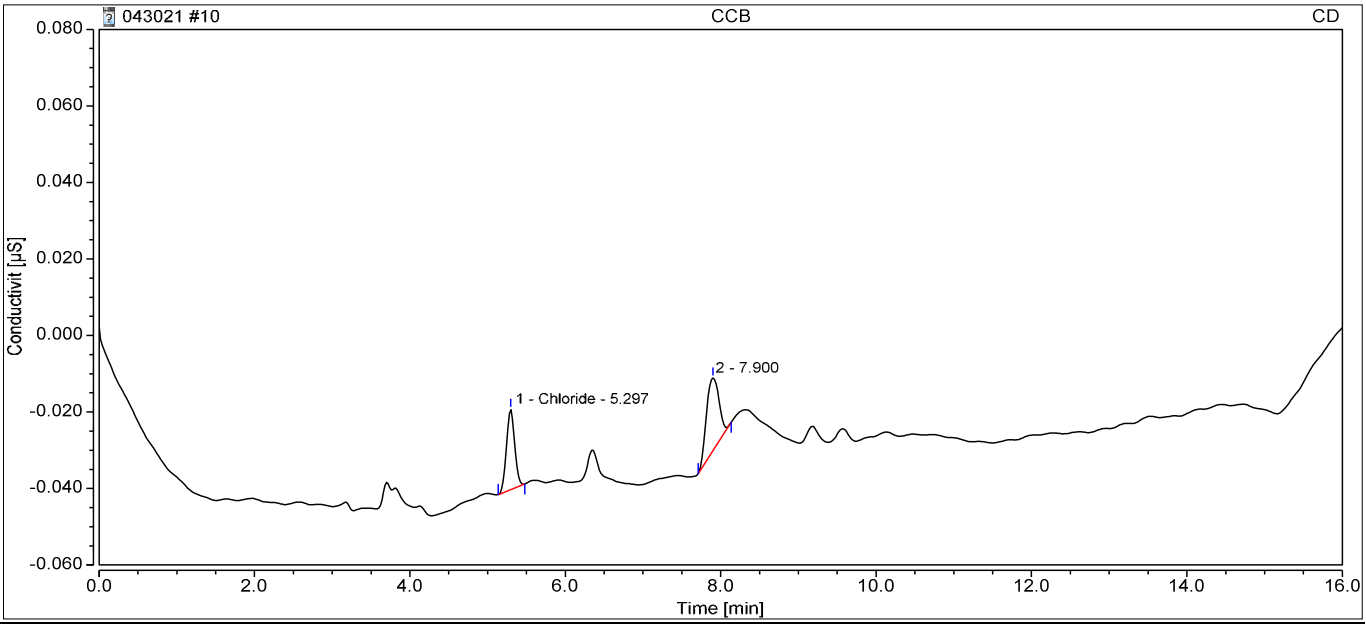
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.350	4.1710	4.1710	1.0000
2	5.31	Chloride	BMb*	4.172	19.9569	19.9569	1.0000
3	6.37	Nitrite,N	bMB*	1.774	4.3771	4.3771	1.0000
5	8.39	Bromide	M *	0.298	3.6345	3.6345	1.0000
6	9.13	Sulfate	M	2.940	19.4920	19.4920	1.0000
7	9.52	Nitrate	M	2.163	4.0135	4.0135	1.0000
8	10.11	Chlorate	MB	0.391	4.0597	4.0597	1.0000
9	14.01	Phosphate	BMB	0.548	2.9890	2.9890	1.0000
Total:			**0.000**	**13.636**		**62.69**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 11:38**	*Sample Weight:*	**1.0000**

Run Time:



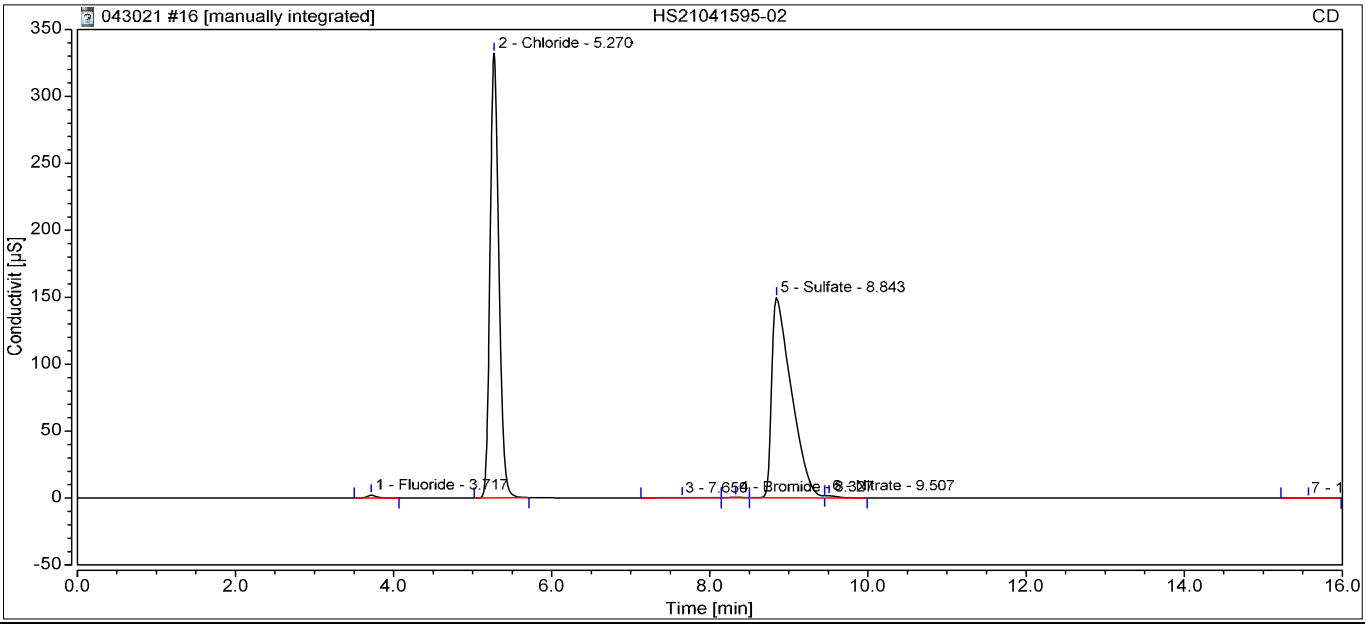
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

16 HS21041595-02

Sample Name:	**HS21041595-02**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 13:29**	*Sample Weight:*	**1.0000**

Run Time:



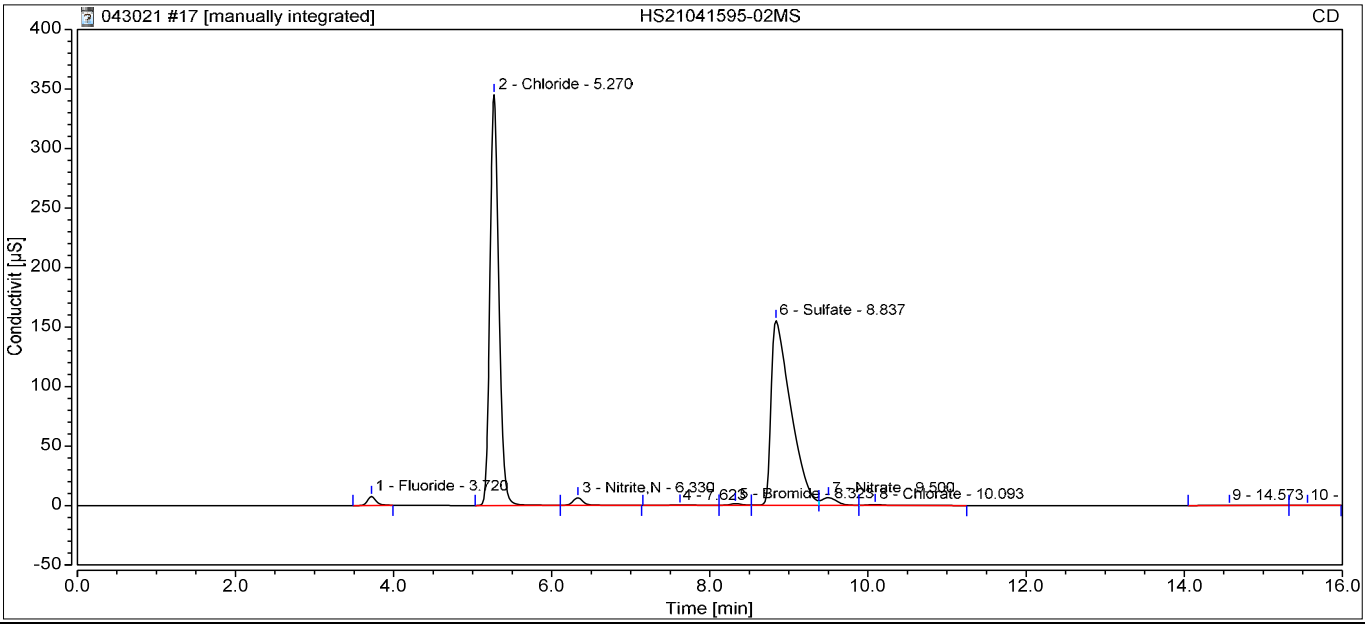
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB*	0.291	0.8913	0.8913	1.0000
2	5.27	Chloride	BMB*	43.097	206.4146	206.4146	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.33	Bromide	bM *	0.071	0.8359	0.8359	1.0000
5	8.84	Sulfate	M *	43.170	284.9607	284.9607	1.0000
6	9.51	Nitrate	MB*	0.285	0.5300	0.5300	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**86.914**		**493.63**	

17 HS21041595-02MS

Sample Name:	**HS21041595-02MS**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 13:47**	*Sample Weight:*	**1.0000**

Run Time:



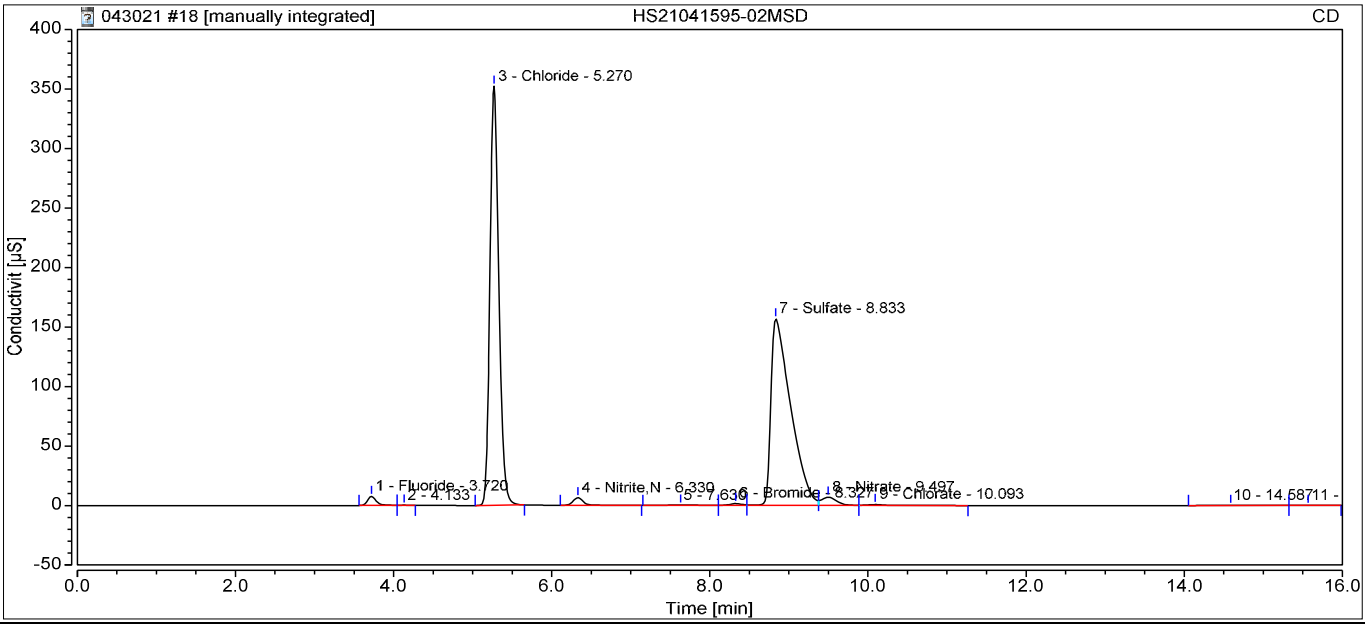
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB*	0.939	2.8977	2.8977	1.0000
2	5.27	Chloride	BMB	45.053	215.7797	215.7797	1.0000
3	6.33	Nitrite,N	BMB	0.957	2.3417	2.3417	1.0000
5	8.32	Bromide	BM	0.228	2.7716	2.7716	1.0000
6	8.84	Sulfate	M	44.611	294.4713	294.4713	1.0000
7	9.50	Nitrate	M	1.445	2.6820	2.6820	1.0000
8	10.09	Chlorate	MB	0.177	1.7983	1.7983	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**93.410**		**522.74**	

18 HS21041595-02MSD

Sample Name:	**HS21041595-02MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 14:06**	*Sample Weight:*	**1.0000**

Run Time:



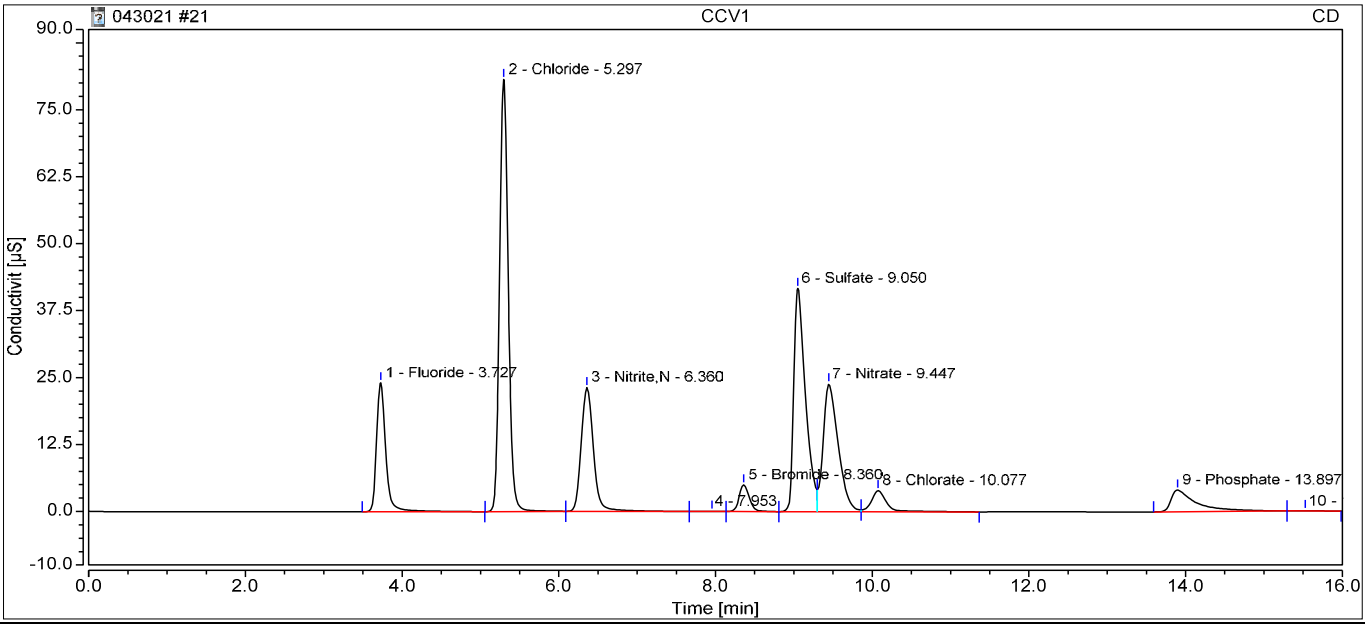
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.965	2.9784	2.9784	1.0000
3	5.27	Chloride	BMB*	45.840	219.5498	219.5498	1.0000
4	6.33	Nitrite,N	BMB	0.967	2.3681	2.3681	1.0000
6	8.33	Bromide	BM *	0.241	2.9288	2.9288	1.0000
7	8.83	Sulfate	M *	45.171	298.1674	298.1674	1.0000
8	9.50	Nitrate	M	1.529	2.8369	2.8369	1.0000
9	10.09	Chlorate	MB	0.181	1.8365	1.8365	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**94.894**		**530.67**	

21 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 15:03**	*Sample Weight:*	**1.0000**

Run Time:



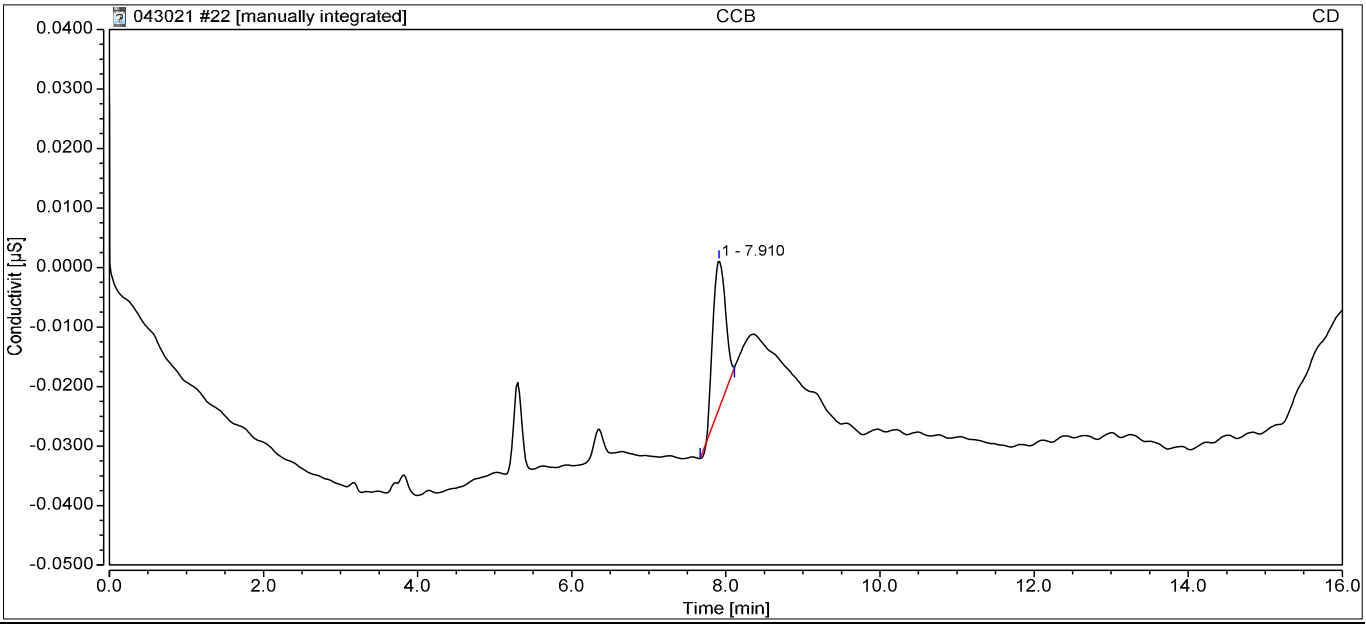
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.282	10.1554	10.1554	1.0000
2	5.30	Chloride	BMB	10.329	49.4475	49.4475	1.0000
3	6.36	Nitrite,N	BMB	4.202	10.4238	10.4238	1.0000
5	8.36	Bromide	MB	0.758	9.3004	9.3004	1.0000
6	9.05	Sulfate	BM	7.276	48.1039	48.1039	1.0000
7	9.45	Nitrate	M	5.298	9.8267	9.8267	1.0000
8	10.08	Chlorate	MB	0.906	9.5101	9.5101	1.0000
9	13.90	Phosphate	BMB	1.523	7.8454	7.8454	1.0000
Total:			**0.000**	**33.573**		**154.61**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 15:42**	*Sample Weight:*	**1.0000**

Run Time:



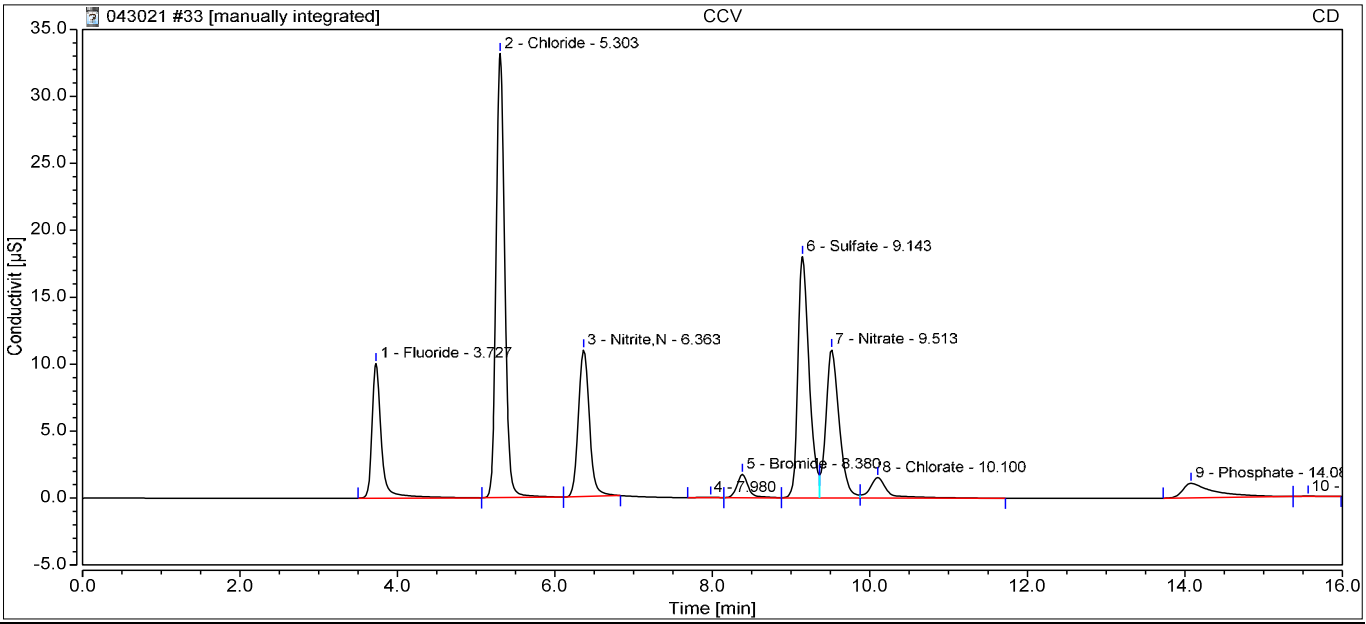
Integration Results

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

33 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 19:17**	*Sample Weight:*	**1.0000**

Run Time:



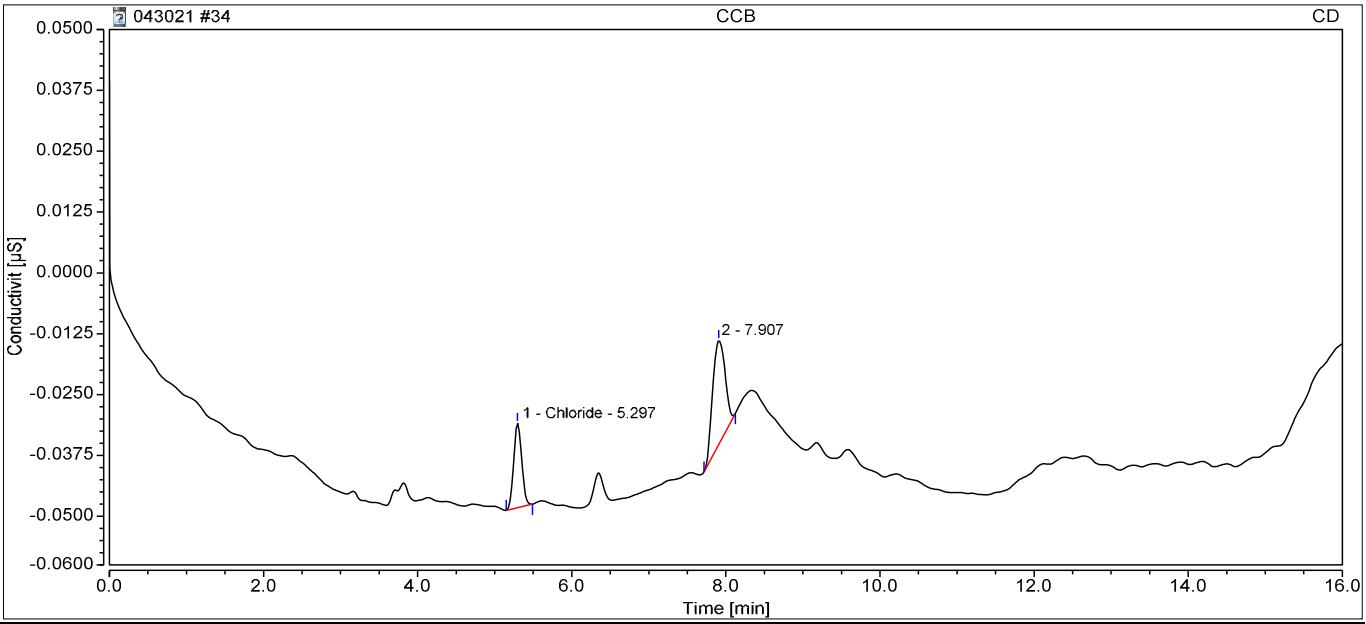
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.383	4.2718	4.2718	1.0000
2	5.30	Chloride	BMb*	4.210	20.1400	20.1400	1.0000
3	6.36	Nitrite,N	bMB*	1.773	4.3744	4.3744	1.0000
5	8.38	Bromide	M	0.295	3.6004	3.6004	1.0000
6	9.14	Sulfate	M	2.973	19.7147	19.7147	1.0000
7	9.51	Nitrate	M	2.172	4.0304	4.0304	1.0000
8	10.10	Chlorate	MB	0.402	4.1750	4.1750	1.0000
9	14.08	Phosphate	BMB	0.508	2.7907	2.7907	1.0000
Total:			**0.000**	**13.717**		**63.10**	

