LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 33

2023

Bate Stamp Numbers
01193407 – 01195305

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2023

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

VOLUME 33

2023

A.	Title:	Report (Cont'd) – Appendix C Level IV DoD to Draft Final Sixth Annual Remedial Action Operation Report, LHAAP-35B (37) (Chemical Laboratory), Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, November 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	November 30, 2023
	Bate Stamp:	01193407–01193865
B.	Title:	Report – Draft Final Technical Memorandum, Proposed Field Work to Update Conceptual Site Model at LHAAP-16, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, December 2023
	Author(s):	Department of the Army
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	December 5, 2023
	Bate Stamp:	01193866–01193880
C.	Title:	Minutes – Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant, October 25, 2023
	Author(s):	Department of the Army
	Recipient:	All Parties
	Date:	December 6, 2023
	Bate Stamp:	01193881–01193902
D.	Title:	Minutes – Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant, November 16, 2023
	Author(s):	Department of the Army
	Recipient:	All Parties
	Date:	December 21, 2023
	Bate Stamp:	01193903–01193921
E.	Title:	Report – Quarterly Evaluation Report, 2nd Quarter (April–June) 2023, Groundwater Treatment Plant, Longhorn Army Ammunition Plant Karnack, Texas
	Author(s):	PCI-Bhate JV
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	December 21, 2023
	Bate Stamp:	01193922–01194243

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

VOLUME 33 (Continued)

2023

F.	Title:	Report (Cont'd) – Appendix C File 1, Level IV DoD to Quarterly Evaluation Report, 2nd Quarter (April–June) 2023, Groundwater Treatment Plant, Longhorn Army Ammunition Plant Karnack, Texas
	Author(s):	PCI-Bhate JV
	Recipient:	Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	December 21, 2023
	Bate Stamp:	01194244–01195305

MSVOA09 -Logbook

Batch: 51987 **Analyst:** Presenta Cabascango

Date: 11-11-2022 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-11-2022 11:34 am	1.00	50 mL	50 mL	U111101.D	Liquid	Y	NA
2	VSTD000.25	ICAL1	11-11-2022 11:56 am	1.00	50 mL	50 mL	U111102.D	Liquid	Y	NA
3	VSTD000.5	ICAL2	11-11-2022 12:18 pm	1.00	50 mL	50 mL	U111103.D	Liquid	Y	NA
4	VSTD001	ICAL3	11-11-2022 01:03 pm	1.00	50 mL	50 mL	U111104.D	Liquid	Y	NA
5	VSTD002	ICAL4	11-11-2022 01:25 pm	1.00	50 mL	50 mL	U111105.D	Liquid	Y	NA
6	VSTD005	ICAL5	11-11-2022 01:47 pm	1.00	50 mL	50 mL	U111106.D	Liquid	Y	NA
7	VSTD020	ICAL6	11-11-2022 02:09 pm	1.00	50 mL	50 mL	U111107.D	Liquid	Y	NA
8	VSTD050	ICAL7	11-11-2022 02:31 pm	1.00	50 mL	50 mL	U111108.D	Liquid	Y	NA
9	VSTD100	ICAL8	11-11-2022 02:53 pm	1.00	50 mL	50 mL	U111109.D	Liquid	Y	NA
10	VSTD150	ICAL9	11-11-2022 03:16 pm	1.00	50 mL	50 mL	U111110.D	Liquid	Y	NA
11	VSTD200	ICAL	11-11-2022 03:38 pm	1.00	50 mL	50 mL	U111111.D	Liquid	Y	NA
12	BLANK	SAMP	11-11-2022 04:00 pm	1.00	50 mL	50 mL	U111112.D	Liquid	Y	NA
13	BLANK	SAMP	11-11-2022 04:22 pm	1.00	50 mL	50 mL	U111113.D	Liquid	Y	NA
14	CCV	CCV	11-11-2022 04:44 pm	1.00	50 mL	50 mL	U111114.D	Liquid	Y	NA
15	BFB	TUNE	11-11-2022 05:07 pm	1.00	50 mL	50 mL	V111101.D	Liquid	Y	NA
16	CCV	CCV	11-11-2022 05:29 pm	1.00	50 mL	50 mL	V111102a.D	Liquid	Y	NA
17	CCV	CCV	11-11-2022 05:51 pm	1.00	50 mL	50 mL	V111103.D	Liquid	Y	NA
18	CCB	SAMP	11-11-2022 06:13 pm	1.00	50 mL	50 mL	V111104.D	Liquid	Y	NA
19	VLCSW-221110	LCS	11-11-2022 06:36 pm	1.00	50 mL	50 mL	V111105.D	Liquid	Y	NA
20	BLANK	SAMP	11-11-2022 06:58 pm	1.00	50 mL	50 mL	V111106.D	Liquid	Y	NA
21	VBLKW-221110	MBLK	11-11-2022 07:20 pm	1.00	50 mL	50 mL	V111107.D	Liquid	Y	NA
22	HS22110211-10	SAMP	11-11-2022 07:42 pm	1.00	50 mL	50 mL	V111108.D	Liquid	Y	NA
23	HS22110281-08	SAMP	11-11-2022 08:05 pm	1.00	50 mL	50 mL	V111109.D	Liquid	Y	NA
24	HS22110211-01	SAMP	11-11-2022 08:27 pm	1.00	50 mL	50 mL	V111110.D	Liquid	Y	NA
25	HS22110211-02	SAMP	11-11-2022 08:49 pm	1.00	50 mL	50 mL	V111111.D	Liquid	Y	NA
26	HS22110211-03	SAMP	11-11-2022 09:12 pm	1.00	50 mL	50 mL	V111112.D	Liquid	Y	NA
27	HS22110211-04	SAMP	11-11-2022 09:34 pm	1.00	50 mL	50 mL	V111113.D	Liquid	Y	NA
28	HS22110211-05	SAMP	11-11-2022 09:56 pm	1.00	50 mL	50 mL	V111114.D	Liquid	Y	NA
29	HS22110211-06	SAMP	11-11-2022 10:19 pm	1.00	50 mL	50 mL	V111115.D	Liquid	Y	NA
30	HS22110211-07	SAMP	11-11-2022 10:41 pm	1.00	50 mL	50 mL	V111116.D	Liquid	Y	NA
31	HS22110211-08	SAMP	11-11-2022 11:03 pm	1.00	50 mL	50 mL	V111117.D	Liquid	Y	NA
32	HS22110211-09	SAMP	11-11-2022 11:26 pm	1.00	50 mL	50 mL	V111118.D	Liquid	Y	NA
33	HS22110281-01	SAMP	11-11-2022 11:48 pm	1.00	50 mL	50 mL	V111119.D	Liquid	Y	NA
34	HS22110281-02	SAMP	11-12-2022 12:10 am	1.00	50 mL	50 mL	V111120.D	Liquid	Y	NA
35	HS22110281-03	SAMP	11-12-2022 12:33 am	1.00	50 mL	50 mL	V111121.D	Liquid	Y	NA
36	HS22110281-04	SAMP	11-12-2022 12:55 am	1.00	50 mL	50 mL	V111122.D	Liquid	Y	NA
37	HS22110281-05	SAMP	11-12-2022 01:17 am	1.00	50 mL	50 mL	V111123.D	Liquid	Y	NA
38	HS22110281-06	SAMP	11-12-2022 01:40 am	1.00	50 mL	50 mL	V111124.D	Liquid	Y	NA
39	HS22110281-07	SAMP	11-12-2022 02:02 am	1.00	50 mL	50 mL	V111125.D	Liquid	Y	NA
40	HS22110257-05	SAMP	11-12-2022 02:24 am	1.00	50 mL	50 mL	V111126.D	Liquid	Y	NA
41	HS22110257-01	SAMP	11-12-2022 02:47 am	25.00	2 mL	50 mL	V111127.D	Liquid	Y	NA

MSVOA09 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS22110281-01MS	MS	11-12-2022 03:09 am	1.00	50 mL	50 mL	V111128.D	Liquid	Y	NA
43	HS22110281-01MSD	MSD	11-12-2022 03:31 am	1.00	50 mL	50 mL	V111129.D	Liquid	Y	NA
44	HS22110281-07MS	MS	11-12-2022 03:54 am	1.00	50 mL	50 mL	V111130.D	Liquid	Y	NA
45	HS22110281-07MSD	MSD	11-12-2022 04:16 am	1.00	50 mL	50 mL	V111131.D	Liquid	Y	NA
46	CCV-END	CCV	11-12-2022 04:38 am	1.00	50 mL	50 mL	V111132.D	Liquid	Y	NA
47	VLANK	SAMP	11-12-2022 05:00 am	1.00	50 mL	50 mL	V111133.D	Liquid	Y	NA

Form 13 - Analysis Run Log

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RUNID
VOA9_421679

Volatiles by by EPA 8260

Run ID VOA9_421679 **Start Date** 11/11/22 **EndDate** 11/12/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
CCV	CCV	CCV	V111103.D	11/11/22 17:51	1
CCB	CCB	CCB	V111104.D	11/11/22 18:13	1
VLCSW-221110	LCS	VLCSW-221110	V111105.D	11/11/22 18:36	1
VBLKW-221110	MBLK	VBLKW-221110	V111107.D	11/11/22 19:20	1
Trip Blank-221103	SAMP	HS22110281-08	V111109.D	11/11/22 20:05	1
35BWW04-221103	SAMP	HS22110281-01	V111119.D	11/11/22 23:48	1
35BWW14-221103	SAMP	HS22110281-02	V111120.D	11/12/22 00:10	1
35BWW15-221103	SAMP	HS22110281-03	V111121.D	11/12/22 00:33	1
35BWW23-221103	SAMP	HS22110281-04	V111122.D	11/12/22 00:55	1
35BWW24-221103	SAMP	HS22110281-05	V111123.D	11/12/22 01:17	1
35BWW24-221103-FD	SAMP	HS22110281-06	V111124.D	11/12/22 01:40	1
35BWW25-221103	SAMP	HS22110281-07	V111125.D	11/12/22 02:02	1
35BWW04-221103	MS	HS22110281-01MS	V111128.D	11/12/22 03:09	1
35BWW04-221103	MSD	HS22110281-01MSD	V111129.D	11/12/22 03:31	1
35BWW25-221103	MS	HS22110281-07MS	V111130.D	11/12/22 03:54	1
35BWW25-221103	MSD	HS22110281-07MSD	V111131.D	11/12/22 04:16	1

right solutions.
right partner.

Raw Data VOA9 421678

Volatiles by by EPA 8260

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D Page 1
Report Date: 11-Nov-2022 13:32

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 11-NOV-2022 11:34
Operator : PC Inst ID: VOA9.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\bfb.m
Meth Date : 27-Sep-2022 15:12 Linh.Pham Quant Type: ISTD
Cal Date : 30-MAR-2018 18:09 Cal File: U033003.d
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
9.197	9.262	(0.000)	95	149504			0.00- 100.00	100.00
9.197	9.262	(0.000)	50	27624			15.00- 40.00	18.48
9.197	9.262	(0.000)	75	74952			30.00- 60.00	50.13
9.197	9.262	(0.000)	96	10641			5.00- 9.00	7.12
9.197	9.262	(0.000)	173	0	0.0	0.0	0.00- 2.00	0.00
9.197	9.262	(0.000)	174	137344			50.00- 0.00	91.87
9.197	9.262	(0.000)	175	12124			5.00- 9.00	8.83
9.197	9.262	(0.000)	176	133248			95.00- 101.00	97.02
9.197	9.262	(0.000)	177	8679			5.00- 9.00	6.51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.48
75	30.00 - 60.00% of mass 95	50.13
96	5.00 - 9.00% of mass 95	7.12
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	91.87
175	5.00 - 9.00% of mass 174	8.11 (8.83)
176	95.00 - 101.00% of mass 174	89.13 (97.02)
177	5.00 - 9.00% of mass 176	5.81 (6.51)

Data File: U111101.D
Spectrum: Scan 2295 (9.19)
Location of Maximum: 95.05
Number of points: 119

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1316	69.10	14810	104.90	188	141.90	182
37.10	6919	70.00	1441	105.90	809	142.90	1780
38.10	5508	70.90	129	106.90	197	143.80	112
39.10	2150	72.00	895	109.30	135	144.30	82
40.00	595	73.10	7249	111.00	317	145.00	216
42.00	109	74.10	26392	111.80	102	145.90	206
42.70	143	75.00	74952	112.90	319	147.20	157
43.30	188	76.00	6455	114.80	166	147.80	586
44.00	1489	77.00	909	115.90	477	148.90	212
45.10	1226	78.00	716	116.90	1178	150.00	117
45.90	126	78.90	5127	117.90	472	151.70	134
47.20	1475	80.10	1346	118.90	964	152.90	109
47.80	881	81.00	5793	122.00	64	153.80	51
49.10	6314	81.90	1461	122.90	75	155.00	323
50.10	27624	82.90	73	123.70	199	157.00	388
51.00	7610	85.00	124	124.60	59	158.70	363
52.00	450	87.00	6171	125.20	84	161.00	140
55.00	648	88.00	7468	126.10	68	166.80	57
56.00	3061	89.60	123	127.10	85	169.80	85
57.10	4377	91.00	793	127.90	658	170.80	173
58.10	284	92.00	4215	128.80	407	172.00	779
60.00	1269	93.00	6965	130.10	691	174.00	137344
61.00	7780	94.00	19896	130.90	130	175.00	12124
62.00	7190	95.00	149504	133.20	93	176.00	133248
63.10	5787	96.10	10641	133.80	66	176.90	8679
64.00	625	97.00	278	134.90	268	177.90	303
65.00	661	100.70	61	136.70	181	207.40	75
65.60	145	102.10	85	137.10	324	260.80	65
67.20	599	102.90	105	139.50	96	281.00	101
68.00	15662	103.80	893	141.00	1663		

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D Page 1

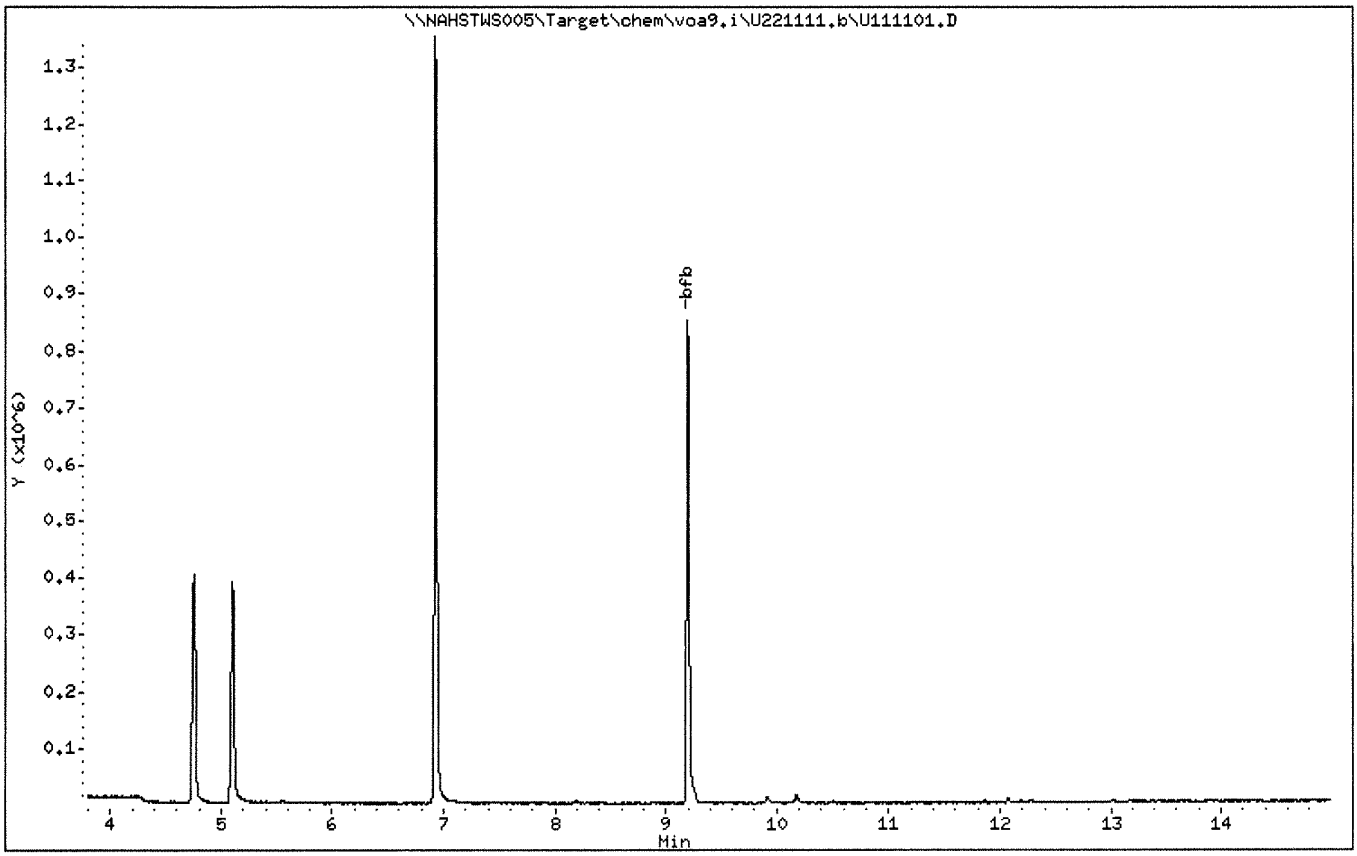
Date : 11-NOV-2022 11:34

Client ID: BFB Instrument: VOA9.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\voa9.i\U221111.b\U111101.D

Date : 11-NOV-2022 11:34

Client ID: BFB

Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

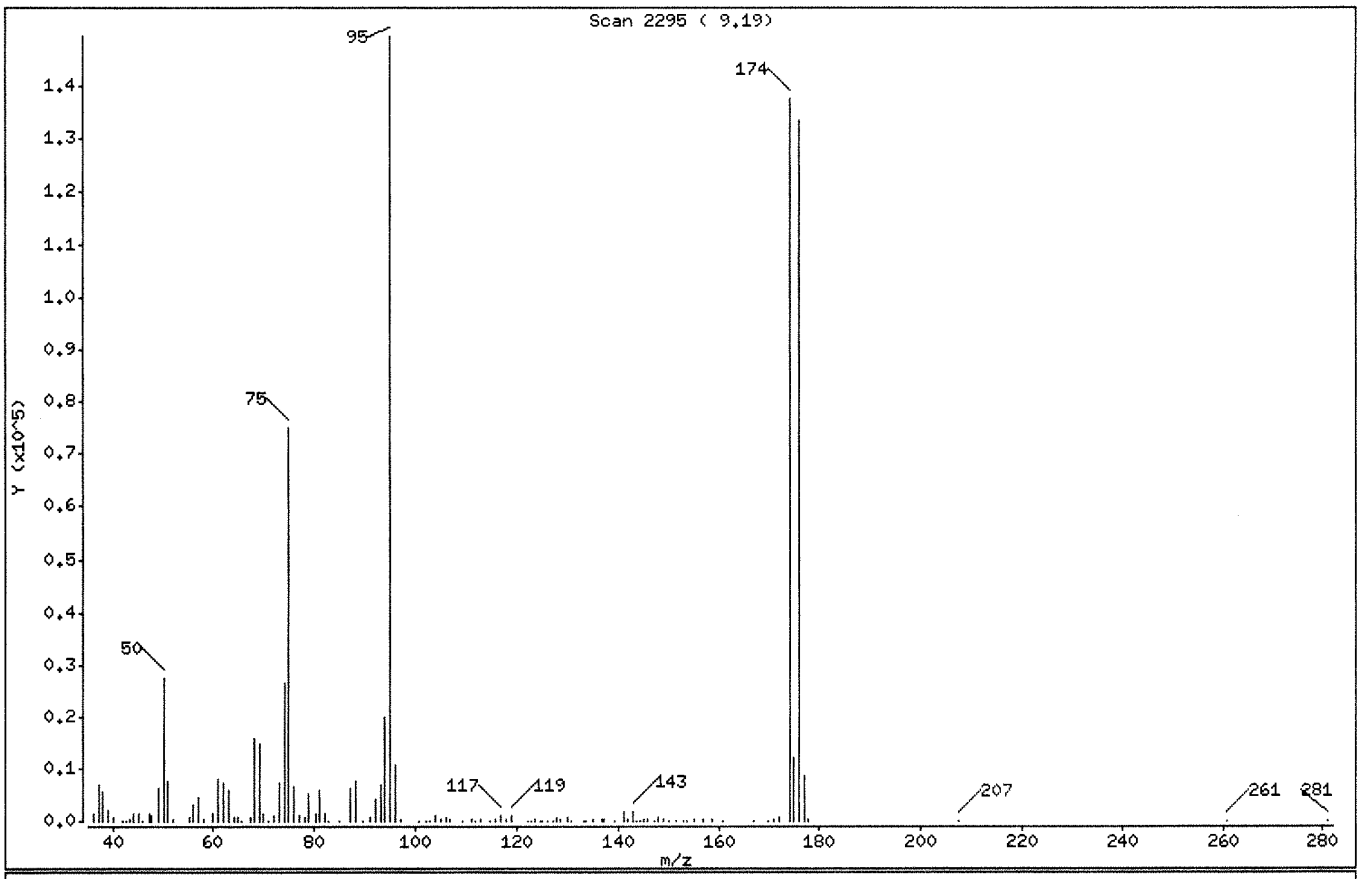
Volume Injected (uL): 2.0

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	18.48
75	30.00 - 60.00% of mass 95	50.13
96	5.00 - 9.00% of mass 95	7.12
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	91.87
175	5.00 - 9.00% of mass 174	8.11 (8.83)
176	95.00 - 101.00% of mass 174	89.13 (97.02)
177	5.00 - 9.00% of mass 176	5.81 (6.51)

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D Page 3

Date : 11-NOV-2022 11:34

Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: U111101.D
Spectrum: Scan 2295 (9.19)
Location of Maximum: 95.05
Number of points: 119

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1316	69.10	14810	104.90	188	141.90	182
37.10	6919	70.00	1441	105.90	809	142.90	1780
38.10	5508	70.90	129	106.90	197	143.80	112
39.10	2150	72.00	895	109.30	135	144.30	82
40.00	595	73.10	7249	111.00	317	145.00	216
42.00	109	74.10	26392	111.80	102	145.90	206
42.70	143	75.00	74952	112.90	319	147.20	157
43.30	188	76.00	6455	114.80	166	147.80	586
44.00	1489	77.00	909	115.90	477	148.90	212
45.10	1226	78.00	716	116.90	1178	150.00	117
45.90	126	78.90	5127	117.90	472	151.70	134
47.20	1475	80.10	1346	118.90	964	152.90	109
47.80	881	81.00	5793	122.00	64	153.80	51
49.10	6314	81.90	1461	122.90	75	155.00	323
50.10	27624	82.90	73	123.70	199	157.00	388
51.00	7610	85.00	124	124.60	59	158.70	363
52.00	450	87.00	6171	125.20	84	161.00	140
55.00	648	88.00	7468	126.10	68	166.80	57
56.00	3061	89.60	123	127.10	85	169.80	85
57.10	4377	91.00	793	127.90	658	170.80	173
58.10	284	92.00	4215	128.80	407	172.00	779
60.00	1269	93.00	6965	130.10	691	174.00	137344
61.00	7780	94.00	19896	130.90	130	175.00	12124
62.00	7190	95.00	149504	133.20	93	176.00	133248
63.10	5787	96.10	10641	133.80	66	176.90	8679
64.00	625	97.00	278	134.90	268	177.90	303
65.00	661	100.70	61	136.70	181	207.40	75
65.60	145	102.10	85	137.10	324	260.80	65
67.20	599	102.90	105	139.50	96	281.00	101
68.00	15662	103.80	893	141.00	1663		

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111101.D
Inj Date : 11-NOV-2022 11:34
InstruID : VOA9.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 11-NOV-2022 11:56
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.823	4.823	(1.000)	802614	50.0000	
2	Dichlorodifluoromethane	85	1.164	1.164	(0.241)	1404	0.25000	0.48
3	Chloromethane	50	1.299	1.299	(0.269)	4868	0.25000	0.79(M)
5	Vinyl Chloride	62	1.381	1.381	(0.287)	2092	0.25000	0.25
6	Bromomethane	94	1.629	1.629	(0.338)	3952	0.25000	
7	Chloroethane	64	1.696	1.696	(0.352)	5358	0.25000	0.89
8	Trichlorofluoromethane	101	1.899	1.899	(0.394)	2458	0.25000	0.23
9	Acrolein	56	2.274	2.274	(0.471)	1108	0.50000	2.90
10	Acetone	43	2.420	2.420	(0.502)	14421	0.50000	
11	1,1-Dichloroethene	96	2.337	2.337	(0.485)	1725	0.25000	0.25
15	Iodomethane	142	2.480	2.480	(0.514)	5219	0.50000	4.65
16	Acrylonitrile	53	3.072	3.072	(0.637)	1784	0.50000	0.47
17	Methylene Chloride	84	2.787	2.787	(0.578)	5715	0.25000	(M)
18	Methyl tert-butyl ether	73	3.083	3.083	(0.639)	6711	0.25000	0.29
19	Carbon Disulfide	76	2.529	2.529	(0.524)	15315	0.50000	0.76
20	trans-1,2-Dichloroethene	96	3.065	3.065	(0.635)	2440	0.25000	0.32
21	Vinyl Acetate	43	3.619	3.619	(0.751)	12261	0.50000	0.62
22	1,1-Dichloroethane	63	3.522	3.522	(0.730)	4303	0.25000	0.31(T)
24	2-Butanone	43	4.275	4.275	(0.887)	1504	0.50000	0.46
27	cis-1,2-Dichloroethene	96	4.200	4.200	(0.871)	2804	0.25000	0.31

28 Chloroform	83	4.575	4.575 (0.949)	4373	0.25000	0.30
29 Bromochloromethane	128	4.474	4.474 (0.928)	1295	0.25000	0.27

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D Page 2
Report Date: 16-Nov-2022 09:41

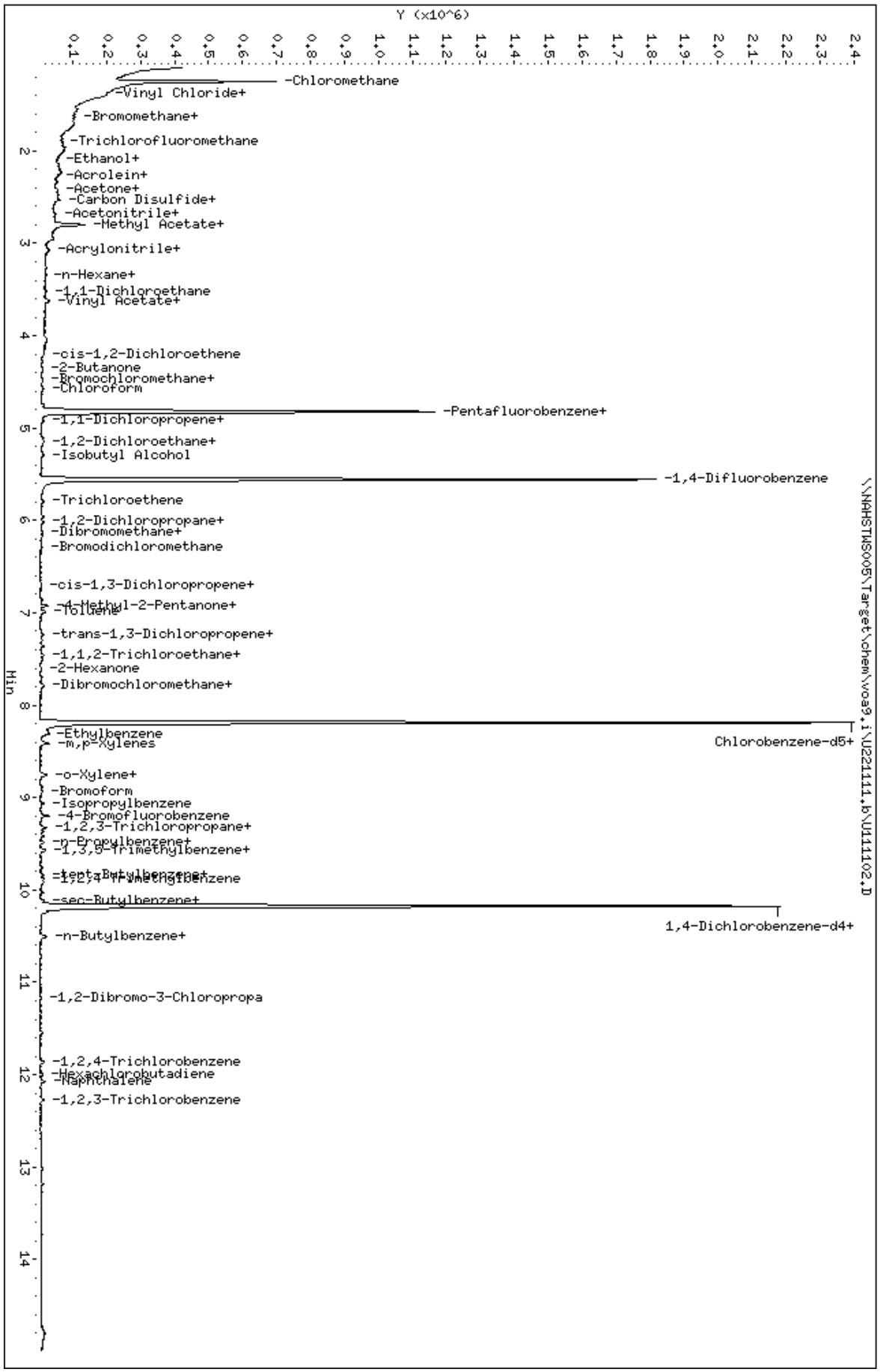
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
$	30 Dibromofluoromethane	113	4.759	4.759	(0.987)	3553	0.25000	0.09
	31 1,1,1-Trichloroethane	97	4.752	4.752	(0.985)	2195	0.25000	0.22
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	2386	0.25000	0.24
	33 1,2-Dichloroethane	62	5.186	5.186	(0.933)	4335	0.25000	0.35
	34 Carbon Tetrachloride	117	4.883	4.883	(0.879)	1102	0.25000	0.36(M)
$	35 1,2-Dichloroethane-d4	65	5.108	5.108	(1.059)	4078	0.25000	
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1400897	50.0000	
	37 Benzene	78	5.149	5.149	(0.926)	9909	0.25000	0.30
	38 Trichloroethene	130	5.801	5.801	(1.044)	2880	0.25000	0.31
	39 Bromodichloromethane	83	6.288	6.288	(1.132)	2267	0.25000	0.22(M)
	42 1,2-Dichloropropane	63	6.019	6.019	(1.083)	3160	0.25000	0.37
	44 Dibromomethane	93	6.131	6.131	(1.103)	2049	0.25000	0.33
	45 4-Methyl-2-Pentanone	43	6.862	6.862	(0.838)	4596	0.50000	0.60
	46 cis-1,3-Dichloropropene	75	6.701	6.701	(1.206)	2056	0.25000	2.95
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1302353	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	10884	0.25000	0.35
	50 Toluene	91	6.986	6.986	(0.853)	8903	0.25000	0.25
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.296)	1153	0.25000	3.51
	52 2-Hexanone	43	7.601	7.601	(0.928)	3210	0.50000	1.90
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	2288	0.25000	0.30
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	4701	0.25000	0.30
	55 Dibromochloromethane	129	7.698	7.698	(0.940)	1611	0.25000	1.61
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	1869	0.25000	0.24
	57 1,2-Dibromoethane	107	7.792	7.792	(0.951)	2367	0.25000	0.25
	58 1-Chlorohexane	55	8.208	8.208	(1.477)	1440	0.25000	1.62(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	7150	0.25000	0.28
	60 1,1,1,2-Tetrachloroethane	131	8.283	8.283	(1.011)	2146	0.25000	0.26
	61 Ethylbenzene	106	8.313	8.313	(1.015)	3025	0.25000	0.26
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	6219	0.50000	0.43
	63 o-Xylene	106	8.751	8.751	(1.069)	3602	0.25000	0.25
	64 Styrene	104	8.766	8.766	(1.070)	4077	0.25000	1.38
	66 Bromoform	173	8.924	8.924	(1.090)	1211	0.25000	2.47(T)
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	6913	0.25000	0.21
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	6793	0.25000	0.77
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	583623	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	3110	0.25000	0.31
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	7402	0.25000	0.23
	74 Bromobenzene	156	9.321	9.321	(0.916)	2946	0.25000	0.31
	75 1,3,5-Trimethylbenzene	105	9.569	9.569	(0.941)	5644	0.25000	0.24
	76 2-Chlorotoluene	91	9.490	9.490	(0.933)	5604	0.25000	0.25
	77 4-Chlorotoluene	91	9.584	9.584	(0.942)	6064	0.25000	0.24
	78 tert-Butylbenzene	119	9.842	9.842	(0.968)	5248	0.25000	0.25
	79 1,2,4-Trimethylbenzene	105	9.887	9.887	(0.972)	5673	0.25000	0.23
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	5780	0.25000	1.95
	82 p-Isopropyltoluene	119	10.153	10.153	(0.998)	5466	0.25000	0.24
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	5235	0.25000	0.33
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	6513	0.25000	0.37
	87 n-Butylbenzene	91	10.498	10.498	(1.032)	4371	0.25000	2.43
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	4979	0.25000	0.29
	89 1,2-Dibromo-3-Chloropropane	155	11.173	11.173	(1.098)	369	0.25000	2.49(M)
	90 1,2,4-Trichlorobenzene	180	11.867	11.867	(1.167)	3176	0.25000	0.34
	91 Hexachlorobutadiene	225	12.001	12.001	(1.180)	1532	0.25000	1.66

92 Naphthalene	128	12.073	12.073 (1.187)	10075	0.25000	0.44
93 1,2,3-Trichlorobenzene	180	12.275	12.275 (1.207)	3315	0.25000	0.36

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
M 94 1,2-Dichloroethylene (total)	96				5244	0.50000	
M 95 Xylenes (total)	106				9821	0.75000	
135 1,4-Dioxane	88	6.202	6.202	(1.286)	613	5.00000	5.02(M)
141 Cyclohexane	56	4.800	4.800	(0.995)	2282	0.25000	0.17(M)
138 Freon TF	101	2.341	2.341	(0.485)	1579	0.25000	0.05
140 1,3-Butadiene	54	1.411	1.411	(0.293)	1113	0.25000	1.91
147 Methylcyclohexane	55	5.959	5.959	(1.072)	4225	0.25000	0.21
146 Methyl Acetate	43	2.723	2.723	(0.565)	3825	0.25000	0.58

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.



Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\U111102.D
Date : 11-NOV-2022 11:56
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

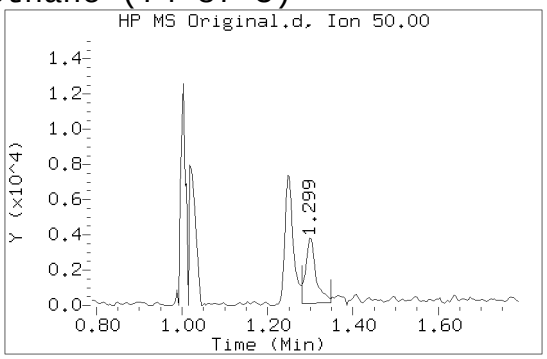
Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

Chloromethane (74-87-3)

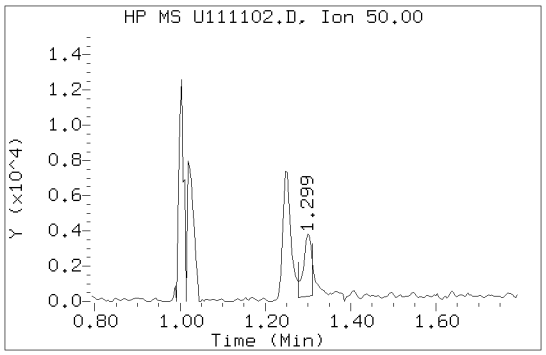
BEFORE

MASS
50
AREA
6401
HEIGHT
3725
16-Nov-2022
09:38
linh
pham



AFTER

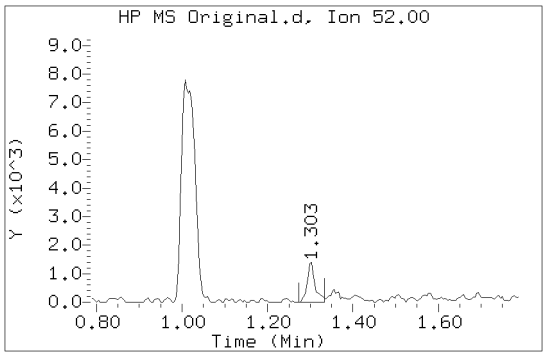
MASS
50
AREA
4868
HEIGHT
3560
16-Nov-2022
09:41
linh
pham



Reason Code:

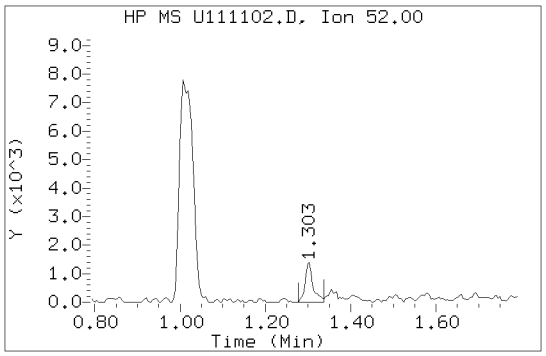
BEFORE

MASS
52
AREA
1800
HEIGHT
1390
16-Nov-2022
09:38
linh
pham



AFTER

MASS
52
AREA
1825
HEIGHT
1390
16-Nov-2022
09:41
linh
pham

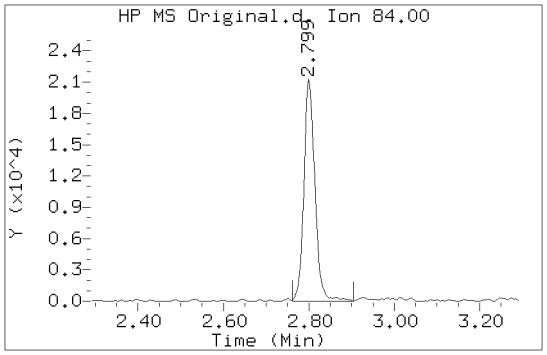


Reason Code:

Methylene Chloride (75-09-2)

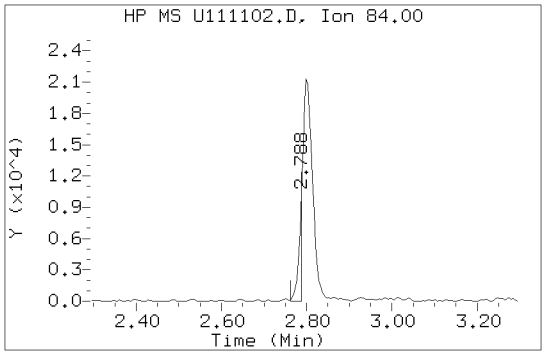
BEFORE

MASS
84
AREA
38837
HEIGHT
21304
16-Nov-2022
09:38
linh
pham



AFTER

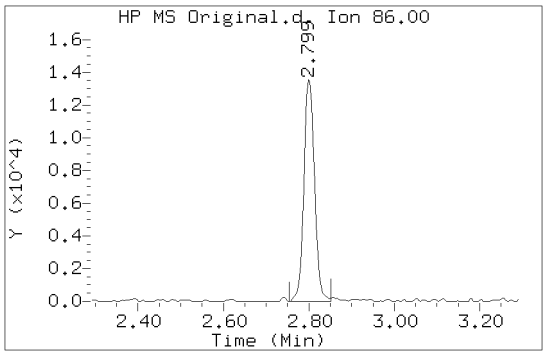
MASS
84
AREA
5715
HEIGHT
10511
16-Nov-2022
09:41
linh
pham



Reason Code:

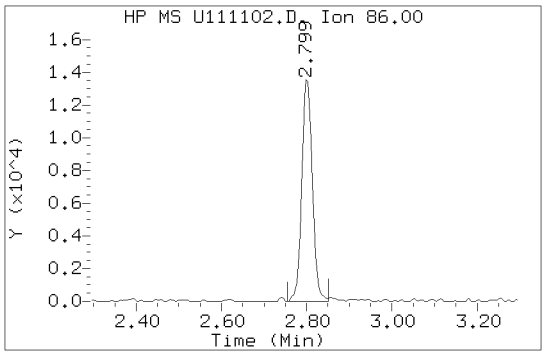
BEFORE

MASS
86
AREA
23995
HEIGHT
13546
16-Nov-2022
09:38
linh
pham



AFTER

MASS
86
AREA
23995
HEIGHT
13546
16-Nov-2022
09:41
linh
pham



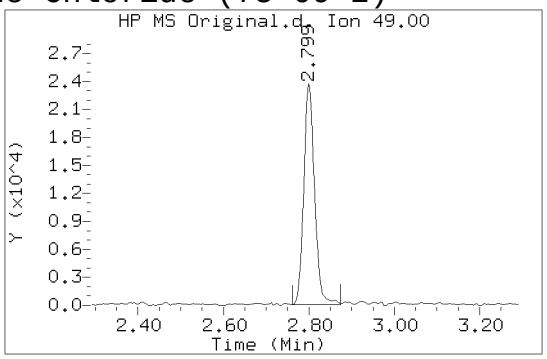
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

Methylene Chloride (75-09-2)

Reason Code:

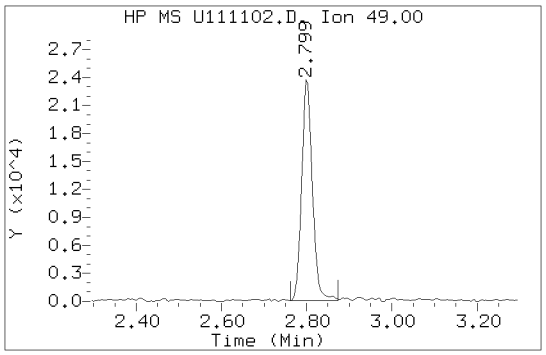
BEFORE

MASS
49
AREA
42071
HEIGHT
23666
16-Nov-2022
09:38
linh
pham



AFTER

MASS
49
AREA
42071
HEIGHT
23666
16-Nov-2022
09:41
linh
pham

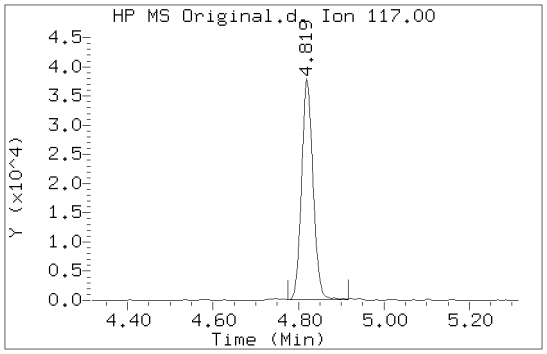


Carbon Tetrachloride (56-23-5)

Reason Code:

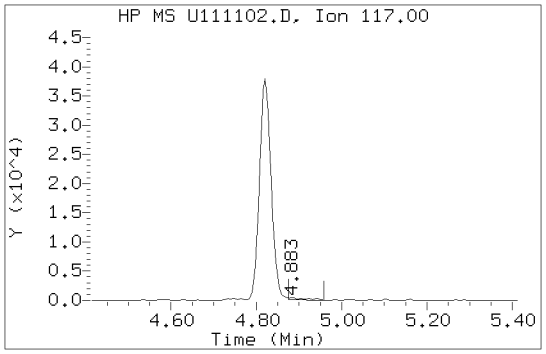
BEFORE

MASS
117
AREA
72507
HEIGHT
37904
16-Nov-2022
09:38
linh
pham



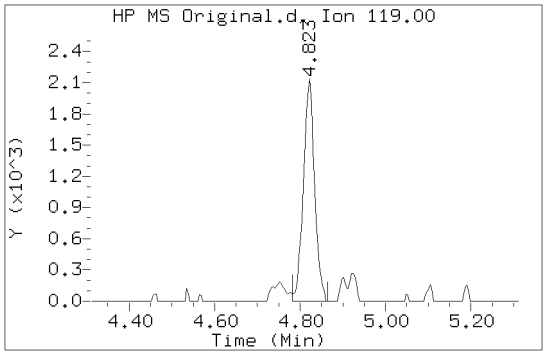
AFTER

MASS
117
AREA
1102
HEIGHT
349
16-Nov-2022
09:41
linh
pham



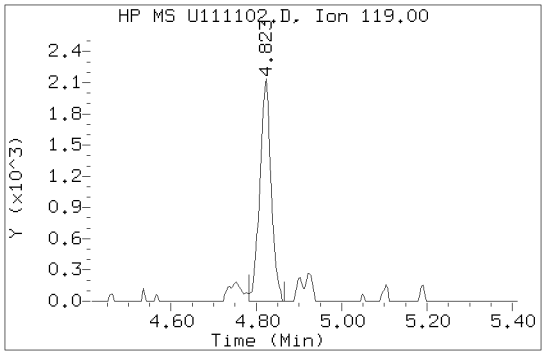
BEFORE

MASS
119
AREA
3921
HEIGHT
2136
16-Nov-2022
09:38
linh
pham



AFTER

MASS
119
AREA
3921
HEIGHT
2136
16-Nov-2022
09:41
linh
pham

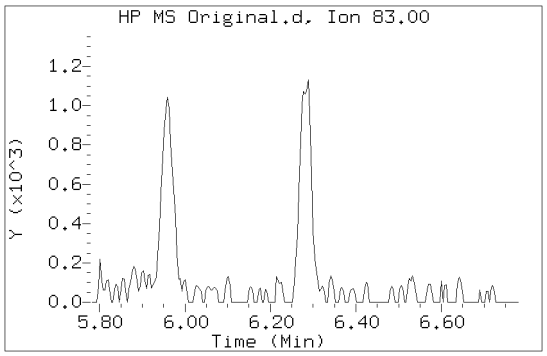


Bromodichloromethane (75-27-4)

Reason Code:

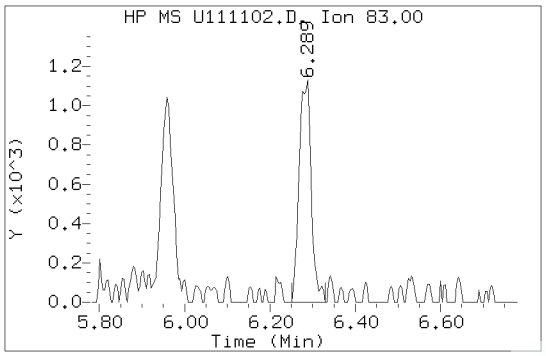
BEFORE

MASS
83
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
83
AREA
2267
HEIGHT
1131
16-Nov-2022
09:41
linh
pham



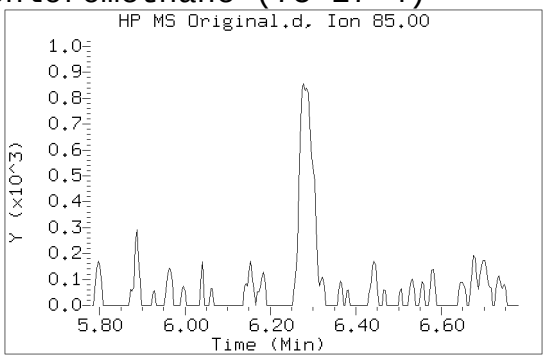
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

Bromodichloromethane (75-27-4)

Reason Code:

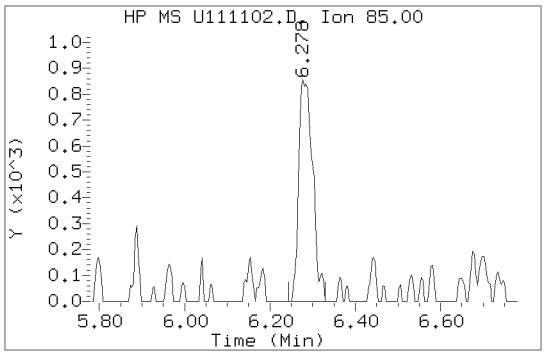
BEFORE

MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



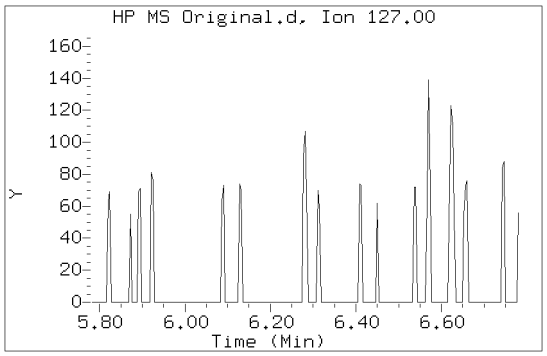
AFTER

MASS
85
AREA
1985
HEIGHT
856
16-Nov-2022
09:41
linh
pham



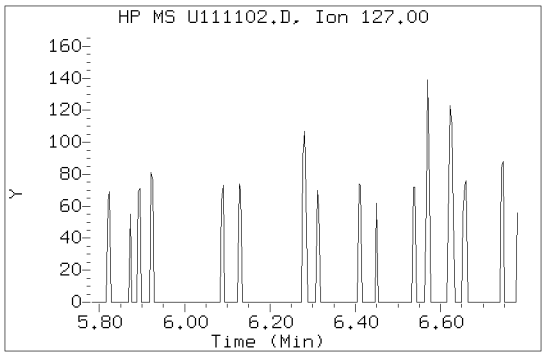
BEFORE

MASS
127
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
127
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

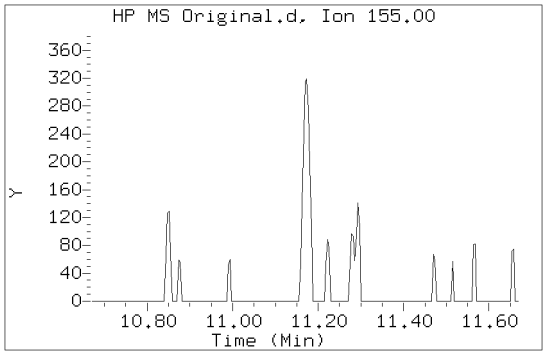


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

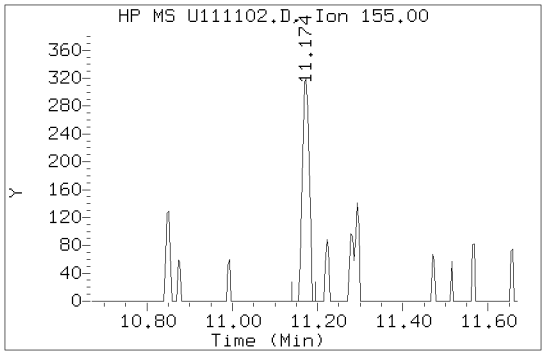
BEFORE

MASS
155
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



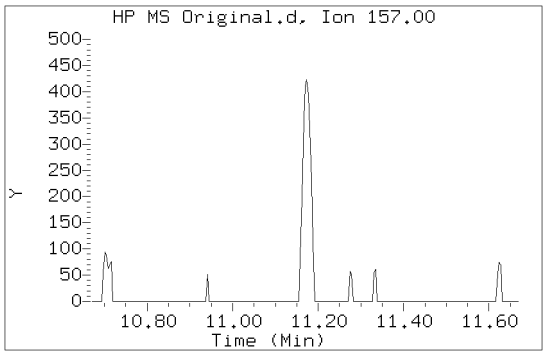
AFTER

MASS
155
AREA
369
HEIGHT
319
16-Nov-2022
09:41
linh
pham



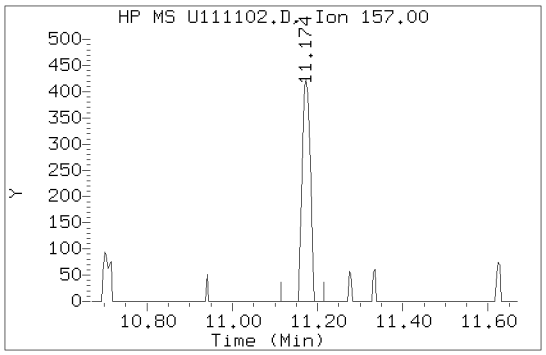
BEFORE

MASS
157
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
157
AREA
577
HEIGHT
423
16-Nov-2022
09:41
linh
pham



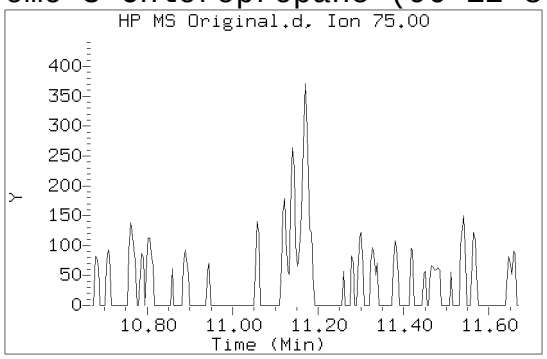
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

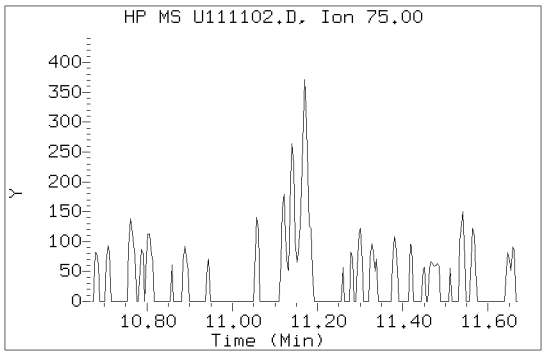
BEFORE

MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

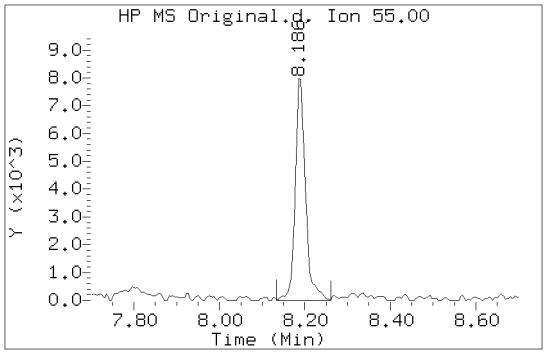


1-Chlorohexane (544-10-5)

Reason Code:

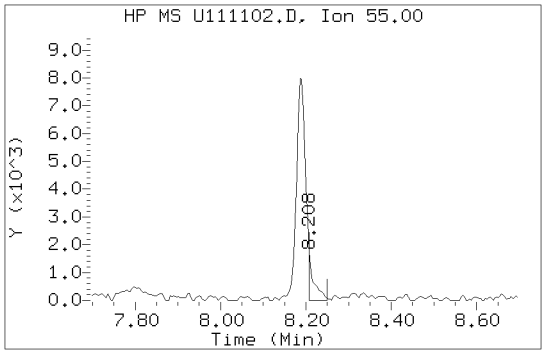
BEFORE

MASS
55
AREA
13371
HEIGHT
7973
16-Nov-2022
09:38
linh
pham



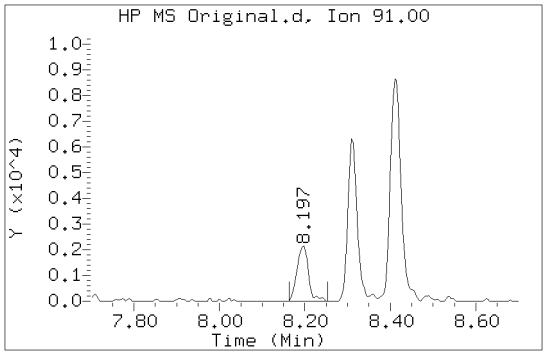
AFTER

MASS
55
AREA
1440
HEIGHT
1739
16-Nov-2022
09:41
linh
pham



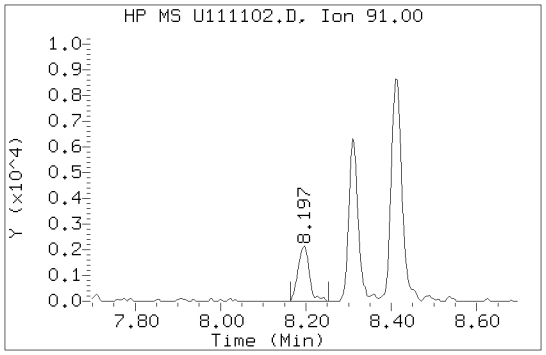
BEFORE

MASS
91
AREA
4053
HEIGHT
2147
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
4053
HEIGHT
2147
16-Nov-2022
09:41
linh
pham

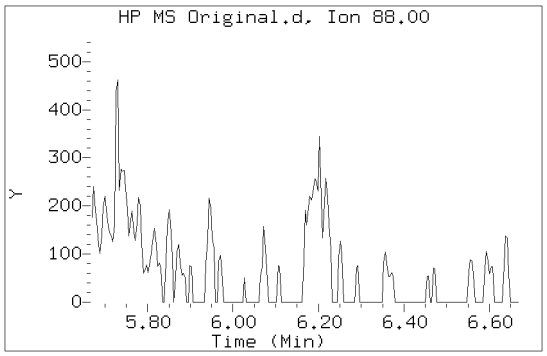


1,4-Dioxane ()

Reason Code:

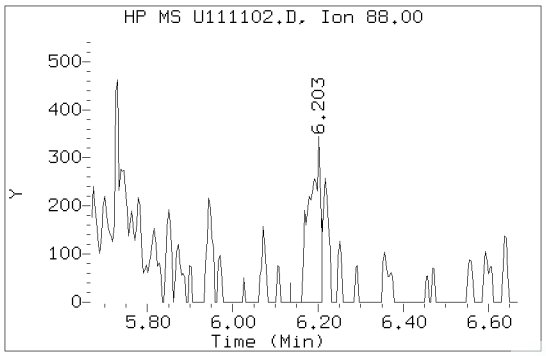
BEFORE

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
88
AREA
613
HEIGHT
344
16-Nov-2022
09:41
linh
pham

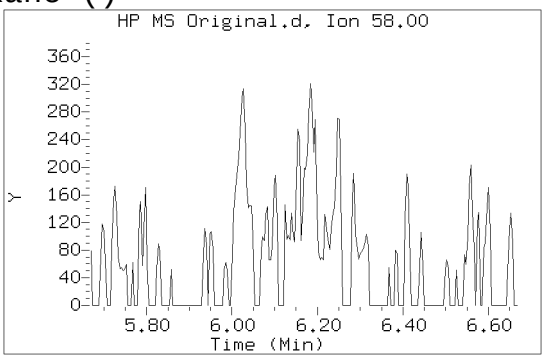


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111102.D
Inj Date : 11-NOV-2022 11:56
InstruID : VOA9.i
LabSampID : VSTD000.25

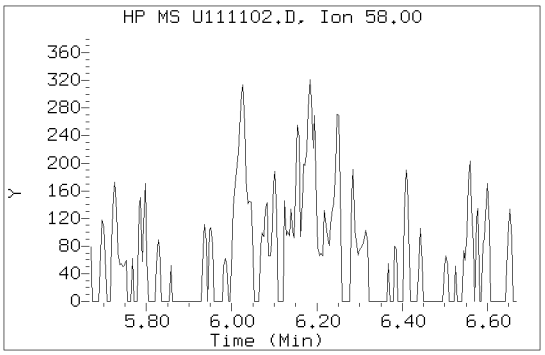
1,4-Dioxane ()

Reason Code:

BEFORE
MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



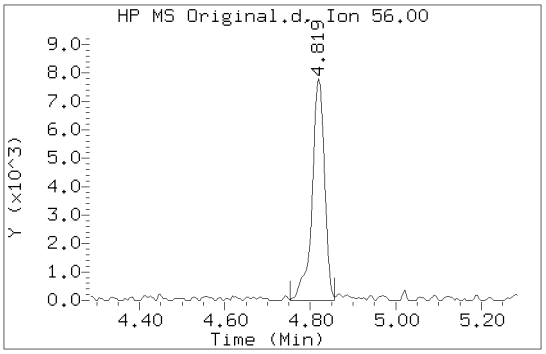
AFTER
MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham



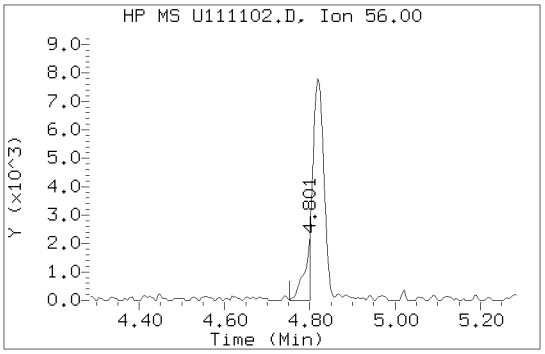
Cyclohexane (110-82-7)

Reason Code:

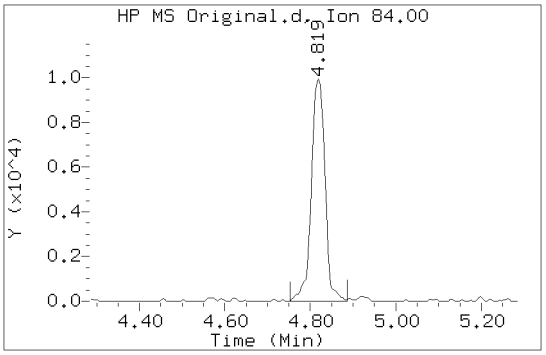
BEFORE
MASS
56
AREA
15875
HEIGHT
7801
16-Nov-2022
09:38
linh
pham



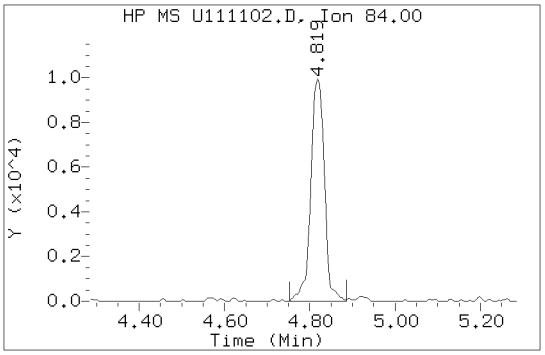
AFTER
MASS
56
AREA
2282
HEIGHT
2288
16-Nov-2022
09:41
linh
pham



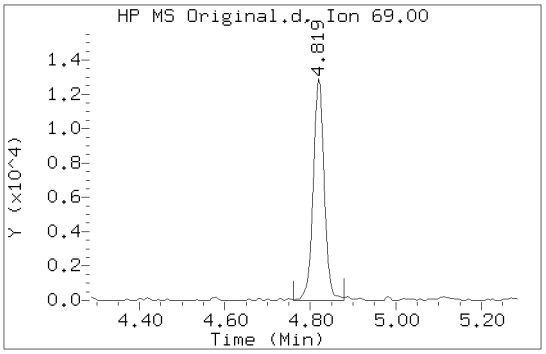
BEFORE
MASS
84
AREA
22211
HEIGHT
9948
16-Nov-2022
09:38
linh
pham



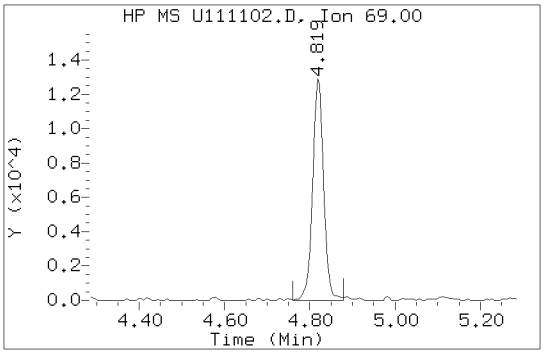
AFTER
MASS
84
AREA
22211
HEIGHT
9948
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
69
AREA
23202
HEIGHT
12914
16-Nov-2022
09:38
linh
pham