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 19:35**	*Sample Weight:*	**1.0000**

Run Time:



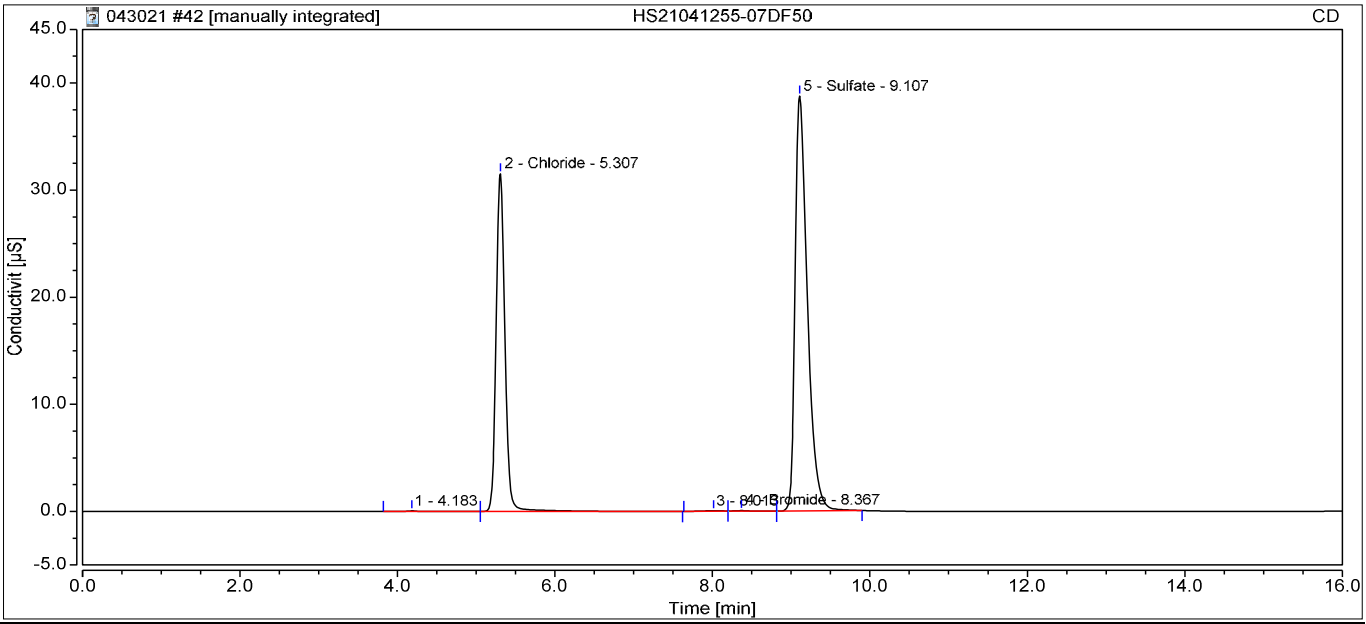
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

42 HS21041255-07DF50

Sample Name:	**HS21041255-07DF50**	*Injection Volume:*	**5.00**
Vial Number:	**RC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**04/30/2021 22:31**	*Sample Weight:*	**1.0000**

Run Time:



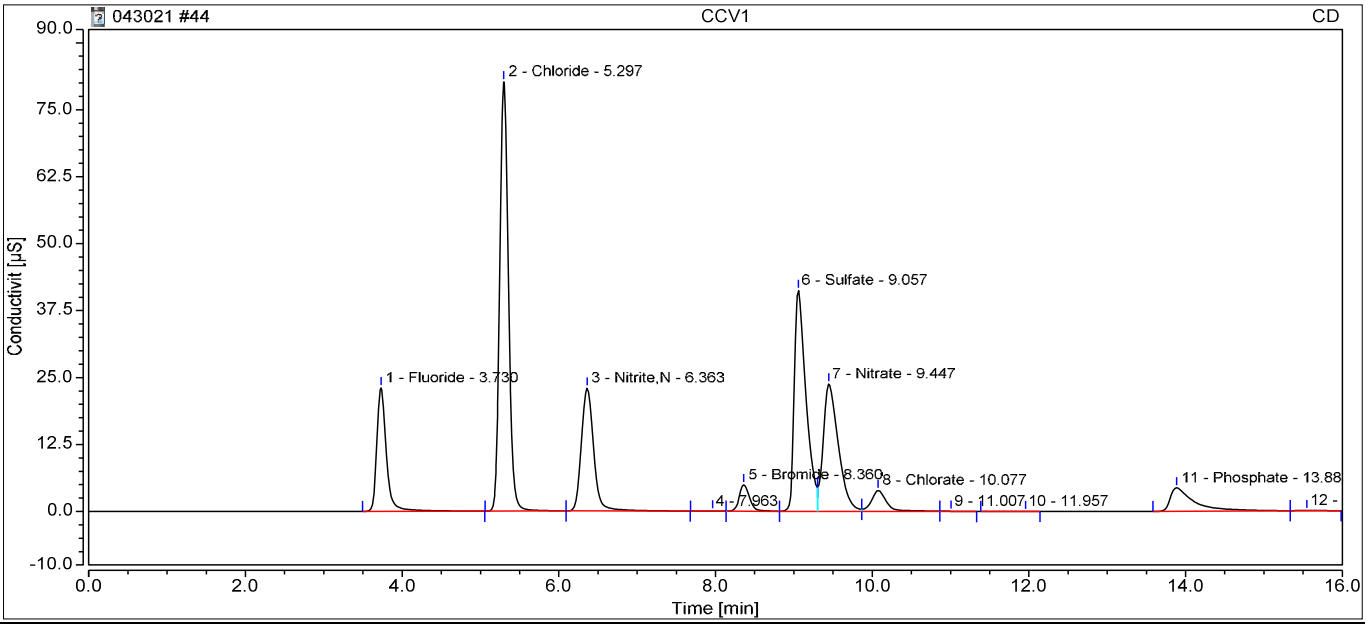
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	50.0000
2	5.31	Chloride	BMB	4.057	19.4029	970.1432	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
4	8.37	Bromide	M *	0.008	0.0625	3.1237	50.0000
5	9.11	Sulfate	MB*	6.945	45.9196	2295.9780	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**11.009**		**3269.24**	

44 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 23:10**	*Sample Weight:*	**1.0000**

Run Time:



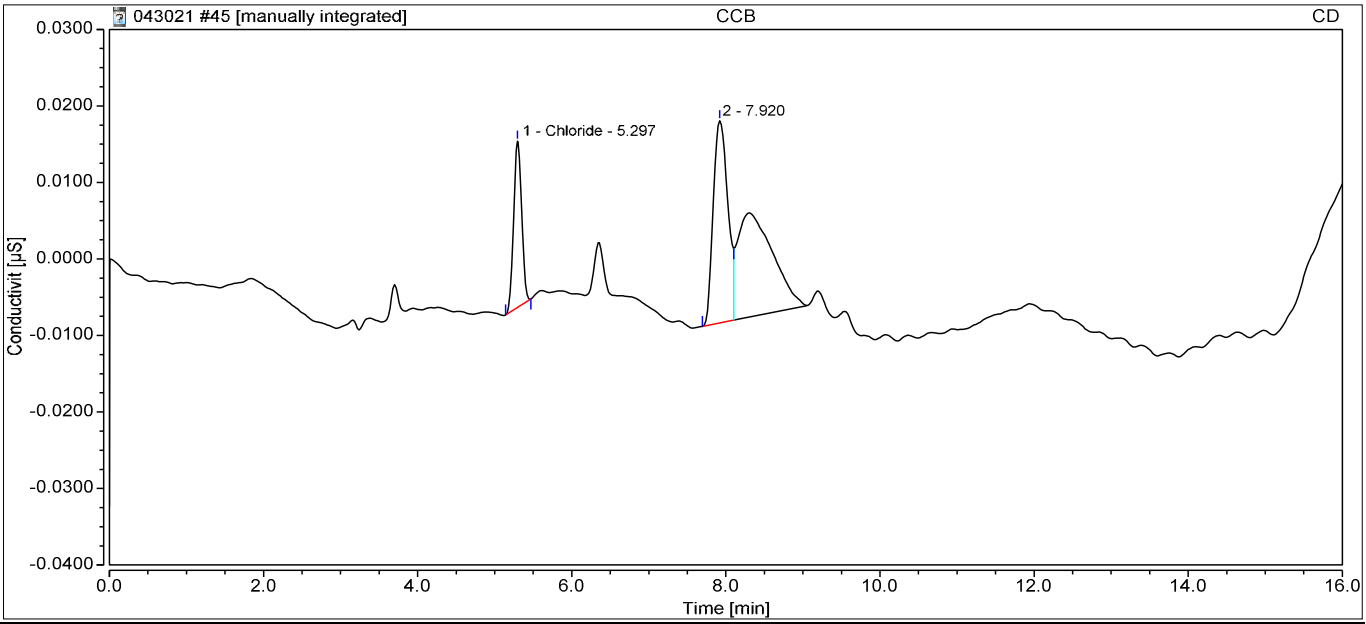
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.271	10.1227	10.1227	1.0000
2	5.30	Chloride	BMB	10.295	49.2881	49.2881	1.0000
3	6.36	Nitrite,N	BMB	4.198	10.4155	10.4155	1.0000
5	8.36	Bromide	MB	0.752	9.2330	9.2330	1.0000
6	9.06	Sulfate	BM	7.208	47.6596	47.6596	1.0000
7	9.45	Nitrate	M	5.339	9.9014	9.9014	1.0000
8	10.08	Chlorate	M	0.887	9.3007	9.3007	1.0000
11	13.88	Phosphate	BMB	1.560	8.0321	8.0321	1.0000
Total:			**0.000**	**33.511**		**153.95**	

45 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/30/2021 23:48**	*Sample Weight:*	**1.0000**

Run Time:



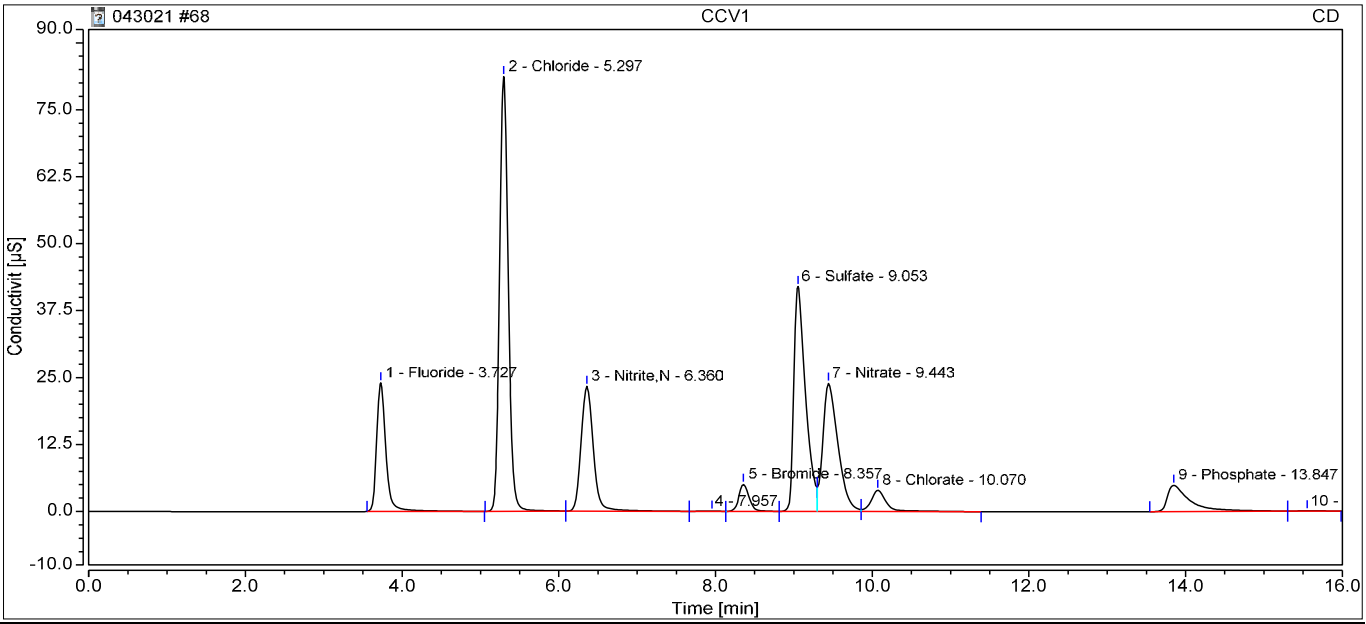
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

68 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 07:27**	*Sample Weight:*	**1.0000**

Run Time:



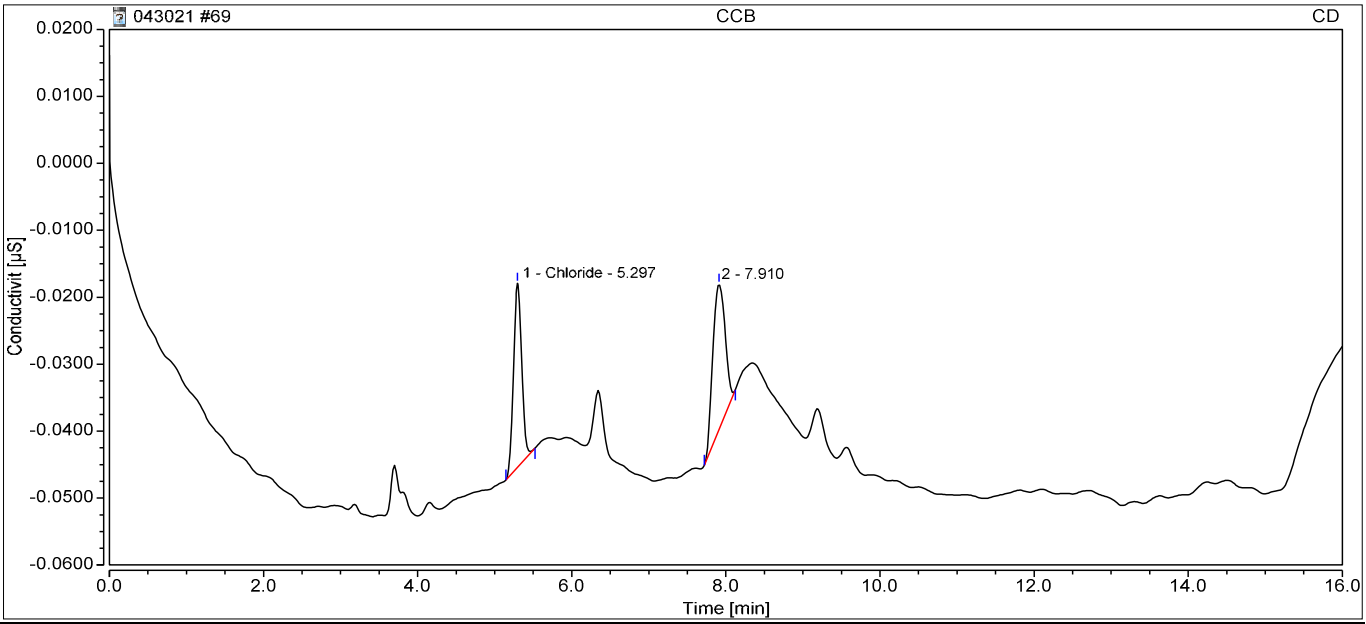
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.277	10.1390	10.1390	1.0000
2	5.30	Chloride	BMB	10.424	49.9025	49.9025	1.0000
3	6.36	Nitrite,N	BMB	4.235	10.5071	10.5071	1.0000
5	8.36	Bromide	MB	0.768	9.4294	9.4294	1.0000
6	9.05	Sulfate	BM	7.330	48.4626	48.4626	1.0000
7	9.44	Nitrate	M	5.383	9.9830	9.9830	1.0000
8	10.07	Chlorate	MB	0.921	9.6659	9.6659	1.0000
9	13.85	Phosphate	BMB	1.639	8.4236	8.4236	1.0000
Total:			**0.000**	**33.976**		**156.51**	

69 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 07:46**	*Sample Weight:*	**1.0000**

Run Time:

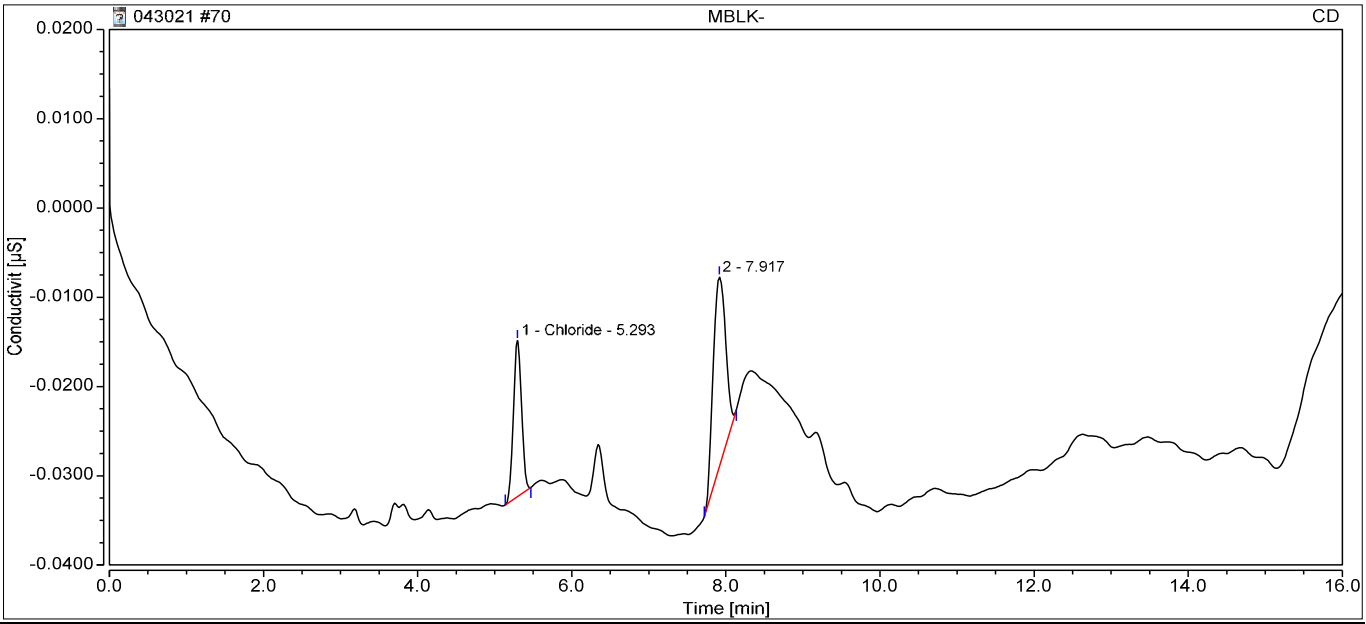


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.30	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

70 MBLK-			
Sample Name:	**MBLK-**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 08:23**	*Sample Weight:*	**1.0000**

Run Time:



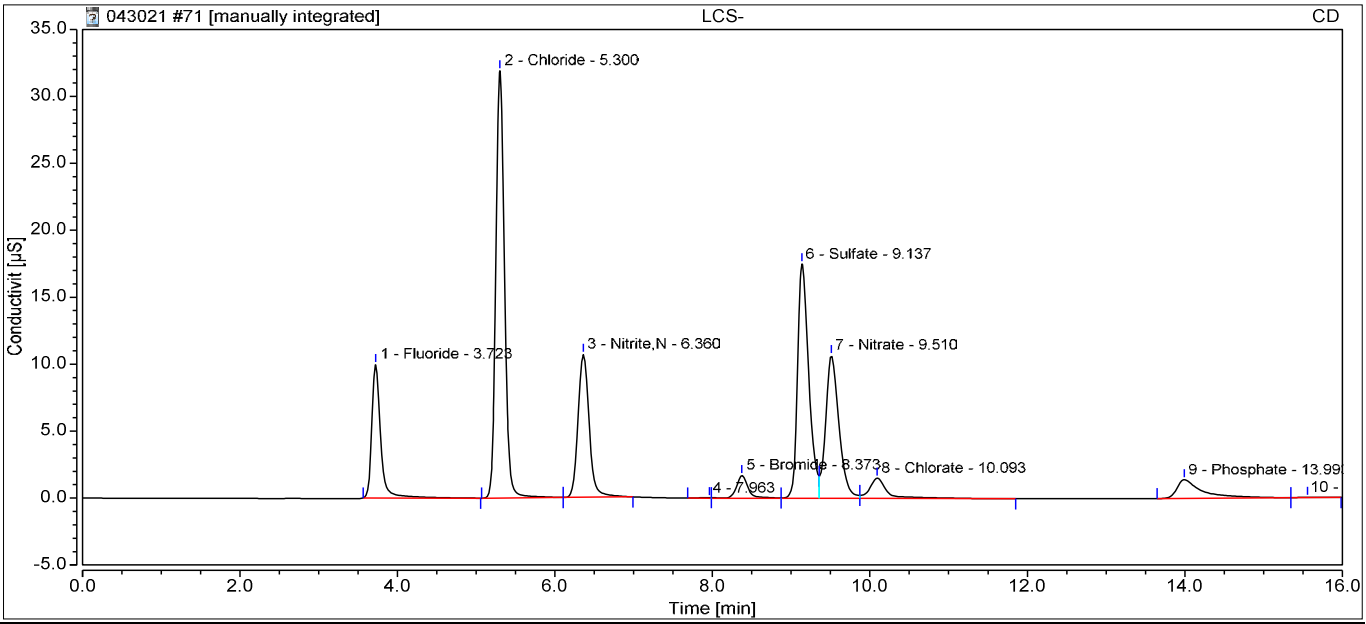
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.29	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

71 LCS-

Sample Name:	**LCS-**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 08:41**	*Sample Weight:*	**1.0000**

Run Time:



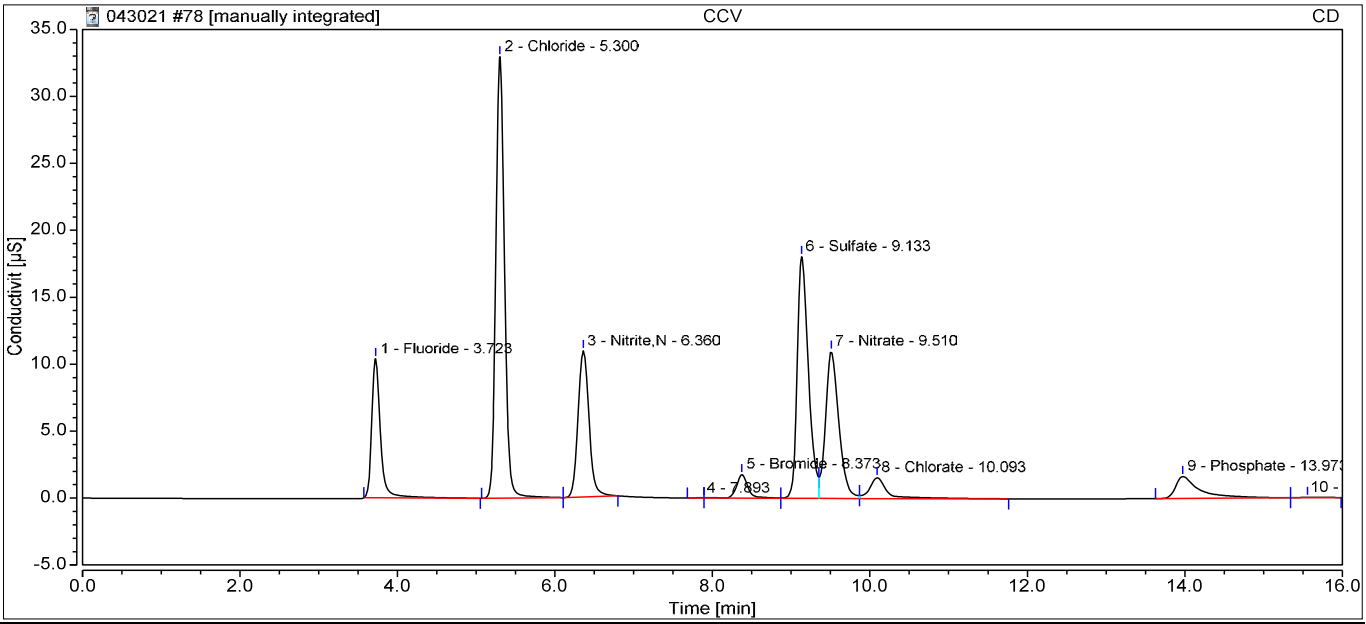
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	1.309	4.0428	4.0428	1.0000
2	5.30	Chloride	BMb*	4.048	19.3627	19.3627	1.0000
3	6.36	Nitrite,N	bMB*	1.749	4.3154	4.3154	1.0000
5	8.37	Bromide	M *	0.289	3.5282	3.5282	1.0000
6	9.14	Sulfate	M *	2.884	19.1235	19.1235	1.0000
7	9.51	Nitrate	M *	2.100	3.8953	3.8953	1.0000
8	10.09	Chlorate	MB*	0.403	4.1856	4.1856	1.0000
9	13.99	Phosphate	BMB	0.520	2.8487	2.8487	1.0000
Total:			**0.000**	**13.302**		**61.30**	

78 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 10:51**	*Sample Weight:*	**1.0000**

Run Time:



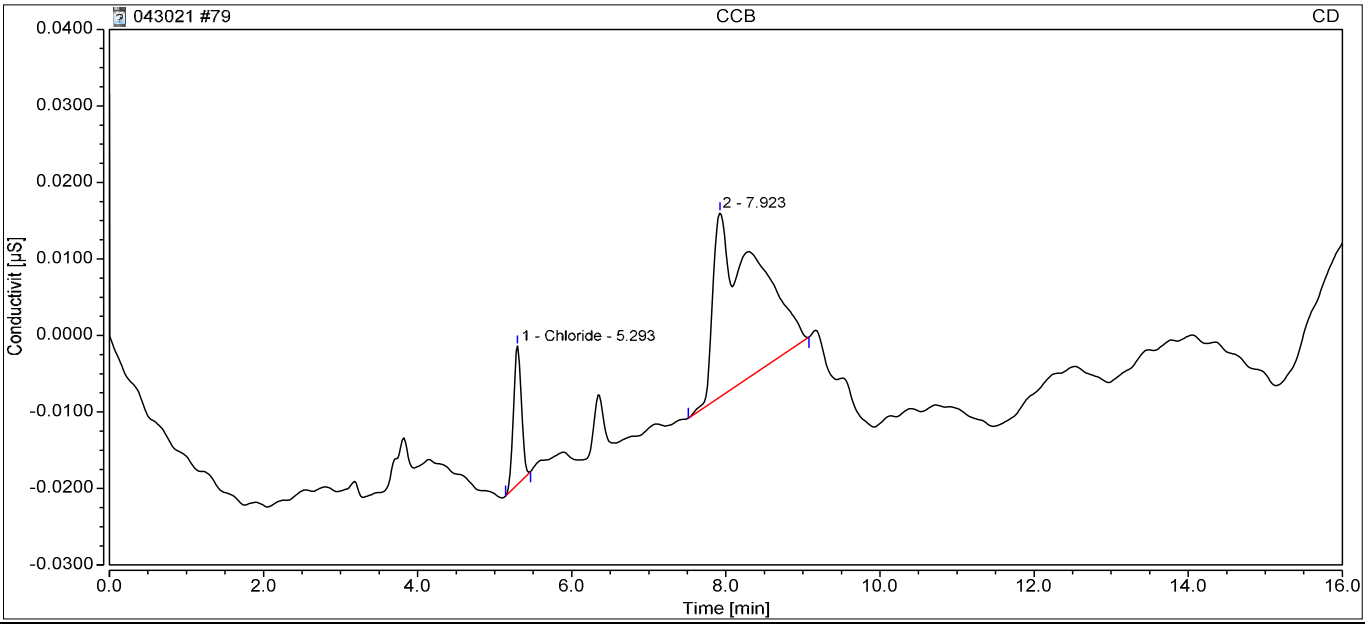
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	1.336	4.1284	4.1284	1.0000
2	5.30	Chloride	BMb*	4.184	20.0144	20.0144	1.0000
3	6.36	Nitrite,N	bMB*	1.765	4.3542	4.3542	1.0000
5	8.37	Bromide	M *	0.300	3.6607	3.6607	1.0000
6	9.13	Sulfate	M	2.969	19.6828	19.6828	1.0000
7	9.51	Nitrate	M	2.154	3.9960	3.9960	1.0000
8	10.09	Chlorate	MB	0.404	4.1946	4.1946	1.0000
9	13.97	Phosphate	BMB	0.589	3.1913	3.1913	1.0000
Total:			**0.000**	**13.700**		**63.22**	

79 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/01/2021 11:28**	*Sample Weight:*	**1.0000**

Run Time:



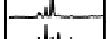
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.29	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

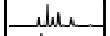
HS21041255 Wet Chem Raw Data (9056_S)

ALS WO# HS21041255

Sequence: 050521CAL
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method
	STD1		Calibration	BB1	1.00	1	Anions Program ISO37mM 150mm short 0.4
	STD2		Calibration	BB2	1.00	2	Anions Program ISO37mM 150mm short 0.4
	STD3		Calibration	BB3	1.00	3	Anions Program ISO37mM 150mm short 0.4
	STD4		Calibration	BB4	1.00	4	Anions Program ISO37mM 150mm short 0.4
	STD5		Calibration	BB5	1.00	5	Anions Program ISO37mM 150mm short 0.4
	STD6		Calibration	BB6	1.00	6	Anions Program ISO37mM 150mm short 0.4
	ICV		Unknown	BB7	1.00		Anions Program ISO37mM 150mm short 0.4
	ICB		Unknown	BB8	1.00		Anions Program ISO37mM 150mm short 0.4
	CCV		Unknown	R1	1.00		Anions Program ISO37mM 150mm short 0.4
	CCB		Unknown	R4	1.00		Anions Program ISO37mM 150mm short 0.4
	MBLK-165463		Unknown	R5	1.00		Anions Program ISO37mM 150mm short 0.4
	LCS-165463		Unknown	R2	1.00		Anions Program ISO37mM 150mm short 0.4
	HS21041255-08		Unknown	RA3	1.00		Anions Program ISO37mM 150mm short 0.4
	HS21041255-08DF10		Unknown	RA4	10.00		Anions Program ISO37mM 150mm short 0.4
	CCV1		Unknown	R3	1.00		Anions Program ISO37mM 150mm short 0.4
	CCB		Unknown	R8	1.00		Anions Program ISO37mM 150mm short 0.4
	HS21041427-25		Unknown	RA6	1.00		Anions Program ISO37mM 150mm short 0.4
	HS21041427-25MS		Unknown	RA7	1.00		Anions Program ISO37mM 150mm short 0.4
	HS21041427-25MSD		Unknown	RA8	1.00		Anions Program ISO37mM 150mm short 0.4
	CCV		Unknown	R1	1.00		Anions Program ISO37mM 150mm short 0.4
	CCB		Unknown	R4	1.00		Anions Program ISO37mM 150mm short 0.4

Sequence: 050521CAL
Last Update Operator: alshs.nouser

Processing Method	CD	Name	me	Status	Inject Time
Anions Processing Method ISO		STD1	5.0	Finished	5/5/2021 6:12:32 PM -05:00
Anions Processing Method ISO		STD2	5.0	Finished	5/5/2021 6:20:08 PM -05:00
Anions Processing Method ISO		STD3	5.0	Finished	5/5/2021 6:27:33 PM -05:00
Anions Processing Method ISO		STD4	5.0	Finished	5/5/2021 6:34:56 PM -05:00
Anions Processing Method ISO		STD5	5.0	Finished	5/5/2021 6:42:20 PM -05:00
Anions Processing Method ISO		STD6	5.0	Finished	5/5/2021 6:49:43 PM -05:00
Anions Processing Method ISO		ICV	5.0	Finished	5/5/2021 6:57:07 PM -05:00
Anions Processing Method ISO		ICB	5.0	Finished	5/5/2021 7:14:09 PM -05:00
Anions Processing Method ISO		CCV	5.0	Finished	5/6/2021 9:30:16 AM -05:00
Anions Processing Method ISO		CCB	5.0	Finished	5/6/2021 9:37:50 AM -05:00
Anions Processing Method ISO		MBLK-165463	5.0	Finished	5/6/2021 9:45:14 AM -05:00
Anions Processing Method ISO		LCS-165463	5.0	Finished	5/6/2021 9:52:49 AM -05:00
Anions Processing Method ISO		HS21041255-08	5.0	Finished	5/6/2021 10:41:32 AM -05:00
Anions Processing Method ISO		HS21041255-08DF10	5.0	Finished	5/6/2021 10:49:05 AM -05:00
Anions Processing Method ISO		CCV1	5.0	Finished	5/6/2021 11:03:53 AM -05:00
Anions Processing Method ISO		CCB	5.0	Finished	5/6/2021 11:11:17 AM -05:00
Anions Processing Method ISO		HS21041427-25	5.0	Finished	5/6/2021 11:19:16 AM -05:00
Anions Processing Method ISO		HS21041427-25MS	5.0	Finished	5/6/2021 11:26:40 AM -05:00
Anions Processing Method ISO		HS21041427-25MSD	5.0	Finished	5/6/2021 11:34:04 AM -05:00
Anions Processing Method ISO		CCV	5.0	Finished	5/6/2021 12:12:05 PM -05:00
Anions Processing Method ISO		CCB	5.0	Finished	5/6/2021 12:19:40 PM -05:00

Sequence: 050521CAL
Injection #6: STD6

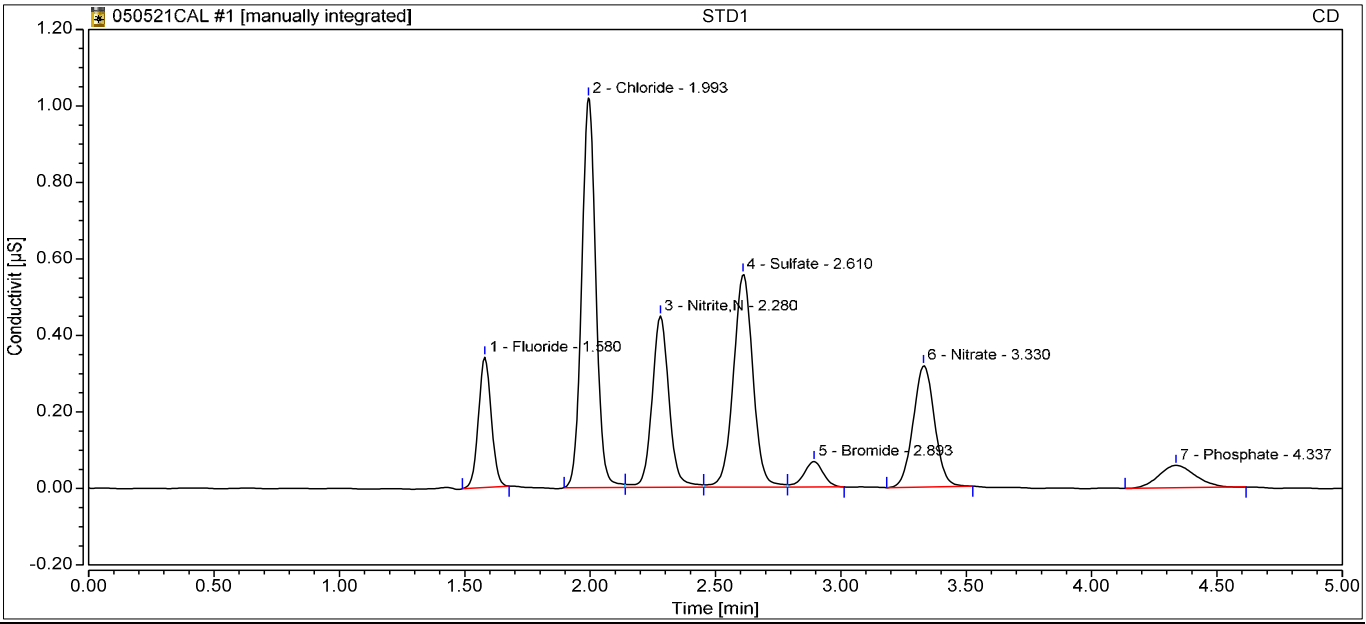
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	***Fluoride***	***Lin, WithOffset, 1/***	***Area***	***6***	***26.4373***	***0.99601***	***0.0037***	***0.2049***	***0.0000***
2	Chloride	Lin, WithOffset, 1/	Area	6	0.6871	1.00000	-0.0005	0.1344	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	17.7767	0.99788	0.0149	0.2622	0.0000
4	Sulfate	Lin, WithOffset, 1/	Area	6	1.7139	0.99998	0.0010	0.0990	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	3.9005	0.99992	0.0004	0.0565	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	4.7579	0.99988	-0.0013	0.3350	0.0000
7	Phosphate	Lin, WithOffset, 1/	Area	6	7.9708	0.99971	-0.0045	0.1295	0.0000
n.a.	Chlorate	Lin, WithOffset, 1/	Area	0	n.a.	n.a.	n.a.	n.a.	n.a.
Maximum					**26.4373**	1.00000			
Minimum					0.6871	**0.99601**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 18:12**	*Sample Weight:*	**1.0000**

Run Time:



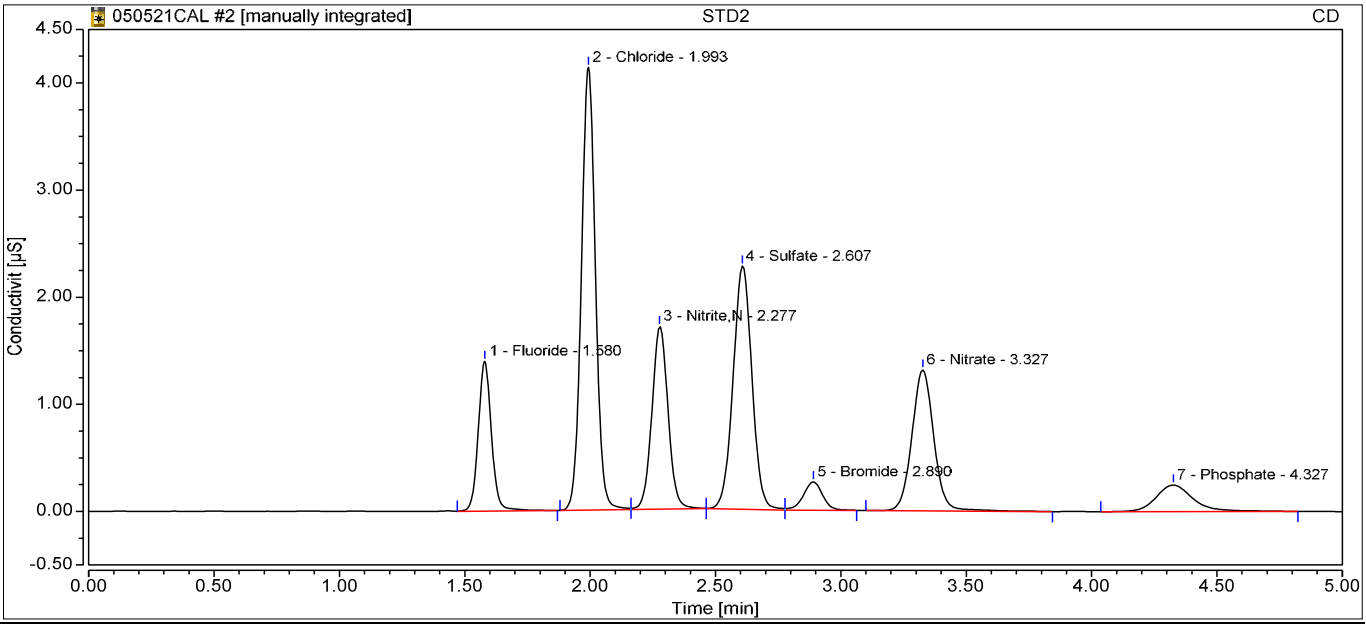
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB*	0.020	0.0804	0.0804	1.0000
2	1.99	Chloride	BM *	0.067	0.4989	0.4989	1.0000
3	2.28	Nitrite,N	M *	0.035	0.0767	0.0767	1.0000
4	2.61	Sulfate	M *	0.050	0.4965	0.4965	1.0000
5	2.89	Bromide	MB*	0.006	0.0985	0.0985	1.0000
6	3.33	Nitrate	BMB*	0.031	0.0974	0.0974	1.0000
7	4.34	Phosphate	BMB*	0.010	0.1110	0.1110	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.219**		**1.46**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 18:20**	*Sample Weight:*	**1.0000**

Run Time:



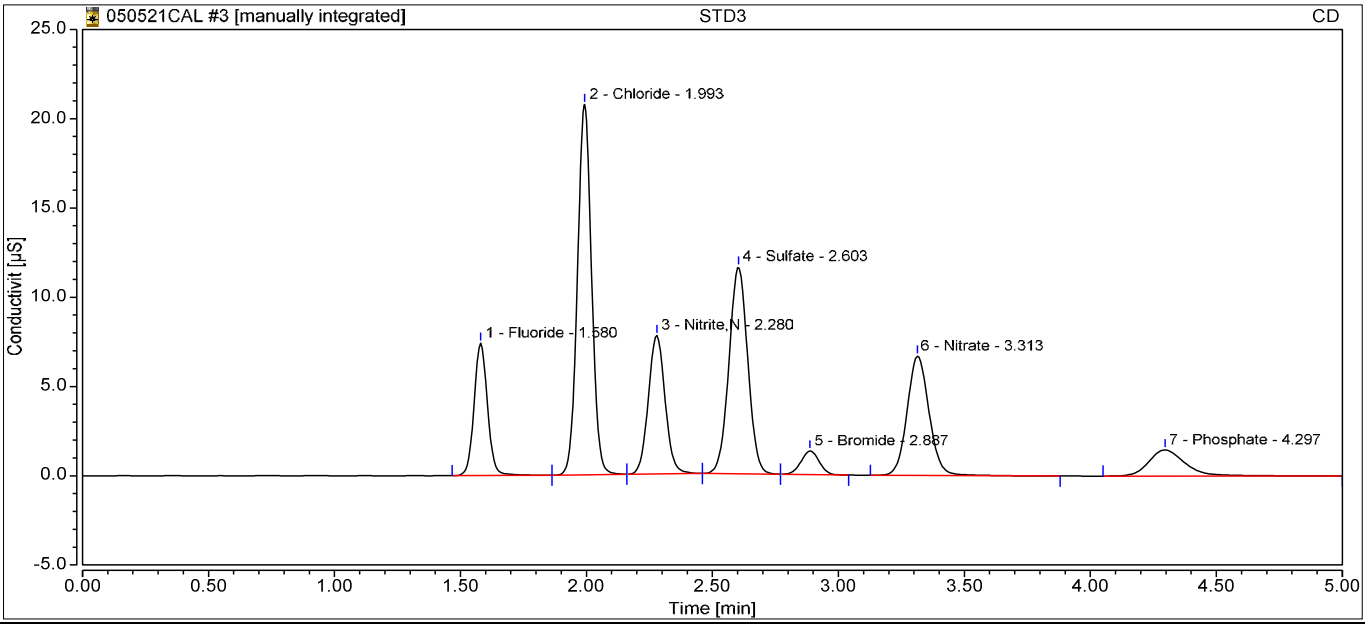
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.085	0.3985	0.3985	1.0000
2	1.99	Chloride	BM *	0.268	1.9973	1.9973	1.0000
3	2.28	Nitrite,N	Mb*	0.127	0.4273	0.4273	1.0000
4	2.61	Sulfate	bM *	0.198	1.9879	1.9879	1.0000
5	2.89	Bromide	MB*	0.024	0.4134	0.4134	1.0000
6	3.33	Nitrate	BMB	0.133	0.4017	0.4017	1.0000
7	4.33	Phosphate	BMB	0.043	0.3676	0.3676	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.878**		**5.99**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 18:27**	*Sample Weight:*	**1.0000**

Run Time:



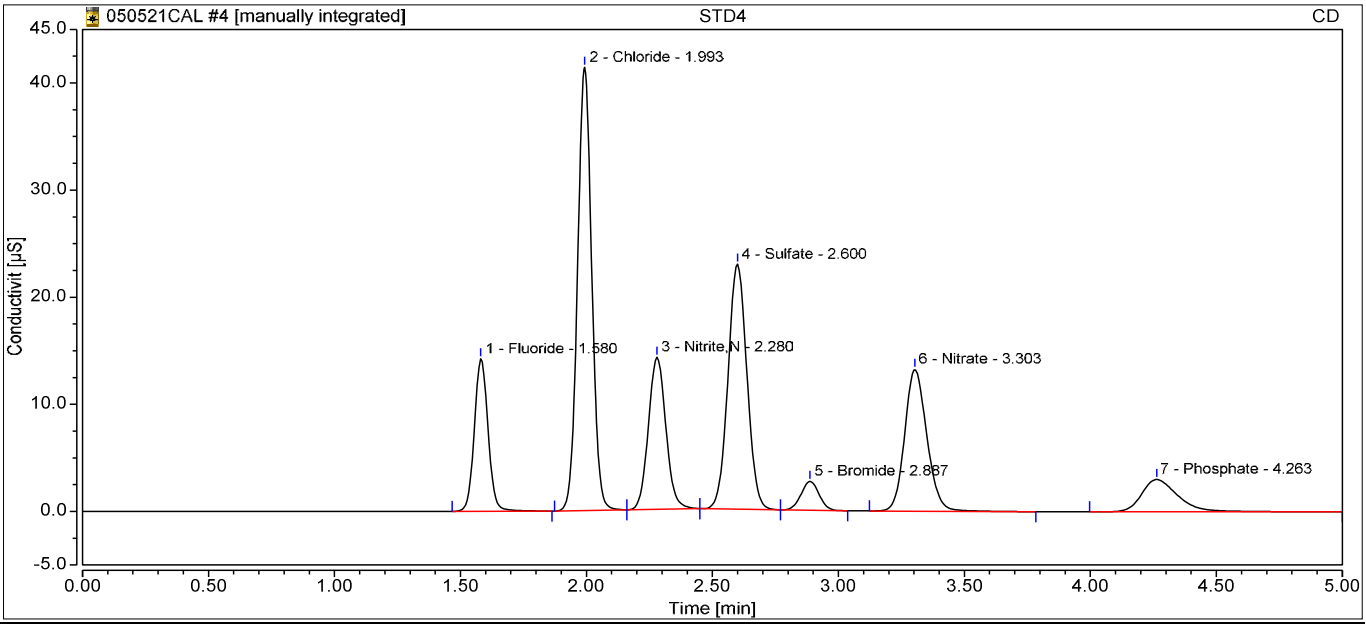
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMb*	0.459	2.2233	2.2233	1.0000
2	1.99	Chloride	bM *	1.346	10.0167	10.0167	1.0000
3	2.28	Nitrite,N	Mb*	0.600	2.2303	2.2303	1.0000
4	2.60	Sulfate	bM *	1.000	10.0941	10.0941	1.0000
5	2.89	Bromide	MB*	0.112	1.9684	1.9684	1.0000
6	3.31	Nitrate	BMB	0.675	2.0188	2.0188	1.0000
7	4.30	Phosphate	BMB	0.247	1.9396	1.9396	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**4.438**		**30.49**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 18:34**	*Sample Weight:*	**1.0000**

Run Time:



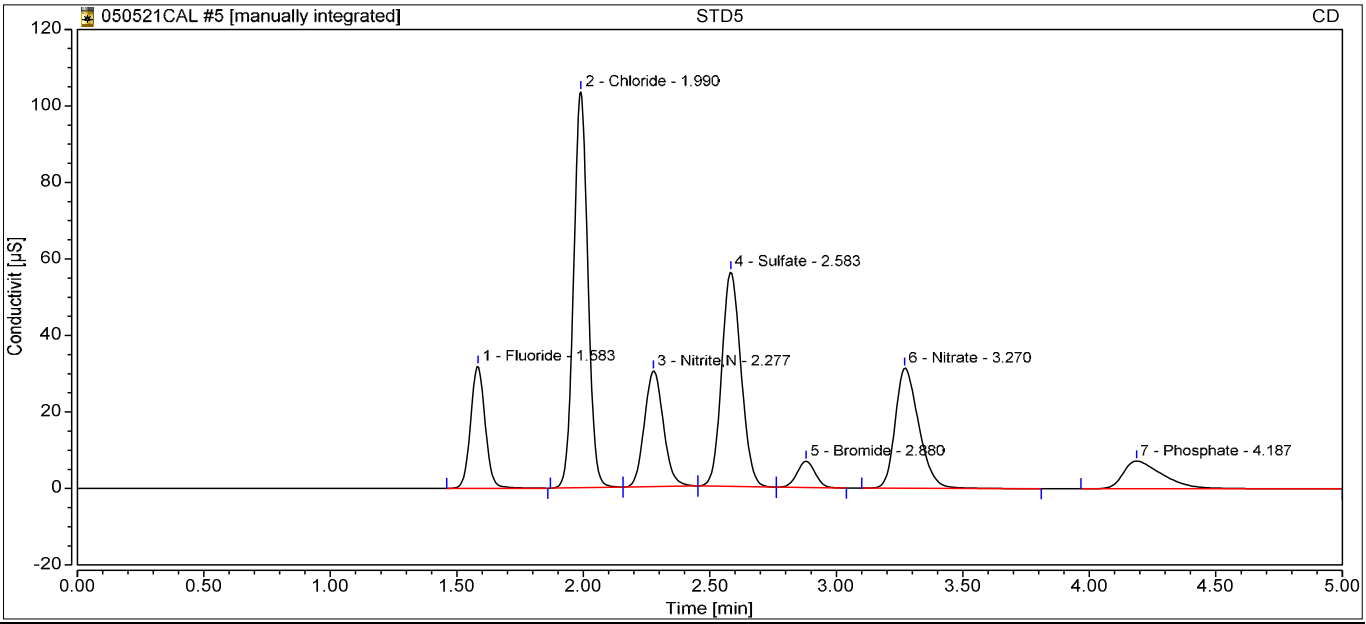
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.903	4.3869	4.3869	1.0000
2	1.99	Chloride	BM *	2.691	20.0267	20.0267	1.0000
3	2.28	Nitrite,N	Mb*	1.144	4.3066	4.3066	1.0000
4	2.60	Sulfate	bMB*	1.988	20.0727	20.0727	1.0000
5	2.89	Bromide	BMB	0.224	3.9555	3.9555	1.0000
6	3.30	Nitrate	BMB	1.350	4.0333	4.0333	1.0000
7	4.26	Phosphate	BMB	0.506	3.9429	3.9429	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.805**		**60.72**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 18:42**	*Sample Weight:*	**1.0000**

Run Time:

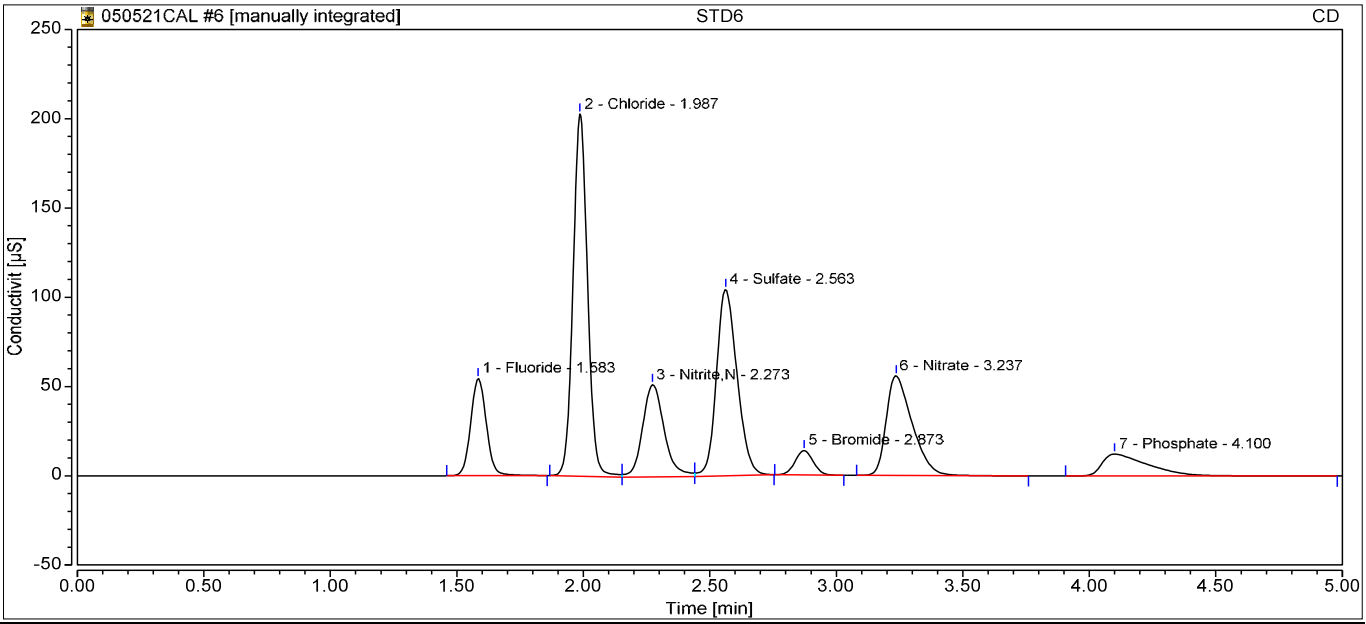


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	2.140	10.4243	10.4243	1.0000
2	1.99	Chloride	BMb*	6.732	50.0934	50.0934	1.0000
3	2.28	Nitrite,N	bMb*	2.637	9.9988	9.9988	1.0000
4	2.58	Sulfate	bMB*	4.966	50.1541	50.1541	1.0000
5	2.88	Bromide	BMB	0.571	10.1112	10.1112	1.0000
6	3.27	Nitrate	BMB	3.393	10.1328	10.1328	1.0000
7	4.19	Phosphate	BMB	1.313	10.1773	10.1773	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**21.751**		**151.09**	

6 STD6			
Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 18:49**	*Sample Weight:*	**1.0000**

Run Time:



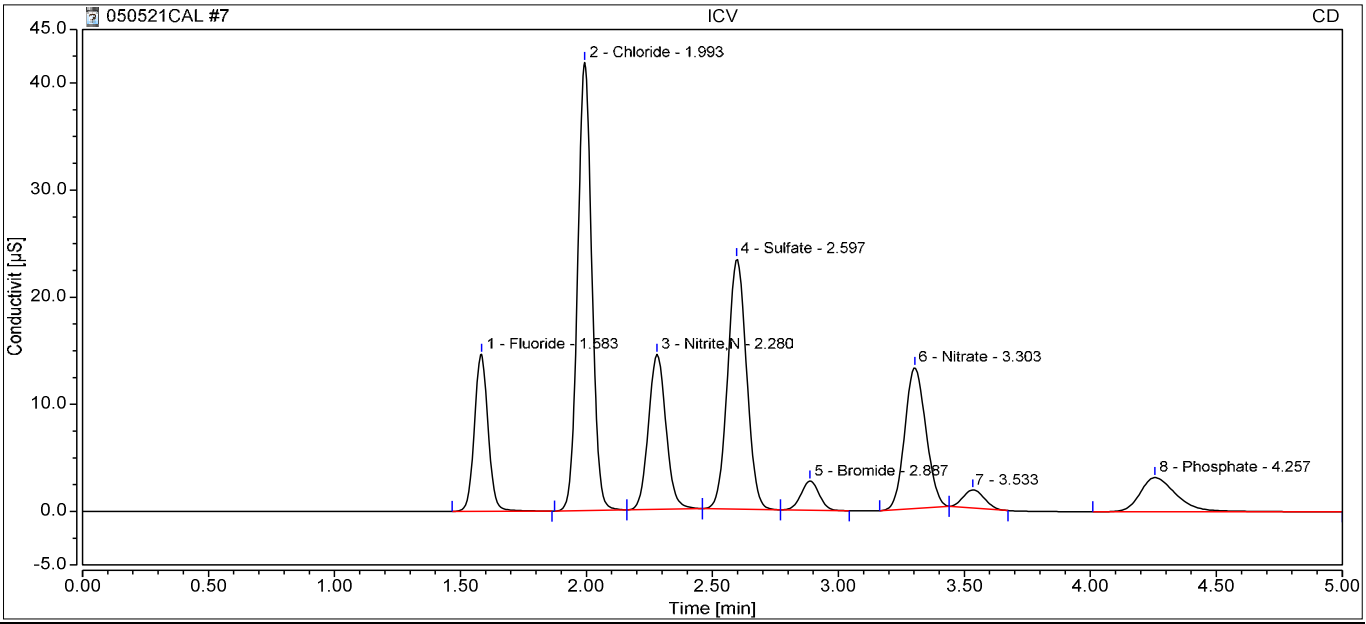
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	3.894	18.9867	18.9867	1.0000
2	1.99	Chloride	BM *	13.421	99.8669	99.8669	1.0000
3	2.27	Nitrite,N	M *	5.117	19.4604	19.4604	1.0000
4	2.56	Sulfate	MB*	9.870	99.6947	99.6947	1.0000
5	2.87	Bromide	BMB	1.127	19.9531	19.9531	1.0000
6	3.24	Nitrate	BMB	6.637	19.8160	19.8160	1.0000
7	4.10	Phosphate	BMB	2.580	19.9616	19.9616	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**42.646**		**297.74**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 18:57**	*Sample Weight:*	**1.0000**

Run Time:



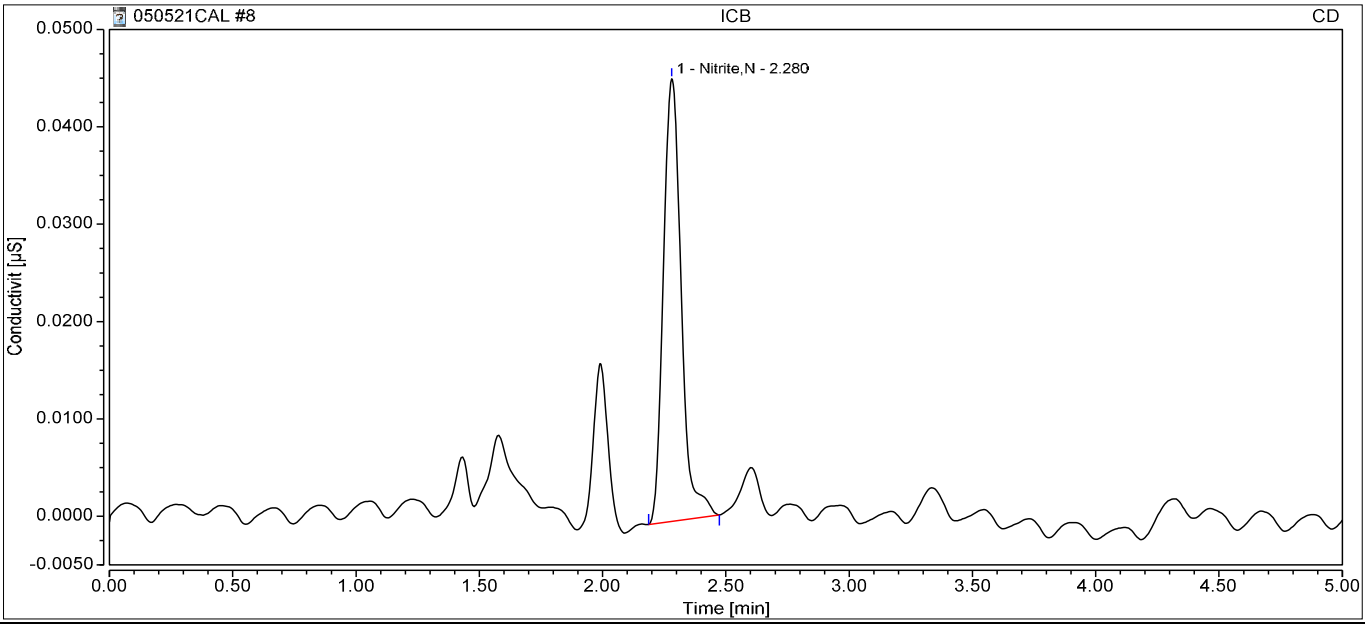
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.924	4.4936	4.4936	1.0000
2	1.99	Chloride	BMB	2.715	20.2077	20.2077	1.0000
3	2.28	Nitrite,N	BMB	1.168	4.3995	4.3995	1.0000
4	2.60	Sulfate	BMB	2.028	20.4771	20.4771	1.0000
5	2.89	Bromide	BMB	0.226	3.9960	3.9960	1.0000
6	3.30	Nitrate	BMB	1.281	3.8265	3.8265	1.0000
8	4.26	Phosphate	BMB	0.533	4.1549	4.1549	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.876**		**61.56**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/05/2021 19:14**	*Sample Weight:*	**1.0000**

Run Time:

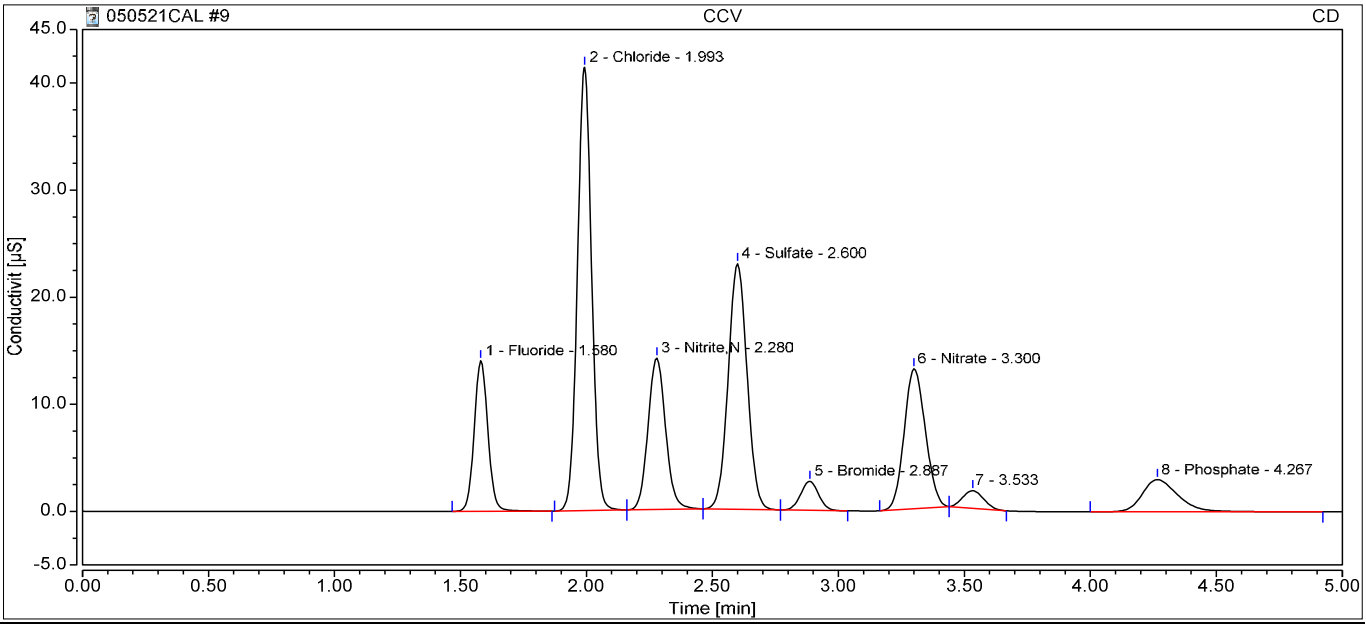


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.28	Nitrite,N	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.00**	

9 CCV			
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 09:30**	*Sample Weight:*	**1.0000**

Run Time:



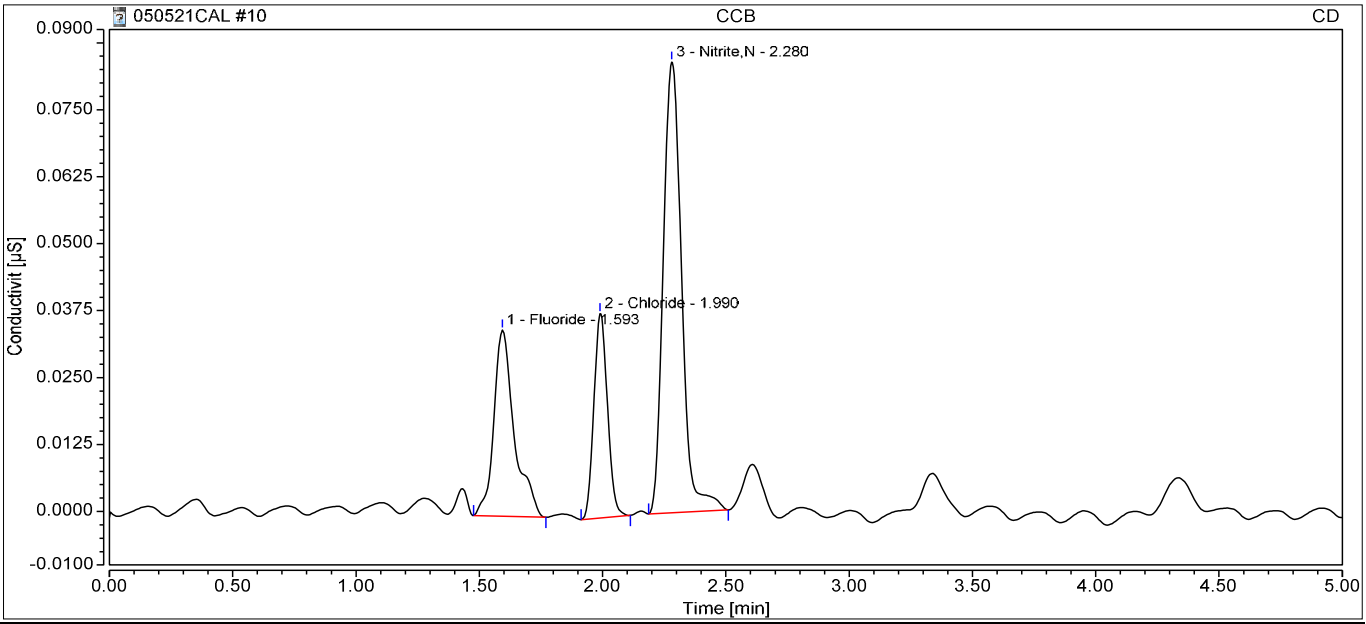
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.889	4.3191	4.3191	1.0000
2	1.99	Chloride	BMB	2.695	20.0544	20.0544	1.0000
3	2.28	Nitrite,N	BMB	1.143	4.3043	4.3043	1.0000
4	2.60	Sulfate	BMB	1.991	20.1027	20.1027	1.0000
5	2.89	Bromide	BMB	0.225	3.9694	3.9694	1.0000
6	3.30	Nitrate	BMB	1.274	3.8071	3.8071	1.0000
8	4.27	Phosphate	BMB	0.499	3.8904	3.8904	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.716**		**60.45**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 09:37**	*Sample Weight:*	**1.0000**

Run Time:



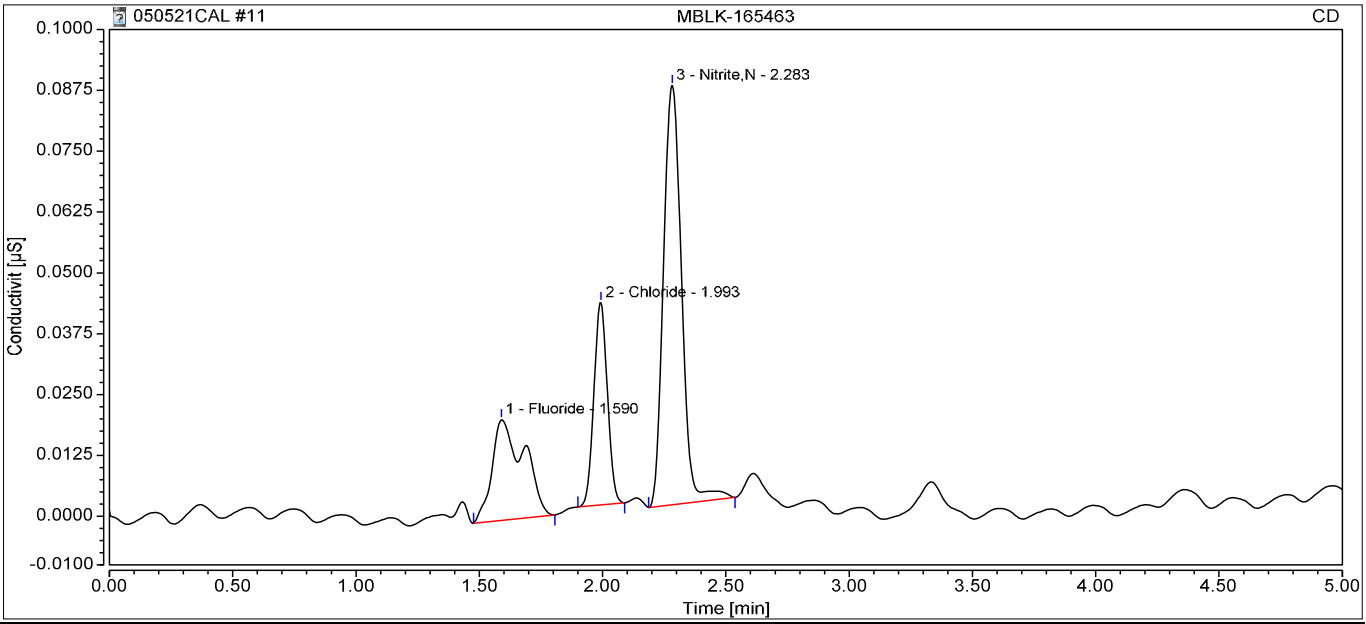
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.59	Fluoride	BMB	0.003	n.a.	n.a.	1.0000
2	1.99	Chloride	BMB	0.002	0.0217	0.0217	1.0000
3	2.28	Nitrite,N	BMB	0.007	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.013**		**0.02**	

11 MBLK-165463

Sample Name:	**MBLK-165463**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 09:45**	*Sample Weight:*	**1.0000**

Run Time:



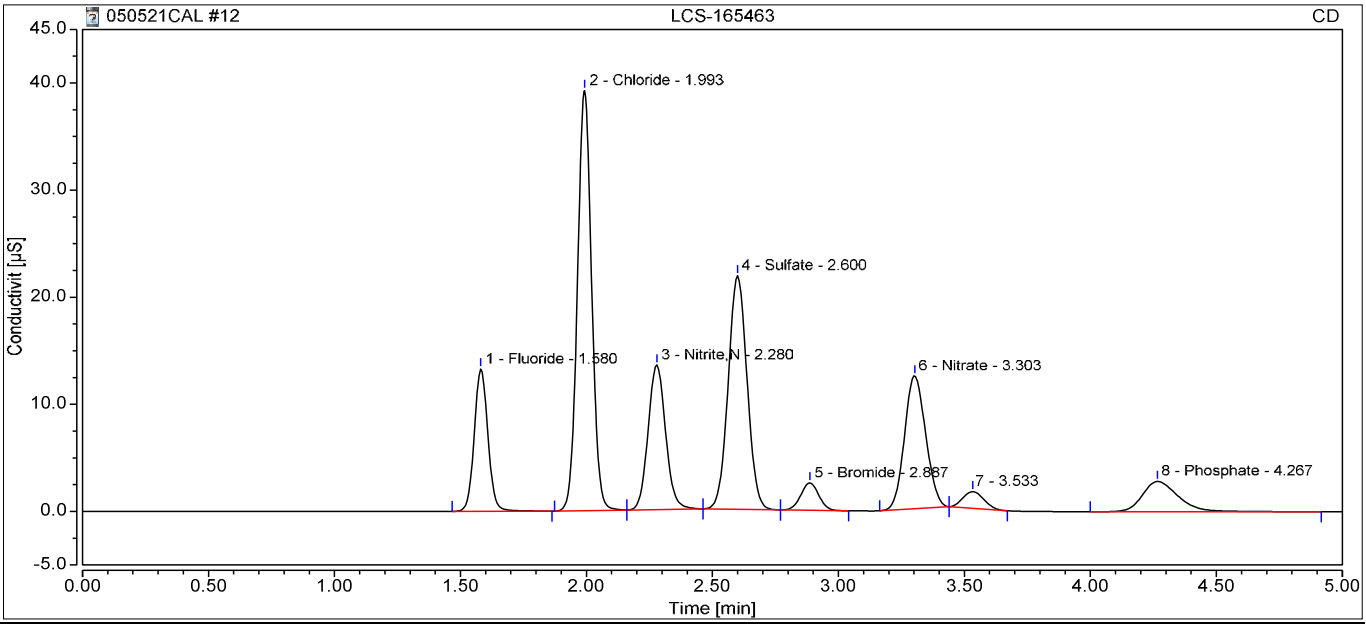
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.59	Fluoride	BMB	0.003	n.a.	n.a.	1.0000
2	1.99	Chloride	BMB	0.003	0.0231	0.0231	1.0000
3	2.28	Nitrite,N	BMB	0.007	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.013**		**0.02**	

12 LCS-165463

Sample Name:	**LCS-165463**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 09:52**	*Sample Weight:*	**1.0000**

Run Time:



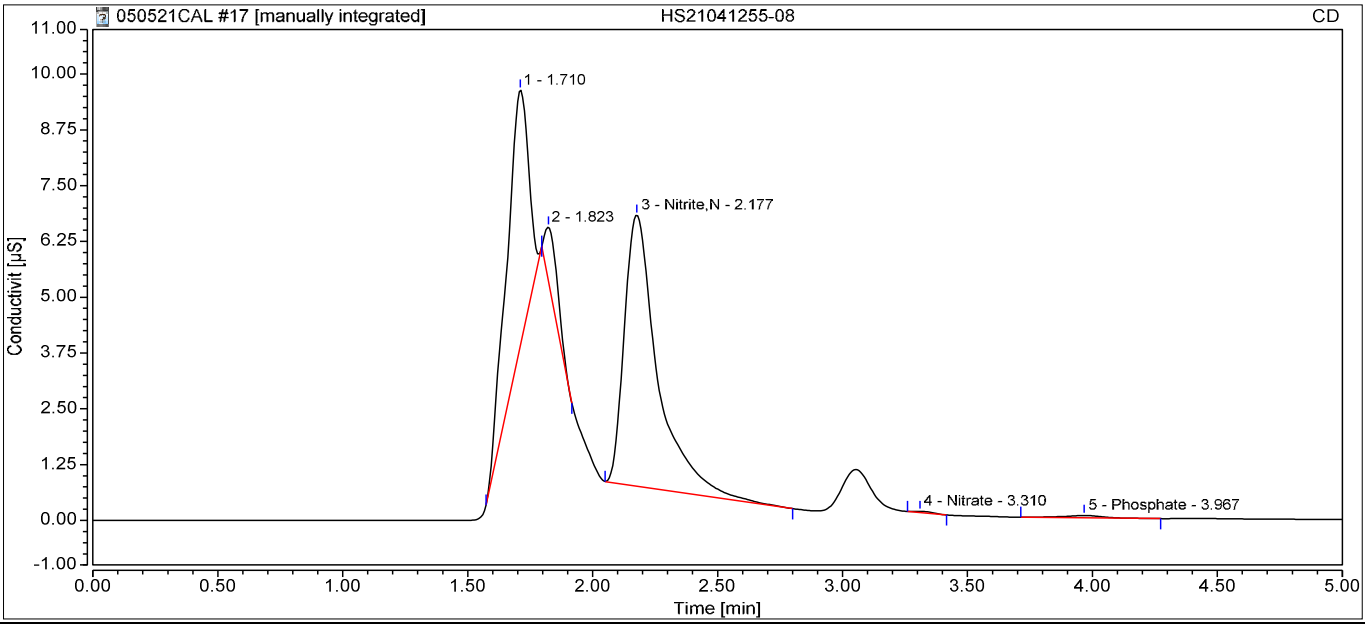
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.839	4.0746	4.0746	1.0000
2	1.99	Chloride	BMB	2.552	18.9950	18.9950	1.0000
3	2.28	Nitrite,N	BMB	1.086	4.0861	4.0861	1.0000
4	2.60	Sulfate	BMB	1.892	19.1049	19.1049	1.0000
5	2.89	Bromide	BMB	0.213	3.7615	3.7615	1.0000
6	3.30	Nitrate	BMB	1.209	3.6134	3.6134	1.0000
8	4.27	Phosphate	BMB	0.467	3.6416	3.6416	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.258**		**57.28**	

17 HS21041255-08

Sample Name:	**HS21041255-08**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 10:41**	*Sample Weight:*	**1.0000**

Run Time:



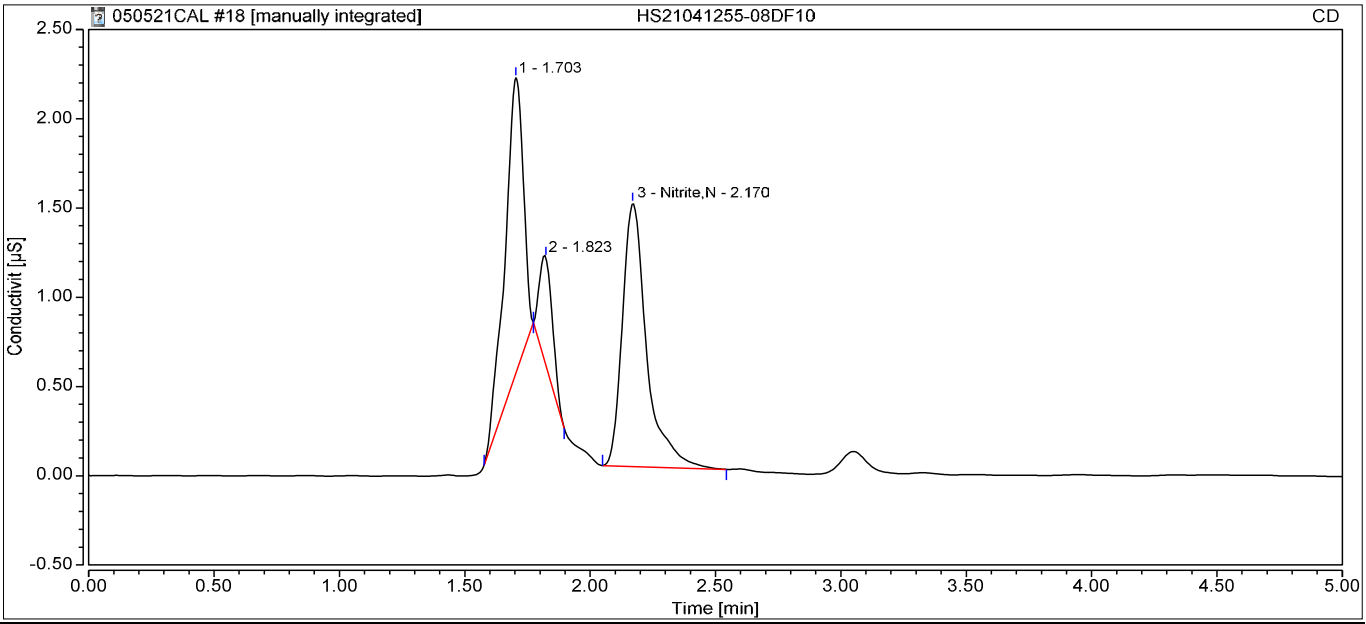
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
3	2.18	Nitrite,N	BMB	0.940	3.5275	3.5275	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	3.31	Nitrate	BMB	0.002	0.0113	0.0113	1.0000
5	3.97	Phosphate	BMB	0.010	0.1120	0.1120	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.952**		**3.65**	