AFTER
MASS
69
AREA
23202
HEIGHT
12914
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 11-NOV-2022 12:18
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 11:56 Cal File: U111102.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.822	4.822	(1.000)	762633	50.0000	
2	Dichlorodifluoromethane	85	1.167	1.167	(0.242)	4110	0.50000	0.97(M)
3	Chloromethane	50	1.302	1.302	(0.270)	5083	0.50000	0.84(M)
5	Vinyl Chloride	62	1.385	1.385	(0.287)	4563	0.50000	0.58
6	Bromomethane	94	1.632	1.632	(0.339)	3746	0.50000	(M)
7	Chloroethane	64	1.711	1.711	(0.355)	3381	0.50000	0.59(M)
8	Trichlorofluoromethane	101	1.906	1.906	(0.395)	5881	0.50000	0.58
9	Acrolein	56	2.281	2.281	(0.473)	810	1.00000	2.46(M)
10	Acetone	43	2.419	2.419	(0.502)	13138	1.00000	(M)
11	1,1-Dichloroethene	96	2.337	2.337	(0.485)	3843	0.50000	0.59
15	Iodomethane	142	2.479	2.479	(0.514)	7282	1.00000	4.95(M)
16	Acrylonitrile	53	3.079	3.079	(0.639)	3765	1.00000	1.06(M)
17	Methylene Chloride	84	2.791	2.791	(0.579)	5802	0.50000	(M)
18	Methyl tert-butyl ether	73	3.091	3.091	(0.641)	10823	0.50000	0.49
19	Carbon Disulfide	76	2.532	2.532	(0.525)	23979	1.00000	1.26(M)
20	trans-1,2-Dichloroethene	96	3.072	3.072	(0.637)	3676	0.50000	0.51
21	Vinyl Acetate	43	3.623	3.623	(0.751)	17838	1.00000	0.94
22	1,1-Dichloroethane	63	3.518	3.518	(0.730)	7236	0.50000	0.56
24	2-Butanone	43	4.283	4.283	(0.888)	3005	1.00000	0.97
26	2,2-Dichloropropane	77	4.196	4.196	(0.870)	3730	0.50000	1.85

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	4443	0.50000	0.52
28 Chloroform	83	4.582	4.582 (0.950)	7202	0.50000	0.52

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D Page 2
Report Date: 16-Nov-2022 09:41

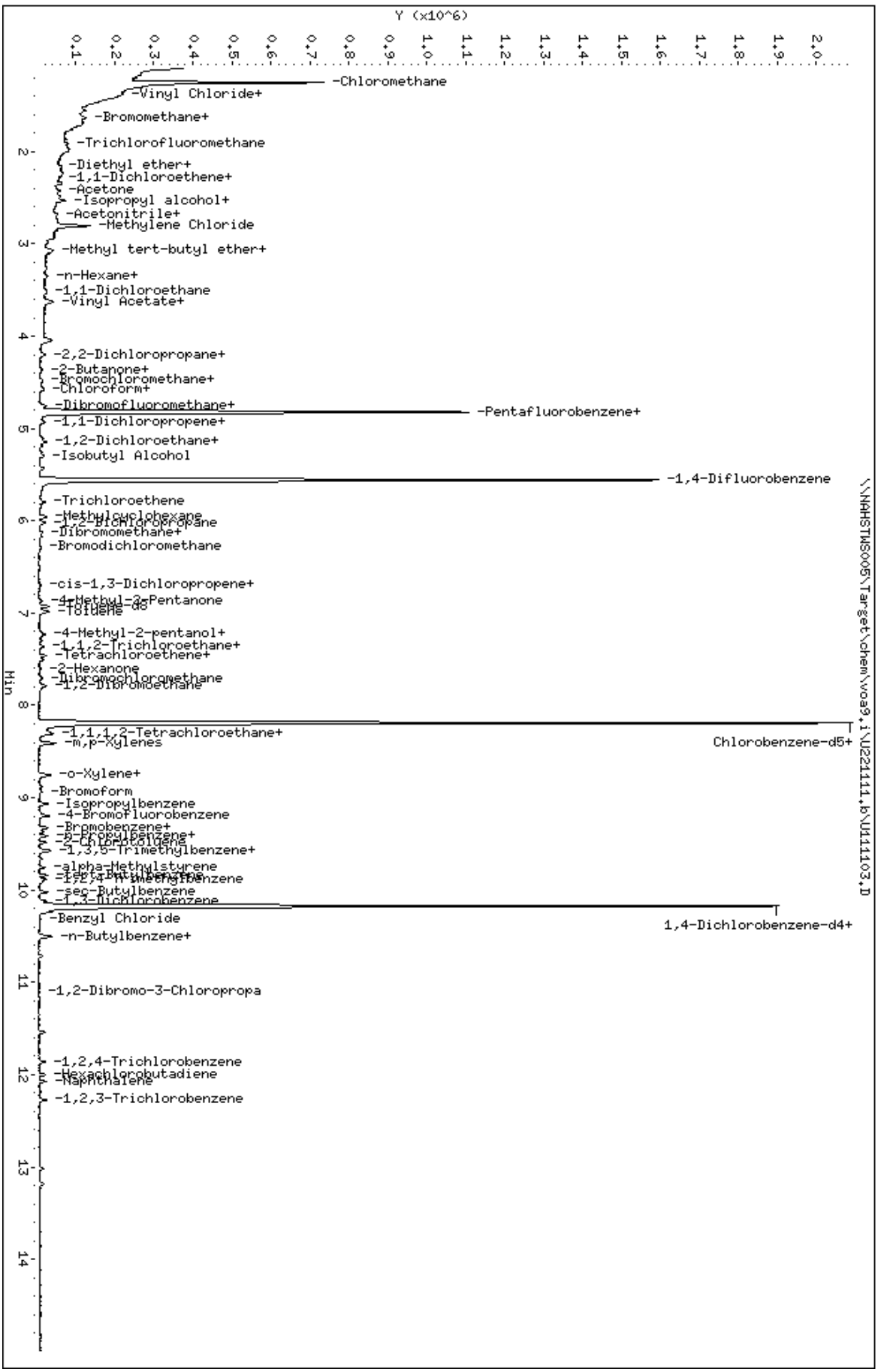
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.474	4.474	(0.928)	2530	0.50000	0.56
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	5430	0.50000	0.36
	31 1,1,1-Trichloroethane	97	4.751	4.751	(0.985)	4606	0.50000	0.50
	32 1,1-Dichloropropene	75	4.931	4.931	(0.887)	4644	0.50000	0.54(M)
	33 1,2-Dichloroethane	62	5.186	5.186	(0.933)	5630	0.50000	0.51
	34 Carbon Tetrachloride	117	4.916	4.916	(0.885)	3171	0.50000	0.78(MH)
$	35 1,2-Dichloroethane-d4	65	5.107	5.107	(1.059)	5818	0.50000	0.04(M)
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1236833	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	16511	0.50000	0.56
	38 Trichloroethene	130	5.793	5.793	(1.042)	4230	0.50000	0.53
	39 Bromodichloromethane	83	6.284	6.284	(1.131)	3457	0.50000	0.38(M)
	42 1,2-Dichloropropane	63	6.018	6.018	(1.083)	3906	0.50000	0.52
	44 Dibromomethane	93	6.127	6.127	(1.103)	2612	0.50000	0.48
	45 4-Methyl-2-Pentanone	43	6.865	6.865	(0.838)	5613	1.00000	0.85
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	3916	0.50000	3.12(M)
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1117002	50.0000	
$	48 Toluene-d8	98	6.925	6.925	(0.846)	16258	0.50000	0.61(M)
	50 Toluene	91	6.985	6.985	(0.853)	15636	0.50000	0.52
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	3354	0.50000	3.72(M)
	52 2-Hexanone	43	7.604	7.604	(0.929)	3253	1.00000	2.00
	53 1,1,2-Trichloroethane	83	7.360	7.360	(0.899)	3395	0.50000	0.53
	54 1,3-Dichloropropane	76	7.506	7.506	(0.917)	6083	0.50000	0.46(M)
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	2776	0.50000	1.77
	56 Tetrachloroethene	164	7.461	7.461	(0.911)	4027	0.50000	0.62
	57 1,2-Dibromoethane	107	7.791	7.791	(0.951)	3602	0.50000	0.46
	58 1-Chlorohexane	55	8.204	8.204	(1.476)	2433	0.50000	1.83(M)
	59 Chlorobenzene	112	8.211	8.211	(1.003)	11529	0.50000	0.54
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	3213	0.50000	0.46
	61 Ethylbenzene	106	8.312	8.312	(1.015)	5001	0.50000	0.51
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	12785	1.00000	1.04
	63 o-Xylene	106	8.747	8.747	(1.068)	5842	0.50000	0.48
	64 Styrene	104	8.762	8.762	(1.070)	7484	0.50000	1.56
	66 Bromoform	173	8.920	8.920	(1.089)	1530	0.50000	2.56(T)
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	13422	0.50000	0.48
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	4895	0.50000	0.47(M)
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	7000	0.50000	0.89
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	517041	50.0000	
	71 1,2,3-Trichloropropane	75	9.370	9.370	(0.921)	4509	0.50000	0.50(M)
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	15638	0.50000	0.56
	74 Bromobenzene	156	9.325	9.325	(0.917)	4076	0.50000	0.49
	75 1,3,5-Trimethylbenzene	105	9.564	9.564	(0.940)	10966	0.50000	0.53
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	10808	0.50000	0.55
	77 4-Chlorotoluene	91	9.579	9.579	(0.942)	11045	0.50000	0.50
	78 tert-Butylbenzene	119	9.842	9.842	(0.968)	10518	0.50000	0.58
	79 1,2,4-Trimethylbenzene	105	9.879	9.879	(0.971)	10584	0.50000	0.48(M)
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	13271	0.50000	2.26
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	11533	0.50000	0.58
	83 1,3-Dichlorobenzene	146	10.119	10.119	(0.995)	7249	0.50000	0.51
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	9496	0.50000	0.61
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	9581	0.50000	2.74
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	9188	0.50000	0.61
	89 1,2-Dibromo-3-Chloropropane	155	11.165	11.165	(1.098)	243	0.50000	2.44(M)

90 1,2,4-Trichlorobenzene	180	11.862	11.862 (1.166)	4896	0.50000	0.60
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	2560	0.50000	2.04(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.072	12.072	(1.187)	12129	0.50000	0.59
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	4534	0.50000	0.56(M)
M	94 1,2-Dichloroethylene (total)	96				8119	1.00000	
M	95 Xylenes (total)	106				18627	1.50000	
	135 1,4-Dioxane	88	6.176	6.176	(1.281)	872	10.0000	7.52(M)
	141 Cyclohexane	56	4.796	4.796	(0.995)	3722	0.50000	0.43(M)
	138 Freon TF	101	2.348	2.348	(0.487)	3044	0.50000	0.41
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	2660	0.50000	2.17(M)
	147 Methylcyclohexane	55	5.955	5.955	(1.071)	9398	0.50000	0.53
	146 Methyl Acetate	43	2.727	2.727	(0.566)	3374	0.50000	0.54(M)

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\U111103,D
Date : 11-NOV-2022 12:18
Client ID: VSTD000,5
Sample Info: VSTD000,5;VSTD000,5;1;2;
Purge Volume: 5,0
Column phase: DB624

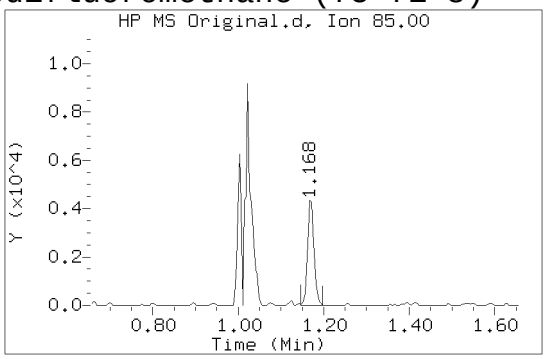
Instrument: VOA9,i
Operator: PC
Column diameter: 0,18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

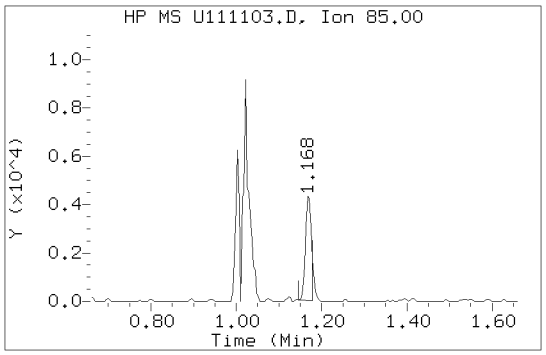
Dichlorodifluoromethane (75-71-8)

Reason Code:

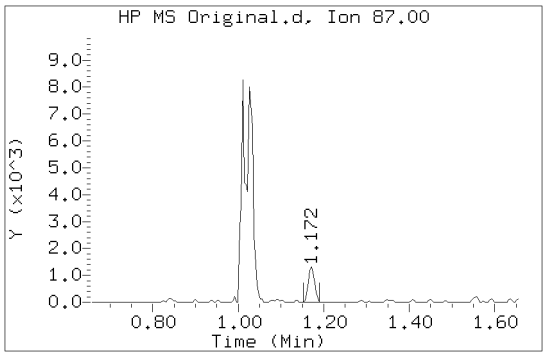
BEFORE
MASS
85
AREA
4558
HEIGHT
4341
16-Nov-2022
09:38
linh
pham



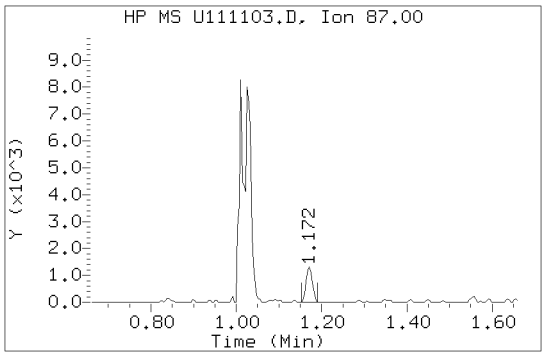
AFTER
MASS
85
AREA
4110
HEIGHT
4298
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
87
AREA
1347
HEIGHT
1320
16-Nov-2022
09:38
linh
pham



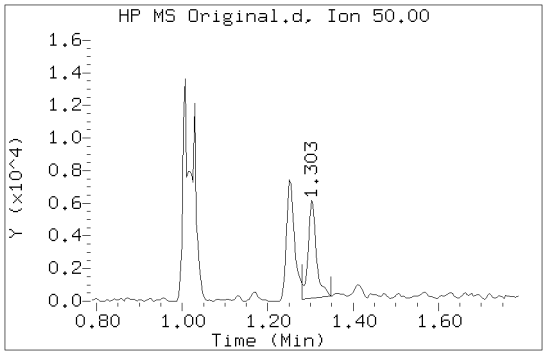
AFTER
MASS
87
AREA
1347
HEIGHT
1320
16-Nov-2022
09:41
linh
pham



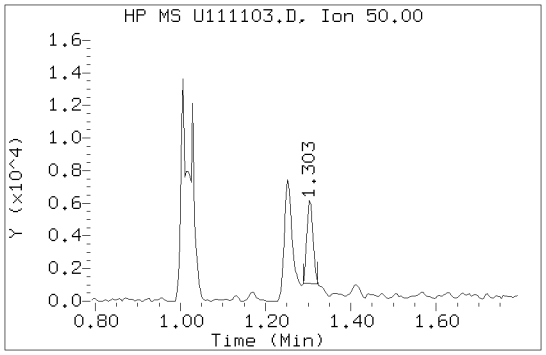
Chloromethane (74-87-3)

Reason Code:

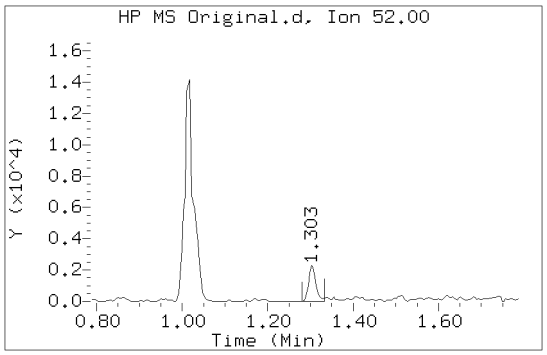
BEFORE
MASS
50
AREA
8099
HEIGHT
5977
16-Nov-2022
09:38
linh
pham



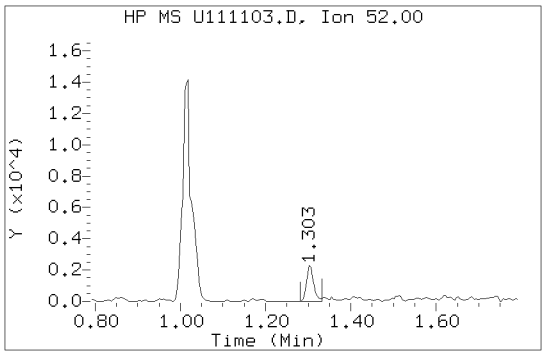
AFTER
MASS
50
AREA
5083
HEIGHT
5079
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
52
AREA
2677
HEIGHT
2306
16-Nov-2022
09:38
linh
pham



AFTER
MASS
52
AREA
2677
HEIGHT
2306
16-Nov-2022
09:41
linh
pham

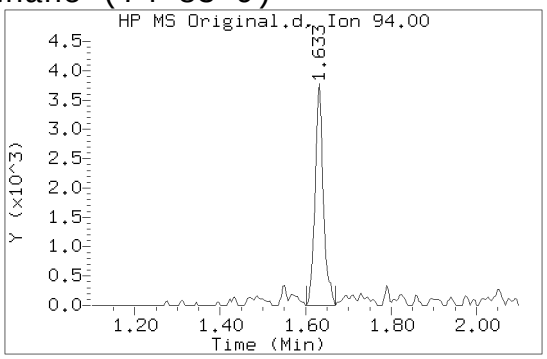


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

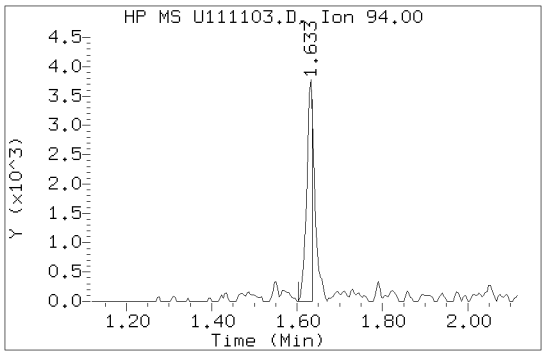
Bromomethane (74-83-9)

Reason Code:

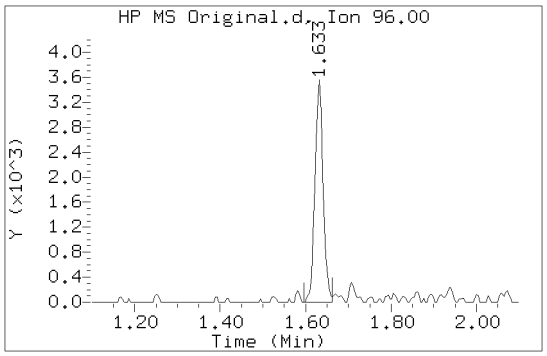
BEFORE
MASS
94
AREA
5067
HEIGHT
3779
16-Nov-2022
09:38
linh
pham



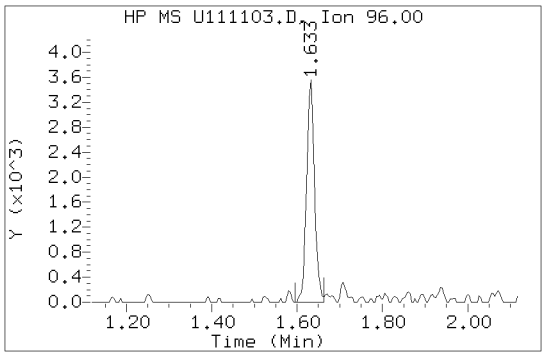
AFTER
MASS
94
AREA
3746
HEIGHT
3779
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
96
AREA
4722
HEIGHT
3557
16-Nov-2022
09:38
linh
pham



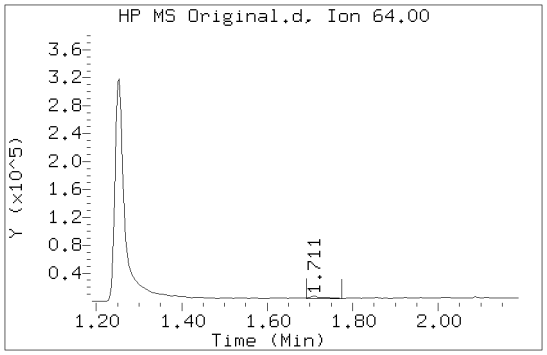
AFTER
MASS
96
AREA
4722
HEIGHT
3557
16-Nov-2022
09:41
linh
pham



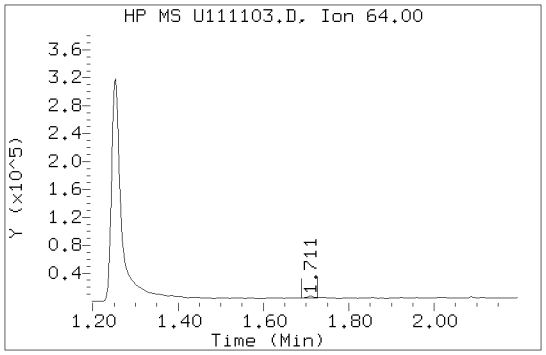
Chloroethane (75-00-3)

Reason Code:

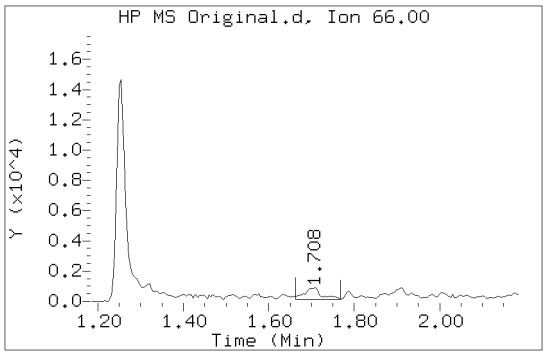
BEFORE
MASS
64
AREA
8002
HEIGHT
3754
16-Nov-2022
09:38
linh
pham



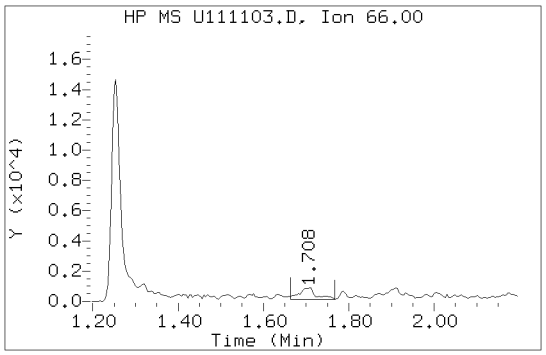
AFTER
MASS
64
AREA
3381
HEIGHT
2947
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
66
AREA
2085
HEIGHT
765
16-Nov-2022
09:38
linh
pham



AFTER
MASS
66
AREA
2085
HEIGHT
765
16-Nov-2022
09:41
linh
pham

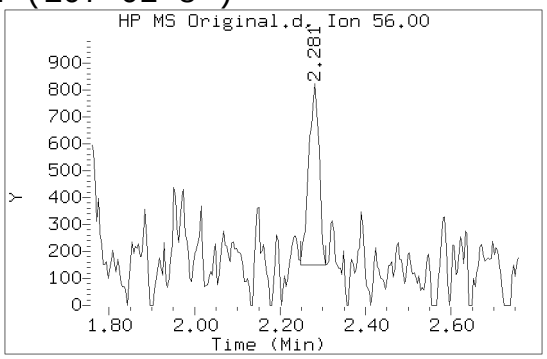


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

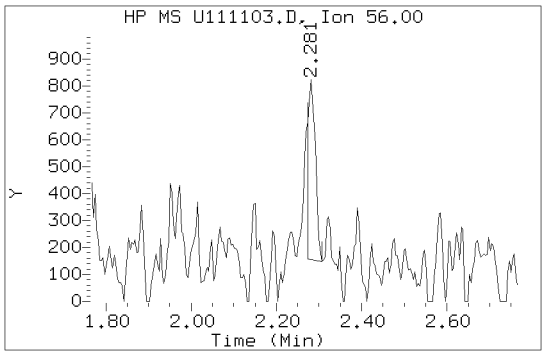
Acrolein (107-02-8)

Reason Code:

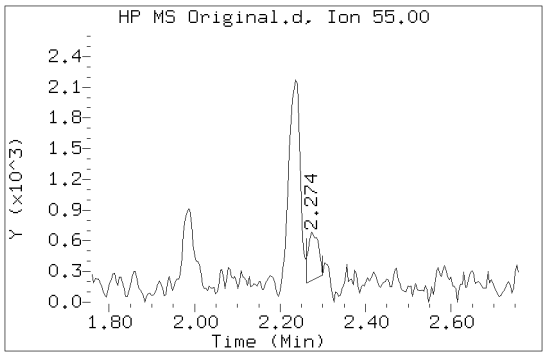
BEFORE
MASS
56
AREA
1123
HEIGHT
672
16-Nov-2022
09:38
linh
pham



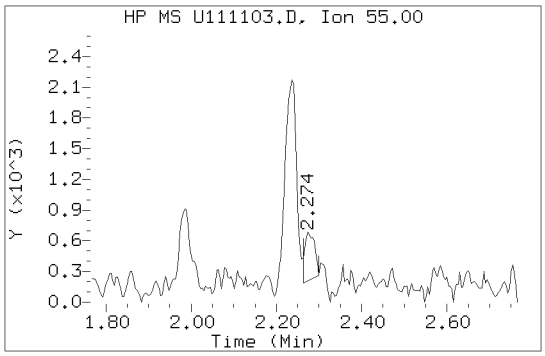
AFTER
MASS
56
AREA
810
HEIGHT
668
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
55
AREA
770
HEIGHT
473
16-Nov-2022
09:38
linh
pham



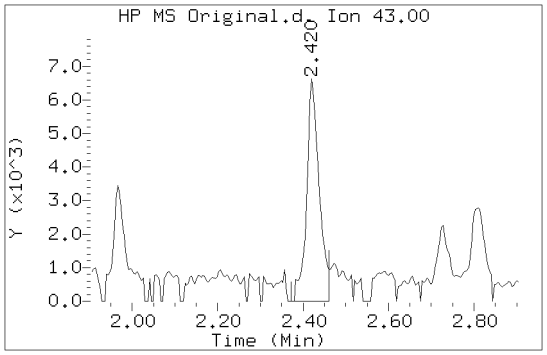
AFTER
MASS
55
AREA
770
HEIGHT
473
16-Nov-2022
09:41
linh
pham



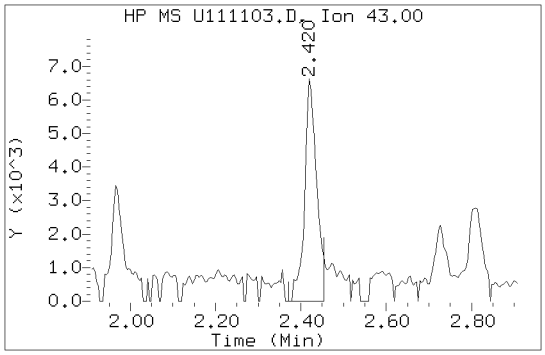
Acetone (67-64-1)

Reason Code:

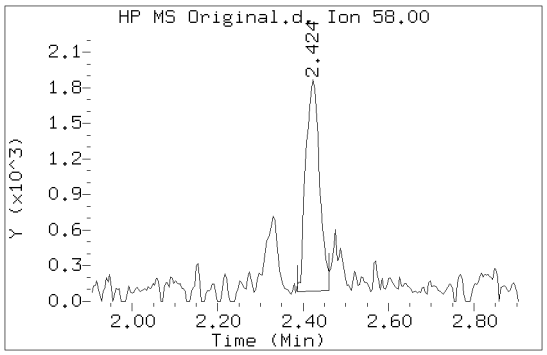
BEFORE
MASS
43
AREA
13583
HEIGHT
6627
16-Nov-2022
09:38
linh
pham



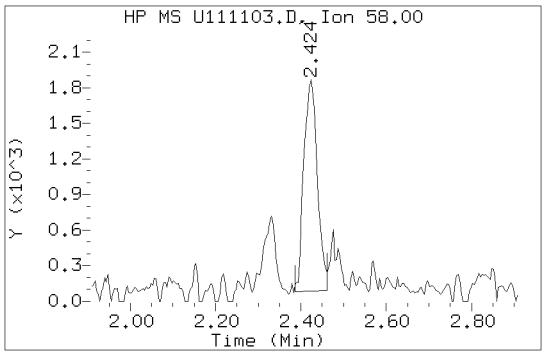
AFTER
MASS
43
AREA
13138
HEIGHT
6627
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
58
AREA
3997
HEIGHT
1782
16-Nov-2022
09:38
linh
pham



AFTER
MASS
58
AREA
3997
HEIGHT
1782
16-Nov-2022
09:41
linh
pham



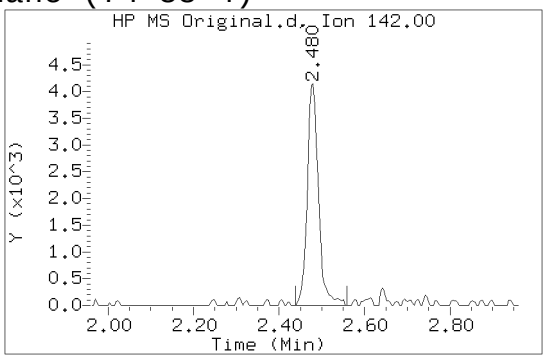
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Iodomethane (74-88-4)

Reason Code:

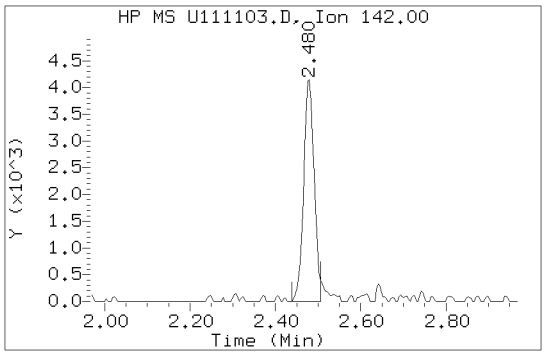
BEFORE

MASS
142
AREA
7702
HEIGHT
4145
16-Nov-2022
09:38
linh
pham



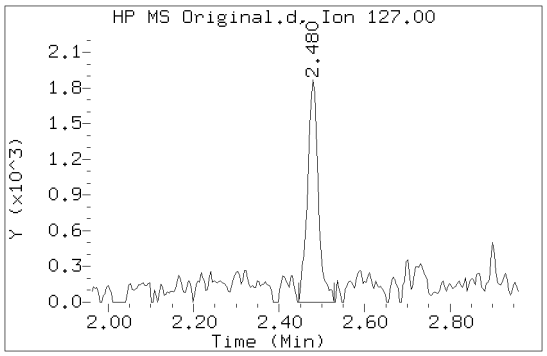
AFTER

MASS
142
AREA
7282
HEIGHT
4145
16-Nov-2022
09:41
linh
pham



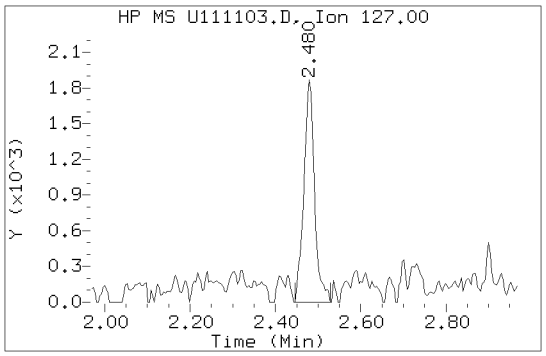
BEFORE

MASS
127
AREA
3331
HEIGHT
1869
16-Nov-2022
09:38
linh
pham



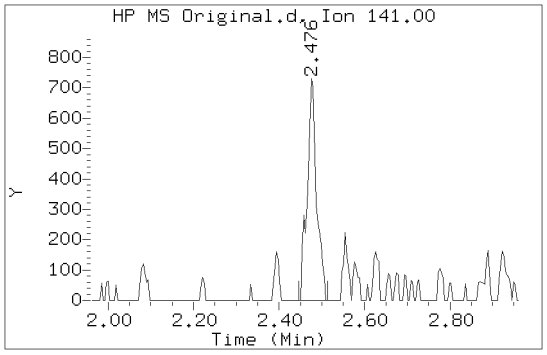
AFTER

MASS
127
AREA
3331
HEIGHT
1869
16-Nov-2022
09:41
linh
pham



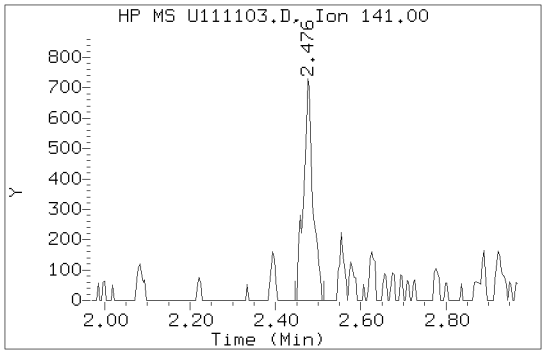
BEFORE

MASS
141
AREA
1140
HEIGHT
730
16-Nov-2022
09:38
linh
pham



AFTER

MASS
141
AREA
1140
HEIGHT
730
16-Nov-2022
09:41
linh
pham

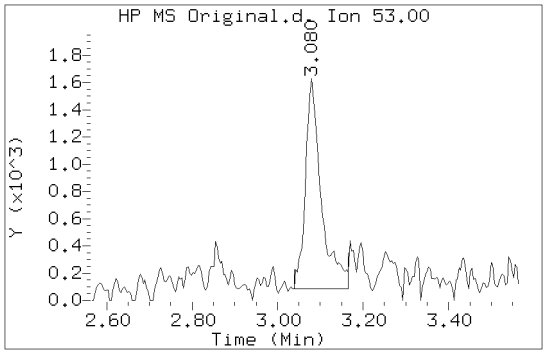


Acrylonitrile (107-13-1)

Reason Code:

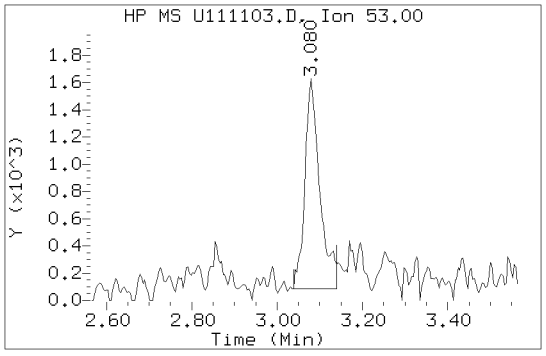
BEFORE

MASS
53
AREA
4003
HEIGHT
1543
16-Nov-2022
09:38
linh
pham



AFTER

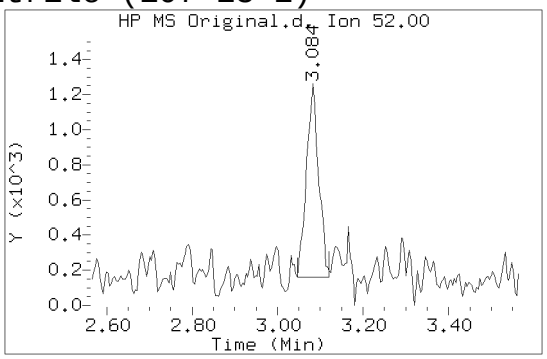
MASS
53
AREA
3765
HEIGHT
1543
16-Nov-2022
09:41
linh
pham



Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

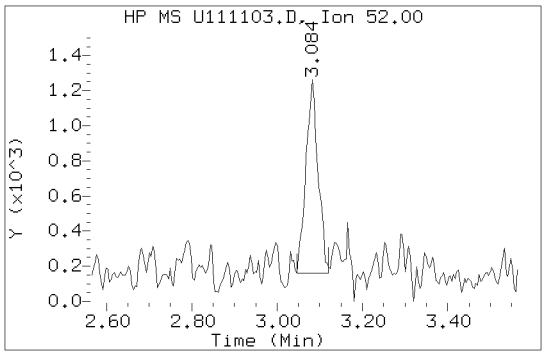
Acrylonitrile (107-13-1)

BEFORE
MASS
52
AREA
2193
HEIGHT
1103
16-Nov-2022
09:38
linh
pham

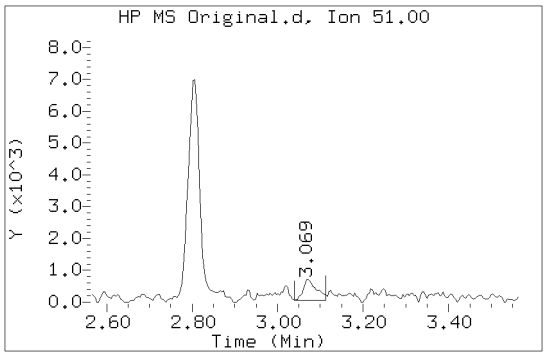


Reason Code:

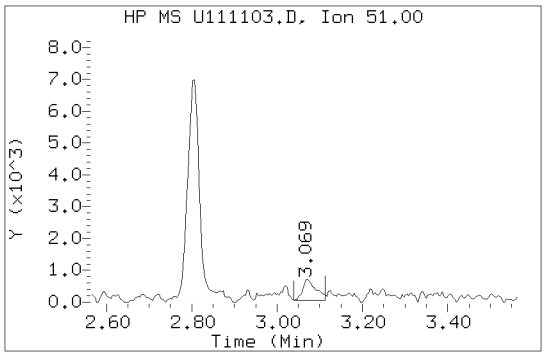
AFTER
MASS
52
AREA
2193
HEIGHT
1103
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
51
AREA
1433
HEIGHT
651
16-Nov-2022
09:38
linh
pham

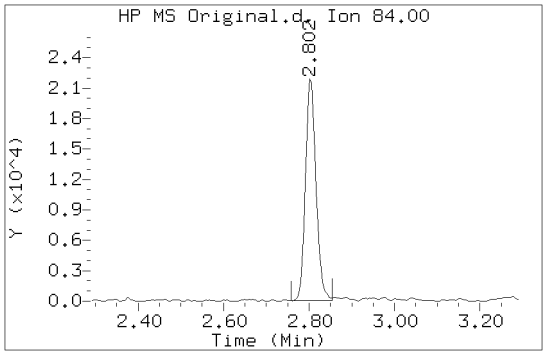


AFTER
MASS
51
AREA
1433
HEIGHT
651
16-Nov-2022
09:41
linh
pham



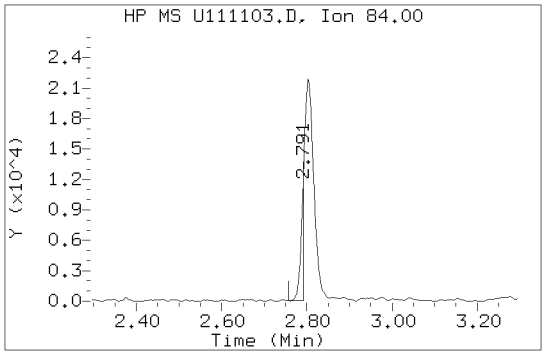
Methylene Chloride (75-09-2)

BEFORE
MASS
84
AREA
38413
HEIGHT
21860
16-Nov-2022
09:38
linh
pham

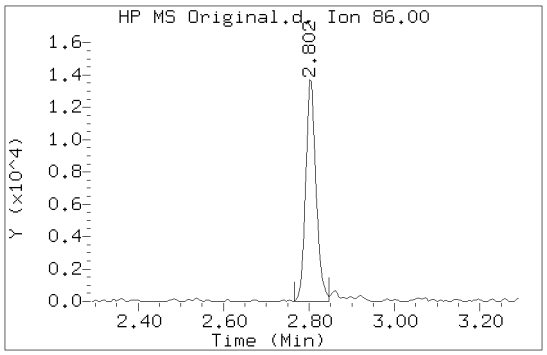


Reason Code:

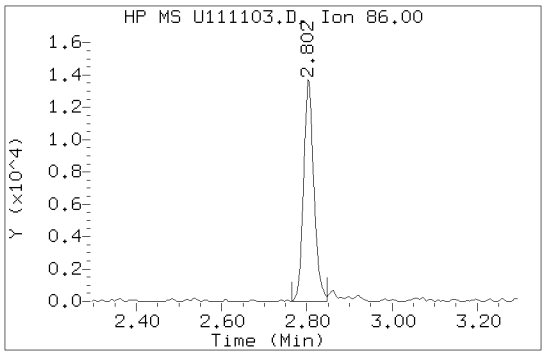
AFTER
MASS
84
AREA
5802
HEIGHT
11796
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
86
AREA
23611
HEIGHT
13710
16-Nov-2022
09:38
linh
pham



AFTER
MASS
86
AREA
23611
HEIGHT
13710
16-Nov-2022
09:41
linh
pham



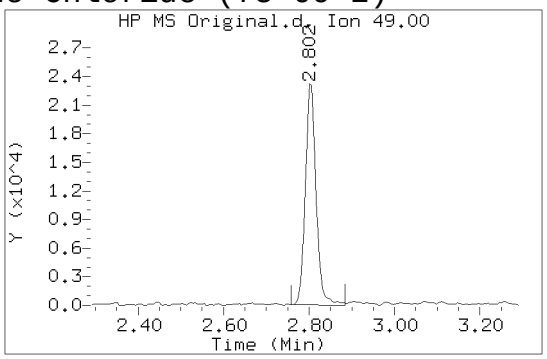
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Methylene Chloride (75-09-2)

Reason Code:

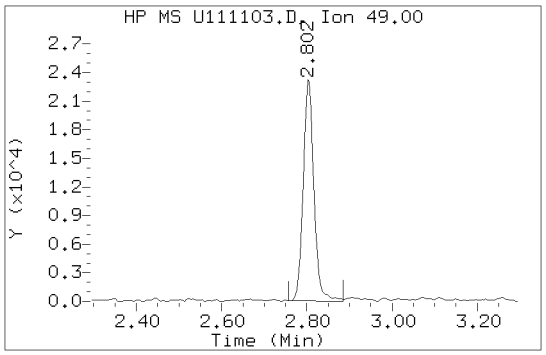
BEFORE

MASS
49
AREA
41352
HEIGHT
23207
16-Nov-2022
09:38
linh
pham



AFTER

MASS
49
AREA
41352
HEIGHT
23207
16-Nov-2022
09:41
linh
pham

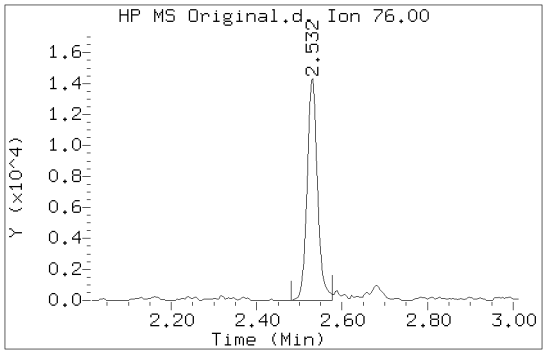


Carbon Disulfide (75-15-0)

Reason Code:

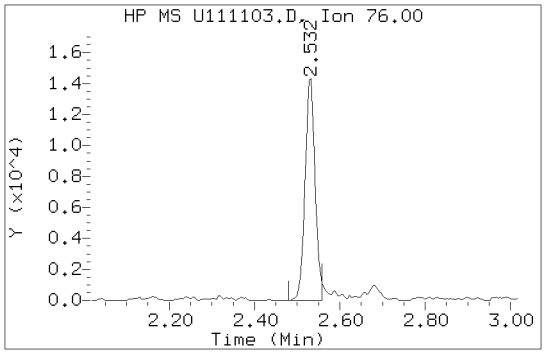
BEFORE

MASS
76
AREA
24625
HEIGHT
14312
16-Nov-2022
09:38
linh
pham



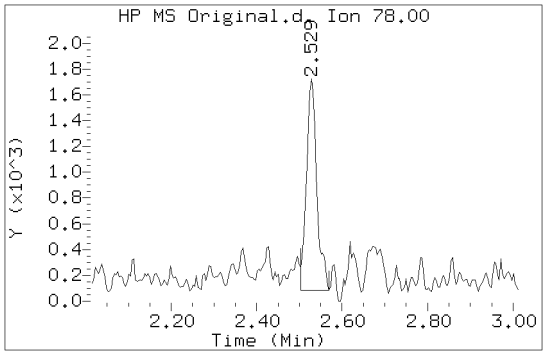
AFTER

MASS
76
AREA
23979
HEIGHT
14312
16-Nov-2022
09:41
linh
pham



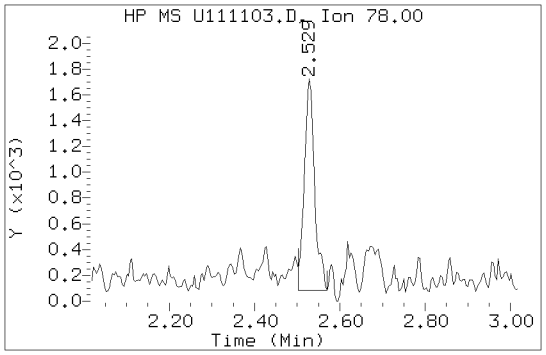
BEFORE

MASS
78
AREA
2830
HEIGHT
1637
16-Nov-2022
09:38
linh
pham



AFTER

MASS
78
AREA
2830
HEIGHT
1637
16-Nov-2022
09:41
linh
pham

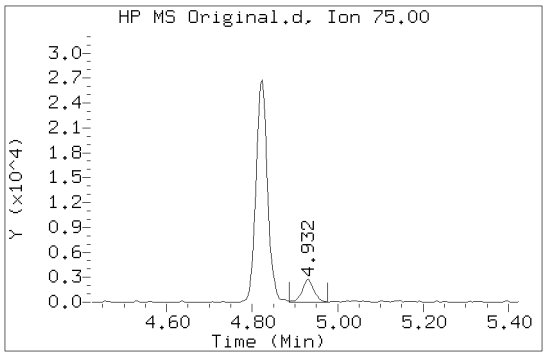


1,1-Dichloropropene (563-58-6)

Reason Code:

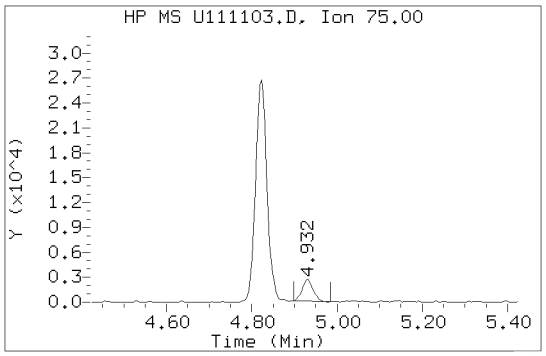
BEFORE

MASS
75
AREA
5310
HEIGHT
2778
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
4644
HEIGHT
2659
16-Nov-2022
09:41
linh
pham



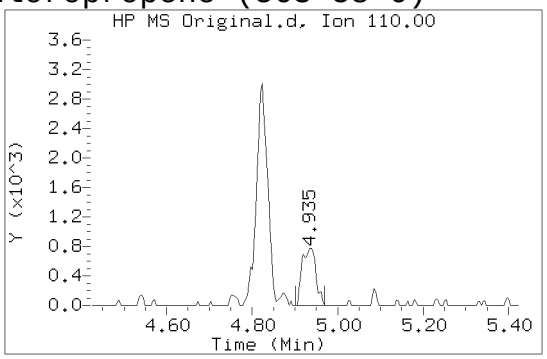
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,1-Dichloropropene (563-58-6)

Reason Code:

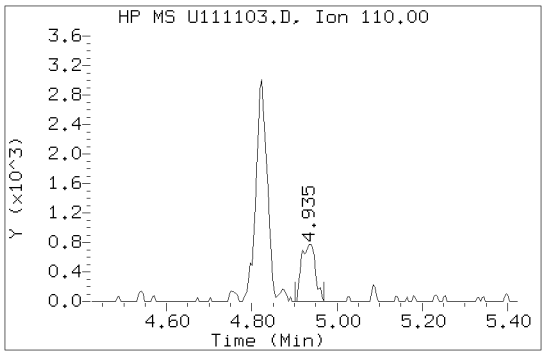
BEFORE

MASS
110
AREA
1773
HEIGHT
776
16-Nov-2022
09:38
linh
pham



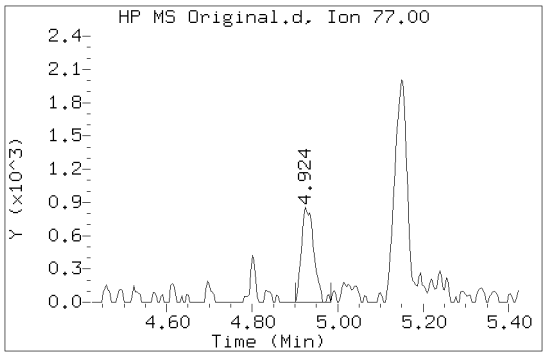
AFTER

MASS
110
AREA
1773
HEIGHT
776
16-Nov-2022
09:41
linh
pham



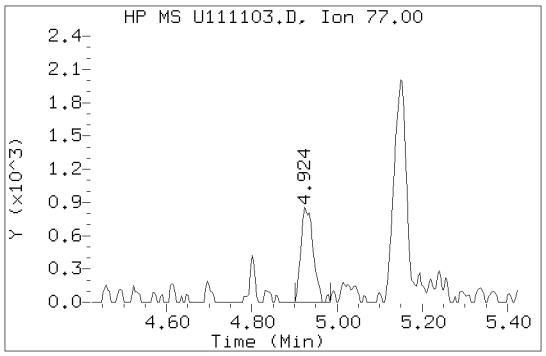
BEFORE

MASS
77
AREA
1749
HEIGHT
856
16-Nov-2022
09:38
linh
pham



AFTER

MASS
77
AREA
1749
HEIGHT
856
16-Nov-2022
09:41
linh
pham

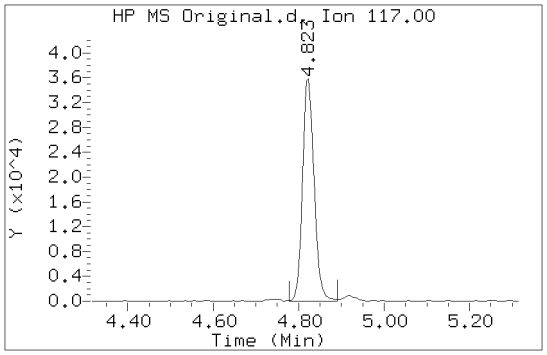


Carbon Tetrachloride (56-23-5)

Reason Code:

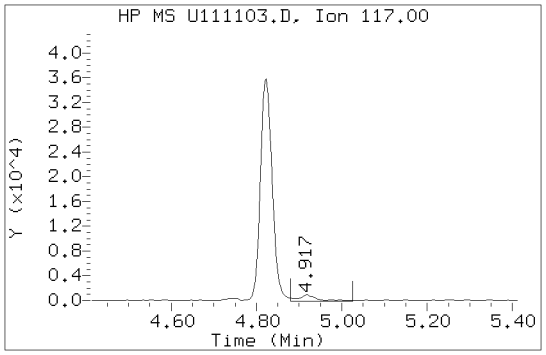
BEFORE

MASS
117
AREA
68937
HEIGHT
35816
16-Nov-2022
09:38
linh
pham



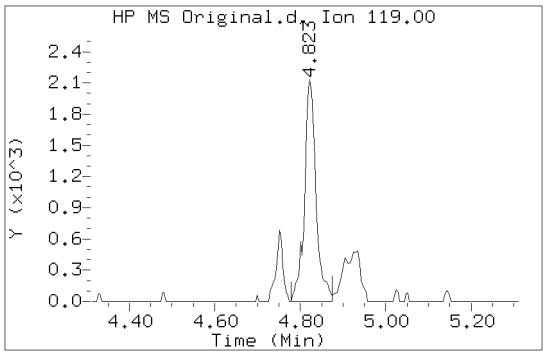
AFTER

MASS
117
AREA
3171
HEIGHT
1078
16-Nov-2022
09:41
linh
pham



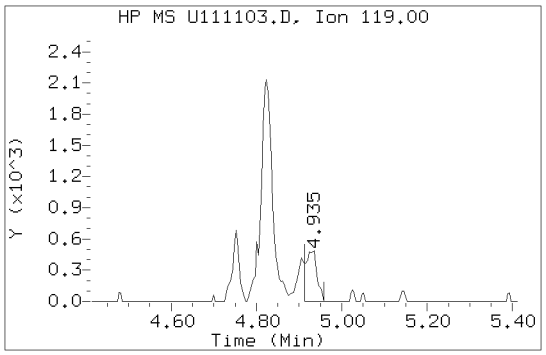
BEFORE

MASS
119
AREA
4044
HEIGHT
2131
16-Nov-2022
09:38
linh
pham



AFTER

MASS
119
AREA
893
HEIGHT
487
16-Nov-2022
09:41
linh
pham



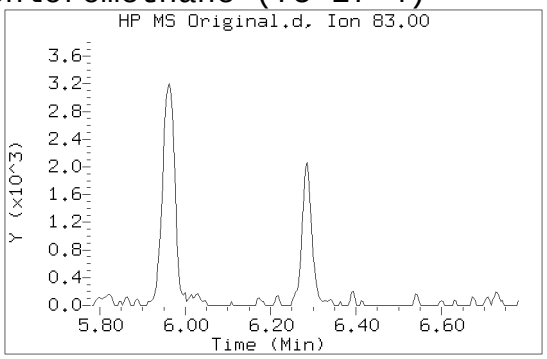
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

Bromodichloromethane (75-27-4)

Reason Code:

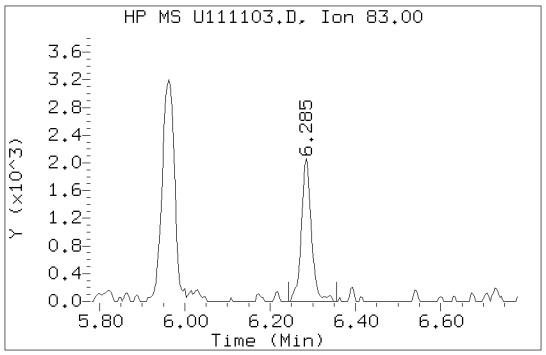
BEFORE

MASS
83
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



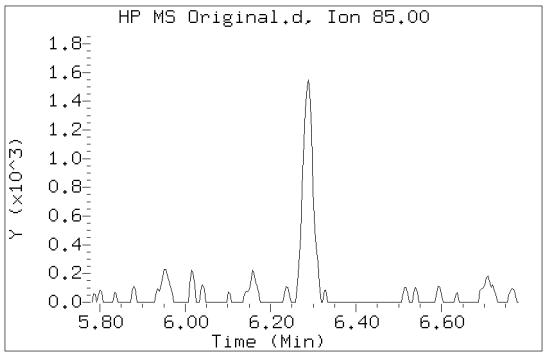
AFTER

MASS
83
AREA
3457
HEIGHT
2066
16-Nov-2022
09:41
linh
pham



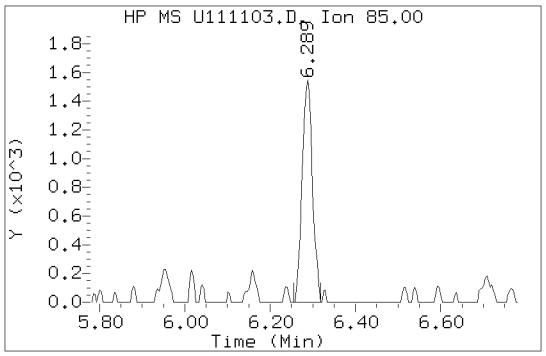
BEFORE

MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



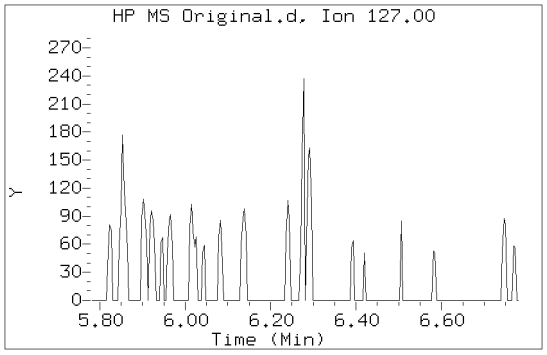
AFTER

MASS
85
AREA
2670
HEIGHT
1548
16-Nov-2022
09:41
linh
pham



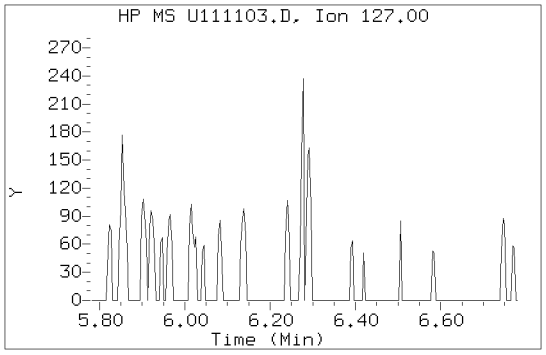
BEFORE

MASS
127
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
127
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

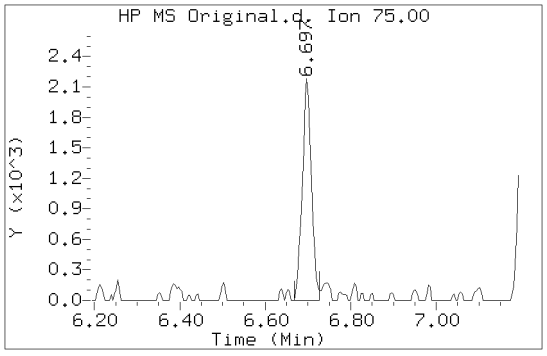


cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

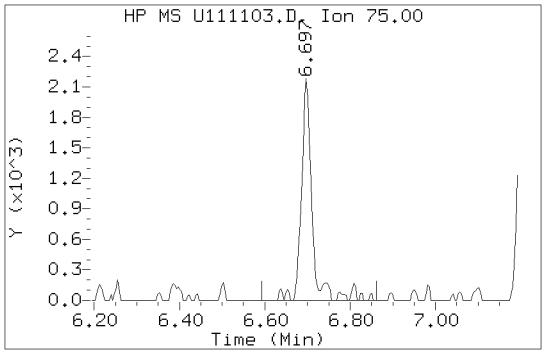
BEFORE

MASS
75
AREA
3321
HEIGHT
2181
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
3916
HEIGHT
2181
16-Nov-2022
09:41
linh
pham



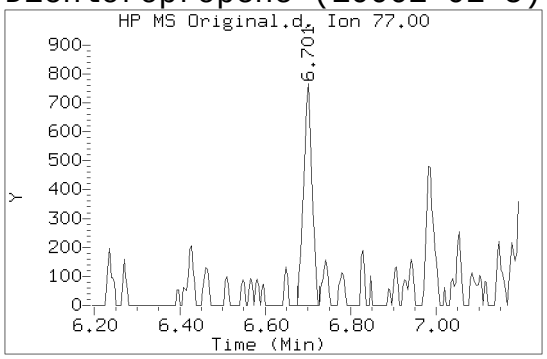
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

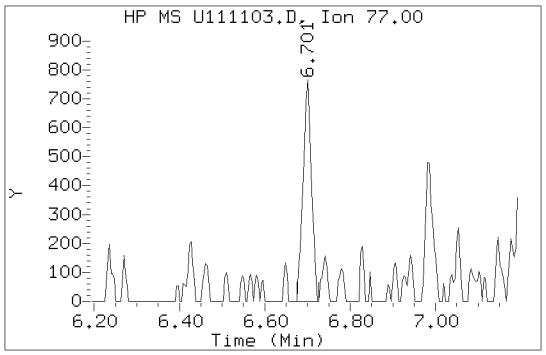
BEFORE

MASS
77
AREA
1071
HEIGHT
766
16-Nov-2022
09:38
linh
pham



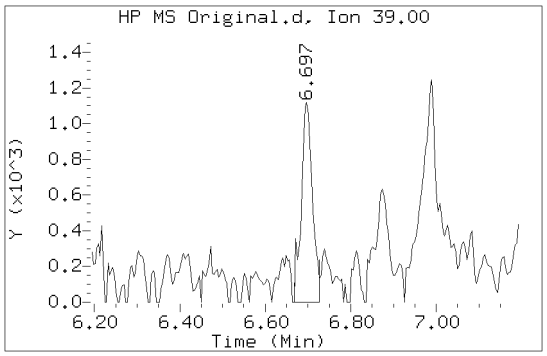
AFTER

MASS
77
AREA
1071
HEIGHT
766
16-Nov-2022
09:41
linh
pham



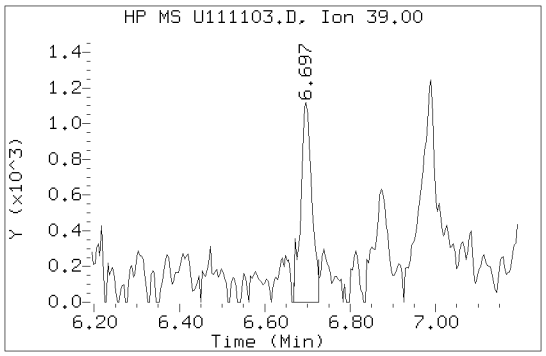
BEFORE

MASS
39
AREA
2078
HEIGHT
1121
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
2078
HEIGHT
1121
16-Nov-2022
09:41
linh
pham