18 HS21041255-08DF10

Sample Name:	**HS21041255-08DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**10.0000**
Recording Time:	**05/06/2021 10:49**	*Sample Weight:*	**1.0000**

Run Time:

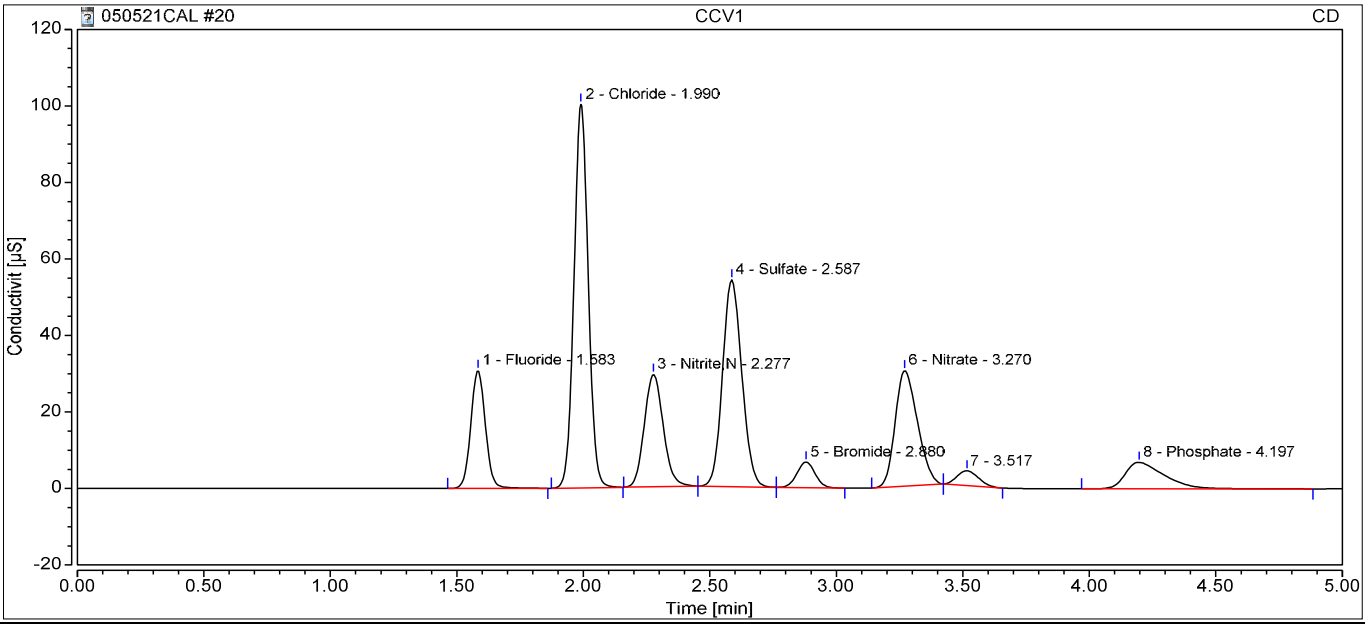


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	10.0000
3	2.17	Nitrite,N	BMB	0.165	0.5741	5.7406	10.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**0.165**		**5.74**	

20 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 11:03**	*Sample Weight:*	**1.0000**

Run Time:



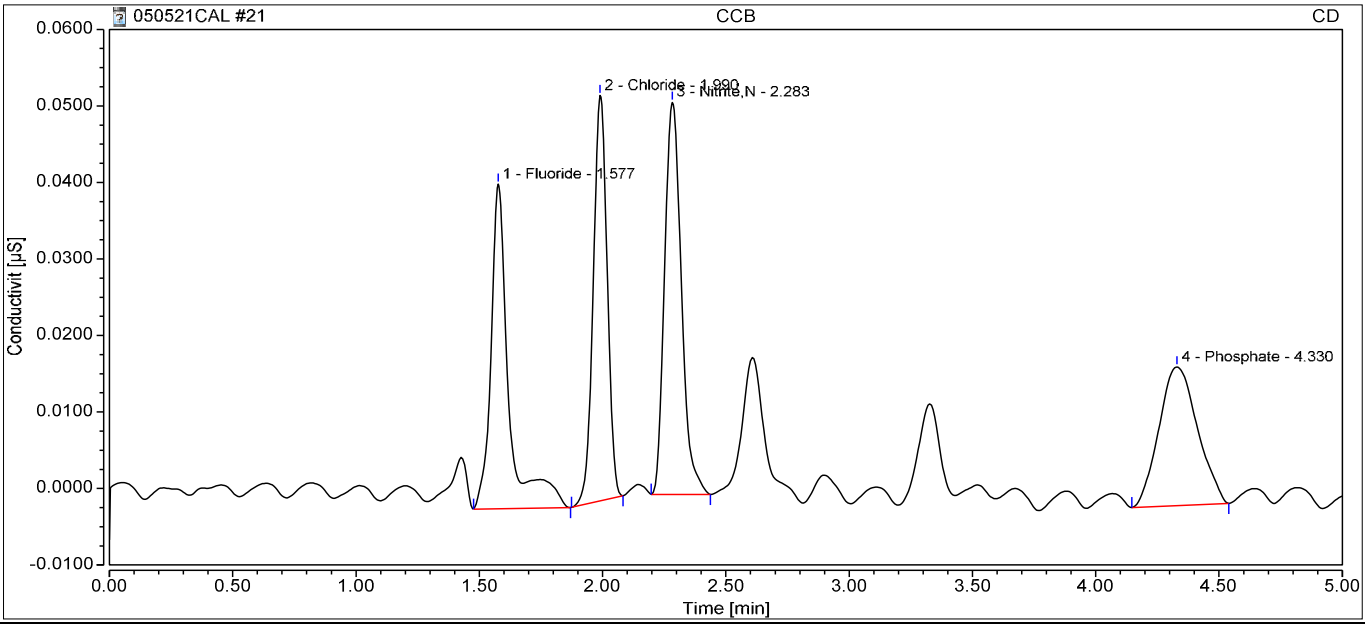
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	2.061	10.0393	10.0393	1.0000
2	1.99	Chloride	BMB	6.527	48.5682	48.5682	1.0000
3	2.28	Nitrite,N	BMB	2.552	9.6754	9.6754	1.0000
4	2.59	Sulfate	BMB	4.778	48.2536	48.2536	1.0000
5	2.88	Bromide	BMB	0.555	9.8124	9.8124	1.0000
6	3.27	Nitrate	BMB	3.084	9.2101	9.2101	1.0000
8	4.20	Phosphate	BMB	1.241	9.6223	9.6223	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**20.797**		**145.18**	

21 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 11:11**	*Sample Weight:*	**1.0000**

Run Time:

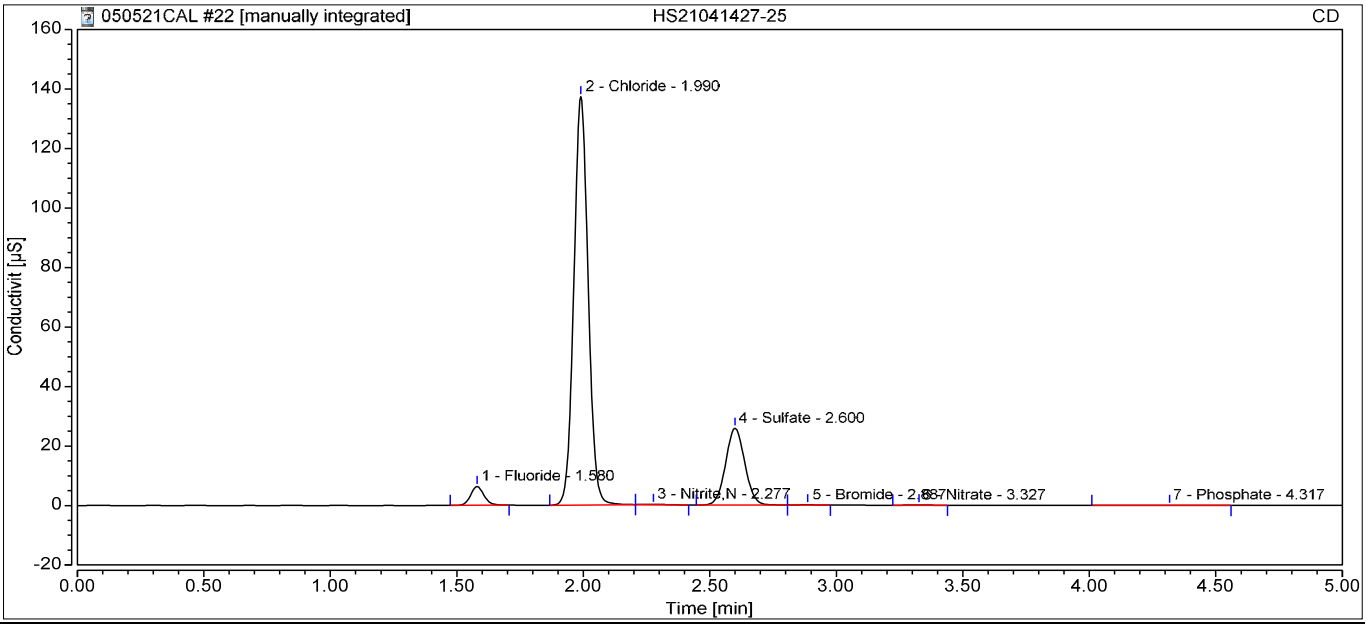


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.004	n.a.	n.a.	1.0000
2	1.99	Chloride	BMB	0.003	0.0293	0.0293	1.0000
3	2.28	Nitrite,N	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
4	4.33	Phosphate	BMB	0.003	0.0600	0.0600	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.014**		**0.09**	

22	*HS21041427-25*		
Sample Name:	**HS21041427-25**	*Injection Volume:*	**5.00**
Vial Number:	**RA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 11:19**	*Sample Weight:*	**1.0000**

Run Time:



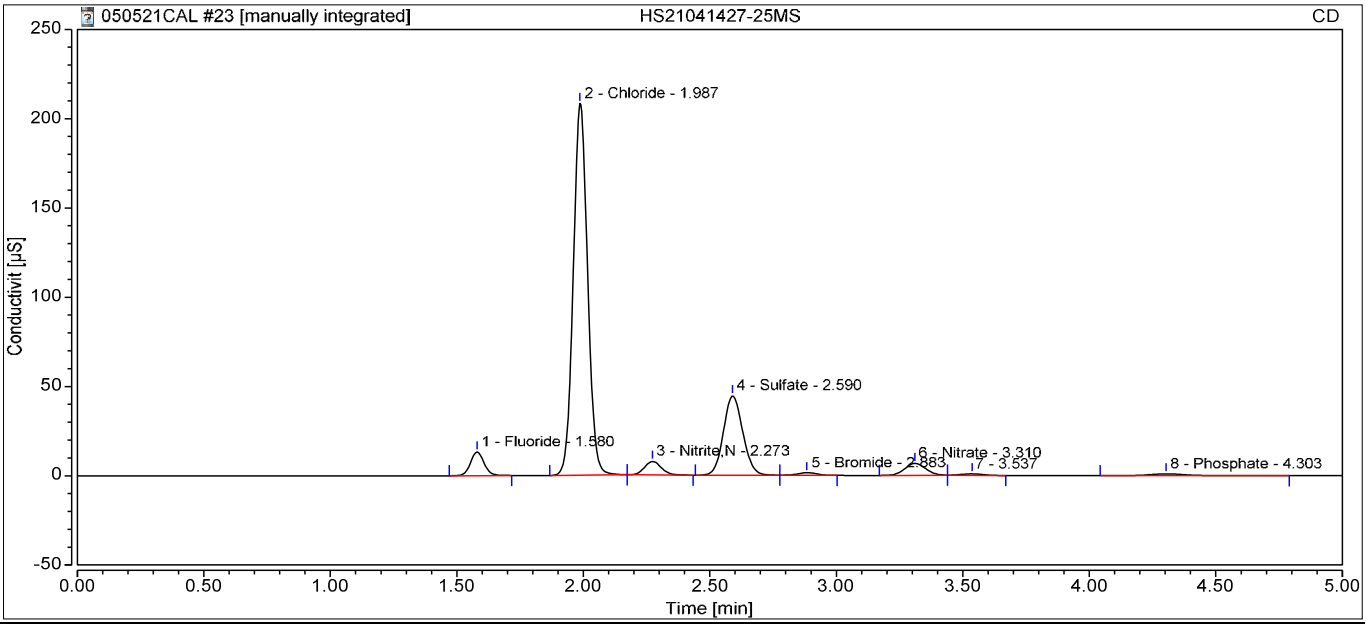
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB*	0.388	1.8768	1.8768	1.0000
2	1.99	Chloride	BMB	8.970	66.7526	66.7526	1.0000
3	2.28	Nitrite,N	BMB	0.011	n.a.	n.a.	1.0000
4	2.60	Sulfate	BMB	2.266	22.8774	22.8774	1.0000
5	2.89	Bromide	BMB	0.007	0.1155	0.1155	1.0000
6	3.33	Nitrate	BMB	0.011	0.0380	0.0380	1.0000
7	4.32	Phosphate	BMB	0.005	0.0743	0.0743	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**11.658**		**91.73**	

23 HS21041427-25MS

Sample Name:	**HS21041427-25MS**	*Injection Volume:*	**5.00**
Vial Number:	**RA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 11:26**	*Sample Weight:*	**1.0000**

Run Time:



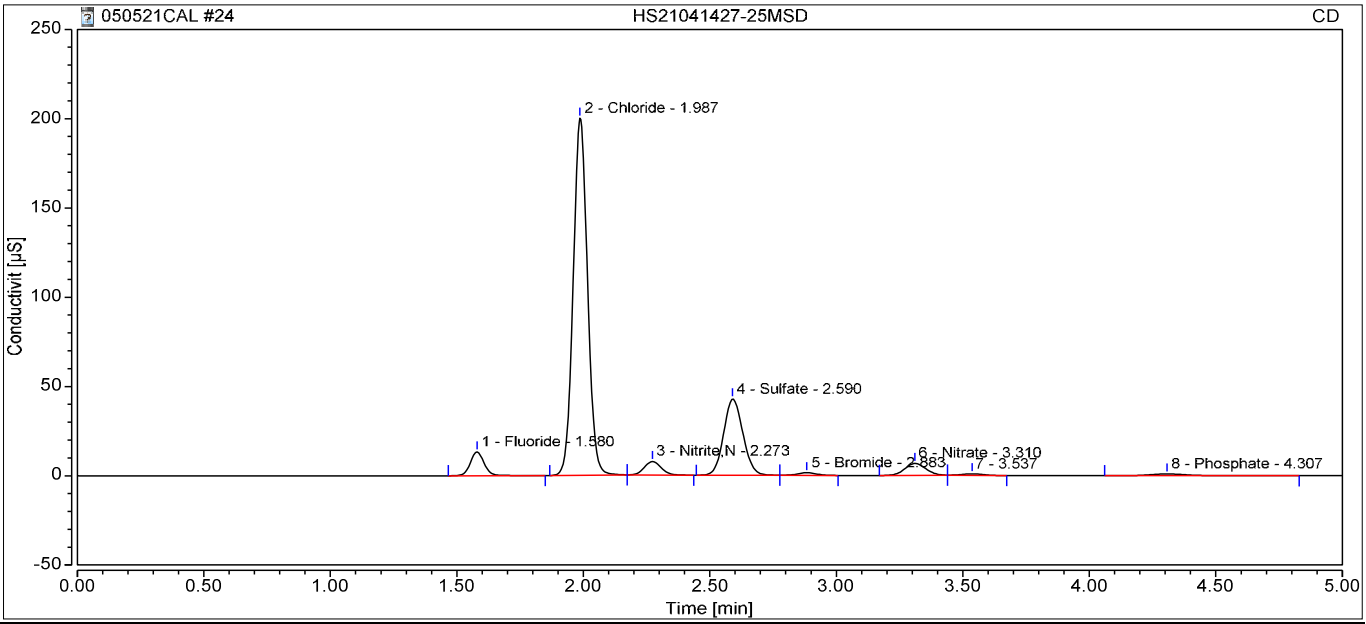
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB*	0.823	3.9990	3.9990	1.0000
2	1.99	Chloride	BMB	13.614	101.3025	101.3025	1.0000
3	2.27	Nitrite,N	BMB	0.587	2.1818	2.1818	1.0000
4	2.59	Sulfate	BMB	3.931	39.7061	39.7061	1.0000
5	2.88	Bromide	BMB	0.121	2.1379	2.1379	1.0000
6	3.31	Nitrate	BMB	0.636	1.9020	1.9020	1.0000
8	4.30	Phosphate	BMB	0.172	1.3597	1.3597	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**19.884**		**152.59**	

24 HS21041427-25MSD

Sample Name:	**HS21041427-25MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 11:34**	*Sample Weight:*	**1.0000**

Run Time:



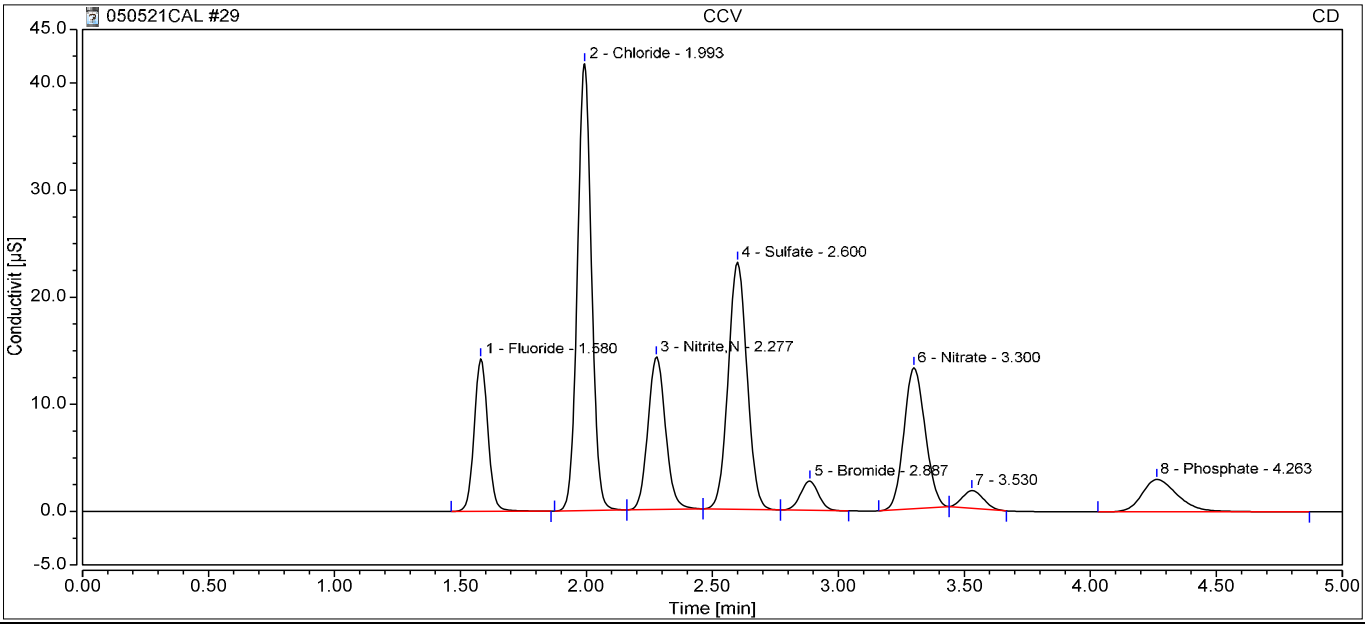
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.849	4.1255	4.1255	1.0000
2	1.99	Chloride	BMB	13.092	97.4205	97.4205	1.0000
3	2.27	Nitrite,N	BMB	0.587	2.1830	2.1830	1.0000
4	2.59	Sulfate	BMB	3.767	38.0451	38.0451	1.0000
5	2.88	Bromide	BMB	0.121	2.1326	2.1326	1.0000
6	3.31	Nitrate	BMB	0.636	1.9029	1.9029	1.0000
8	4.31	Phosphate	BMB	0.166	1.3142	1.3142	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**19.218**		**147.12**	

29 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 12:12**	*Sample Weight:*	**1.0000**

Run Time:



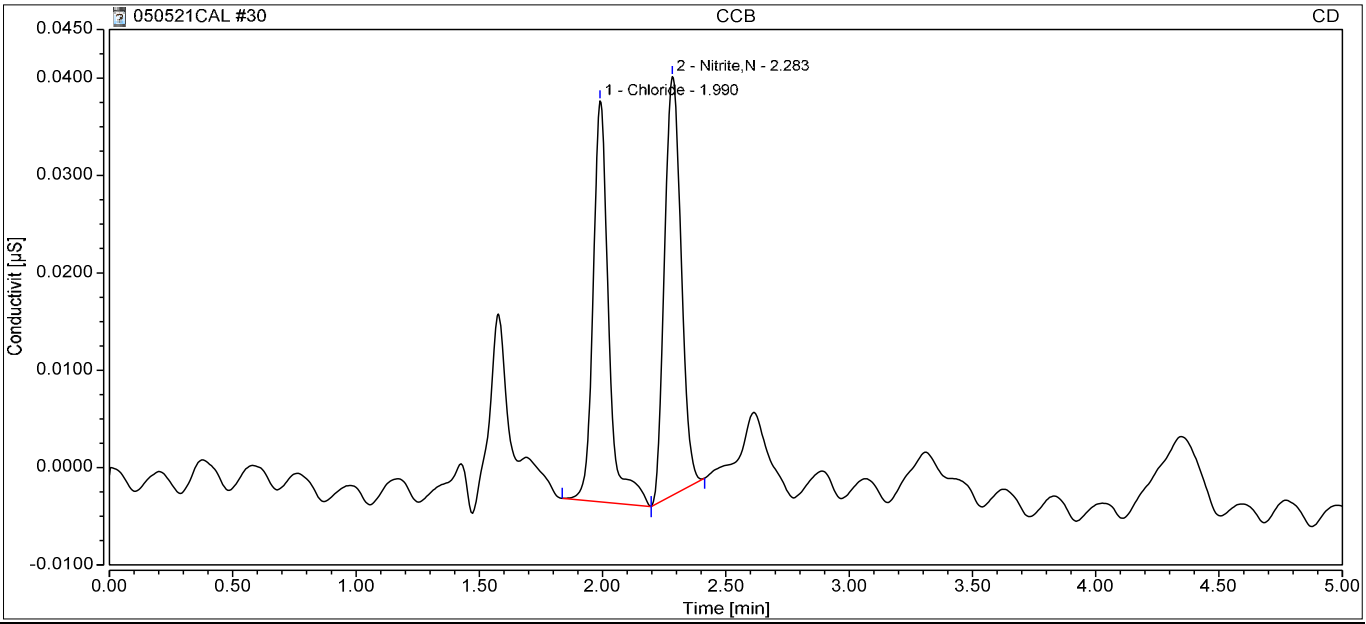
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.58	Fluoride	BMB	0.899	4.3699	4.3699	1.0000
2	1.99	Chloride	BMB	2.703	20.1151	20.1151	1.0000
3	2.28	Nitrite,N	BMB	1.152	4.3387	4.3387	1.0000
4	2.60	Sulfate	BMB	1.999	20.1789	20.1789	1.0000
5	2.89	Bromide	BMB	0.226	4.0035	4.0035	1.0000
6	3.30	Nitrate	BMB	1.283	3.8327	3.8327	1.0000
8	4.26	Phosphate	BMB	0.502	3.9120	3.9120	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.764**		**60.75**	

30 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/06/2021 12:19**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.99	Chloride	BMB	0.003	0.0261	0.0261	1.0000
2	2.28	Nitrite,N	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.006**		**0.03**	

HS21041255 Wet Chem Raw Data (TOC_W 5310B)

ALS WO# HS21041255

C:\TOC-L\Data\2021_02_25_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result
1	Standard	NPOC	CAL	3150171(01-07)	02_25_2021_CAL.2021_02_	
2	Unknown	NPOC	ICV	315017108	02_25_2021_CAL.cal	NPOC:10.14mg/L
3	Unknown	NPOC	ICB		02_25_2021_CAL.cal	NPOC:-0.1140mg/L
4	Unknown	NPOC	CCV	315017106	02_25_2021_CAL.cal	NPOC:25.02mg/L
5	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:-0.07587mg/L
6	Unknown	NPOC	MBLK-02252021		02_25_2021_CAL.cal	NPOC:-0.1214mg/L
7	Unknown	NPOC	LCS-02252021		02_25_2021_CAL.cal	NPOC:10.15mg/L
8	Unknown	NPOC	LCSD02252021		02_25_2021_CAL.cal	NPOC:10.16mg/L
9	Unknown	NPOC	HS21020689-01		02_25_2021_CAL.cal	NPOC:22.48mg/L
10	Unknown	NPOC	HS21020689-02		02_25_2021_CAL.cal	NPOC:17.34mg/L
11	Unknown	NPOC	HS21020689-02MS		02_25_2021_CAL.cal	NPOC:28.25mg/L
12	Unknown	NPOC	HS21020689-03		02_25_2021_CAL.cal	NPOC:10.22mg/L
13	Unknown	NPOC	HS21020538-01		02_25_2021_CAL.cal	NPOC:20.36mg/L
14	Unknown	NPOC	HS21020538-02		02_25_2021_CAL.cal	NPOC:4.452mg/L
15	Unknown	NPOC	HS21020793-02DF10		02_25_2021_CAL.cal	NPOC:17.50mg/L
16	Unknown	NPOC	CCV		02_25_2021_CAL.cal	NPOC:25.46mg/L
17	Unknown	NPOC	CCB		02_25_2021_CAL.cal	NPOC:0.08018mg/L