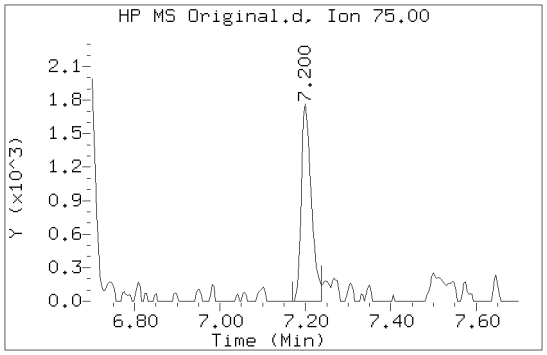


trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

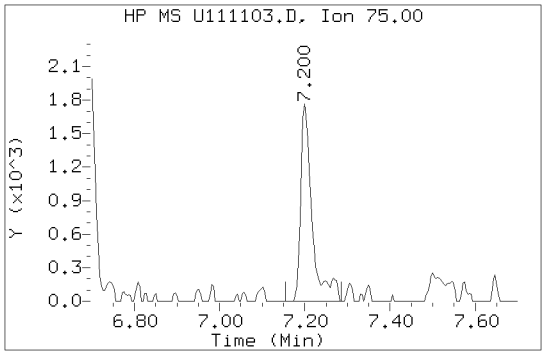
BEFORE

MASS
75
AREA
2943
HEIGHT
1769
16-Nov-2022
09:38
linh
pham



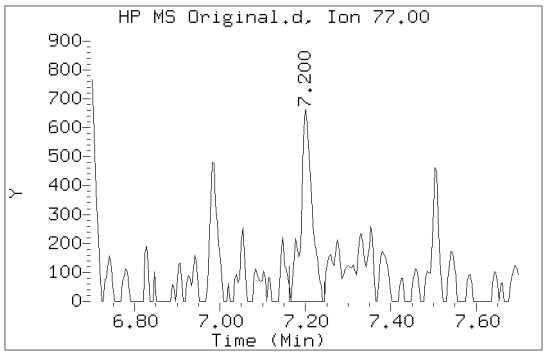
AFTER

MASS
75
AREA
3354
HEIGHT
1769
16-Nov-2022
09:41
linh
pham



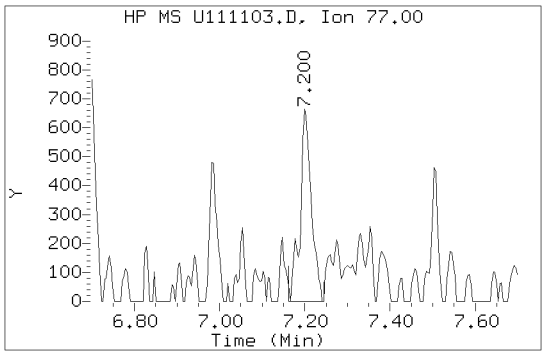
BEFORE

MASS
77
AREA
1239
HEIGHT
664
16-Nov-2022
09:38
linh
pham



AFTER

MASS
77
AREA
1239
HEIGHT
664
16-Nov-2022
09:41
linh
pham



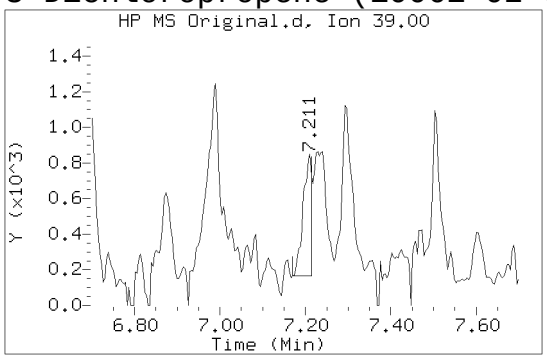
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

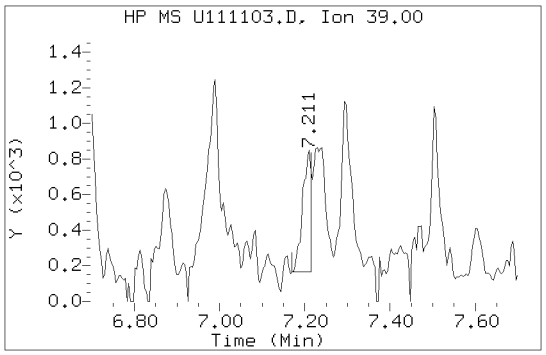
BEFORE

MASS
39
AREA
933
HEIGHT
685
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
933
HEIGHT
685
16-Nov-2022
09:41
linh
pham

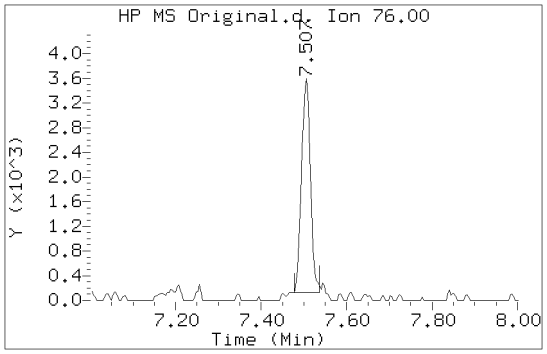


1,3-Dichloropropane (142-28-9)

Reason Code:

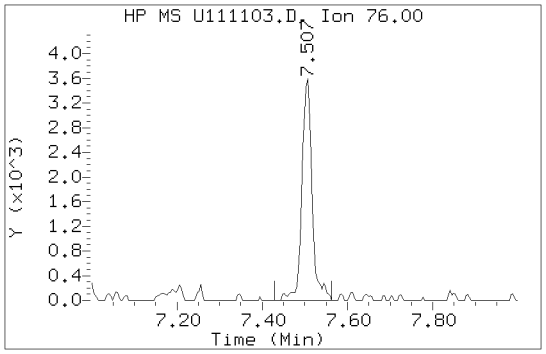
BEFORE

MASS
76
AREA
5190
HEIGHT
3467
16-Nov-2022
09:38
linh
pham



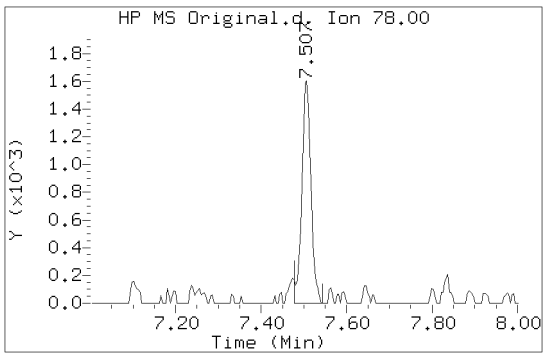
AFTER

MASS
76
AREA
6083
HEIGHT
3594
16-Nov-2022
09:41
linh
pham



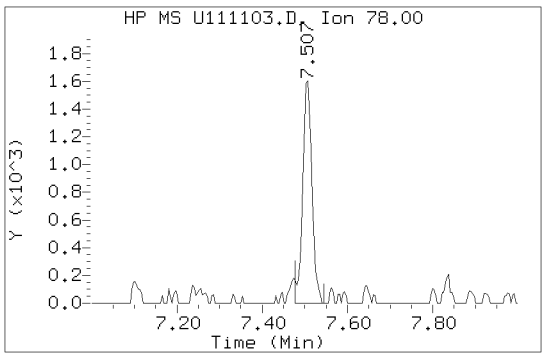
BEFORE

MASS
78
AREA
2453
HEIGHT
1603
16-Nov-2022
09:38
linh
pham



AFTER

MASS
78
AREA
2453
HEIGHT
1603
16-Nov-2022
09:41
linh
pham

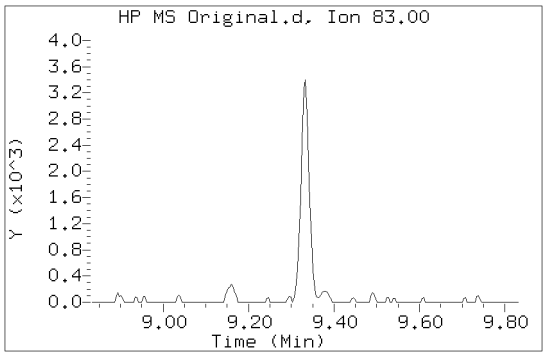


1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

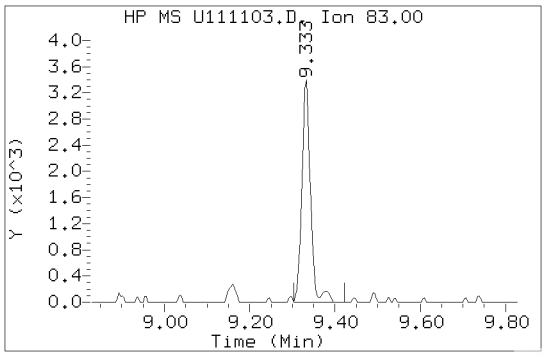
BEFORE

MASS
83
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
83
AREA
4895
HEIGHT
3397
16-Nov-2022
09:41
linh
pham



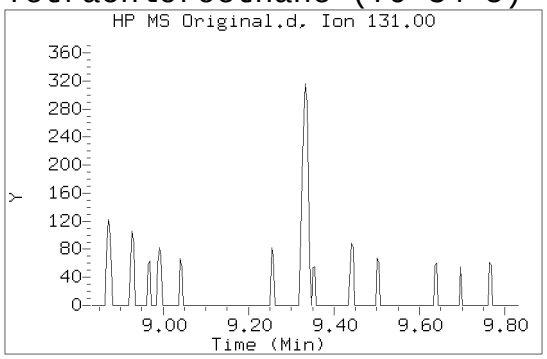
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

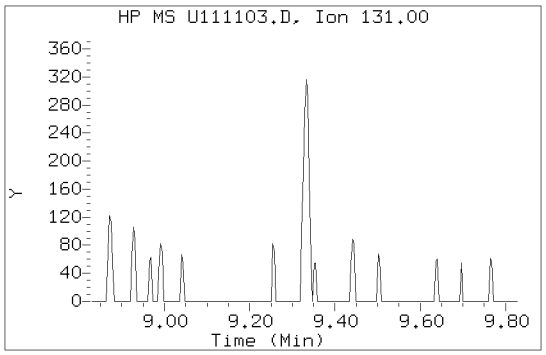
BEFORE

MASS
131
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



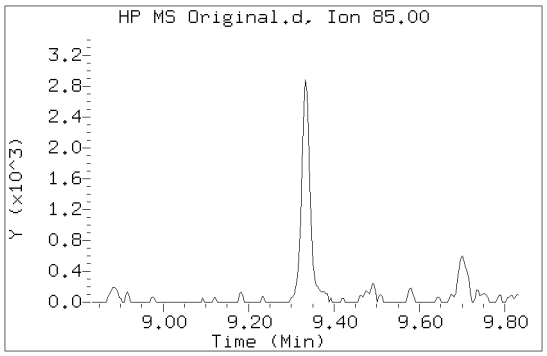
AFTER

MASS
131
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham



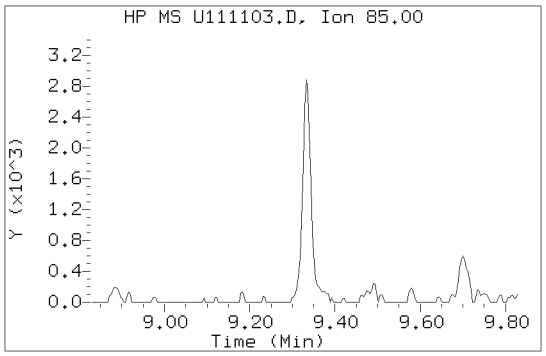
BEFORE

MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

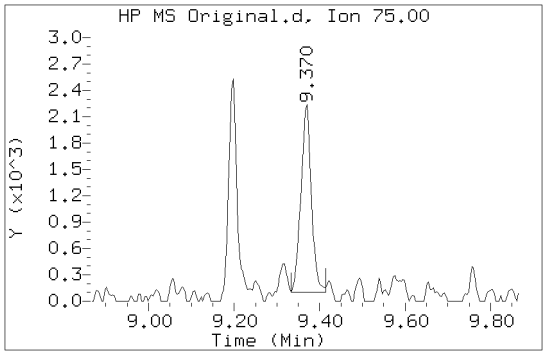


1,2,3-Trichloropropane (96-18-4)

Reason Code:

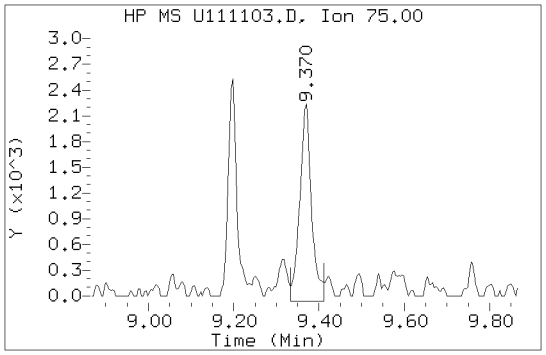
BEFORE

MASS
75
AREA
3690
HEIGHT
2137
16-Nov-2022
09:38
linh
pham



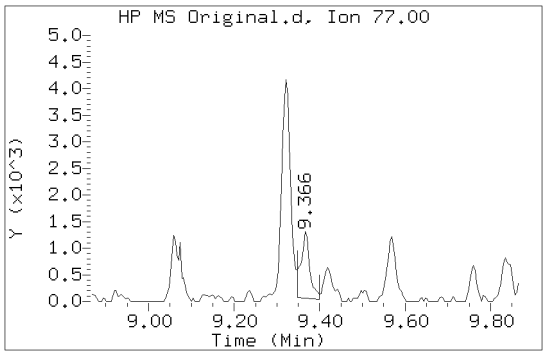
AFTER

MASS
75
AREA
4509
HEIGHT
2305
16-Nov-2022
09:41
linh
pham



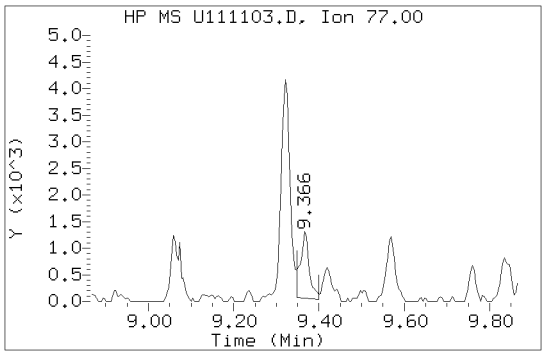
BEFORE

MASS
77
AREA
1865
HEIGHT
1254
16-Nov-2022
09:38
linh
pham



AFTER

MASS
77
AREA
1865
HEIGHT
1254
16-Nov-2022
09:41
linh
pham



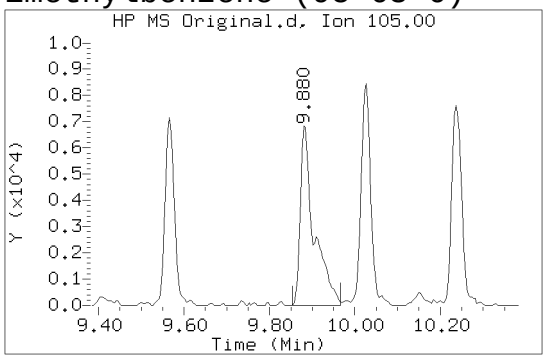
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,2,4-Trimethylbenzene (95-63-6)

Reason Code:

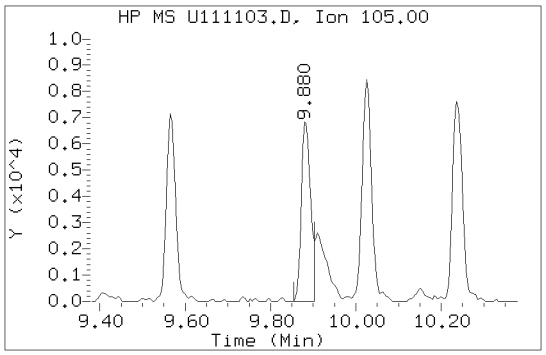
BEFORE

MASS
105
AREA
15568
HEIGHT
6826
16-Nov-2022
09:38
linh
pham



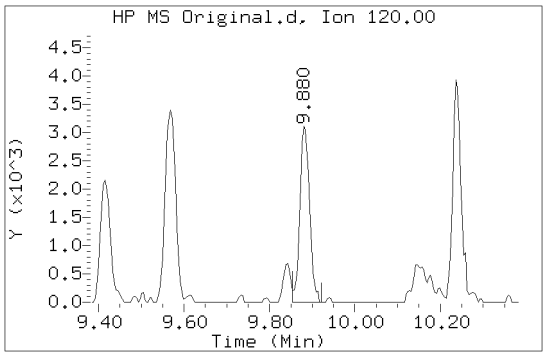
AFTER

MASS
105
AREA
10584
HEIGHT
6826
16-Nov-2022
09:41
linh
pham



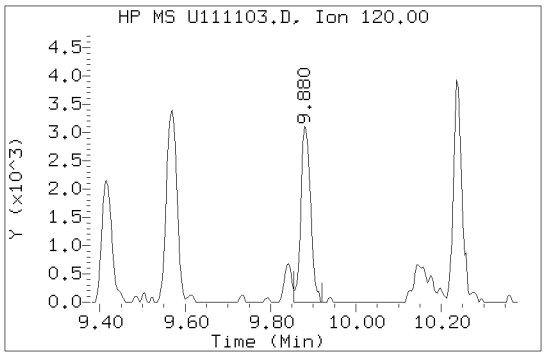
BEFORE

MASS
120
AREA
5048
HEIGHT
3109
16-Nov-2022
09:38
linh
pham



AFTER

MASS
120
AREA
5048
HEIGHT
3109
16-Nov-2022
09:41
linh
pham

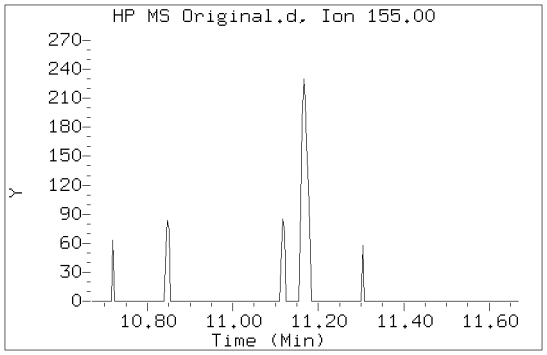


1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

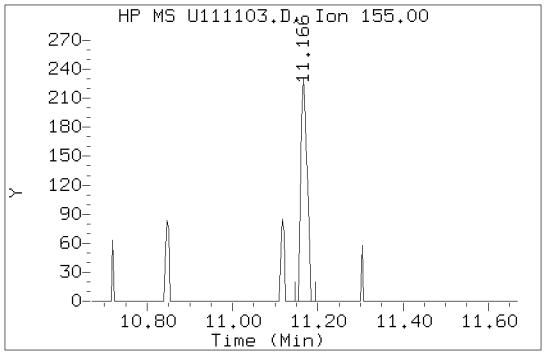
BEFORE

MASS
155
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



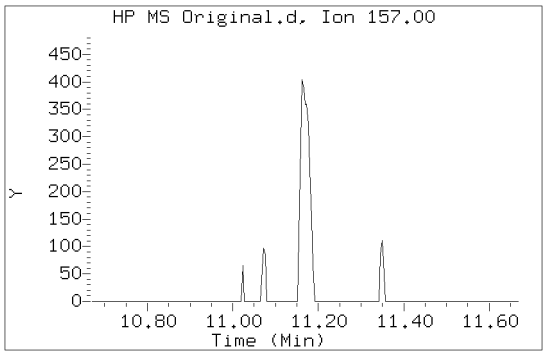
AFTER

MASS
155
AREA
243
HEIGHT
230
16-Nov-2022
09:41
linh
pham



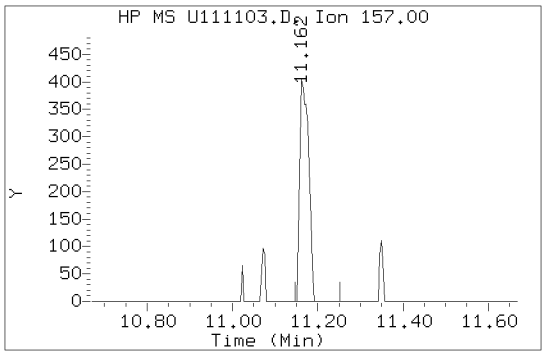
BEFORE

MASS
157
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
157
AREA
607
HEIGHT
404
16-Nov-2022
09:41
linh
pham



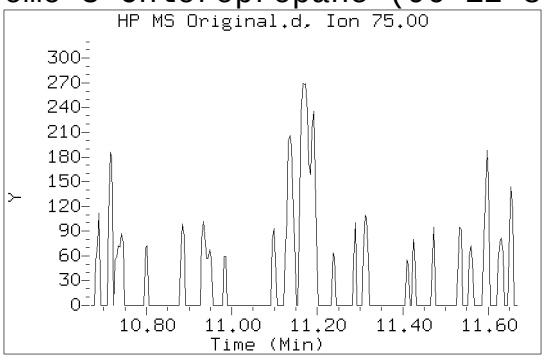
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

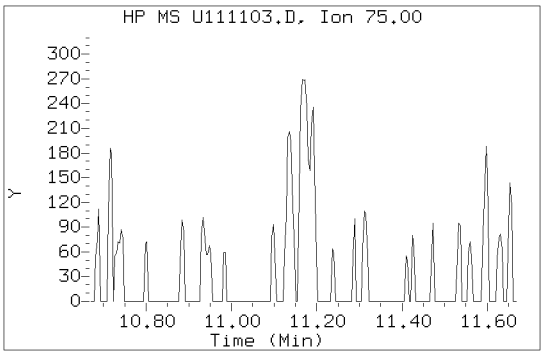
BEFORE

MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

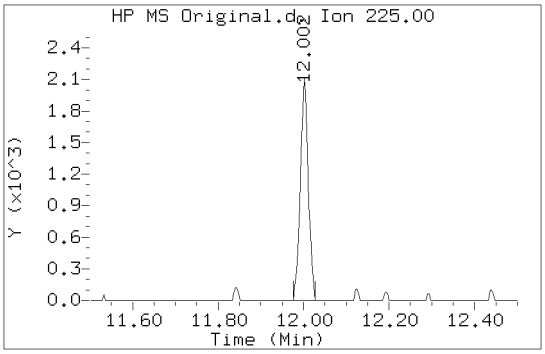


Hexachlorobutadiene (87-68-3)

Reason Code:

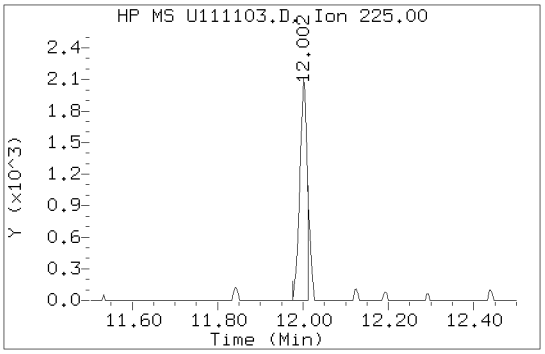
BEFORE

MASS
225
AREA
2814
HEIGHT
2107
16-Nov-2022
09:38
linh
pham



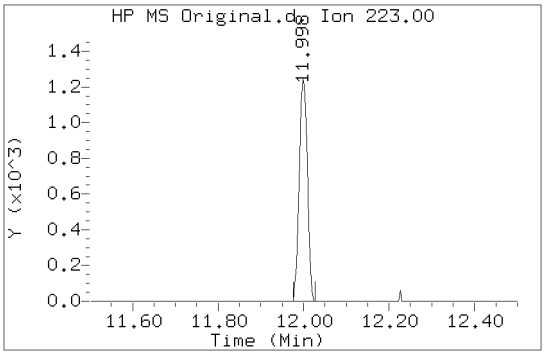
AFTER

MASS
225
AREA
2560
HEIGHT
2107
16-Nov-2022
09:41
linh
pham



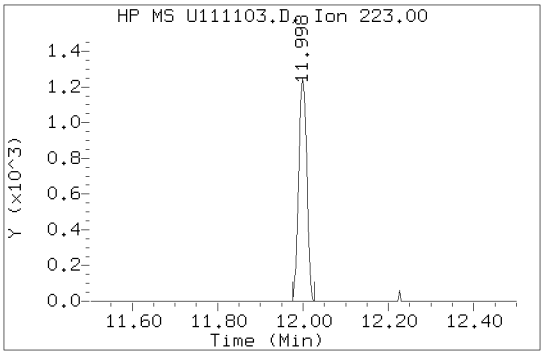
BEFORE

MASS
223
AREA
1709
HEIGHT
1245
16-Nov-2022
09:38
linh
pham



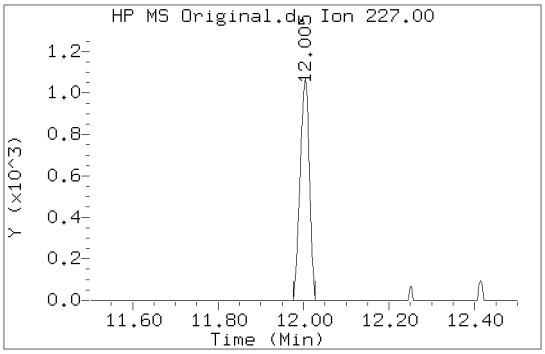
AFTER

MASS
223
AREA
1709
HEIGHT
1245
16-Nov-2022
09:41
linh
pham



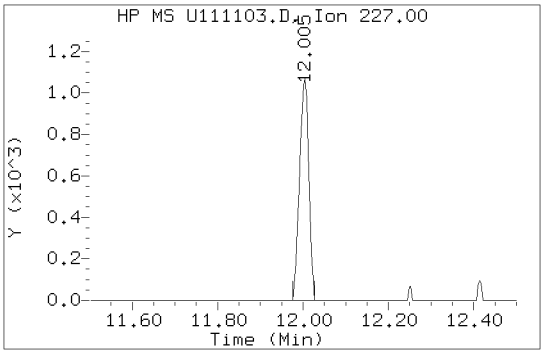
BEFORE

MASS
227
AREA
1660
HEIGHT
1069
16-Nov-2022
09:38
linh
pham



AFTER

MASS
227
AREA
1660
HEIGHT
1069
16-Nov-2022
09:41
linh
pham

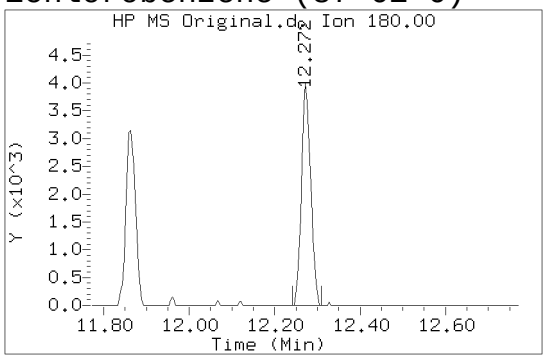


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

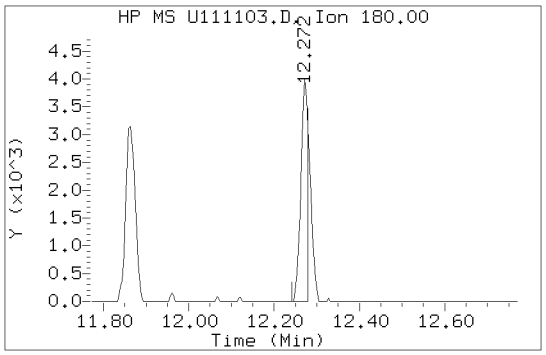
1,2,3-Trichlorobenzene (87-61-6)

Reason Code:

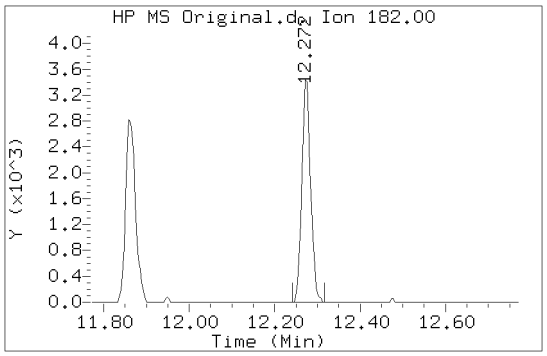
BEFORE
MASS
180
AREA
6119
HEIGHT
3988
16-Nov-2022
09:38
linh
pham



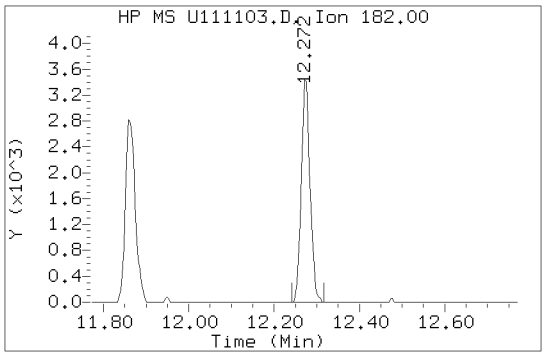
AFTER
MASS
180
AREA
4534
HEIGHT
3988
16-Nov-2022
09:41
linh
pham



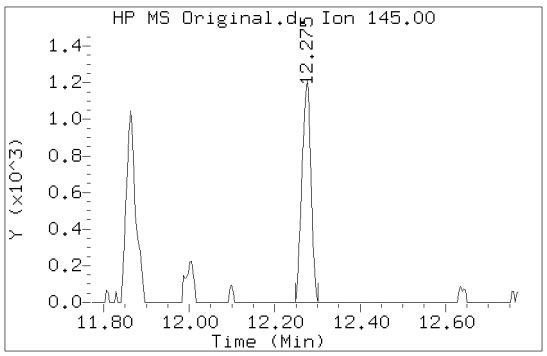
BEFORE
MASS
182
AREA
5029
HEIGHT
3435
16-Nov-2022
09:38
linh
pham



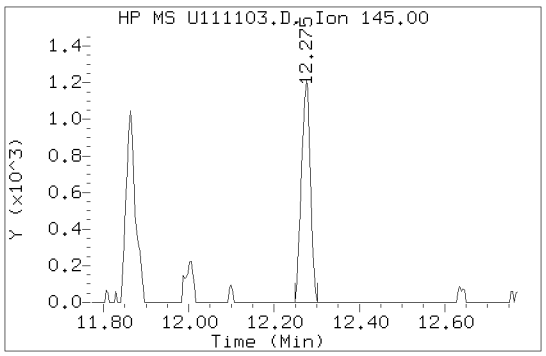
AFTER
MASS
182
AREA
5029
HEIGHT
3435
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
145
AREA
1818
HEIGHT
1211
16-Nov-2022
09:38
linh
pham



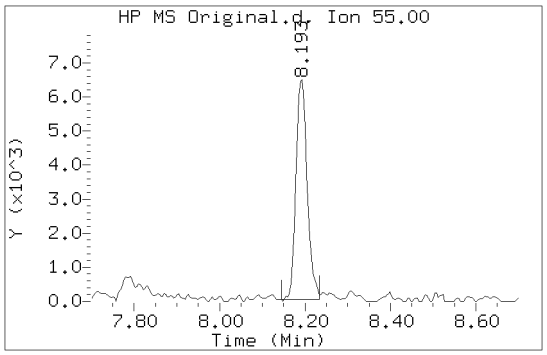
AFTER
MASS
145
AREA
1818
HEIGHT
1211
16-Nov-2022
09:41
linh
pham



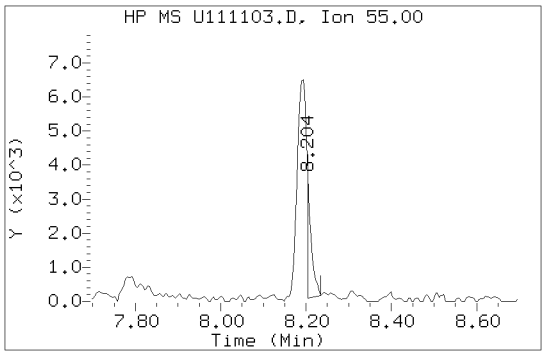
1-Chlorohexane (544-10-5)

Reason Code:

BEFORE
MASS
55
AREA
12120
HEIGHT
6454
16-Nov-2022
09:38
linh
pham



AFTER
MASS
55
AREA
2433
HEIGHT
3655
16-Nov-2022
09:41
linh
pham



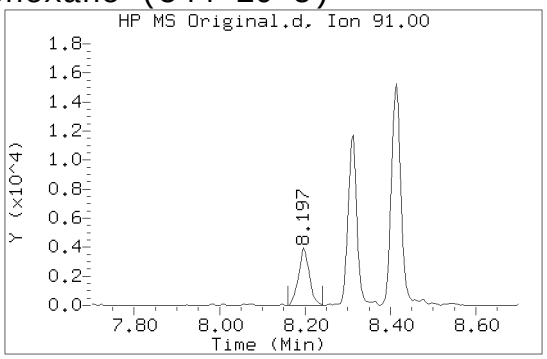
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1-Chlorohexane (544-10-5)

Reason Code:

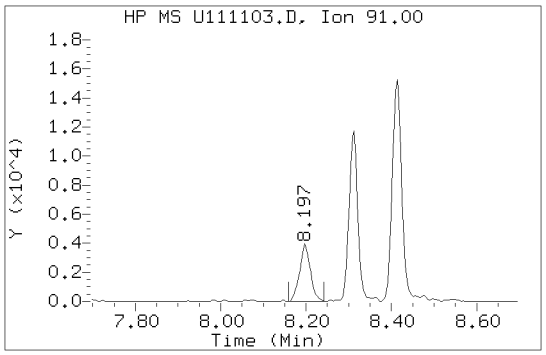
BEFORE

MASS
91
AREA
7045
HEIGHT
3958
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
7045
HEIGHT
3958
16-Nov-2022
09:41
linh
pham