	Notes	Status	Date / Time	Vial
1		Completed	2/25/2021 1	1, 2, 3, 4, 5,
2		Completed	2/25/2021 1	8
3		Completed	2/25/2021 1	9
4		Completed	2/25/2021 1	10
5		Completed	2/25/2021 1	11
6		Completed	2/25/2021 1	12
7		Completed	2/25/2021 1	13
8		Completed	2/25/2021 1:	14
9		Completed	2/25/2021 1:	15
10		Completed	2/25/2021 1:	16
11		Completed	2/25/2021 1:	17
12		Completed	2/25/2021 2:	18
13		Completed	2/25/2021 2:	19
14		Completed	2/25/2021 2:	20
15		Completed	2/25/2021 2:	21
16		Completed	2/25/2021 3:	22
17		Completed	2/25/2021 3:	23

TOC-Control L Report

2021_02_25_001.tlx

Instr.Information

Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

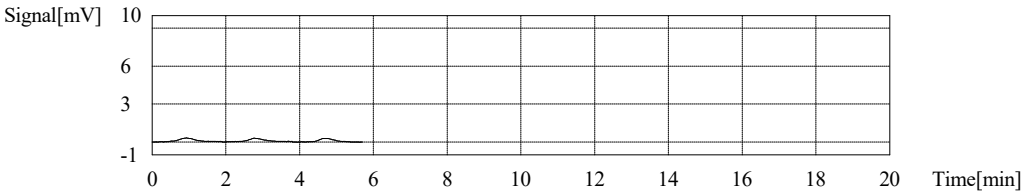
Sample Name:	CAL
Sample ID:	3150171(01-07)
Cal. Curve:	02_25_2021_CAL.2021_02_25_09_13_02.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.7577	50uL	1.000	*******		2/25/2021 9:21:39 AM
2	0.6368	50uL	1.000	*******		2/25/2021 9:23:47 AM
3	0.6500	50uL	1.000	*******		2/25/2021 9:25:55 AM

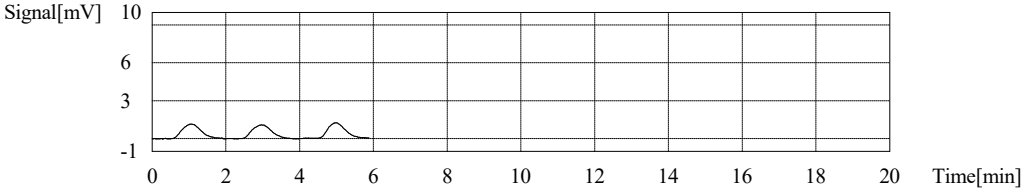
Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	0.6815



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.063	50uL	1.000	*******		2/25/2021 9:34:44 AM
2	3.946	50uL	1.000	*******		2/25/2021 9:37:02 AM
3	3.886	50uL	1.000	*******		2/25/2021 9:39:10 AM

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	3.965



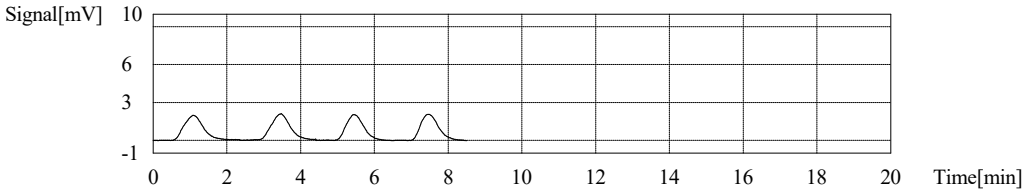
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.014	50uL	1.000	*******		2/25/2021 9:48:25 AM
2	6.976	50uL	1.000	*******		2/25/2021 9:50:44 AM
3	6.738	50uL	1.000	*******	E	2/25/2021 9:53:02 AM
4	6.989	50uL	1.000	*******		2/25/2021 9:55:18 AM

TOC-Control L Report

2021_02_25_001.tlx

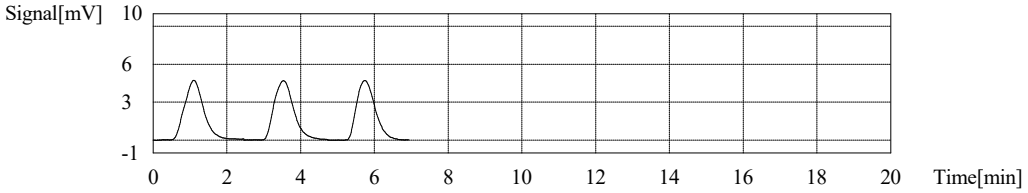
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 6.993



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.70	50uL	1.000	*******		2/25/2021 10:04:35 AM
2	16.99	50uL	1.000	*******		2/25/2021 10:07:06 AM
3	16.40	50uL	1.000	*******		2/25/2021 10:09:32 AM

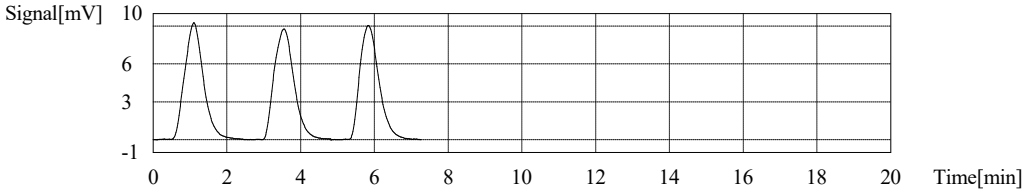
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 16.70



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	32.33	50uL	1.000	*******		2/25/2021 10:18:54 AM
2	32.41	50uL	1.000	*******		2/25/2021 10:21:29 AM
3	32.27	50uL	1.000	*******		2/25/2021 10:24:10 AM

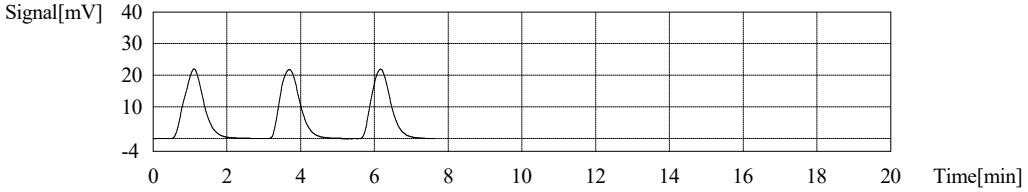
Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 32.34



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	79.83	50uL	1.000	*******		2/25/2021 10:33:42 AM
2	80.51	50uL	1.000	*******		2/25/2021 10:36:25 AM
3	79.09	50uL	1.000	*******		2/25/2021 10:39:12 AM

Acid Add. 0.000%
Sparge Gas Flow 80mL/min
Sp. Time 180.0sec
Mean Area 79.81

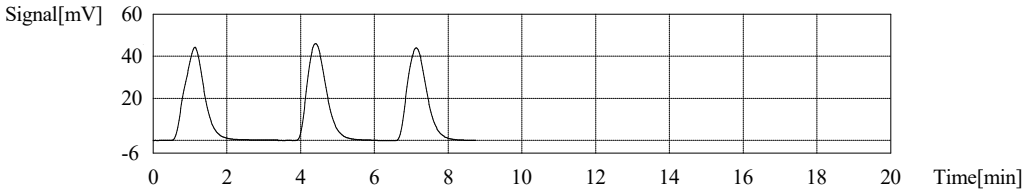


Conc: 50.00mg/L

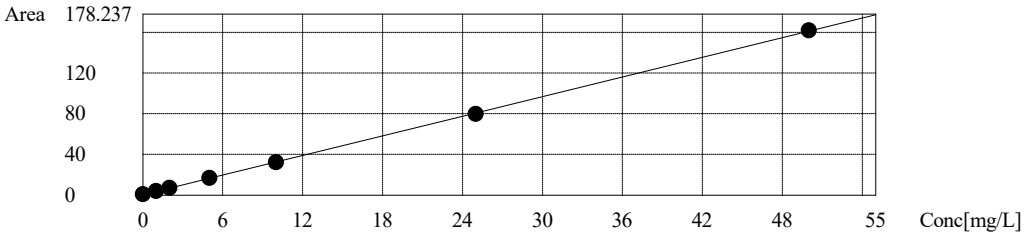
No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	162.4	50uL	1.000	*******		2/25/2021 10:49:29 AM
2	163.8	50uL	1.000	*******		2/25/2021 10:52:26 AM
3	159.9	50uL	1.000	*******		2/25/2021 10:55:21 AM

Report

Acid Add.	0.000%
Sparge Gas Flow	80mL/min
Sp. Time	180.0sec
Mean Area	162.0



Slope:	3.220
Intercept	0.4365
r^2	0.9999
r	1.0000
RSE(%)	N/A
Zero Shift	No



Sample

Sample Name:	ICV
Sample ID:	315017108
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

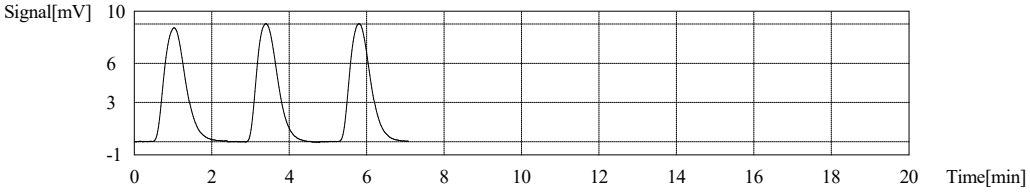
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.14mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.04	10.13mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:32:06 AM
2	33.24	10.19mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:34:44 AM
3	32.98	10.11mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:37:17 AM

Mean Area	33.09
Mean Conc.	10.14mg/L



Sample

Sample Name:	ICB
Sample ID:	
Origin:	02_25_2021_CAL.cal
Status	Completed
Chk. Result	

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1140mg/L

1. Det

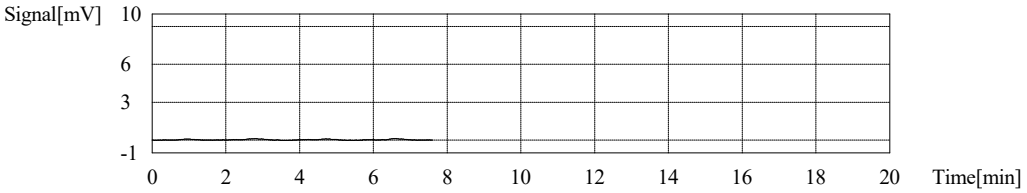
TOC-Control L Report

2021_02_25_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:46:05 AM
2	0.2080	-0.07096mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:48:13 AM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:50:20 AM
4	0.2102	-0.07028mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	2/25/2021 11:52:27 AM

Mean Area 0.06933
Mean Conc. -0.1140mg/L



C:\TOC-L\Data\2021_05_03_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result	Notes	Status
1	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.12mg/L		Completed
2	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02147mg/L		Completed
3	Unknown	NPOC	MBLK-05032021		02_25_2021	NPOC:-0.1356mg/L		Completed
4	Unknown	NPOC	LCS-05032021		02_25_2021	NPOC:10.38mg/L		Completed
5	Unknown	NPOC	LCSD-05032021	TOC_W 531	02_25_2021	NPOC:10.36mg/L		Completed
6	Unknown	NPOC	HS21041102-10DF100		02_25_2021	NPOC:28.55mg/L		Completed
7	Unknown	NPOC	HS21041482-01		02_25_2021	NPOC:14.11mg/L		Completed
8	Unknown	NPOC	HS21041024-01DF100		02_25_2021	NPOC:8.084mg/L		Completed
9	Unknown	NPOC	HS21041485-01		02_25_2021	NPOC:9.790mg/L		Completed
10	Unknown	NPOC	HS21041493-02		02_25_2021	NPOC:0.7184mg/L		Completed
11	Unknown	NPOC	HS21041169-01		02_25_2021	NPOC:16.78mg/L		Completed
12	Unknown	NPOC	HS21041169-02		02_25_2021	NPOC:12.16mg/L		Completed
13	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.33mg/L		Completed
14	Unknown	NPOC	CCB		02_25_2021	NPOC:0.06393mg/L		Completed
15	Unknown	NPOC	HS21041169-03		02_25_2021	NPOC:784.1mg/L		Completed
16	Unknown	NPOC	HS21041169-03MS		02_25_2021	NPOC:780.7mg/L		Completed
17	Unknown	NPOC	HS21041169-06		02_25_2021	NPOC:10.56mg/L		Completed
18	Unknown	NPOC	HS21041197-01		02_25_2021	NPOC:11.31mg/L		Completed
19	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.48mg/L		Completed
20	Unknown	NPOC	CCB		02_25_2021	NPOC:0.1052mg/L		Completed
21	Unknown	NPOC	MBLK2-05032021		02_25_2021	NPOC:-0.03418mg/L		Completed
22	Unknown	NPOC	LCS2-05032021		02_25_2021	NPOC:10.48mg/L		Completed
23	Unknown	NPOC	LCSD2-05032021	TOC_W 531	02_25_2021	NPOC:10.43mg/L		Completed
24	Unknown	NPOC	HS21041255-05		02_25_2021	NPOC:644.8mg/L		Completed
25	Unknown	NPOC	HS21041255-07		02_25_2021	NPOC:13.16mg/L		Completed
26	Unknown	NPOC	HS21041275-01		02_25_2021	NPOC:15.97mg/L		Completed
27	Unknown	NPOC	HS21041275-02		02_25_2021	NPOC:15.70mg/L		Completed
28	Unknown	NPOC	HS21041275-03		02_25_2021	NPOC:15.54mg/L		Completed
29	Unknown	NPOC	HS21041275-03MS		02_25_2021	NPOC:20.34mg/L		Completed
30	Unknown	NPOC	HS21041275-04		02_25_2021	NPOC:10.22mg/L		Completed
31	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:24.10mg/L		Completed
32	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02555mg/L		Completed
33	Unknown	NPOC	HS21041275-05		02_25_2021	NPOC:10.23mg/L		Completed
34	Unknown	NPOC	HS21041275-06		02_25_2021	NPOC:9.732mg/L		Completed
35	Unknown	NPOC	HS21041275-07		02_25_2021	NPOC:21.67mg/L		Completed
36	Unknown	NPOC	HS21041275-08		02_25_2021	NPOC:21.26mg/L		Completed
37	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.52mg/L		Completed
38	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.07846mg/L		Completed

	Date / Time	Vial
1	5/3/2021 3:5	1
2	5/3/2021 4:1	2
3	5/3/2021 4:2	3
4	5/3/2021 4:4	4
5	5/3/2021 4:5	5
6	5/3/2021 5:1	6
7	5/3/2021 5:2	7
8	5/3/2021 5:4	8
9	5/3/2021 5:5	9
10	5/3/2021 6:0	10
11	5/3/2021 6:2	11
12	5/3/2021 6:4	12
13	5/3/2021 6:5	13
14	5/3/2021 7:1	14
15	5/3/2021 7:3	15
16	5/3/2021 7:5	16
17	5/3/2021 8:0	17
18	5/3/2021 8:2	18
19	5/3/2021 8:4	1
20	5/3/2021 8:5	2
21	5/3/2021 9:1	3
22	5/3/2021 9:2	4
23	5/3/2021 9:4	5
24	5/3/2021 10:	19
25	5/3/2021 10:	20
26	5/3/2021 10:	21
27	5/3/2021 10:	22
28	5/3/2021 11:	23
29	5/3/2021 11:	24
30	5/3/2021 11:	25
31	5/3/2021 11:	13
32	5/4/2021 12:	14
33	5/4/2021 12:	26
34	5/4/2021 12:	27
35	5/4/2021 12:	28
36	5/4/2021 1:0	29
37	5/4/2021 1:1	1
38	5/4/2021 1:3	2

TOC-Control L Report

Instr.Information

Instrument Options TOC/ASI/IC Unit/
Catalyst Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

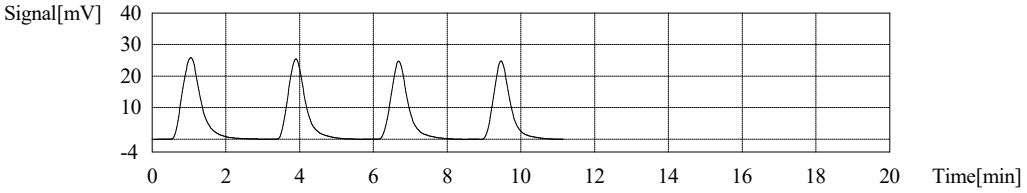
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.48mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	89.07	27.53mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:33:24 PM
2	81.98	25.32mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:36:25 PM
3	79.13	24.44mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:39:27 PM
4	76.72	23.69mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:42:25 PM

Mean Area 79.28
Mean Conc. 24.48mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1052mg/L

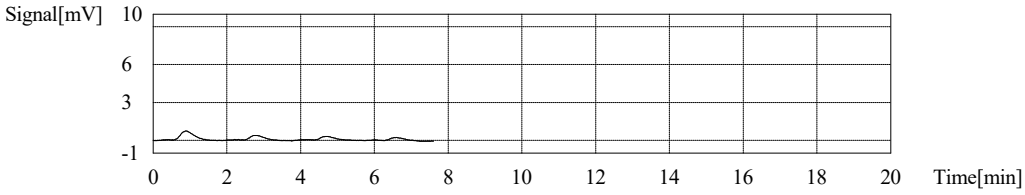
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.843	0.4368mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:51:08 PM
2	0.9525	0.1602mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:53:16 PM
3	0.7192	0.08779mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:55:24 PM
4	0.6536	0.06742mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 8:57:32 PM

TOC-Control L Report

Mean Area 0.7751
Mean Conc. 0.1052mg/L



Sample

Sample Name: MBLK2-05032021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

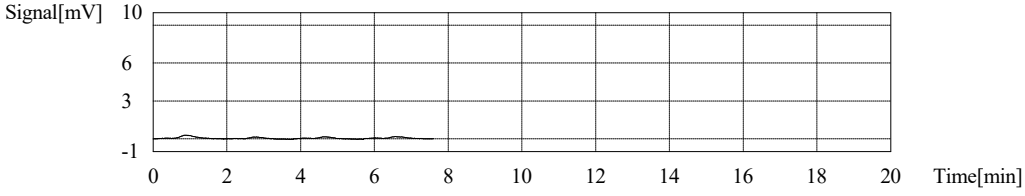
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.03418mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6425	0.06397mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:06:15 PM
2	0.2882	-0.04606mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:08:23 PM
3	0.2997	-0.04248mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:10:31 PM
4	0.3914	-0.01401mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:12:39 PM

Mean Area 0.3264
Mean Conc. -0.03418mg/L



Sample

Sample Name: LCS2-05032021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.48mg/L

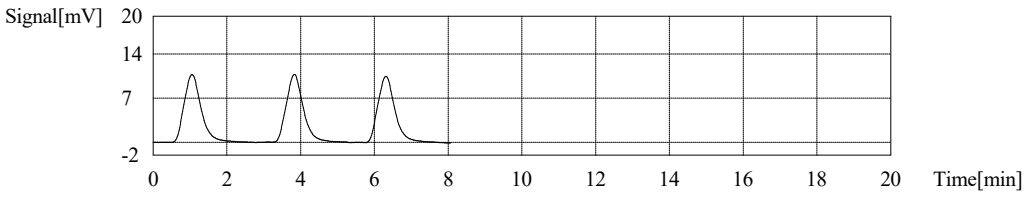
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.40	10.55mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:22:13 PM
2	34.18	10.48mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:24:57 PM
3	33.97	10.41mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:28:01 PM

TOC-Control L Report

Mean Area 34.18
Mean Conc. 10.48mg/L



Sample

Sample Name: LCSD2-05032021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

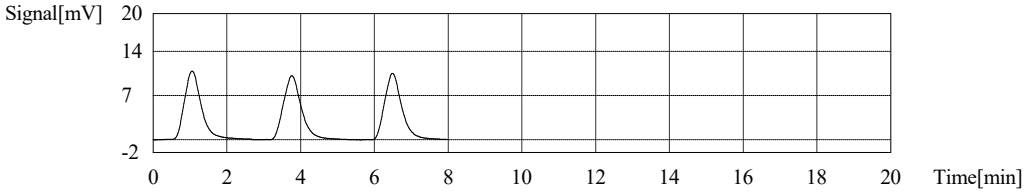
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.43mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.29	10.51mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:37:36 PM
2	34.16	10.47mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:40:36 PM
3	33.64	10.31mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:43:22 PM

Mean Area 34.03
Mean Conc. 10.43mg/L



Sample

Sample Name: HS21041255-05
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:644.8mg/L

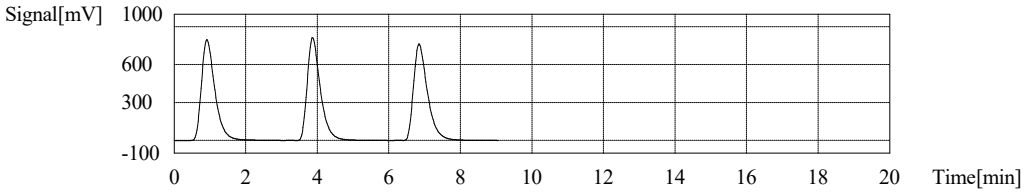
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2079	645.5mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:53:23 PM
2	2082	646.4mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 9:56:40 PM
3	2069	642.4mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 10:00:02 PM

TOC-Control L Report

Mean Area 2077
Mean Conc. 644.8mg/L



Sample

Sample Name: HS21041255-07
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

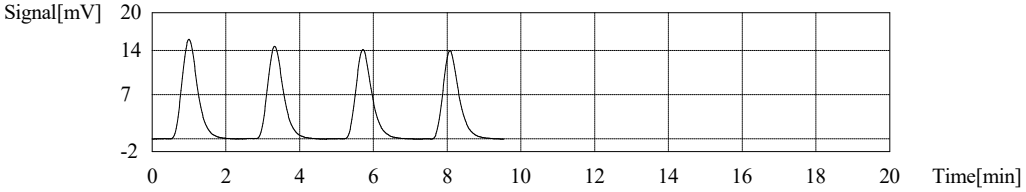
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:13.16mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	46.27	14.23mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 10:09:15 PM
2	44.03	13.54mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 10:11:53 PM
3	42.54	13.08mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 10:14:29 PM
4	41.91	12.88mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 10:17:10 PM

Mean Area 42.83
Mean Conc. 13.16mg/L



Sample

Sample Name: HS21041275-03
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:15.54mg/L

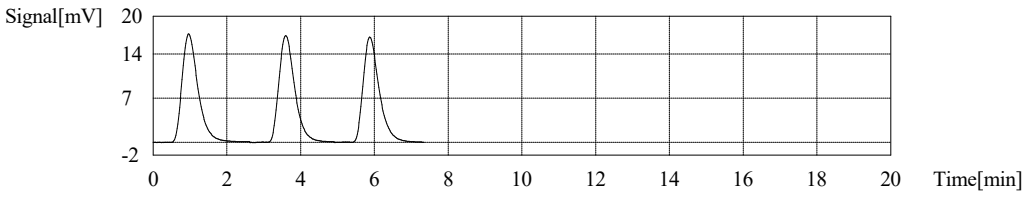
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.26	15.78mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 10:55:45 PM
2	50.10	15.42mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 10:58:18 PM
3	50.09	15.42mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:00:59 PM

TOC-Control L Report

Mean Area 50.48
Mean Conc. 15.54mg/L



Sample

Sample Name: HS21041275-03MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

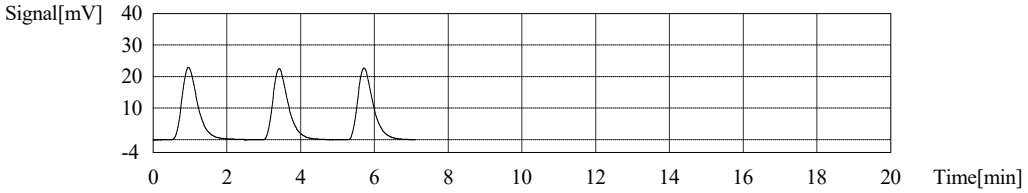
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.34mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	66.99	20.67mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:10:22 PM
2	65.05	20.07mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:12:55 PM
3	65.77	20.29mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:15:31 PM

Mean Area 65.94
Mean Conc. 20.34mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.10mg/L

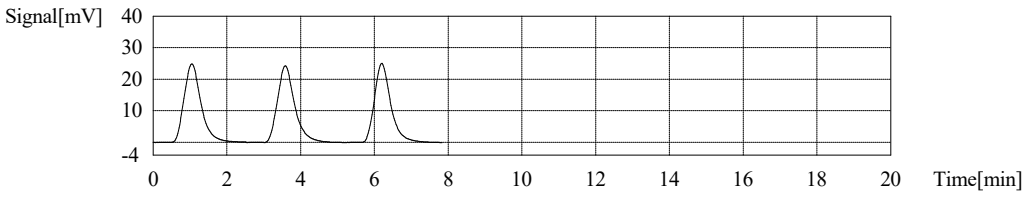
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	78.64	24.29mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:41:38 PM
2	78.50	24.24mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:44:31 PM
3	76.94	23.76mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:47:26 PM

TOC-Control L Report

Mean Area 78.03
Mean Conc. 24.10mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

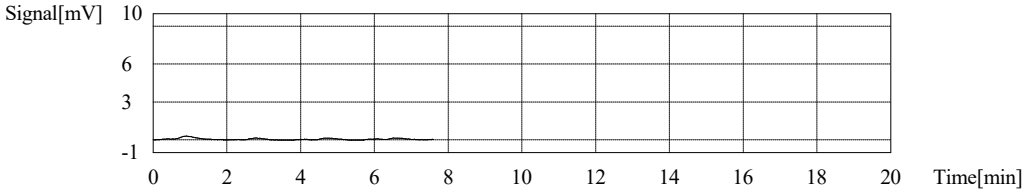
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.02555mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.8666	0.1336mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:56:14 PM
2	0.3535	-0.02578mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/3/2021 11:58:22 PM
3	0.4410	0.00140mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 12:00:30 AM
4	0.2682	-0.05227mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 12:02:38 AM

Mean Area 0.3542
Mean Conc. -0.02555mg/L



C:\TOC-L\Data\2021_05_04_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Result	Notes	Status
1	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.31mg/L		Completed
2	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.08070mg/L		Completed
3	Unknown	NPOC	MBLK-05042021		02_25_2021	NPOC:-0.1356mg/L		Completed
4	Unknown	NPOC	LCS-05042021		02_25_2021	NPOC:9.830mg/L		Completed
5	Unknown	NPOC	LCSD-05042021	TOC_W 5310B	02_25_2021	NPOC:9.588mg/L		Completed
6	Unknown	NPOC	HS21050107-01		02_25_2021	NPOC:4.168mg/L		Completed
7	Unknown	NPOC	HS21050107-03		02_25_2021	NPOC:6.972mg/L		Completed
8	Unknown	NPOC	HS21050107-06		02_25_2021	NPOC:4.963mg/L		Completed
9	Unknown	NPOC	HS21050107-08		02_25_2021	NPOC:24.88mg/L		Completed
10	Unknown	NPOC	HS21050107-10		02_25_2021	NPOC:21.39mg/L		Completed
11	Unknown	NPOC	HS21050107-12		02_25_2021	NPOC:28.24mg/L		Completed
12	Unknown	NPOC	HS21050107-14		02_25_2021	NPOC:20.59mg/L		Completed
13	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.56mg/L		Completed
14	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.02527mg/L		Completed
15	Unknown	NPOC	HS21050107-16		02_25_2021	NPOC:5.422mg/L		Completed
16	Unknown	NPOC	HS21041169-03DF100		02_25_2021	NPOC:7.461mg/L		Completed
17	Unknown	NPOC	HS21041169-03MSDF100		02_25_2021	NPOC:18.00mg/L		Completed
18	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.75mg/L		Completed
19	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.09849mg/L		Completed
20	Unknown	NPOC	MBLK2-05042021		02_25_2021	NPOC:-0.1142mg/L		Completed
21	Unknown	NPOC	LCS2-05042021		02_25_2021	NPOC:9.752mg/L		Completed
22	Unknown	NPOC	LCSD2-05042021	TOC_W 5310B	02_25_2021	NPOC:9.610mg/L		Completed
23	Unknown	NPOC	HS21041585-01		02_25_2021	NPOC:0.02967mg/L		Completed
24	Unknown	NPOC	HS21041585-02		02_25_2021	NPOC:8.110mg/L		Completed
25	Unknown	NPOC	HS21041585-02MS		02_25_2021	NPOC:18.88mg/L		Completed
26	Unknown	NPOC	HS21041255-05DF50		02_25_2021	NPOC:11.44mg/L		Completed
27	Unknown	NPOC	HS21041275-09		02_25_2021	NPOC:10.30mg/L		Completed
28	Unknown	NPOC	HS21041275-10		02_25_2021	NPOC:21.35mg/L		Completed
29	Unknown	NPOC	HS21041275-11		02_25_2021	NPOC:21.33mg/L		Completed
30	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.53mg/L		Completed
31	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.1356mg/L		Completed
32	Unknown	NPOC	HS21041275-12		02_25_2021	NPOC:21.21mg/L		Completed
33	Unknown	NPOC	HS21041622-01		02_25_2021	NPOC:12.60mg/L		Completed
34	Unknown	NPOC	HS21041684-01		02_25_2021	NPOC:0.03908mg/L		Completed
35	Unknown	NPOC	HS21050109-01		02_25_2021	NPOC:-0.05443mg/L		Completed
36	Unknown	NPOC	CCV	316132910	02_25_2021	NPOC:23.56mg/L		Completed
37	Unknown	NPOC	CCB		02_25_2021	NPOC:-0.1356mg/L		Completed

	Date / Time	Vial
1	5/4/2021 5:0	1
2	5/4/2021 5:2	2
3	5/4/2021 5:3	3
4	5/4/2021 5:5	4
5	5/4/2021 6:0	5
6	5/4/2021 6:1	6
7	5/4/2021 6:3	7
8	5/4/2021 6:4	8
9	5/4/2021 7:0	9
10	5/4/2021 7:1	10
11	5/4/2021 7:3	11
12	5/4/2021 7:4	12
13	5/4/2021 8:0	13
14	5/4/2021 8:1	14
15	5/4/2021 8:3	15
16	5/4/2021 8:4	16
17	5/4/2021 9:0	17
18	5/4/2021 9:1	1
19	5/4/2021 9:3	2
20	5/4/2021 9:4	3
21	5/4/2021 10:	4
22	5/4/2021 10:	5
23	5/4/2021 10:	18
24	5/4/2021 10:	19
25	5/4/2021 11:	20
26	5/4/2021 11:	21
27	5/4/2021 11:	22
28	5/4/2021 11:	23
29	5/5/2021 12:	24
30	5/5/2021 12:	13
31	5/5/2021 12:	14
32	5/5/2021 12:	25
33	5/5/2021 1:0	26
34	5/5/2021 1:2	27
35	5/5/2021 1:3	28
36	5/5/2021 1:4	1
37	5/5/2021 2:0	2

TOC-Control L Report

2021_05_04_001.tlx

Instr.Information

Instrument Options: TOC/ASI/IC Unit/
Catalyst: Regular Sensitivity

Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result

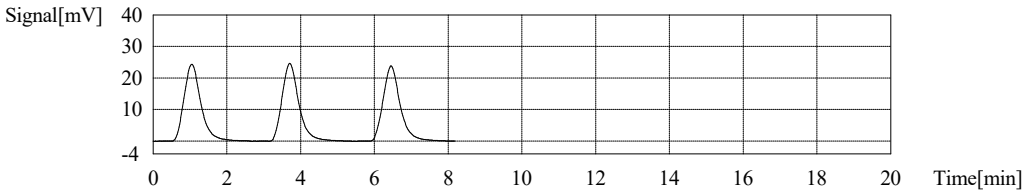
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.75mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	76.85	23.73mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:13:29 PM
2	77.55	23.95mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:16:27 PM
3	76.37	23.58mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:19:29 PM

Mean Area 76.92
Mean Conc. 23.75mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.09849mg/L

1. Det

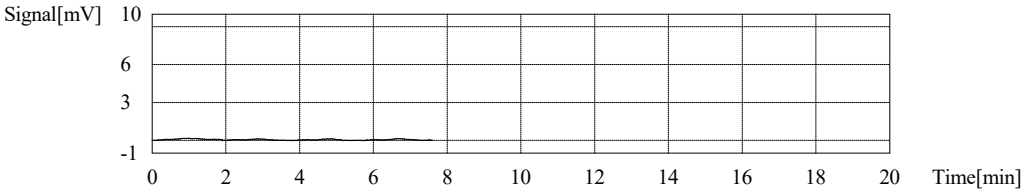
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1445	-0.09068mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:28:17 PM
2	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:30:26 PM
3	0.4717	0.01093mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:32:33 PM
4	0.2136	-0.06922mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:34:40 PM

TOC-Control L Report

2021_05_04_001.tlx

Mean Area 0.1194
Mean Conc. -0.09849mg/L



Sample

Sample Name: MBLK2-05042021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

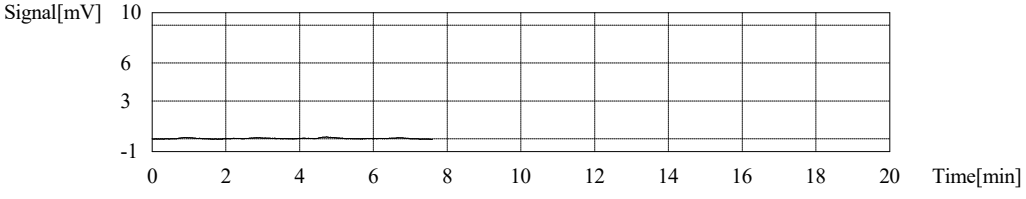
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1142mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2067	-0.07137mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:43:23 PM
2	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:45:30 PM
3	0.3257	-0.03441mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:47:37 PM
4	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:49:44 PM

Mean Area 0.06890
Mean Conc. -0.1142mg/L



Sample

Sample Name: LCS2-05042021
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.752mg/L

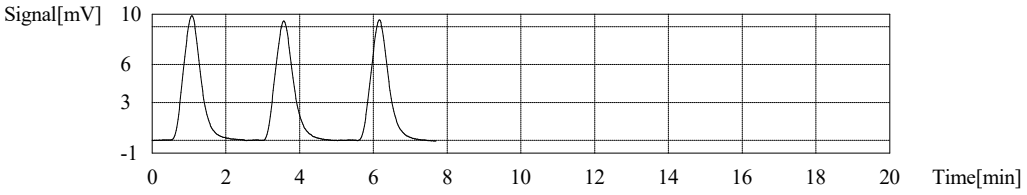
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.97	9.793mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 9:59:03 PM
2	31.85	9.756mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:01:50 PM
3	31.69	9.706mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:04:41 PM

TOC-Control L Report

Mean Area 31.84
Mean Conc. 9.752mg/L



Sample

Sample Name: LCSD2-05042021
Sample ID: TOC_W 5310B
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

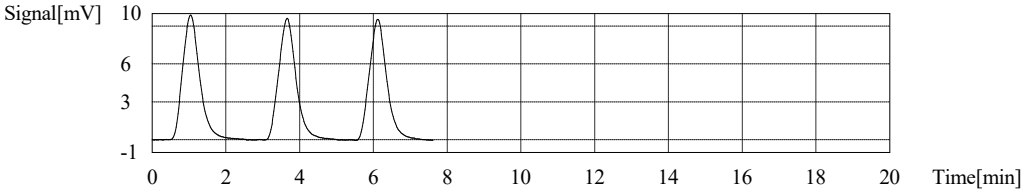
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.610mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.48	9.641mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:14:08 PM
2	31.37	9.607mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:16:49 PM
3	31.29	9.582mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:19:38 PM

Mean Area 31.38
Mean Conc. 9.610mg/L



Sample

Sample Name: HS21041585-02
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:8.110mg/L

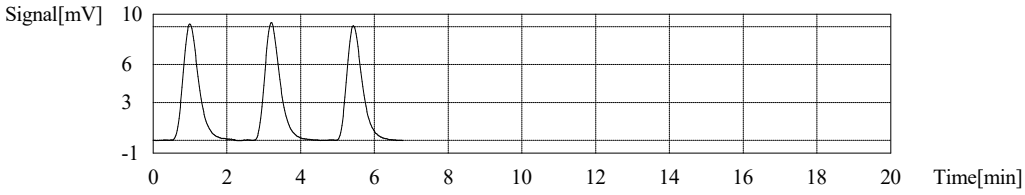
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	26.72	8.163mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:41:55 PM
2	26.60	8.125mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:44:25 PM
3	26.33	8.041mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:46:58 PM

TOC-Control L Report

Mean Area 26.55
Mean Conc. 8.110mg/L



Sample

Sample Name: HS21041585-02MS
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

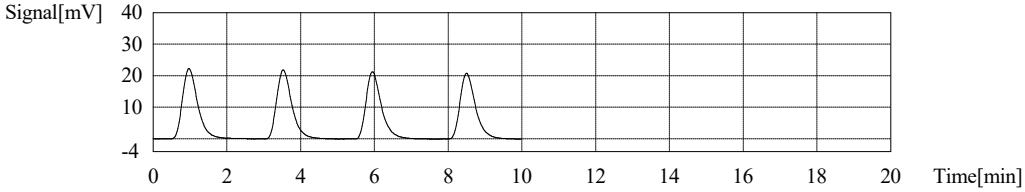
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:18.88mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	63.57	19.61mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:56:25 PM
2	62.38	19.24mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 10:59:06 PM
3	61.06	18.83mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 11:01:51 PM
4	60.24	18.57mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 11:04:32 PM

Mean Area 61.23
Mean Conc. 18.88mg/L



Sample

Sample Name: HS21041255-05DF50
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.44mg/L

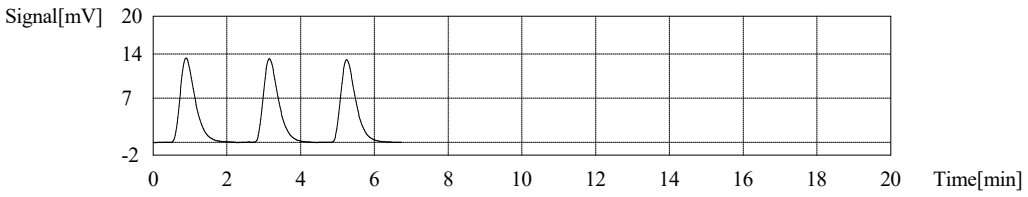
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	37.66	11.56mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 11:13:36 PM
2	37.34	11.46mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 11:15:56 PM
3	36.83	11.30mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/4/2021 11:18:33 PM

TOC-Control L Report

Mean Area 37.28
Mean Conc. 11.44mg/L



Sample

Sample Name: CCV
Sample ID: 316132910
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

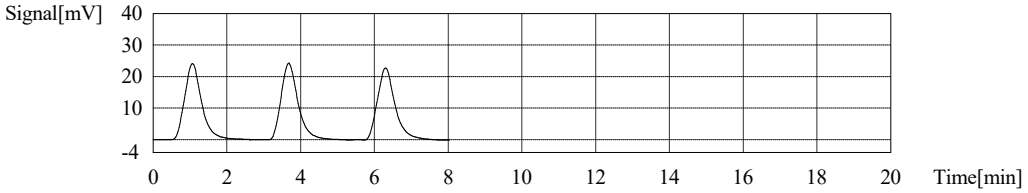
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.53mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	76.12	23.50mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/5/2021 12:14:31 AM
2	76.77	23.71mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/5/2021 12:17:23 AM
3	75.73	23.38mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/5/2021 12:20:27 AM

Mean Area 76.21
Mean Conc. 23.53mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 02_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1356mg/L

1. Det

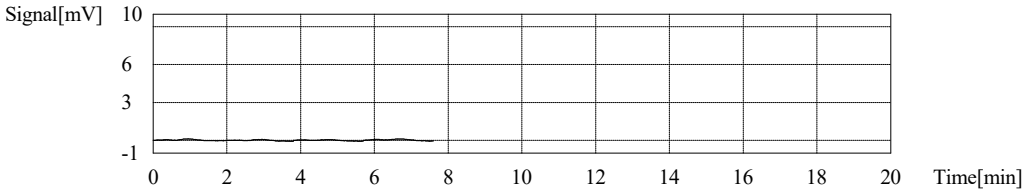
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2890	-0.04581mg/L	50uL	1.000	E	02_25_2021_CAL.2021_02_25_09_13_02.cal	5/5/2021 12:29:16 AM
2	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/5/2021 12:31:24 AM
3	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/5/2021 12:33:33 AM
4	0.000	-0.1356mg/L	50uL	1.000		02_25_2021_CAL.2021_02_25_09_13_02.cal	5/5/2021 12:35:42 AM

TOC-Control L Report

2021_05_04_001.tlx

Mean Area	0.000
Mean Conc.	-0.1356mg/L



HS21041255 Wet Chem Raw Data (ALK_W 2320B)

ALS WO# HS21041255

Report Date: 04/24/2021 : 11:45

PC-TitratION PLUS
Calibration Report

Calibration Record # 2355

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	04/24/2021
Channel	1	Time	11:45 AM
Probe Type	pH	Temperature	294.81 K 21.66 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.227	CorrCoeff	0.9998
Intercept	-0.570	Equation:	Y = (-58.227) X + (-0.570)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.227	-65.00	-53.00
Intercept	-0.570	-100.00	100.00
Correlation Coefficient	0.9998	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	175.90
	7.00	-4.15
	10.00	-173.46

382327 (A)

382328 (B) Solc

RA 4/26/21

Copyright Hinterland Software Ltd.

Report Date: 4/24/2021 ; 3:37 PM

PC-TitratION PLUS
Water Analysis Report

Run Number 4075 **Order Number** 20210424-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	4/24/2021	12:00 PM	21.87	-1.00	6.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	4/24/2021	12:07 PM	21.85	-1.00	7.74	.00	251.69	251.69	.00	.00	.00	2.40	2.40
WBLKW1-210424	4/24/2021	12:12 PM	22.13	-1.00	5.57	.00	.80	.80	.00	.00	.00	.02	.02
LCS1-210424	4/24/2021	12:21 PM	22.52	-1.00	10.87	526.18	1,025.07	.00	997.79	27.28	5.01	9.76	9.76
LCSD1-210424	4/24/2021	12:29 PM	22.46	-1.00	10.87	530.53	1,032.98	.00	1,004.88	28.09	5.05	9.84	9.84
HS21041257-01	4/24/2021	12:36 PM	22.22	-1.00	7.78	.00	297.64	297.64	.00	.00	.00	2.83	2.83
HS21041257-01DUP	4/24/2021	12:43 PM	21.82	-1.00	7.78	.00	280.76	280.76	.00	.00	.00	2.67	2.67
HS21041303-01	4/24/2021	12:50 PM	21.09	-1.00	8.16	.00	95.64	95.64	.00	.00	.00	.91	.91
HS21041305-01	4/24/2021	12:57 PM	21.09	-1.00	8.85	10.34	131.39	110.71	20.67	.00	.10	1.25	1.25
HS21041301-02	4/24/2021	1:04 PM	21.11	-1.00	7.22	.00	606.44	606.44	.00	.00	.00	5.78	5.78
HS21041301-03	4/24/2021	1:11 PM	21.03	-1.00	7.21	.00	612.58	612.58	.00	.00	.00	5.83	5.83
CCV-PH	4/24/2021	1:14 PM	21.48	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/24/2021	1:24 PM	21.57	-1.00	10.84	526.30	1,047.81	.00	1,043.02	4.79	5.01	9.98	9.98
DI RINSE	4/24/2021	1:29 PM	21.95	-1.00	5.87	.00	1.29	1.29	.00	.00	.00	.03	.03
WBLKW1-210424	4/24/2021	1:34 PM	22.08	-1.00	5.49	.00	.53	.53	.00	.00	.00	.02	.02
HS21041301-04	4/24/2021	1:43 PM	21.77	-1.00	7.17	.00	1,212.47	1,212.47	.00	.00	.00	11.55	11.55
HS21041301-05	4/24/2021	1:49 PM	21.48	-1.00	6.54	.00	3.14	3.14	.00	.00	.00	.05	.05
HS21041301-06	4/24/2021	1:56 PM	21.37	-1.00	7.19	.00	591.75	591.75	.00	.00	.00	5.64	5.64
HS21041301-08	4/24/2021	2:04 PM	21.27	-1.00	7.57	.00	824.42	824.42	.00	.00	.00	7.85	7.85
HS21041301-09	4/24/2021	2:11 PM	21.27	-1.00	7.30	.00	418.84	418.84	.00	.00	.00	3.99	3.99
HS21041301-10	4/24/2021	2:17 PM	21.35	-1.00	7.41	.00	407.43	407.43	.00	.00	.00	3.88	3.88
HS21041255-05	4/24/2021	2:24 PM	21.28	-1.00	5.98	.00	597.90	597.90	.00	.00	.00	5.69	5.69
HS21041255-07	4/24/2021	2:30 PM	21.58	-1.00	6.79	.00	355.97	355.97	.00	.00	.00	3.39	3.39
CCV-PH	4/24/2021	2:33 PM	21.86	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/24/2021	2:43 PM	21.83	-1.00	10.82	539.72	1,050.70	.00	1,021.95	28.75	5.14	10.01	10.01
DI RINSE	4/24/2021	2:48 PM	21.95	-1.00	5.88	.00	.83	.83	.00	.00	.00	.03	.03
MBLK-165053	4/24/2021	2:53 PM	21.64	-1.00	5.61	.00	.38	.38	.00	.00	.00	.02	.02

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Run Number 4075 **Order Number** 20210424-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
LCS-165053	4/24/2021	3:02 PM	21.56	-1.00	10.85	525.37	1,030.00	.00	1,009.26	20.74	5.00	9.81	9.81
LCSD-165053	4/24/2021	3:11 PM	21.51	-1.00	10.85	523.32	1,061.78	15.14	1,046.64	.00	4.98	10.11	10.11
HS21041255-08	4/24/2021	3:14 PM	21.25	-1.00	3.94	.00	.00	.00	.00	.00	.00	.00	.00
HS21041255-08DUP	4/24/2021	3:17 PM	21.16	-1.00	3.92	.00	.00	.00	.00	.00	.00	.00	.00
CCV-PH	4/24/2021	3:21 PM	21.19	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/24/2021	3:29 PM	21.12	-1.00	10.82	520.13	1,021.09	.00	1,001.92	19.17	4.95	9.72	9.72
DI RINSE	4/24/2021	3:35 PM	21.37	-1.00	5.61	.00	.88	.88	.00	.00	.00	.03	.03

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Batch ID Exception Report

Batch ID: R382327
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	**Analyte**		**Qualifier**	
HS21041303-01	6059916	SAMP	ALK_W 2320B	24 Apr 2021 12:50 PM	1

Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

A	**Alkalinity, Bicarbonate (As CaCO3)**	H
A	**Alkalinity, Total (As CaCO3)**	H

Batch ID Exception Report

Batch ID: R382328
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte		Qualifier	
SAMP	0	SAMP		26 Apr 2021 8:05 AM	1

X No exceptions found

HS21041255 Wet Chem Raw Data (ALK_S)

ALS WO# HS21041255

Report Date: 04/24/2021 : 11:45

PC-TitratION PLUS
Calibration Report

Calibration Record # 2355

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	04/24/2021
Channel	1	Time	11:45 AM
Probe Type	pH	Temperature	294.81 K 21.66 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.227	CorrCoeff	0.9998
Intercept	-0.570	Equation:	Y = (-58.227) X + (-0.570)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.227	-65.00	-53.00
Intercept	-0.570	-100.00	100.00
Correlation Coefficient	0.9998	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	175.90
	7.00	-4.15
	10.00	-173.46

#382327 (A) RA 4/26/21

#382328 (B) Solc

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Report Date: 4/24/2021 ; 3:37 PM

PC-TitratION PLUS
Water Analysis Report

Run Number 4075 **Order Number** 20210424-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	4/24/2021	12:00 PM	21.87	-1.00	6.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	4/24/2021	12:07 PM	21.85	-1.00	7.74	.00	251.69	251.69	.00	.00	.00	2.40	2.40
WBLKW1-210424	4/24/2021	12:12 PM	22.13	-1.00	5.57	.00	.80	.80	.00	.00	.00	.02	.02
LCS1-210424	4/24/2021	12:21 PM	22.52	-1.00	10.87	526.18	1,025.07	.00	997.79	27.28	5.01	9.76	9.76
LCSD1-210424	4/24/2021	12:29 PM	22.46	-1.00	10.87	530.53	1,032.98	.00	1,004.88	28.09	5.05	9.84	9.84
HS21041257-01	4/24/2021	12:36 PM	22.22	-1.00	7.78	.00	297.64	297.64	.00	.00	.00	2.83	2.83
HS21041257-01DUP	4/24/2021	12:43 PM	21.82	-1.00	7.78	.00	280.76	280.76	.00	.00	.00	2.67	2.67
HS21041303-01	4/24/2021	12:50 PM	21.09	-1.00	8.16	.00	95.64	95.64	.00	.00	.00	.91	.91
HS21041305-01	4/24/2021	12:57 PM	21.09	-1.00	8.85	10.34	131.39	110.71	20.67	.00	.10	1.25	1.25
HS21041301-02	4/24/2021	1:04 PM	21.11	-1.00	7.22	.00	606.44	606.44	.00	.00	.00	5.78	5.78
HS21041301-03	4/24/2021	1:11 PM	21.03	-1.00	7.21	.00	612.58	612.58	.00	.00	.00	5.83	5.83
CCV-PH	4/24/2021	1:14 PM	21.48	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/24/2021	1:24 PM	21.57	-1.00	10.84	526.30	1,047.81	.00	1,043.02	4.79	5.01	9.98	9.98
DI RINSE	4/24/2021	1:29 PM	21.95	-1.00	5.87	.00	1.29	1.29	.00	.00	.00	.03	.03
WBLKW1-210424	4/24/2021	1:34 PM	22.08	-1.00	5.49	.00	.53	.53	.00	.00	.00	.02	.02
HS21041301-04	4/24/2021	1:43 PM	21.77	-1.00	7.17	.00	1,212.47	1,212.47	.00	.00	.00	11.55	11.55
HS21041301-05	4/24/2021	1:49 PM	21.48	-1.00	6.54	.00	3.14	3.14	.00	.00	.00	.05	.05
HS21041301-06	4/24/2021	1:56 PM	21.37	-1.00	7.19	.00	591.75	591.75	.00	.00	.00	5.64	5.64
HS21041301-08	4/24/2021	2:04 PM	21.27	-1.00	7.57	.00	824.42	824.42	.00	.00	.00	7.85	7.85
HS21041301-09	4/24/2021	2:11 PM	21.27	-1.00	7.30	.00	418.84	418.84	.00	.00	.00	3.99	3.99
HS21041301-10	4/24/2021	2:17 PM	21.35	-1.00	7.41	.00	407.43	407.43	.00	.00	.00	3.88	3.88
HS21041255-05	4/24/2021	2:24 PM	21.28	-1.00	5.98	.00	597.90	597.90	.00	.00	.00	5.69	5.69
HS21041255-07	4/24/2021	2:30 PM	21.58	-1.00	6.79	.00	355.97	355.97	.00	.00	.00	3.39	3.39
CCV-PH	4/24/2021	2:33 PM	21.86	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/24/2021	2:43 PM	21.83	-1.00	10.82	539.72	1,050.70	.00	1,021.95	28.75	5.14	10.01	10.01
DI RINSE	4/24/2021	2:48 PM	21.95	-1.00	5.88	.00	.83	.83	.00	.00	.00	.03	.03
MBLK-165053	4/24/2021	2:53 PM	21.64	-1.00	5.61	.00	.38	.38	.00	.00	.00	.02	.02

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Run Number 4075 **Order Number** 20210424-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
LCS-165053	4/24/2021	3:02 PM	21.56	-1.00	10.85	525.37	1,030.00	.00	1,009.26	20.74	5.00	9.81	9.81
LCSD-165053	4/24/2021	3:11 PM	21.51	-1.00	10.85	523.32	1,061.78	15.14	1,046.64	.00	4.98	10.11	10.11
HS21041255-08	4/24/2021	3:14 PM	21.25	-1.00	3.94	.00	.00	.00	.00	.00	.00	.00	.00
HS21041255-08DUP	4/24/2021	3:17 PM	21.16	-1.00	3.92	.00	.00	.00	.00	.00	.00	.00	.00
CCV-PH	4/24/2021	3:21 PM	21.19	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	4/24/2021	3:29 PM	21.12	-1.00	10.82	520.13	1,021.09	.00	1,001.92	19.17	4.95	9.72	9.72
DI RINSE	4/24/2021	3:35 PM	21.37	-1.00	5.61	.00	.88	.88	.00	.00	.00	.03	.03

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Batch ID Exception Report

Batch ID: R382327
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte		Qualifier	
HS21041303-01	6059916	SAMP	ALK_W 2320B	24 Apr 2021 12:50 PM	1

Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

A	Alkalinity, Bicarbonate (As CaCO3)	H
A	Alkalinity, Total (As CaCO3)	H

Batch ID Exception Report

Batch ID: R382328
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte	Qualifier		
SAMP	0	SAMP		26 Apr 2021 8:05 AM	1

X No exceptions found

HS21041255 - Sub Perch Data IV (E2100529)

ALS WO# HS21041255

May 10, 2021 Service Request No:E2100529

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

Laboratory Results for: HS21041255

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 26, 2021
For your reference, these analyses have been assigned our service request number **E2100529.**

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.:**	E2100529
Project:	HS21041255	**Date Received:**	04/26/21
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

Eight samples were received for analysis at ALS Environmental in Houston on 04/26/21.