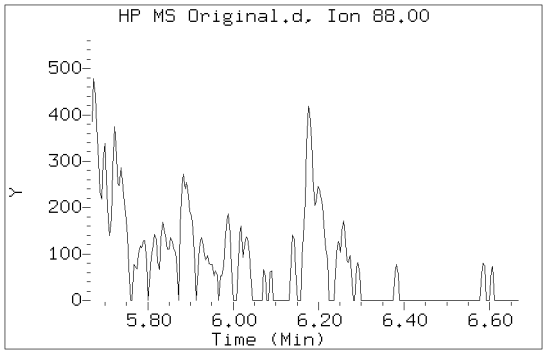


1,4-Dioxane ()

Reason Code:

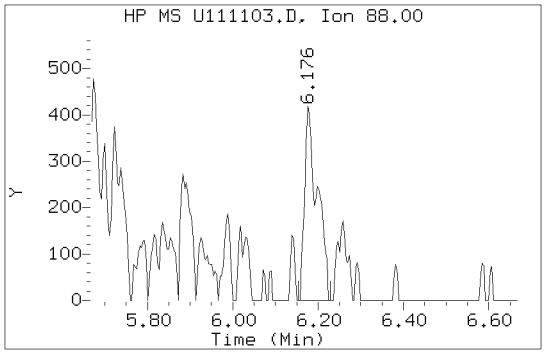
BEFORE

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



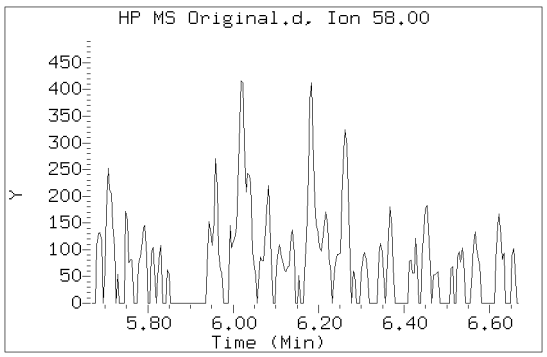
AFTER

MASS
88
AREA
872
HEIGHT
419
16-Nov-2022
09:41
linh
pham



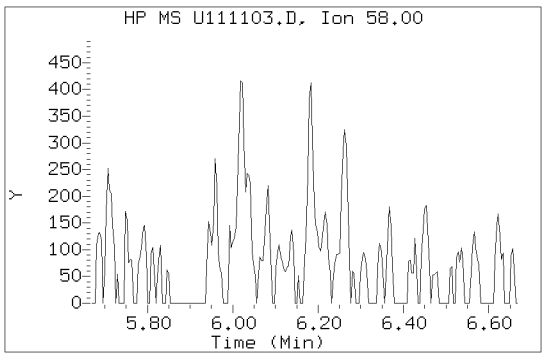
BEFORE

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:38
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

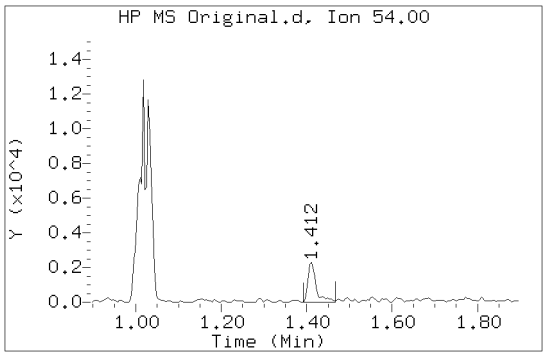


1,3-Butadiene (106-99-0)

Reason Code:

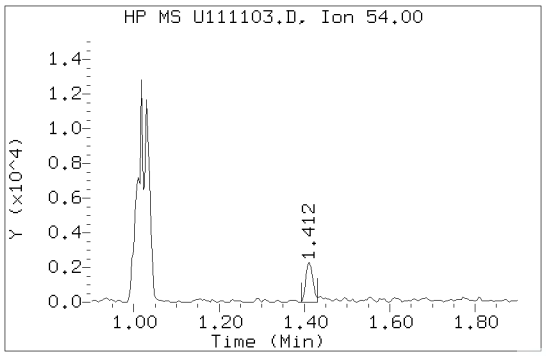
BEFORE

MASS
54
AREA
3093
HEIGHT
2295
16-Nov-2022
09:38
linh
pham



AFTER

MASS
54
AREA
2660
HEIGHT
2295
16-Nov-2022
09:41
linh
pham



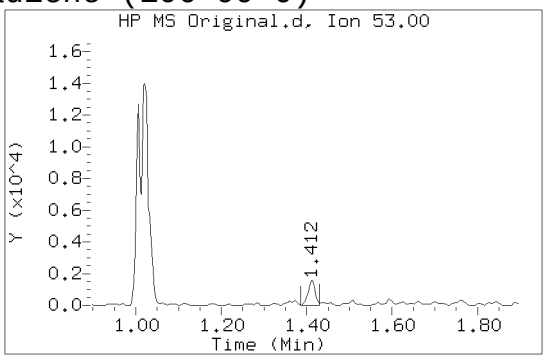
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

1,3-Butadiene (106-99-0)

Reason Code:

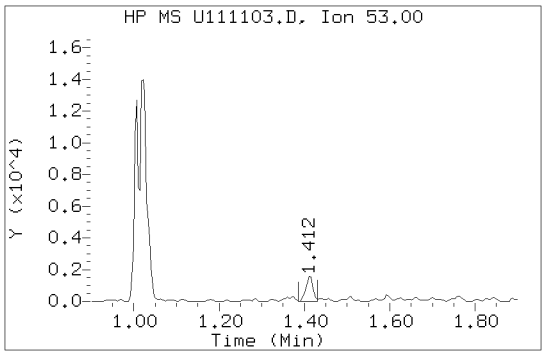
BEFORE

MASS
53
AREA
1823
HEIGHT
1593
16-Nov-2022
09:38
linh
pham



AFTER

MASS
53
AREA
1823
HEIGHT
1593
16-Nov-2022
09:41
linh
pham

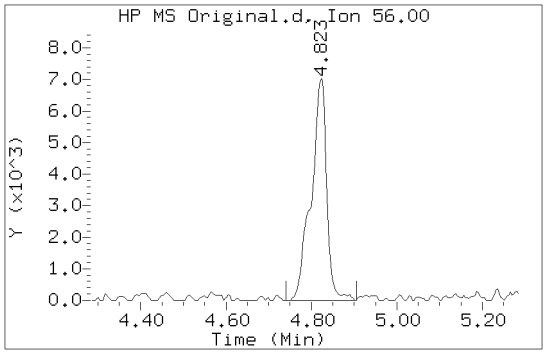


Cyclohexane (110-82-7)

Reason Code:

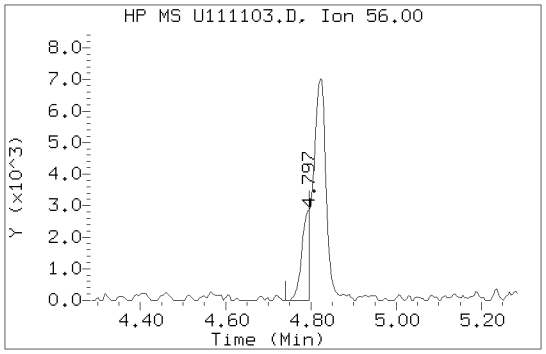
BEFORE

MASS
56
AREA
17813
HEIGHT
7023
16-Nov-2022
09:38
linh
pham



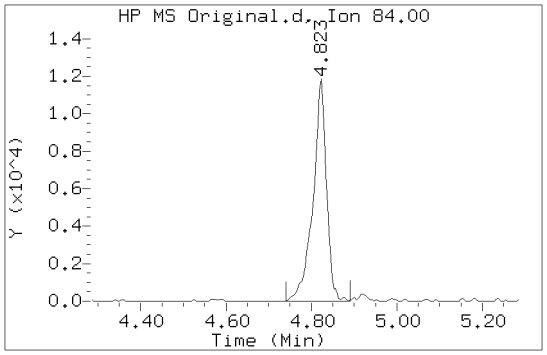
AFTER

MASS
56
AREA
3722
HEIGHT
2858
16-Nov-2022
09:41
linh
pham



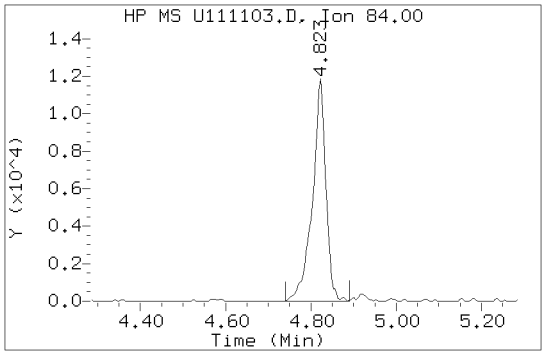
BEFORE

MASS
84
AREA
25973
HEIGHT
11857
16-Nov-2022
09:38
linh
pham



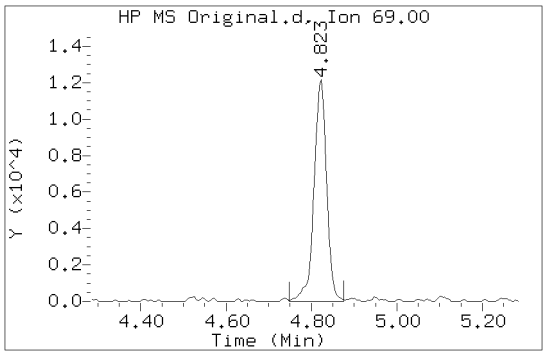
AFTER

MASS
84
AREA
25973
HEIGHT
11857
16-Nov-2022
09:41
linh
pham



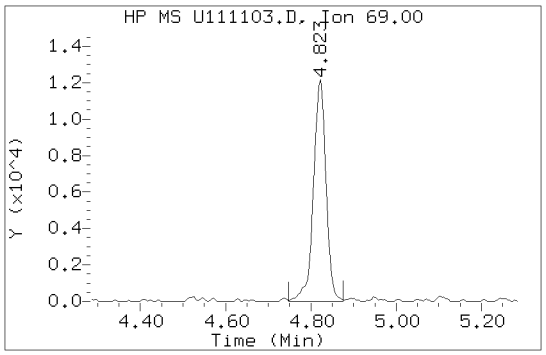
BEFORE

MASS
69
AREA
24994
HEIGHT
12164
16-Nov-2022
09:38
linh
pham



AFTER

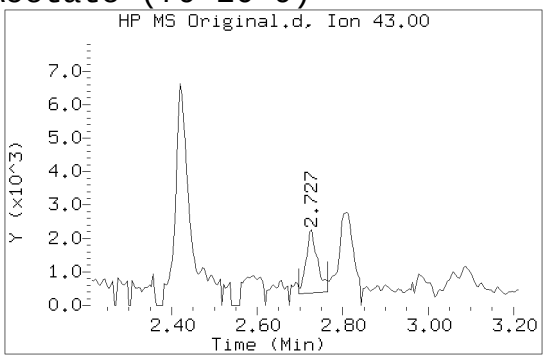
MASS
69
AREA
24994
HEIGHT
12164
16-Nov-2022
09:41
linh
pham



Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

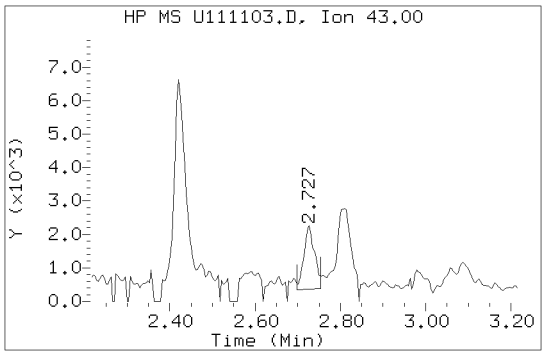
Methyl Acetate (79-20-9)

BEFORE
MASS
43
AREA
3615
HEIGHT
1898
16-Nov-2022
09:38
linh
pham

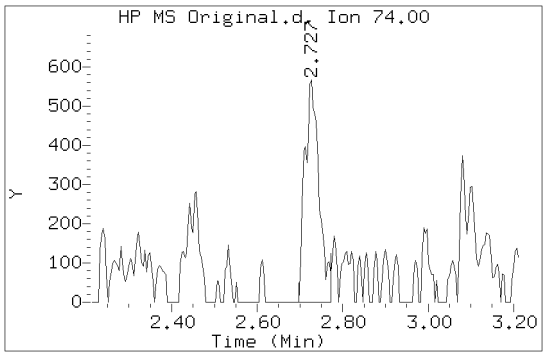


Reason Code:

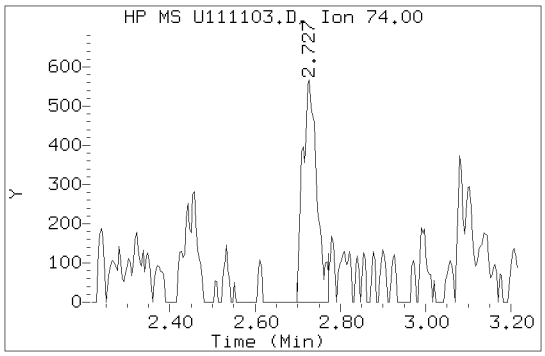
AFTER
MASS
43
AREA
3374
HEIGHT
1899
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
74
AREA
1334
HEIGHT
567
16-Nov-2022
09:38
linh
pham

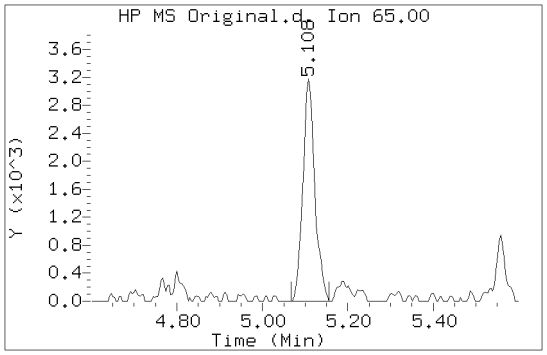


AFTER
MASS
74
AREA
1334
HEIGHT
567
16-Nov-2022
09:41
linh
pham



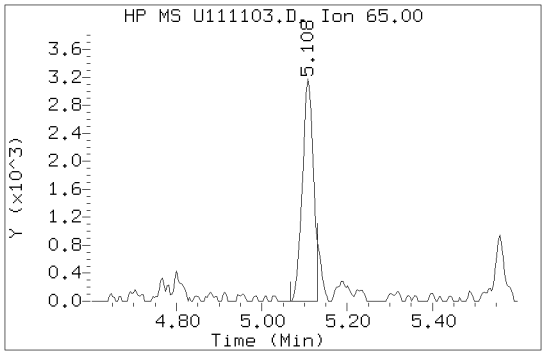
1,2-Dichloroethane-d4 (17060-07-0)

BEFORE
MASS
65
AREA
6294
HEIGHT
3178
16-Nov-2022
09:38
linh
pham

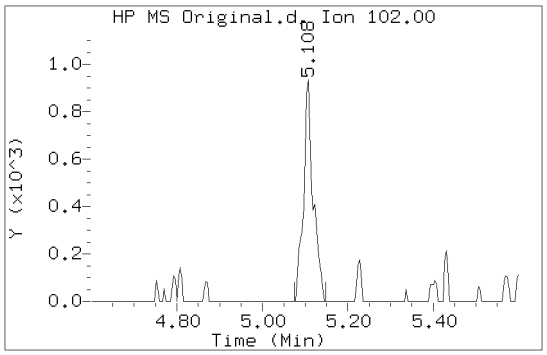


Reason Code:

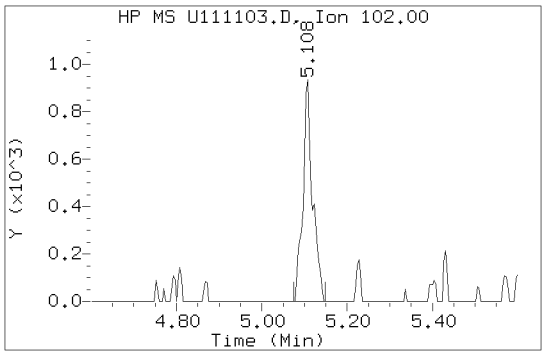
AFTER
MASS
65
AREA
5818
HEIGHT
3178
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
102
AREA
1491
HEIGHT
935
16-Nov-2022
09:38
linh
pham



AFTER
MASS
102
AREA
1491
HEIGHT
935
16-Nov-2022
09:41
linh
pham

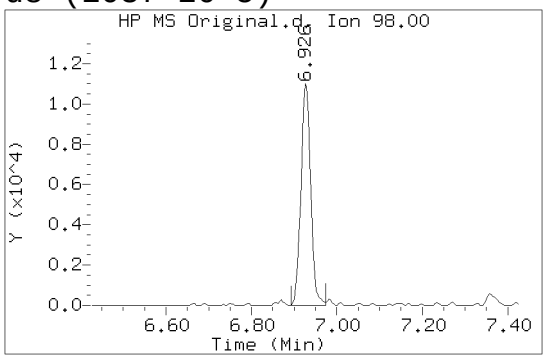


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111103.D
Inj Date : 11-NOV-2022 12:18
InstruID : VOA9.i
LabSampID : VSTD000.5

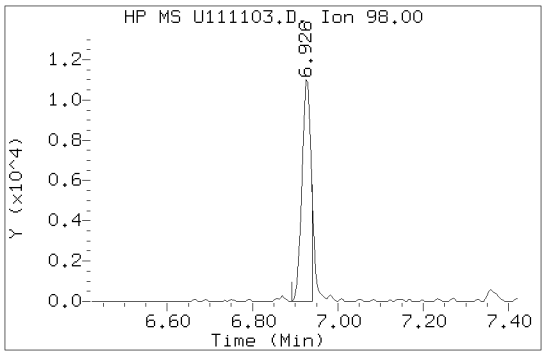
Toluene-d8 (2037-26-5)

Reason Code:

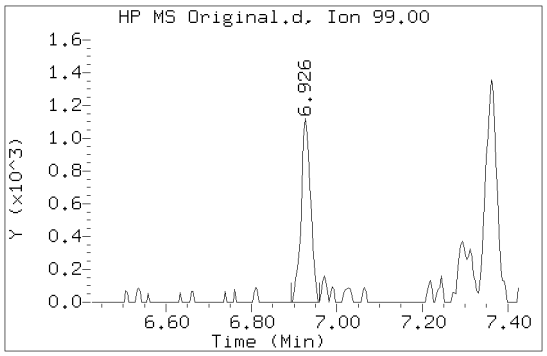
BEFORE
MASS
98
AREA
17806
HEIGHT
11007
16-Nov-2022
09:38
linh
pham



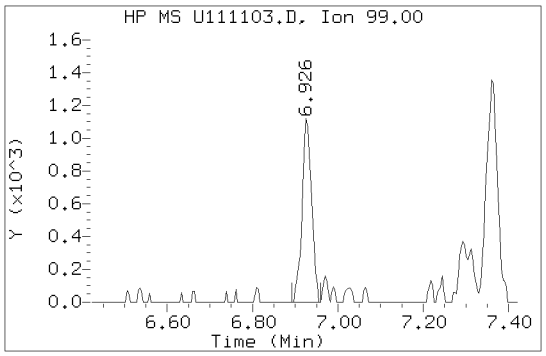
AFTER
MASS
98
AREA
16258
HEIGHT
11007
16-Nov-2022
09:41
linh
pham



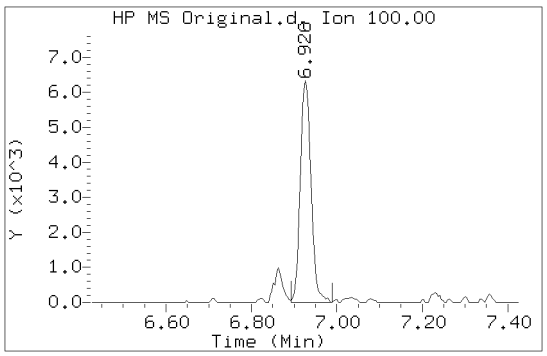
BEFORE
MASS
99
AREA
1755
HEIGHT
1121
16-Nov-2022
09:38
linh
pham



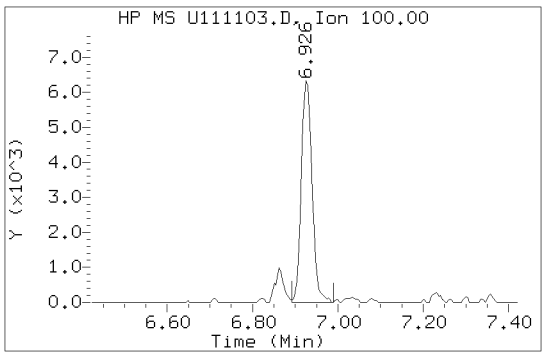
AFTER
MASS
99
AREA
1755
HEIGHT
1121
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
100
AREA
11346
HEIGHT
6332
16-Nov-2022
09:38
linh
pham



AFTER
MASS
100
AREA
11346
HEIGHT
6332
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 11-NOV-2022 13:03
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 12:18 Cal File: U111103.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.819	4.819	(1.000)	737196	50.0000	
2	Dichlorodifluoromethane	85	1.160	1.160	(0.241)	5077	1.00000	1.18
3	Chloromethane	50	1.295	1.295	(0.269)	9584	1.00000	1.42(M)
5	Vinyl Chloride	62	1.374	1.374	(0.285)	7177	1.00000	0.95
6	Bromomethane	94	1.621	1.621	(0.337)	7086	1.00000	0.28(M)
7	Chloroethane	64	1.696	1.696	(0.352)	4673	1.00000	0.85
8	Trichlorofluoromethane	101	1.895	1.895	(0.393)	8110	1.00000	0.82
9	Acrolein	56	2.266	2.266	(0.470)	1204	2.00000	3.25(M)
10	Acetone	43	2.409	2.409	(0.500)	16101	2.00000	(M)
11	1,1-Dichloroethene	96	2.330	2.330	(0.484)	5538	1.00000	0.88
15	Iodomethane	142	2.469	2.469	(0.512)	11703	2.00000	5.58
16	Acrylonitrile	53	3.068	3.068	(0.637)	7529	2.00000	2.19(M)
17	Methylene Chloride	84	2.784	2.784	(0.578)	9340	1.00000	(M)
18	Methyl tert-butyl ether	73	3.083	3.083	(0.640)	23422	1.00000	1.10
19	Carbon Disulfide	76	2.521	2.521	(0.523)	36748	2.00000	2.00
20	trans-1,2-Dichloroethene	96	3.057	3.057	(0.634)	7209	1.00000	1.03
21	Vinyl Acetate	43	3.616	3.616	(0.750)	36522	2.00000	2.01
22	1,1-Dichloroethane	63	3.518	3.518	(0.730)	13372	1.00000	1.08
24	2-Butanone	43	4.272	4.272	(0.886)	5864	2.00000	1.96
26	2,2-Dichloropropane	77	4.182	4.182	(0.868)	5237	1.00000	2.09

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.871)	9011	1.00000	1.10
28 Chloroform	83	4.575	4.575 (0.949)	13849	1.00000	1.04

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D Page 2
Report Date: 16-Nov-2022 09:41

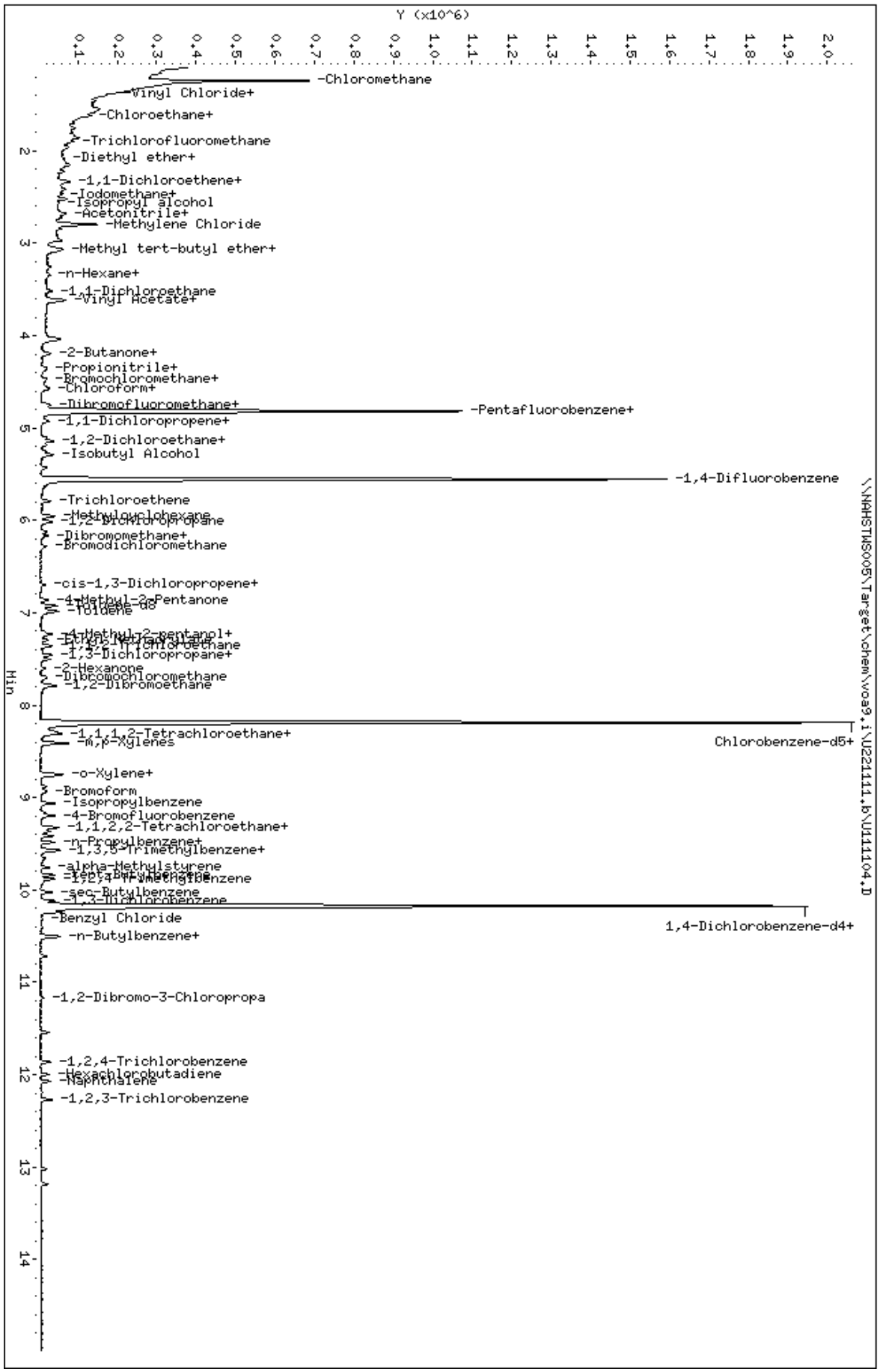
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	4403	1.00000	1.00
$	30 Dibromofluoromethane	113	4.752	4.752	(0.986)	7603	1.00000	0.69
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.984)	7044	1.00000	0.79
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	8022	1.00000	0.92
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	10531	1.00000	0.96
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	5716	1.00000	1.27(MH)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.059)	10111	1.00000	0.58
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1245336	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	27560	1.00000	0.93
	38 Trichloroethene	130	5.794	5.794	(1.043)	6814	1.00000	0.84
	39 Bromodichloromethane	83	6.285	6.285	(1.132)	8105	1.00000	0.90
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	6730	1.00000	0.90
	44 Dibromomethane	93	6.124	6.124	(1.103)	5482	1.00000	1.01
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	12886	2.00000	1.91
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.206)	6701	1.00000	3.33
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1143729	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	26676	1.00000	0.98
	50 Toluene	91	6.982	6.982	(0.853)	27702	1.00000	0.91
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.297)	5135	1.00000	3.89(M)
	52 2-Hexanone	43	7.601	7.601	(0.928)	6997	2.00000	2.72
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	6672	1.00000	1.02
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	14188	1.00000	1.06
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	5711	1.00000	2.09
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	5833	1.00000	0.88
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	7326	1.00000	0.91
	58 1-Chlorohexane	55	8.197	8.197	(1.476)	5434	1.00000	2.37(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	21297	1.00000	0.98
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	6430	1.00000	0.90
	61 Ethylbenzene	106	8.305	8.305	(1.014)	8918	1.00000	0.89
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	21840	2.00000	1.75(M)
	63 o-Xylene	106	8.751	8.751	(1.069)	10583	1.00000	0.85
	64 Styrene	104	8.766	8.766	(1.070)	14453	1.00000	1.87
	66 Bromoform	173	8.920	8.920	(1.089)	3479	1.00000	2.87(T)
	67 Isopropylbenzene	105	9.063	9.063	(1.107)	24281	1.00000	0.85
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	11709	1.00000	1.11
$	69 4-Bromofluorobenzene	95	9.198	9.198	(1.123)	11689	1.00000	1.33
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	528554	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	8791	1.00000	0.96
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	23203	1.00000	0.81
	74 Bromobenzene	156	9.321	9.321	(0.916)	7500	1.00000	0.89
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	18278	1.00000	0.86
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	18680	1.00000	0.93
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	20742	1.00000	0.92
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	15834	1.00000	0.85
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	21443	1.00000	0.96
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	17948	1.00000	2.43
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	16123	1.00000	0.79
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	14330	1.00000	0.99
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	16638	1.00000	1.05
	87 n-Butylbenzene	91	10.498	10.498	(1.032)	13013	1.00000	2.91
	88 1,2-Dichlorobenzene	146	10.513	10.513	(1.034)	15124	1.00000	0.99
	89 1,2-Dibromo-3-Chloropropane	155	11.173	11.173	(1.098)	881	1.00000	2.82

90 1,2,4-Trichlorobenzene	180	11.863	11.863 (1.166)	7338	1.00000	0.88
91 Hexachlorobutadiene	225	12.002	12.002 (1.180)	3339	1.00000	2.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.073	12.073	(1.187)	19198	1.00000	0.92
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	8147	1.00000	0.98
M	94 1,2-Dichloroethylene (total)	96				16220	2.00000	
M	95 Xylenes (total)	106				32423	3.00000	
	135 1,4-Dioxane	88	6.191	6.191	(1.285)	2641	20.0000	23.58(M)
	141 Cyclohexane	56	4.800	4.800	(0.996)	7250	1.00000	1.07(M)
	138 Freon TF	101	2.330	2.330	(0.484)	4273	1.00000	0.73
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	3837	1.00000	2.37
	147 Methylcyclohexane	55	5.951	5.951	(1.072)	15246	1.00000	0.86
	146 Methyl Acetate	43	2.716	2.716	(0.564)	6996	1.00000	1.15(M)
	148 Tert-Butyl alcohol	59	2.975	2.975	(0.617)	14973	20.0000	20.99(a)

QC Flag Legend

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

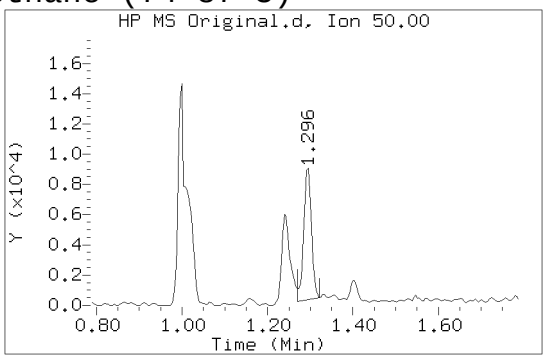

Y (x10^6)
0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0
Min
1 2 3 4 5 6 7 8 9 10 11 12 13 14
-Chloromethane
-Vinyl Chloride+
-Chloroethane+
-Trichlorofluoromethane
-Diethyl ether+
-1,1-Dichloroethene+
-Iodomethane+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Methyl tert-butyl ether+
-n-Hexane+
-1,1-Dichloroethane
-Vinyl Acetate+
-2-Butanone+
-Propionitrile+
-Bromochloromethane+
-Chloroform+
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane
-1,2-Dichloropropane
-Dibromomethane+
-Bromodichloromethane
-cis-1,3-Dichloropropene+
-4-Methyl-2-Pentanone
-Toluene-d8
-Toluene
-4-Methyl-2-pentanol+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-n-Propylbenzene+
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-Benzyl Chloride
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\U111104.D
Date : 11-NOV-2022 13:03
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624
\\NAHSTMS005\Target\chem\voa9.i\U221111.b\U111104.D
Instrument: VOA9.i
Operator: PC
Column diameter: 0.18
Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

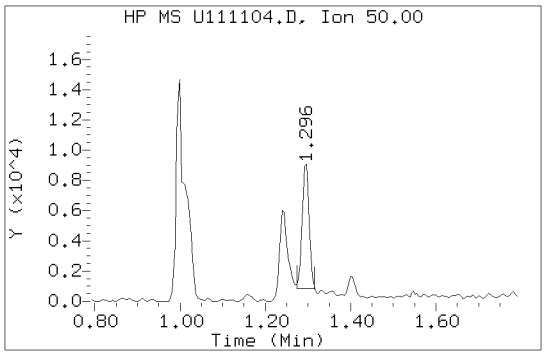
Chloromethane (74-87-3)

Reason Code:

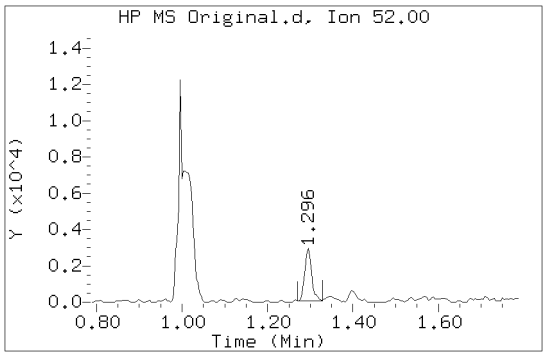
BEFORE
MASS
50
AREA
11103
HEIGHT
8686
16-Nov-2022
09:38
linh
pham



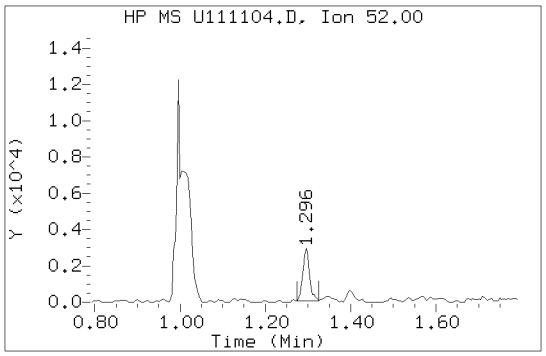
AFTER
MASS
50
AREA
9584
HEIGHT
8217
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
52
AREA
3264
HEIGHT
2908
16-Nov-2022
09:38
linh
pham



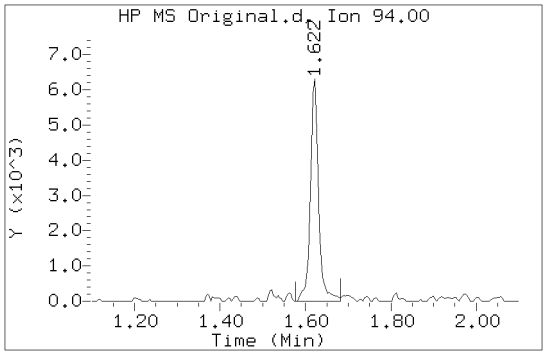
AFTER
MASS
52
AREA
3328
HEIGHT
2931
16-Nov-2022
09:41
linh
pham



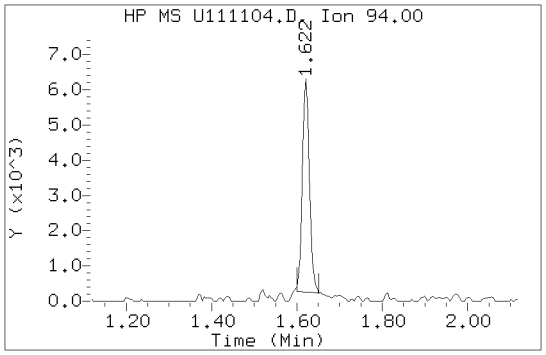
Bromomethane (74-83-9)

Reason Code:

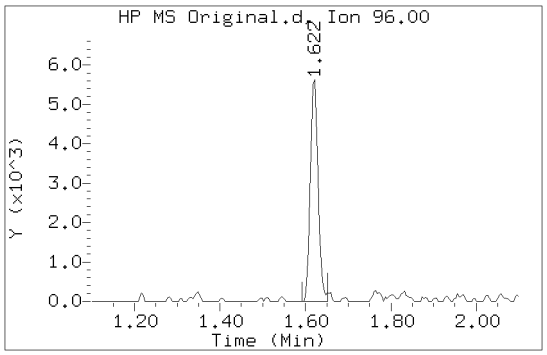
BEFORE
MASS
94
AREA
8455
HEIGHT
6311
16-Nov-2022
09:38
linh
pham



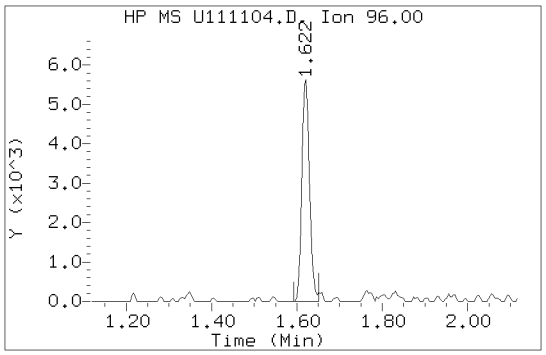
AFTER
MASS
94
AREA
7086
HEIGHT
6048
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
96
AREA
7192
HEIGHT
5627
16-Nov-2022
09:38
linh
pham



AFTER
MASS
96
AREA
7192
HEIGHT
5627
16-Nov-2022
09:41
linh
pham

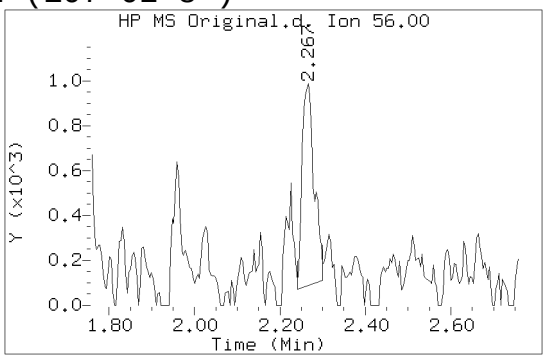


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

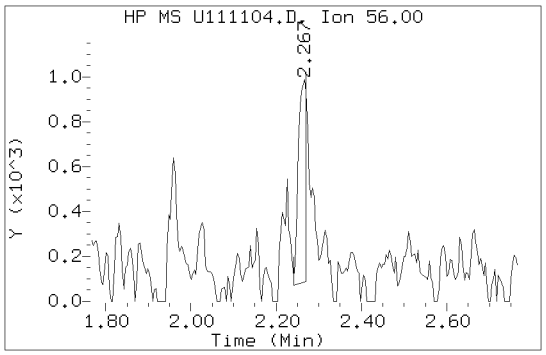
Acrolein (107-02-8)

Reason Code:

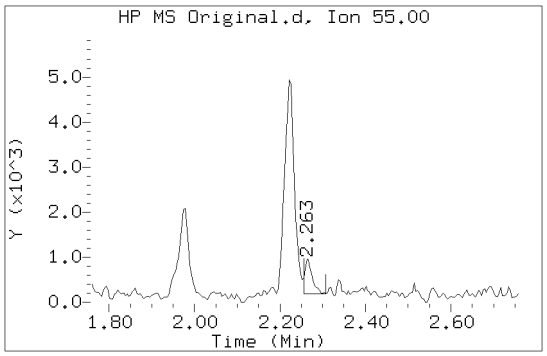
BEFORE
MASS
56
AREA
1804
HEIGHT
898
16-Nov-2022
09:38
linh
pham



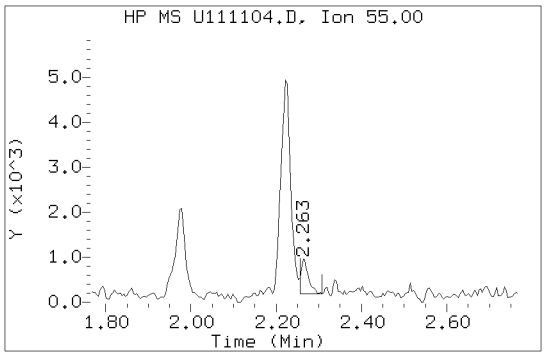
AFTER
MASS
56
AREA
1204
HEIGHT
900
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
55
AREA
984
HEIGHT
768
16-Nov-2022
09:38
linh
pham



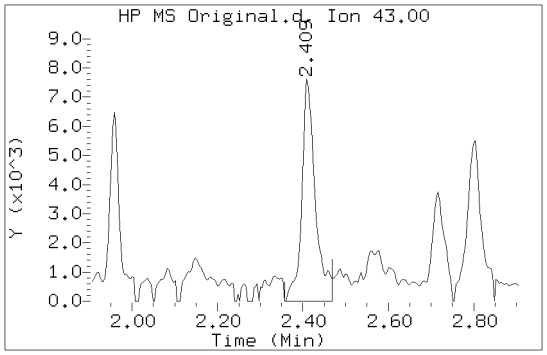
AFTER
MASS
55
AREA
984
HEIGHT
768
16-Nov-2022
09:41
linh
pham



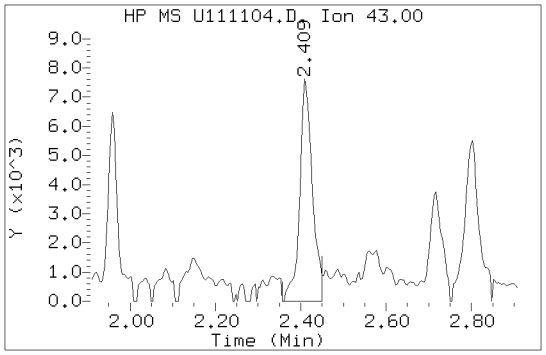
Acetone (67-64-1)

Reason Code:

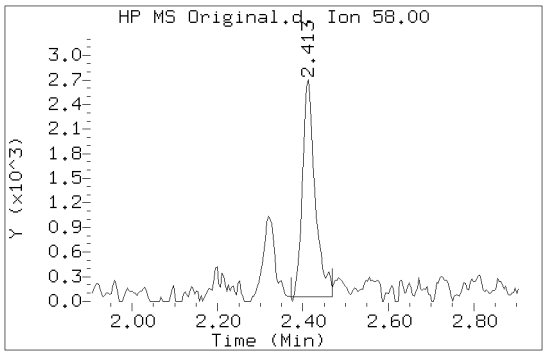
BEFORE
MASS
43
AREA
17120
HEIGHT
7624
16-Nov-2022
09:38
linh
pham



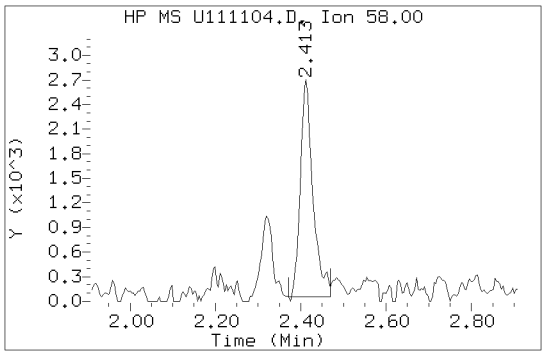
AFTER
MASS
43
AREA
16101
HEIGHT
7624
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
58
AREA
5498
HEIGHT
2645
16-Nov-2022
09:38
linh
pham



AFTER
MASS
58
AREA
5498
HEIGHT
2645
16-Nov-2022
09:41
linh
pham



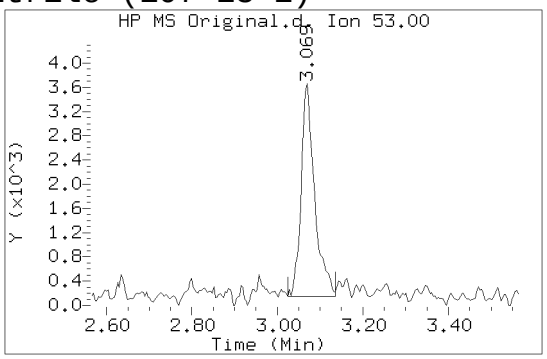
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

Acrylonitrile (107-13-1)

Reason Code:

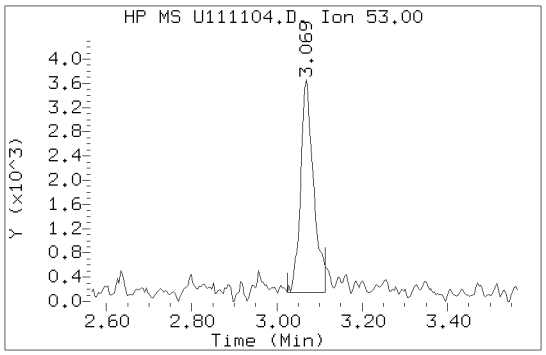
BEFORE

MASS
53
AREA
7814
HEIGHT
3508
16-Nov-2022
09:38
linh
pham



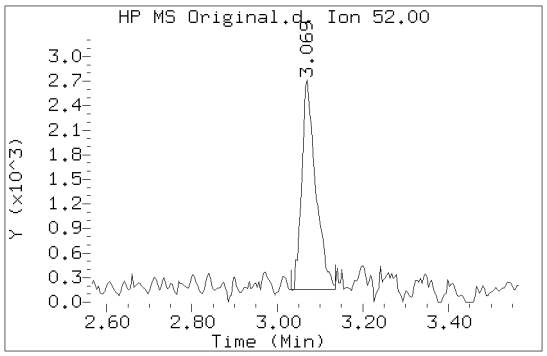
AFTER

MASS
53
AREA
7529
HEIGHT
3508
16-Nov-2022
09:41
linh
pham



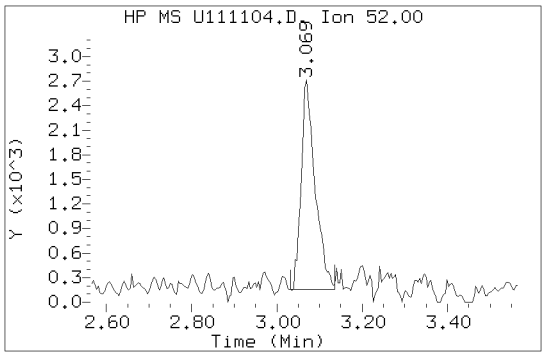
BEFORE

MASS
52
AREA
5876
HEIGHT
2556
16-Nov-2022
09:38
linh
pham



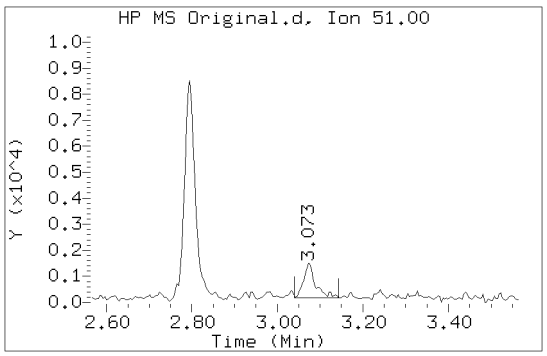
AFTER

MASS
52
AREA
5876
HEIGHT
2556
16-Nov-2022
09:41
linh
pham



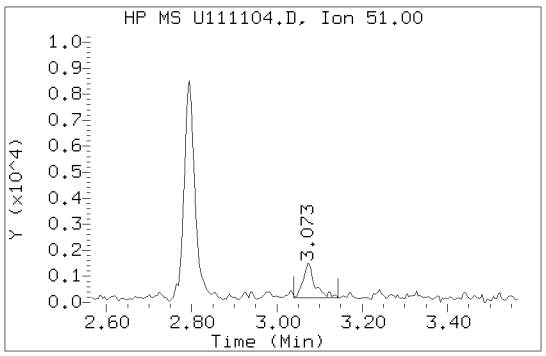
BEFORE

MASS
51
AREA
2627
HEIGHT
1319
16-Nov-2022
09:38
linh
pham



AFTER

MASS
51
AREA
2627
HEIGHT
1319
16-Nov-2022
09:41
linh
pham

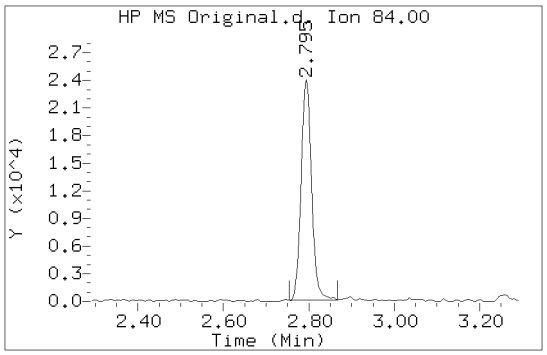


Methylene Chloride (75-09-2)

Reason Code:

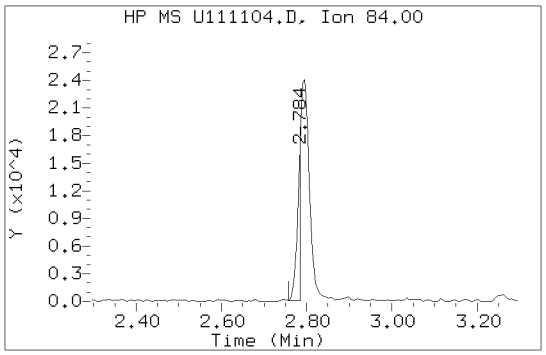
BEFORE

MASS
84
AREA
41845
HEIGHT
23933
16-Nov-2022
09:38
linh
pham



AFTER

MASS
84
AREA
9340
HEIGHT
16751
16-Nov-2022
09:41
linh
pham

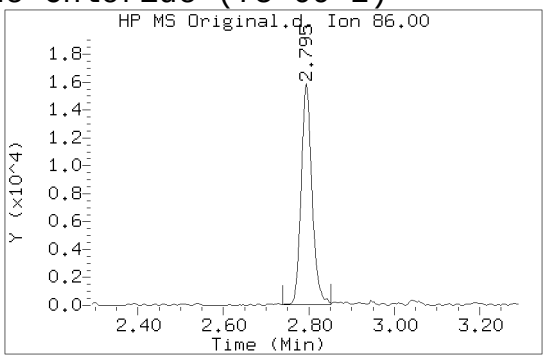


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

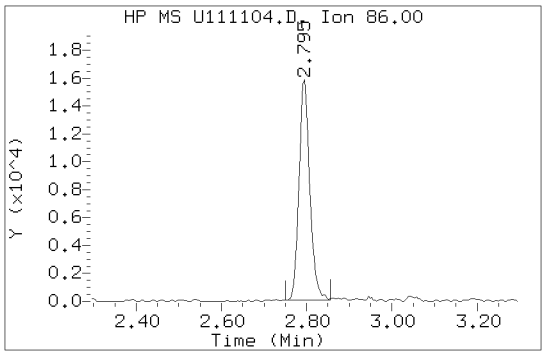
Methylene Chloride (75-09-2)

Reason Code:

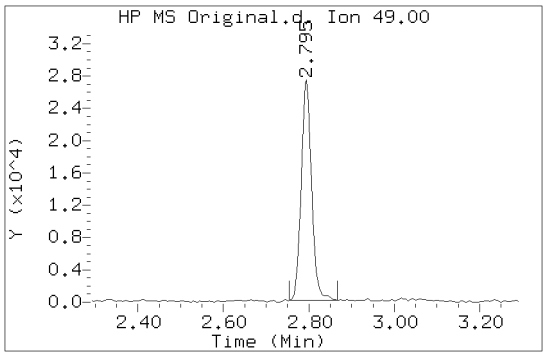
BEFORE
MASS
86
AREA
28445
HEIGHT
15820
16-Nov-2022
09:38
linh
pham



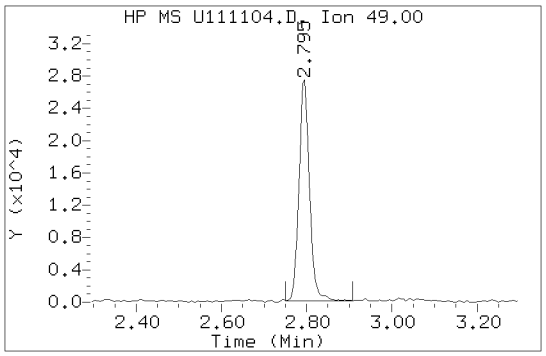
AFTER
MASS
86
AREA
28322
HEIGHT
15798
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
49
AREA
47327
HEIGHT
27302
16-Nov-2022
09:38
linh
pham



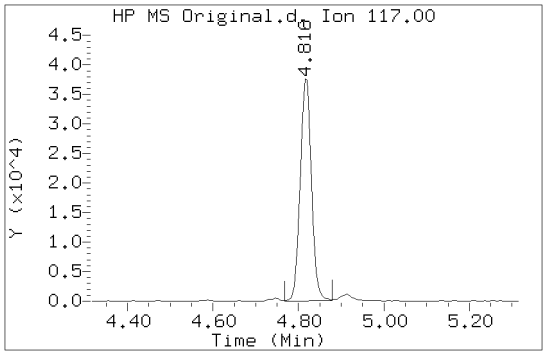
AFTER
MASS
49
AREA
48025
HEIGHT
27369
16-Nov-2022
09:41
linh
pham



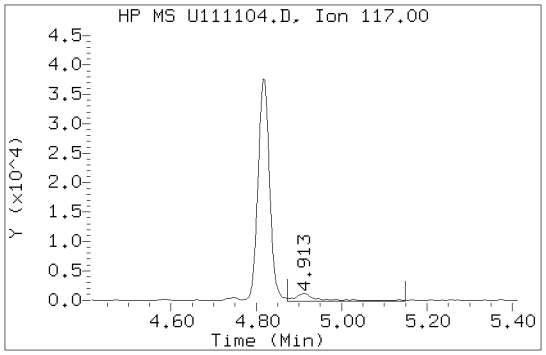
Carbon Tetrachloride (56-23-5)

Reason Code:

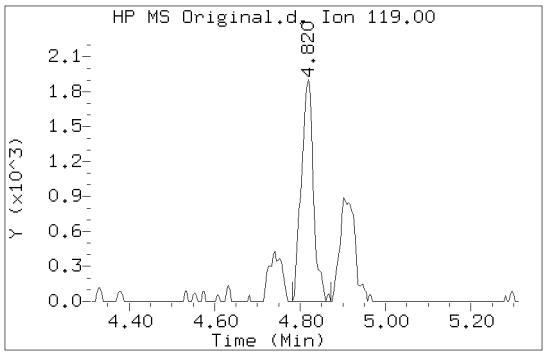
BEFORE
MASS
117
AREA
70415
HEIGHT
37568
16-Nov-2022
09:38
linh
pham



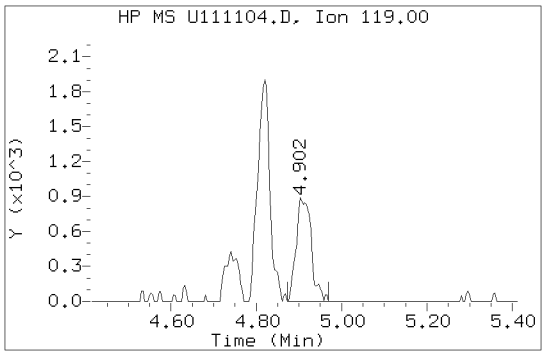
AFTER
MASS
117
AREA
5716
HEIGHT
1304
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
119
AREA
3832
HEIGHT
1903
16-Nov-2022
09:38
linh
pham



AFTER
MASS
119
AREA
2222
HEIGHT
890
16-Nov-2022
09:41
linh
pham



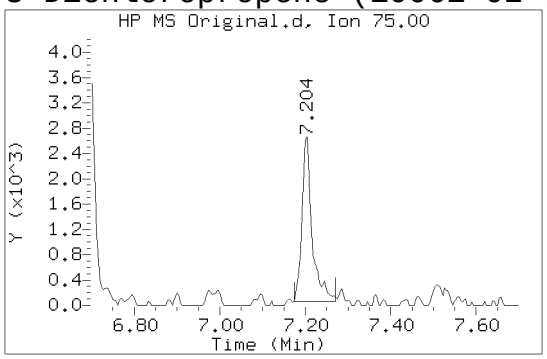
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

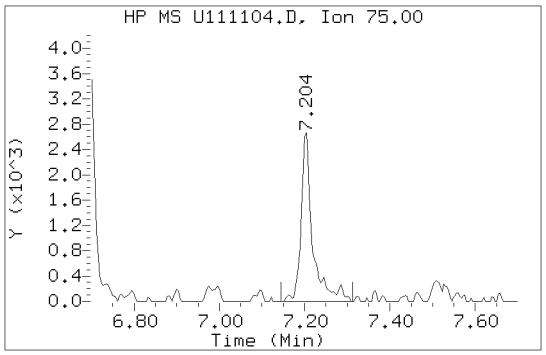
BEFORE

MASS
75
AREA
4405
HEIGHT
2603
16-Nov-2022
09:38
linh
pham



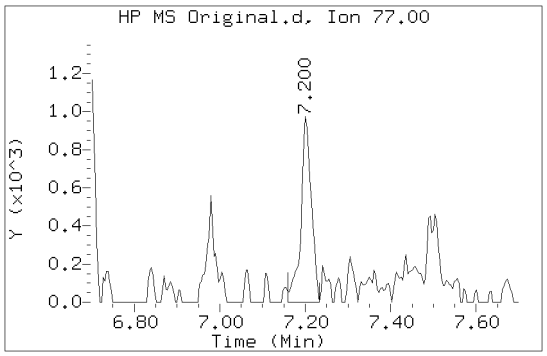
AFTER

MASS
75
AREA
5135
HEIGHT
2665
16-Nov-2022
09:41
linh
pham



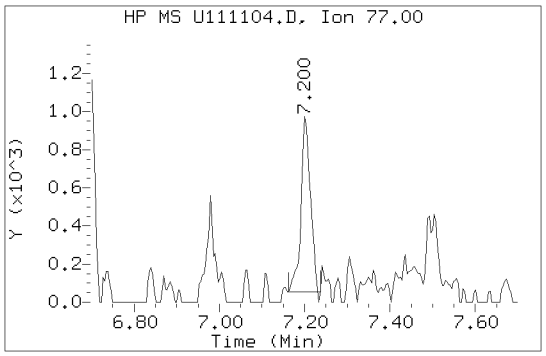
BEFORE

MASS
77
AREA
1689
HEIGHT
973
16-Nov-2022
09:38
linh
pham



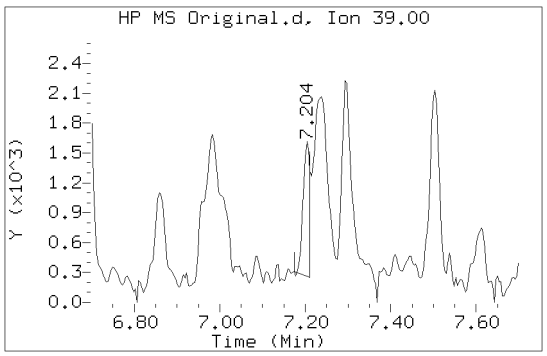
AFTER

MASS
77
AREA
1442
HEIGHT
920
16-Nov-2022
09:41
linh
pham



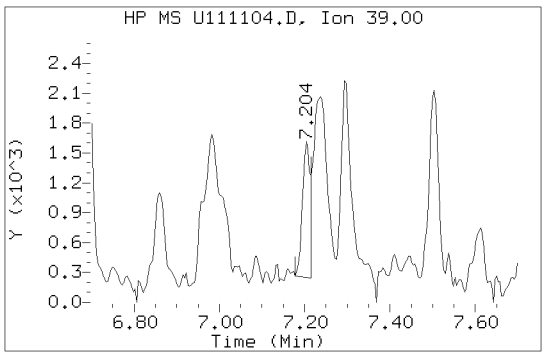
BEFORE

MASS
39
AREA
1512
HEIGHT
1356
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
1788
HEIGHT
1365
16-Nov-2022
09:41
linh
pham

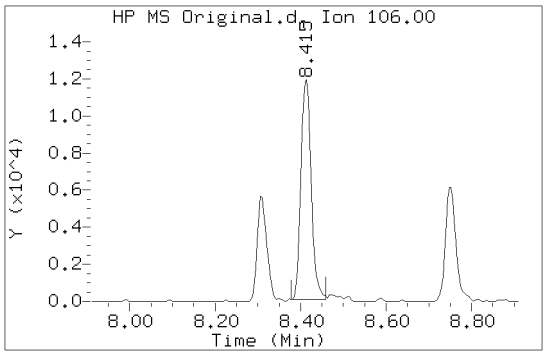


m,p-Xylenes ()

Reason Code:

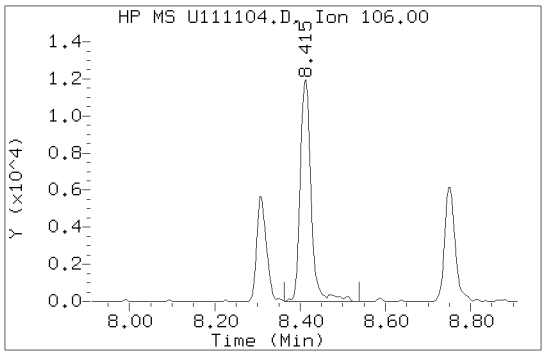
BEFORE

MASS
106
AREA
20386
HEIGHT
11854
16-Nov-2022
09:38
linh
pham



AFTER

MASS
106
AREA
21840
HEIGHT
11958
16-Nov-2022
09:41
linh
pham



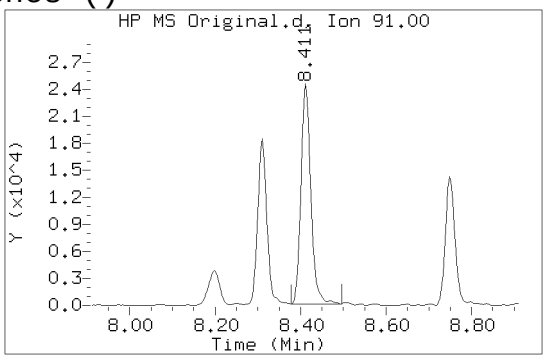
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

m,p-Xylenes ()

Reason Code:

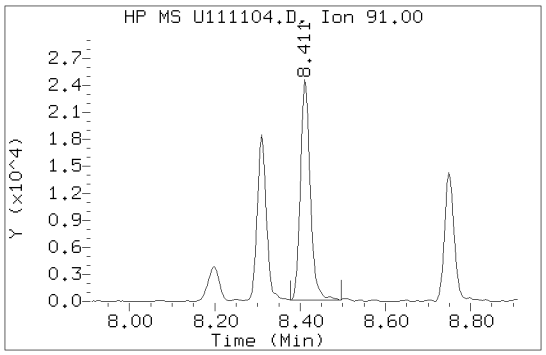
BEFORE

MASS
91
AREA
40195
HEIGHT
24471
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
40195
HEIGHT
24471
16-Nov-2022
09:41
linh
pham