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:

EQ2100263 & EQ2100278: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for these extraction batches. 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
Project: HS21041255

Service Request:E2100529

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2100529-001	16WW27-210422	4/22/2021	0740
E2100529-002	16WW43-210422	4/22/2021	0820
E2100529-003	16WW23-210422	4/22/2021	0905
E2100529-004	16WW24-210422	4/22/2021	0945
E2100529-005	16IW09-210422	4/22/2021	1030
E2100529-006	16WW49-210422	4/22/2021	1120
E2100529-007	16WW48-210422	4/22/2021	1205
E2100529-008	16EW06-210422	4/22/2021	1255

Service Request Summary

Folder #: **E2100529**
Client Name: ALS Environmental - US
Project Name: HS21041255
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: 04/26/21
Internal Due Date: 5/7/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041255
EDD: No EDD Specified

8 125 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: SMO
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2100529-001	16WW27-210422	Ground Water	04/22/21 0740	**IV**
E2100529-002	16WW43-210422	Ground Water	04/22/21 0820	**IV**
E2100529-003	16WW23-210422	Ground Water	04/22/21 0905	**IV**
E2100529-004	16WW24-210422	Ground Water	04/22/21 0945	**IV**
E2100529-005	16IW09-210422	Ground Water	04/22/21 1030	**IV**
E2100529-006	16WW49-210422	Ground Water	04/22/21 1120	**IV**
E2100529-007	16WW48-210422	Ground Water	04/22/21 1205	**IV**
E2100529-008	16EW06-210422	Liquid	04/22/21 1255	**IV**

Service Request Summary

Folder #: **E2100529**
Client Name: ALS Environmental - US
Project Name: HS21041255
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: 04/26/21
Internal Due Date: 5/7/2021
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS21041255
EDD: No EDD Specified

8 125 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: SMO
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	8	IV due 5/14 - Labeled as E2100469

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.
K	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	21-022-0	3/26/2022
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2021-2022	4/30/2022
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	LA028-2021	12/31/2021
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Minnesota Department of Health	2021671	12/31/2021
Nevada Department of Concervation and Natural Resources	TX026932021-4	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209421	4/24/2022
New Jersey Department of Environmental Protection	TX008	6/30/2021
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	04016-2021	4/30/2022
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:** **15979**

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: HS21041255
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS21041255-01**	**16WW27-210422**	**Groundwater**	**22 Apr 2021 07:40**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
2.	**HS21041255-02**	**16WW43-210422**	**Groundwater**	**22 Apr 2021 08:20**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
3.	**HS21041255-03**	**16WW23-210422**	**Groundwater**	**22 Apr 2021 09:05**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
4.	**HS21041255-04**	**16WW24-210422**	**Groundwater**	**22 Apr 2021 09:45**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
5.	**HS21041255-05**	**16IW09-210422**	**Groundwater**	**22 Apr 2021 10:30**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
6.	**HS21041255-06**	**16WW49-210422**	**Groundwater**	**22 Apr 2021 11:20**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
7.	**HS21041255-07**	**16WW48-210422**	**Groundwater**	**22 Apr 2021 12:05**
	Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021
8.	**HS21041255-08**	**16EW06-210422**	**Groundwater**	**22 Apr 2021 12:55**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 15979**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
Level II and Level IV reports on a seperate pdf. Send WOA to Vicki Graves.			07 May 2021

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 4/26/21 0800

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist _____

Client/Project _____ Thermometer ID _____

Date/Time Received: _____ Initials: _____ Date/Time Logged in: _____ Initials _____

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ⊘ 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						☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100470-001	16WW40-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2100470-002	16WW12-210421	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2100492-001	HBW7_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
4	E2100492-002	HBW10_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
5	E2100492-003	HBW10_042721_a	.01	6850/ClO4 DOD			Surface Water	10mL	
6	E2100492-004	HBW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
7	E2100492-005	GPW1_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
8	E2100492-006	GPW3_042721	.01	6850/ClO4 DOD			Surface Water	10mL	
9	E2100493-001	LH18/24-SP650_042721_BIX	.01	6850/ClO4 DOD			Surface Water	10mL	
10	E2100529-001	16WW27-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2100529-002	16WW43-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2100529-003	16WW23-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2100529-004	16WW24-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2100529-005	16IW09-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2100529-006	16WW49-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2100529-007	16WW48-210422	.01	6850/ClO4 DOD			Ground Water	10mL	
17	EQ2100263-01	MB		6850/ClO4 DOD			Liquid	10mL	
18	EQ2100263-02	LCS		6850/ClO4 DOD			Liquid	10mL	
19	EQ2100263-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

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

EQ2100263-02 1.00µL EQ2100263-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100470-001	100.00µL	E2100470-002	100.00µL	E2100492-001	100.00µL	E2100492-002	100.00µL	E2100492-003	100.00µL	E2100492-004	100.00µL
E2100492-005	100.00µL	E2100492-006	100.00µL	E2100493-001	100.00µL	E2100529-001	100.00µL	E2100529-002	100.00µL	E2100529-003	100.00µL
E2100529-004	100.00µL	E2100529-005	100.00µL	E2100529-006	100.00µL	E2100529-007	100.00µL	EQ2100263-01	100.00µL	EQ2100263-02	100.00µL
EQ2100263-03	100.00µL										

Preparation Information Benchsheet

Prep Run#: 378427 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 4/30/21 12:06

Preparation Steps

Step: Preparation
Started: 4/30/21 12:06
Finished: 4/30/21 14:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 4/30/21

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Preparation Information Benchsheet

Prep Run#: 378968 **Prep WorkFlow:** Gen CLO4 **Status:** Prepped
Team: Semivoa GCMS/KBROWN **Prep Method:** **Prep Date/Time:** 5/10/21 10:00

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2100529-008	16EW06-210422	.01	6850/ClO4 DOD			Liquid	1.190g	
2	EQ2100278-01	MB		6850/ClO4 DOD			Solid	1.00g	
3	EQ2100278-02	LCS		6850/ClO4 DOD			Solid	1.00g	
4	EQ2100278-03	DLCS		6850/ClO4 DOD			Solid	1.00g	

Spiking Solutions

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

EQ2100278-02 1.00µL EQ2100278-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 214820 Logbook Ref: Perchlorate Internal Standard Expires On: 07/03/2021

E2100529-008 100.00µL EQ2100278-01 100.00µL EQ2100278-02 100.00µL EQ2100278-03 100.00µL

Preparation Steps

Step: Extraction
Started: 5/10/21 10:00
Finished: 5/10/21 10:30
By: KBROWN
Comments

Comments: _____

Reviewed By: KB Date: 5/10/21

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:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0740
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW27-210422	**Units:**	µg/L
Lab Code:	E2100529-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:50	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0820
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW43-210422	**Units:**	µg/L
Lab Code:	E2100529-002	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.500	0.250	0.125	5	4/30/21	5/3/21 10:23	378427	722497	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0905
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW23-210422	**Units:**	µg/L
Lab Code:	E2100529-003	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 17:09	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 0945
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW24-210422	**Units:**	µg/L
Lab Code:	E2100529-004	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 17:18	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1030
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16IW09-210422	**Units:**	µg/L
Lab Code:	E2100529-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/30/21	5/1/21 17:27	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1120
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW49-210422	**Units:**	µg/L
Lab Code:	E2100529-006	**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	4/30/21	5/1/21 17:37	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1205
Sample Matrix:	Ground Water	**Date Received:**	4/26/21
Sample Name:	16WW48-210422	**Units:**	µg/L
Lab Code:	E2100529-007	**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	**94.7**		1.00	0.500	0.250	10	4/30/21	5/3/21 10:32	378427	722497	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	4/22/21 1255
Sample Matrix:	Liquid	**Date Received:**	4/26/21
Sample Name:	16EW06-210422	**Units:**	µg/Kg
Lab Code:	E2100529-008	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	8.40	7.50	3.00	10	5/10/21	5/10/21 13:32	378968	722771	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2100263-01	**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	4/30/21	5/1/21 16:22	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Liquid	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/Kg
Lab Code:	EQ2100278-01	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.750	0.300	1	5/10/21	5/10/21 12:11	378968	722771	

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: HS21041255
Sample Matrix: Liquid

Service Request: E2100529
Date Analyzed: 5/10/21

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method:

Units: µg/Kg
Basis: As Received

Extraction Lot: 378968

	Lab Control Sample EQ2100278-02			Duplicate Lab Control Sample EQ2100278-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	1.17	1.00	117	1.11	1.00	111	84 - 121	5	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:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Liquid	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2100278-02	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**1.17**		1.00	0.750	0.300	1	5/10/21	5/10/21 12:49	378968	722771	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Liquid	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2100278-03	**Basis:**	As Received

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

Analytical Method: 6850

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**1.11**		1.00	0.750	0.300	1	5/10/21	5/10/21 12:58	378968	722771	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS21041255
Sample Matrix: Ground Water

Service Request: E2100529
Date Analyzed: 5/ 1/21

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: 378427

	Lab Control Sample EQ2100263-02			Duplicate Lab Control Sample EQ2100263-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0981	0.100	98	0.112	0.100	112	84 - 119	13	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:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-02	**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	**0.0981**	J	0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:31	378427	722220	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2100529
Project:	HS21041255	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2100263-03	**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	**0.112**		0.100	0.0500	0.0250	1	4/30/21	5/1/21 16:40	378427	722220	

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

20210428

ALS Environmental

ICAL Date: 4/28/2021
Cal. Std. xp: 5/20/2021
ICAL ID: **EC2100026**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100809-07 **B:** MeOH 216350

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20210428_044	Perchlorate6850b.lcm	1x	☒	3100808-05	4/28/2021 18:16
2	PERCHLORATE2		20210428_045	Perchlorate6850b.lcm	1x	☒	3100808-06	4/28/2021 18:25
3	PERCHLORATE3		20210428_046	Perchlorate6850b.lcm	1x	☒	3100808-07	4/28/2021 18:34
4	PERCHLORATE4		20210428_047	Perchlorate6850b.lcm	1x	☒	3100808-08	4/28/2021 18:44
5	PERCHLORATE5		20210428_048	Perchlorate6850b.lcm	1x	☒	3100808-09	4/28/2021 18:53
6	PERCHLORATE6		20210428_049	Perchlorate6850b.lcm	1x	☒	3100809-01	4/28/2021 19:03
7	PERCHLORATE7		20210428_050	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 19:12
8	PERCHLORATE8		20210428_051	Perchlorate6850b.lcm	1x	☒	3100809-03	4/28/2021 19:22
9	PERCHLORATE9		20210428_052	Perchlorate6850b.lcm	1x	☒	3100809-04	4/28/2021 19:31
10	PERCHLORATEICV		20210428_054	Perchlorate6850b.lcm	1x	☒	3100809-06	4/28/2021 19:50
11	ICS		20210428_055	Perchlorate6850b.lcm	1x	☒		4/28/2021 19:59
12	LODV		20210428_056	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:08
13	PERCHLORATE7		20210428_057	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 20:18
14	EQ2100244-01		20210428_058	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:27
15	EQ2100244-02		20210428_059	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:37
16	EQ2100244-03		20210428_060	Perchlorate6850b.lcm	1x	☒		4/28/2021 20:46
17	E2100412-016X10		20210428_061	Perchlorate6850b.lcm	10X	☒		4/28/2021 20:55
18	E2100412-017X10		20210428_062	Perchlorate6850b.lcm	10X	☒		4/28/2021 21:05
19	E2100412-011X10DNU		20210428_063	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:14
20	E2100412-012X10DNU		20210428_064	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:24
21	E2100412-013X10DNU		20210428_065	Perchlorate6850b.lcm	10X	☒	Over ICAL: Run 50X	4/28/2021 21:33
22	E2100412-014X10DNU		20210428_066	Perchlorate6850b.lcm	10X	☒	Bad injection: Reanalyze	4/28/2021 21:42
23	E2100412-015X10DNU		20210428_067	Perchlorate6850b.lcm	10X	☒	DNU:Report 1X	4/28/2021 21:52
24	PERCHLORATE7		20210428_068	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:01
25	E2100411-001		20210428_069	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:10
26	E2100412-003X10		20210428_070	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:20
27	E2100412-010X10		20210428_071	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:29
28	R2103214-010		20210428_072	Perchlorate6850b.lcm	1x	☒		4/28/2021 22:38
29	PERCHLORATE7		20210428_073	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 22:48
30	E2100485-002X10		20210428_074	Perchlorate6850b.lcm	10X	☒		4/28/2021 22:57
31	E2100485-003X10		20210428_075	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:07
32	E2100485-007X10		20210428_076	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:16
33	E2100485-010X10		20210428_077	Perchlorate6850b.lcm	10X	☒		4/28/2021 23:25
34	EQ2100244-04X10DNU		20210428_078	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:35
35	EQ2100244-05X10DNU		20210428_079	Perchlorate6850b.lcm	10X	☒	DNU: report 1X	4/28/2021 23:44
36	PERCHLORATE7		20210428_080	Perchlorate6850b.lcm	1x	☒	3100809-02	4/28/2021 23:54
37	E2100485-001		20210428_081	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:03
38	E2100485-004		20210428_082	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:12
39	E2100485-005		20210428_083	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:22
40	E2100485-006DNU		20210428_084	Perchlorate6850b.lcm	1x	☒	DNU: INST failed	4/29/2021 0:31
41	PERCHLORATE7		20210428_085	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 0:40
42	E2100485-008		20210428_086	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:50
43	E2100485-009		20210428_087	Perchlorate6850b.lcm	1x	☒		4/29/2021 0:59
44	E2100485-011		20210428_088	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:09
45	E2100485-012DNU		20210428_089	Perchlorate6850b.lcm	1x	☒	DNU-low INST	4/29/2021 1:18
46	E2100485-013		20210428_090	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:27
47	EQ2100244-04		20210428_091	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:37
48	EQ2100244-05		20210428_092	Perchlorate6850b.lcm	1x	☒		4/29/2021 1:46
49	PERCHLORATE7		20210428_093	Perchlorate6850b.lcm	1x	☒	3100809-02	4/29/2021 1:56
50								
51								

Initial Calibration - Detailed Report

Calibration ID: EC2100026 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2100026-01	PERCHLORATE1	20210428_044	04/28/2021 18:16
02	EC2100026-02	PERCHLORATE2	20210428_045	04/28/2021 18:25
03	EC2100026-03	PERCHLORATE3	20210428_046	04/28/2021 18:34
04	EC2100026-04	PERCHLORATE4	20210428_047	04/28/2021 18:44
05	EC2100026-05	PERCHLORATE5	20210428_048	04/28/2021 18:53
06	EC2100026-06	PERCHLORATE6	20210428_049	04/28/2021 19:03
07	EC2100026-07	PERCHLORATE7	20210428_050	04/28/2021 19:12
08	EC2100026-08	PERCHLORATE8	20210428_051	04/28/2021 19:22
10	EC2100026-10	PERCHLORATE9	20210428_052	04/28/2021 19:31

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

Perchlorate **Average RF** **RSD = 13.94** **Average RF = 0.1168**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1516	02	0.5000	0.1269	03	0.7000	0.1246	04	1.0000	0.1032
05	2.0000	0.1172	06	5.0000	0.1124	07	10.0000	0.1144	08	20.0000	0.09843
10	30.0000	0.1026									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.130	29.8	02	0.5000	0.543	8.6	03	0.7000	0.746	6.6
04	1.0000	0.883	-11.7	05	2.0000	2.01	0.3	06	5.0000	4.81	-3.8
07	10.0000	9.79	-2.1	08	20.0000	16.9	-15.7	10	30.0000	26.4	-12.1

Initial Calibration Verification Summary Report

Calibration ID:	EC2100026	**Instrument ID:**	E-LCMS-01
Datafile ID:	20210428_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2100026-09	T	Average RF	10	9.455	ng/mL	-5.4	<= 15

Insight Report

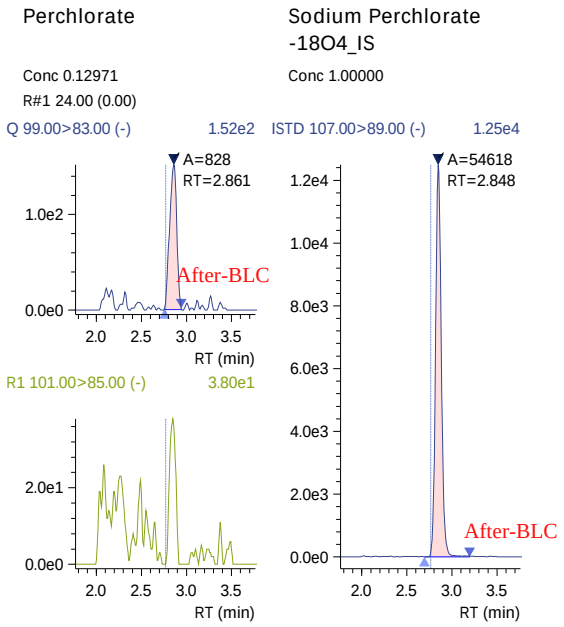
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Method File: I:\LCMS01\DATA\20210428\20210428.lcm
Project File: I:\LCMS01\DATA\20210428\20210428-ICAL.damlp

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.861	828	54618	1	0.12971	ng/mL	0.1000	24.00
Sodium Perchlorate-18O4 _IS	M	2.848	54618	54618	1	1.00000	ng/mL	1.0000	----



Insight Report

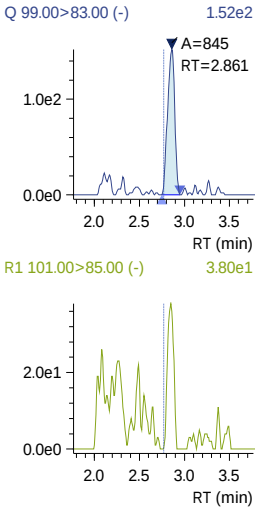
Method File: I:\LCMS01\DATA\20210428\Before\20210426.lcm

20210428_044

Sample ID: PERCHLORATE1
Date Acquired: 4/28/2021 6:16:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_044.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

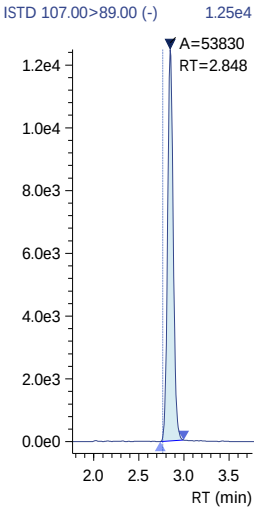
Perchlorate

Conc 0.13578
R#1 23.68 (0.00)



Sodium Perchlorate -18O4_IS

Conc 1.00000



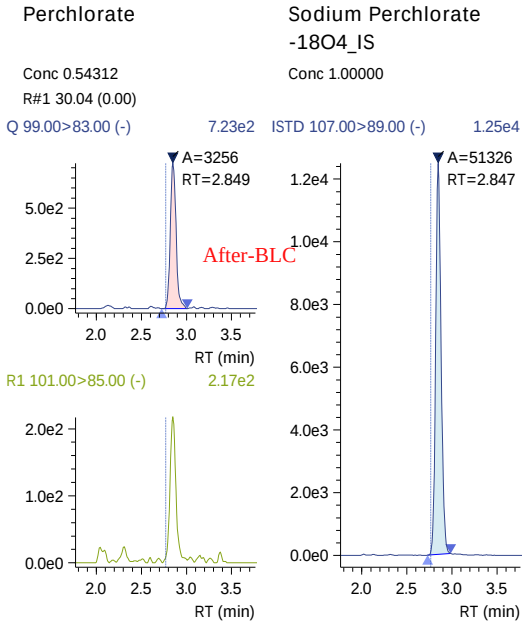
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.849	3256	51326	1	0.54312	ng/mL	0.5000	30.04
Sodium Perchlorate-18O4 _IS	Auto	2.847	51326	51326	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

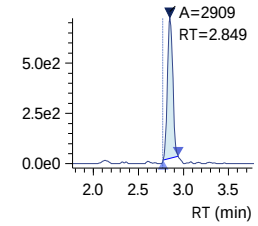
20210428_045

Sample ID: PERCHLORATE2
Date Acquired: 4/28/2021 6:25:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_045.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

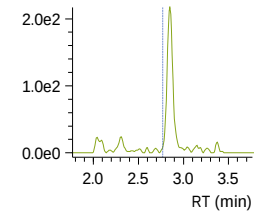
Perchlorate

Conc 0.49019
R#1 29.78 (0.00)

Q 99.00>83.00 (-) 7.23e2



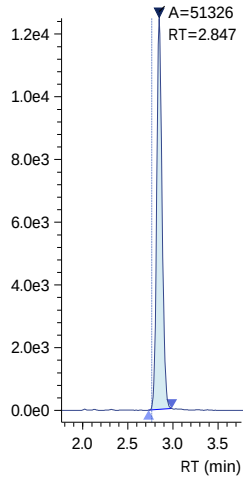
R1 101.00>85.00 (-) 2.17e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.25e4



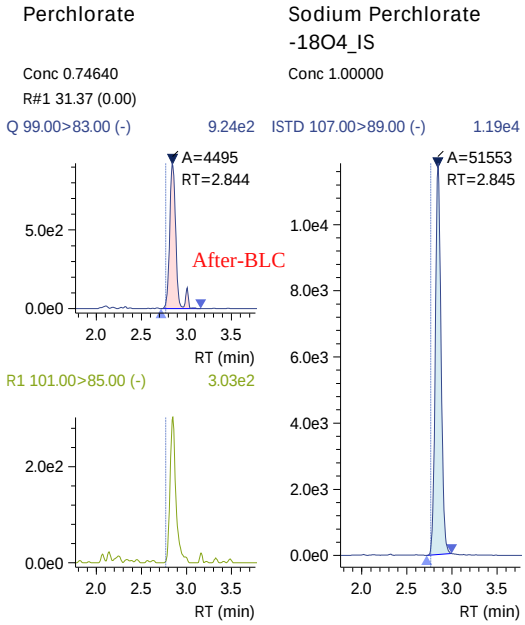
Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.844	4495	51553	1	0.74640	ng/mL	0.7000	31.37
Sodium Perchlorate-18O4 _IS	Auto	2.845	51553	51553	1	1.00000	ng/mL	1.0000	----



Insight Report

Printed at 4/29/2021 1:28:28 PM

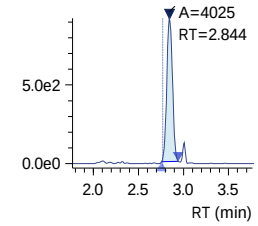
20210428_046

Sample ID: PERCHLORATE3
Date Acquired: 4/28/2021 6:34:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\Before\20210428_046.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

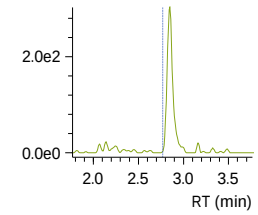
Perchlorate

Conc 0.67532
R#1 31.38 (0.00)

Q 99.00>83.00 (-) 9.24e2



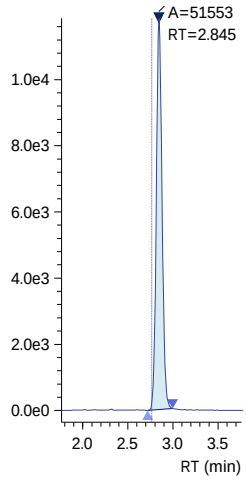
R1 101.00>85.00 (-) 3.03e2



Sodium Perchlorate -18O4_IS

Conc 1.00000

ISTD 107.00>89.00 (-) 1.19e4



Insight Report

Printed at 4/29/2021 1:26:51 PM

20210428_047

Sample ID: PERCHLORATE4
Date Acquired: 4/28/2021 6:44:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20210428\20210428_047.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Mode ID	Found RT	Area	ISTD Area	ISTD Group	Conc.	Unit	Std. Conc.	Ref 1 Actual Ratio
Perchlorate	M	2.846	6015	58287	1	0.88355	ng/mL	1.0000	28.62
Sodium Perchlorate-18O4 _IS	Auto	2.844	58287	58287	1	1.00000	ng/mL	1.0000	----