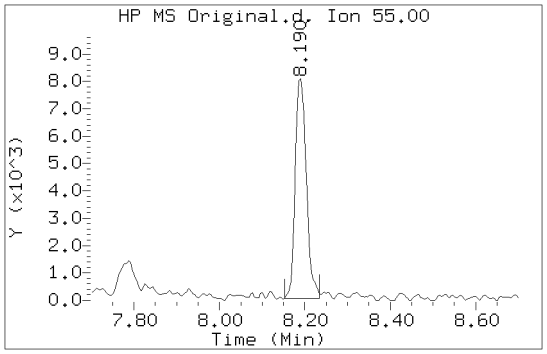


1-Chlorohexane (544-10-5)

Reason Code:

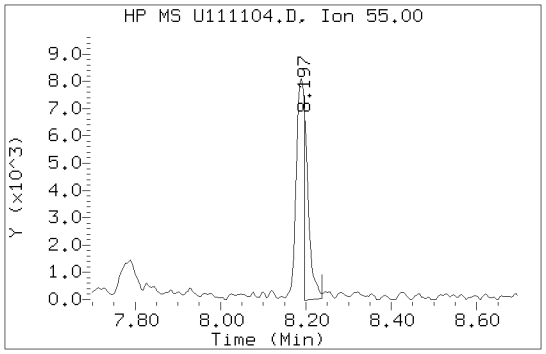
BEFORE

MASS
55
AREA
14750
HEIGHT
8037
16-Nov-2022
09:38
linh
pham



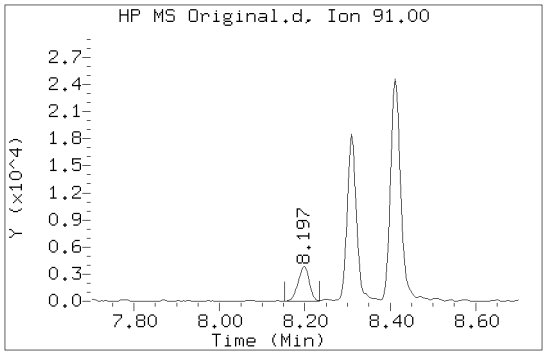
AFTER

MASS
55
AREA
5434
HEIGHT
6809
16-Nov-2022
09:41
linh
pham



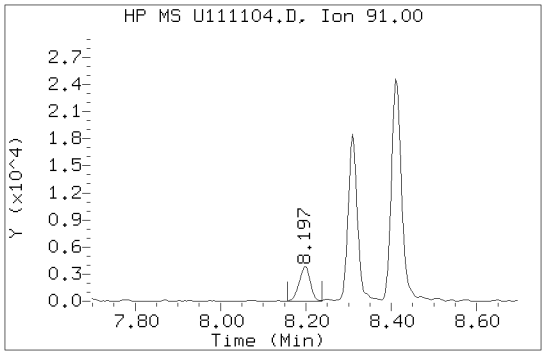
BEFORE

MASS
91
AREA
7066
HEIGHT
3860
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
7085
HEIGHT
3860
16-Nov-2022
09:41
linh
pham

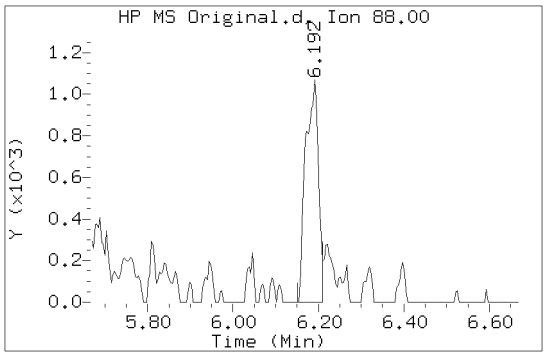


1,4-Dioxane ()

Reason Code:

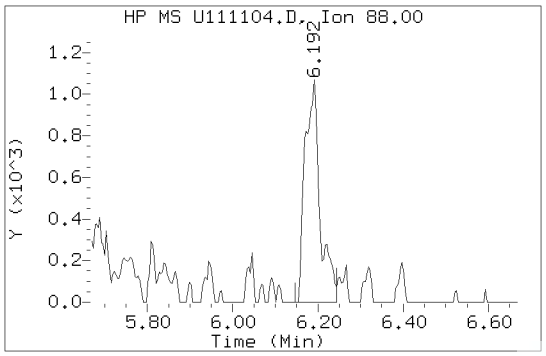
BEFORE

MASS
88
AREA
2259
HEIGHT
1069
16-Nov-2022
09:38
linh
pham



AFTER

MASS
88
AREA
2641
HEIGHT
1069
16-Nov-2022
09:41
linh
pham



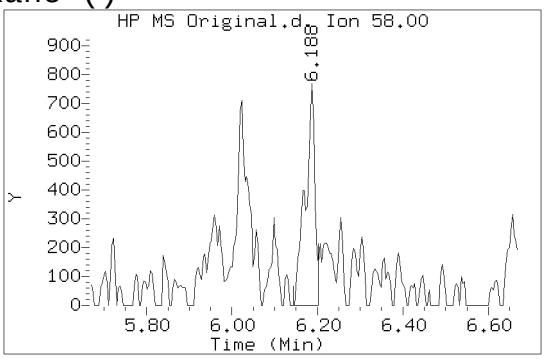
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

1,4-Dioxane ()

Reason Code:

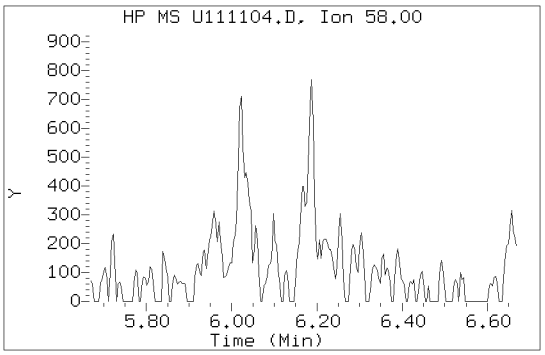
BEFORE

MASS
58
AREA
1225
HEIGHT
769
16-Nov-2022
09:38
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
16-Nov-2022
09:41
linh
pham

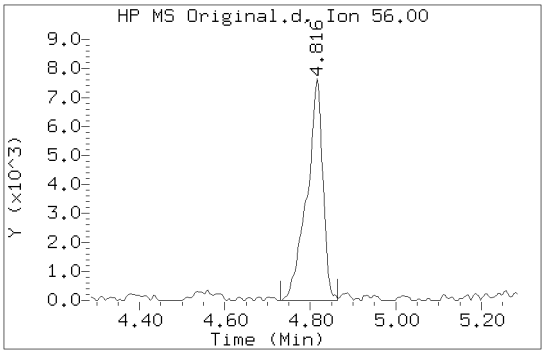


Cyclohexane (110-82-7)

Reason Code:

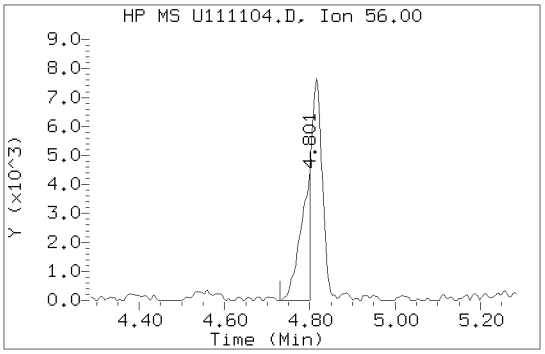
BEFORE

MASS
56
AREA
19950
HEIGHT
7650
16-Nov-2022
09:38
linh
pham



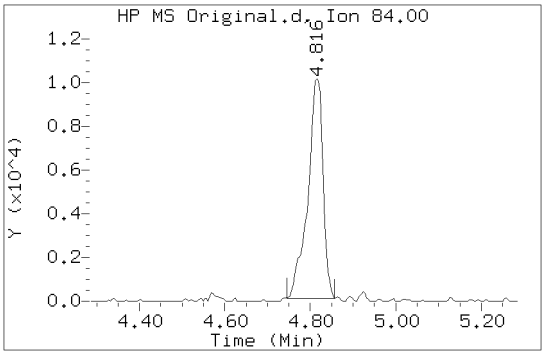
AFTER

MASS
56
AREA
7250
HEIGHT
4471
16-Nov-2022
09:41
linh
pham



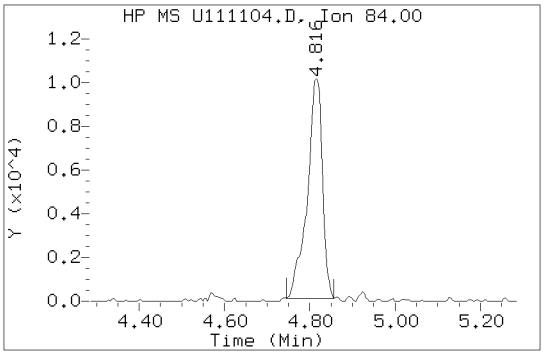
BEFORE

MASS
84
AREA
25113
HEIGHT
10069
16-Nov-2022
09:38
linh
pham



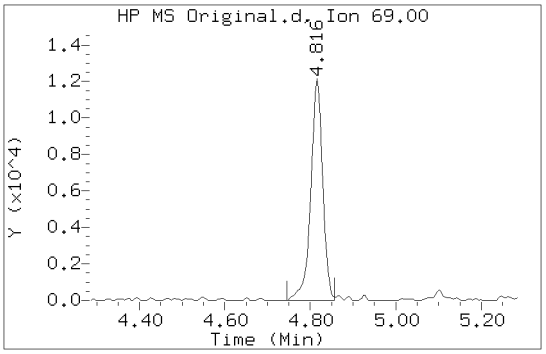
AFTER

MASS
84
AREA
25113
HEIGHT
10069
16-Nov-2022
09:41
linh
pham



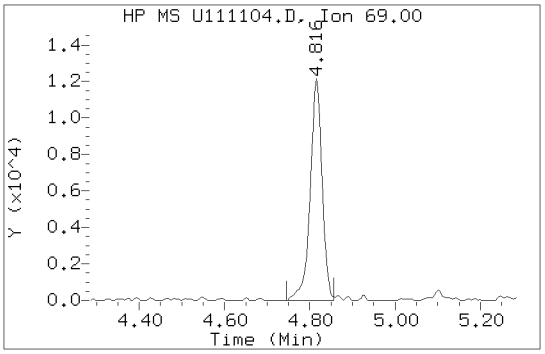
BEFORE

MASS
69
AREA
23610
HEIGHT
12152
16-Nov-2022
09:38
linh
pham



AFTER

MASS
69
AREA
23610
HEIGHT
12152
16-Nov-2022
09:41
linh
pham



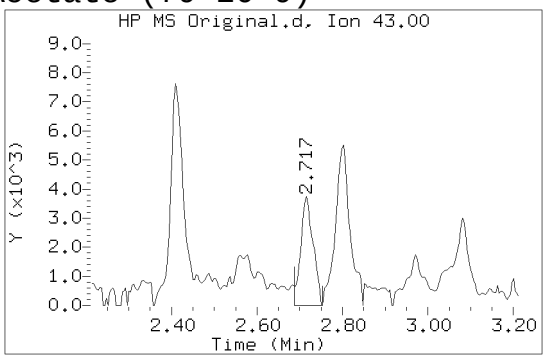
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111104.D
Inj Date : 11-NOV-2022 13:03
InstruID : VOA9.i
LabSampID : VSTD001

Methyl Acetate (79-20-9)

Reason Code:

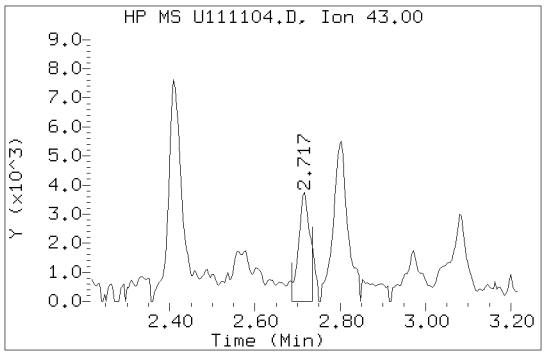
BEFORE

MASS
43
AREA
7685
HEIGHT
3745
16-Nov-2022
09:38
linh
pham



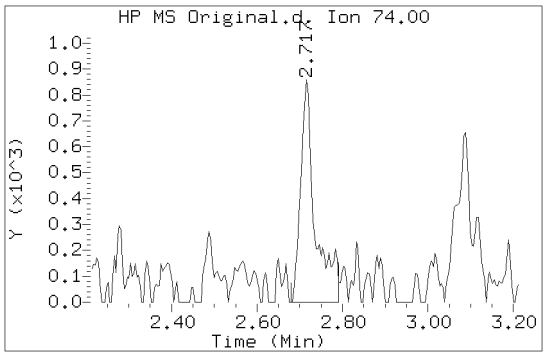
AFTER

MASS
43
AREA
6996
HEIGHT
3745
16-Nov-2022
09:41
linh
pham



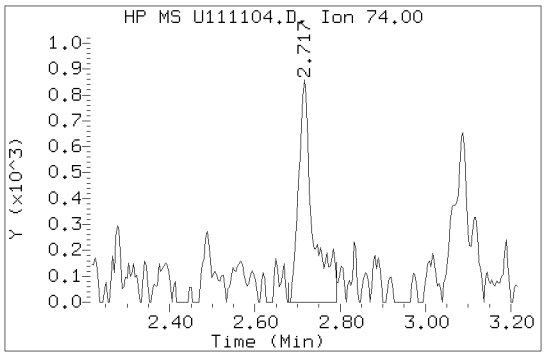
BEFORE

MASS
74
AREA
2046
HEIGHT
858
16-Nov-2022
09:38
linh
pham



AFTER

MASS
74
AREA
2046
HEIGHT
858
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 11-NOV-2022 13:25
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 13:03 Cal File: U111104.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.822	4.822	(1.000)	746461	50.0000	
2	Dichlorodifluoromethane	85	1.171	1.171	(0.243)	13794	2.00000	2.74
3	Chloromethane	50	1.306	1.306	(0.271)	18483	2.00000	2.48
5	Vinyl Chloride	62	1.385	1.385	(0.287)	14663	2.00000	1.92
6	Bromomethane	94	1.632	1.632	(0.339)	14046	2.00000	1.62
7	Chloroethane	64	1.707	1.707	(0.354)	11136	2.00000	2.00(M)
8	Trichlorofluoromethane	101	1.906	1.906	(0.395)	21120	2.00000	2.13
9	Acrolein	56	2.281	2.281	(0.473)	2628	4.00000	5.86
10	Acetone	43	2.423	2.423	(0.503)	24043	4.00000	0.96
11	1,1-Dichloroethene	96	2.345	2.345	(0.486)	12214	2.00000	1.91
15	Iodomethane	142	2.476	2.476	(0.513)	22375	4.00000	6.99(M)
16	Acrylonitrile	53	3.076	3.076	(0.638)	13691	4.00000	3.94(M)
17	Methylene Chloride	84	2.798	2.798	(0.580)	17193	2.00000	0.61(M)
18	Methyl tert-butyl ether	73	3.094	3.094	(0.642)	43958	2.00000	2.04
19	Carbon Disulfide	76	2.532	2.532	(0.525)	73877	4.00000	3.98
20	trans-1,2-Dichloroethene	96	3.072	3.072	(0.637)	14067	2.00000	1.99
21	Vinyl Acetate	43	3.619	3.619	(0.750)	74174	4.00000	4.03
22	1,1-Dichloroethane	63	3.525	3.525	(0.731)	25281	2.00000	2.01
24	2-Butanone	43	4.279	4.279	(0.887)	11699	4.00000	3.87
26	2,2-Dichloropropane	77	4.189	4.189	(0.869)	11193	2.00000	2.95

27 cis-1,2-Dichloroethene	96	4.208	4.208 (0.873)	16422	2.00000	1.98
28 Chloroform	83	4.583	4.583 (0.950)	26169	2.00000	1.95

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D Page 2
Report Date: 16-Nov-2022 09:41

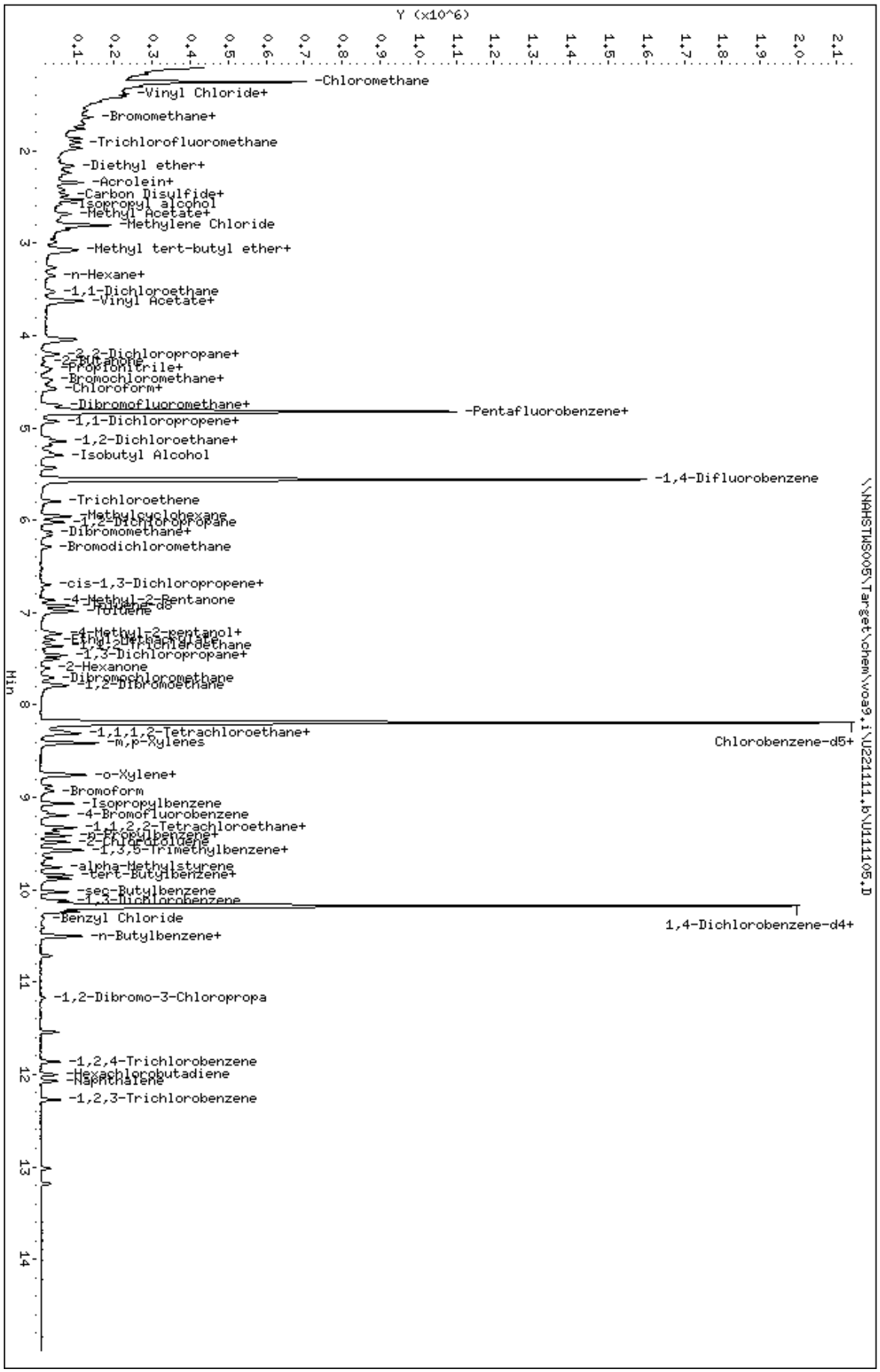
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	9278	2.00000	2.09
$	30 Dibromofluoromethane	113	4.759	4.759	(0.987)	15872	2.00000	1.79
	31 1,1,1-Trichloroethane	97	4.751	4.751	(0.985)	17223	2.00000	1.91
	32 1,1-Dichloropropene	75	4.927	4.927	(0.887)	16910	2.00000	1.96
	33 1,2-Dichloroethane	62	5.186	5.186	(0.933)	22368	2.00000	2.04
	34 Carbon Tetrachloride	117	4.920	4.920	(0.885)	12588	2.00000	2.57(MH)
$	35 1,2-Dichloroethane-d4	65	5.107	5.107	(1.059)	19160	2.00000	1.65
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1244542	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	58203	2.00000	1.98
	38 Trichloroethene	130	5.793	5.793	(1.042)	15914	2.00000	1.98
	39 Bromodichloromethane	83	6.284	6.284	(1.131)	16187	2.00000	1.80(M)
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	13884	2.00000	1.86
	44 Dibromomethane	93	6.131	6.131	(1.103)	10342	2.00000	1.92
	45 4-Methyl-2-Pentanone	43	6.862	6.862	(0.838)	24145	4.00000	3.67(M)
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	12126	2.00000	3.75
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1119395	50.0000	
$	48 Toluene-d8	98	6.925	6.925	(0.846)	52636	2.00000	1.97
	50 Toluene	91	6.985	6.985	(0.853)	56567	2.00000	1.90
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.296)	10490	2.00000	4.38(M)
	52 2-Hexanone	43	7.600	7.600	(0.928)	15502	4.00000	4.47(M)
	53 1,1,2-Trichloroethane	83	7.360	7.360	(0.899)	13920	2.00000	2.17
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	26079	2.00000	1.99
	55 Dibromochloromethane	129	7.698	7.698	(0.940)	10463	2.00000	2.66
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	13332	2.00000	2.06
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	15362	2.00000	1.95
	58 1-Chlorohexane	55	8.196	8.196	(1.475)	10304	2.00000	3.24(M)
	59 Chlorobenzene	112	8.215	8.215	(1.003)	43244	2.00000	2.03
	60 1,1,1,2-Tetrachloroethane	131	8.290	8.290	(1.012)	13795	2.00000	1.98
	61 Ethylbenzene	106	8.309	8.309	(1.015)	19427	2.00000	1.98
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	47631	4.00000	3.90(M)
	63 o-Xylene	106	8.751	8.751	(1.069)	23225	2.00000	1.92
	64 Styrene	104	8.766	8.766	(1.070)	30964	2.00000	2.64(M)
	66 Bromoform	173	8.920	8.920	(1.089)	7647	2.00000	3.58
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	52133	2.00000	1.87
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	22321	2.00000	2.11
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	19298	2.00000	2.13
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	531928	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	16963	2.00000	1.85
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	57771	2.00000	2.01
	74 Bromobenzene	156	9.321	9.321	(0.916)	17659	2.00000	2.09
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	39935	2.00000	1.88
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	39706	2.00000	1.97
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	43164	2.00000	1.91
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	37419	2.00000	2.01
	79 1,2,4-Trimethylbenzene	105	9.883	9.883	(0.972)	48480	2.00000	2.17
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	48003	2.00000	3.55
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	41100	2.00000	2.01
	83 1,3-Dichlorobenzene	146	10.119	10.119	(0.995)	28966	2.00000	2.00
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	33214	2.00000	2.08
	87 n-Butylbenzene	91	10.498	10.498	(1.032)	30228	2.00000	3.82
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	29702	2.00000	1.94
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	2331	2.00000	3.70

90 1,2,4-Trichlorobenzene	180	11.862	11.862 (1.166)	14989	2.00000	1.79
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	7172	2.00000	3.44

		QUANT SIG					AMOUNTS CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	92 Naphthalene	128	12.072	12.072	(1.187)	35133	2.00000	1.68
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	15447	2.00000	1.86
M	94 1,2-Dichloroethylene (total)	96				30489	4.00000	
M	95 Xylenes (total)	106				70856	6.00000	
	135 1,4-Dioxane	88	6.179	6.179	(1.281)	4861	40.0000	42.87
	141 Cyclohexane	56	4.789	4.789	(0.993)	14256	2.00000	2.24(MH)
	138 Freon TF	101	2.345	2.345	(0.486)	11940	2.00000	2.53
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	9824	2.00000	3.34
	147 Methylcyclohexane	55	5.955	5.955	(1.071)	34738	2.00000	1.97
	146 Methyl Acetate	43	2.727	2.727	(0.566)	12314	2.00000	2.01
	148 Tert-Butyl alcohol	59	2.986	2.986	(0.619)	28249	40.0000	39.12(a)
	149 Isopropyl Alcohol	45	2.577	2.577	(0.534)	17365	40.0000	36.49

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Date : 11-NOV-2022 13:25
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

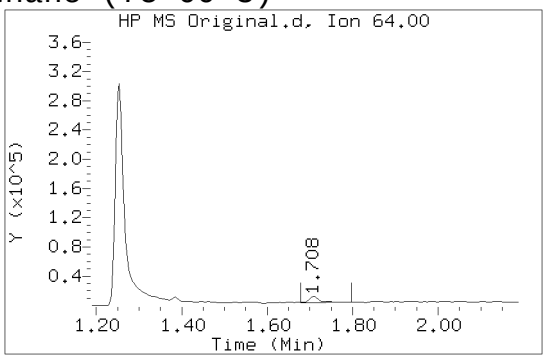
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Chloroethane (75-00-3)

Reason Code:

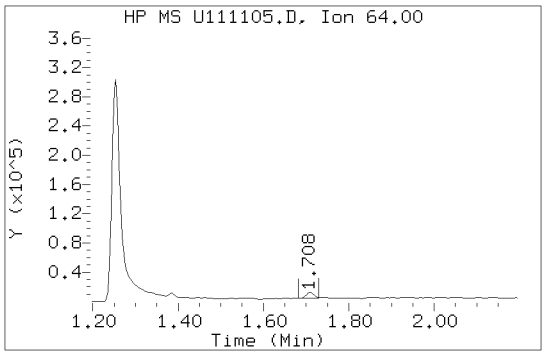
BEFORE

MASS
64
AREA
14950
HEIGHT
8839
16-Nov-2022
09:38
linh
pham



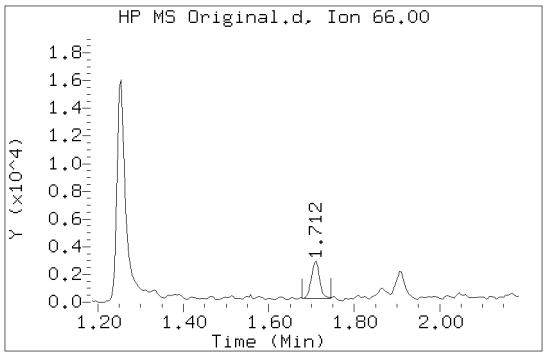
AFTER

MASS
64
AREA
11136
HEIGHT
8446
16-Nov-2022
09:41
linh
pham



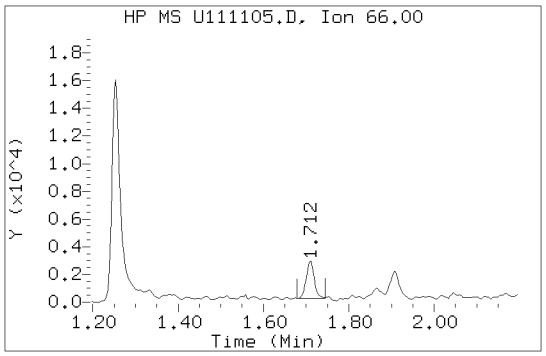
BEFORE

MASS
66
AREA
3483
HEIGHT
2668
16-Nov-2022
09:38
linh
pham



AFTER

MASS
66
AREA
3483
HEIGHT
2668
16-Nov-2022
09:41
linh
pham

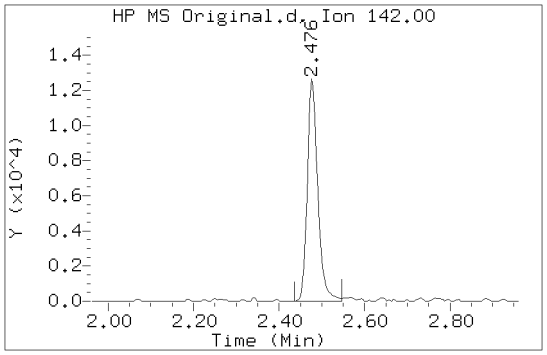


Iodomethane (74-88-4)

Reason Code:

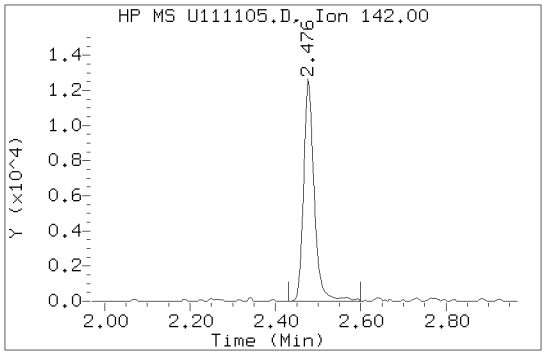
BEFORE

MASS
142
AREA
21934
HEIGHT
12650
16-Nov-2022
09:38
linh
pham



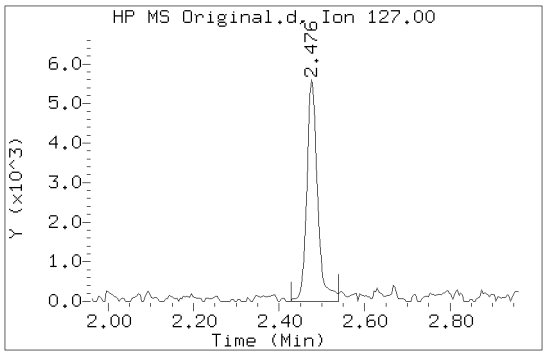
AFTER

MASS
142
AREA
22375
HEIGHT
12650
16-Nov-2022
09:41
linh
pham



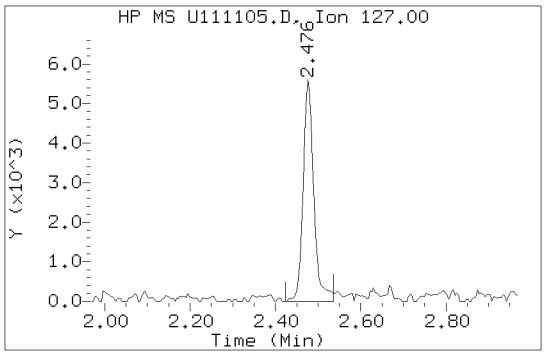
BEFORE

MASS
127
AREA
9975
HEIGHT
5602
16-Nov-2022
09:38
linh
pham



AFTER

MASS
127
AREA
9930
HEIGHT
5602
16-Nov-2022
09:41
linh
pham



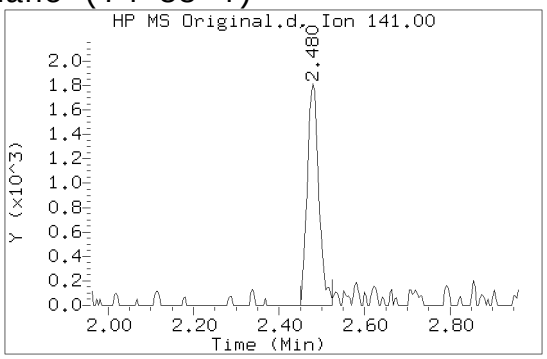
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Iodomethane (74-88-4)

Reason Code:

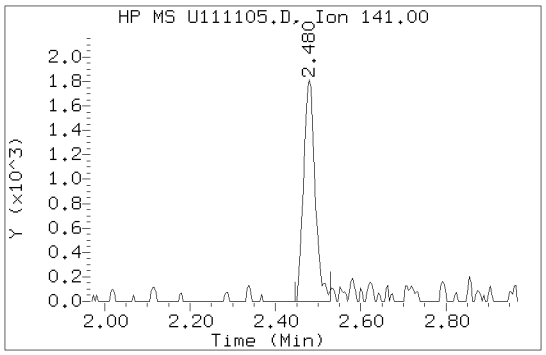
BEFORE

MASS
141
AREA
3471
HEIGHT
1815
16-Nov-2022
09:38
linh
pham



AFTER

MASS
141
AREA
3490
HEIGHT
1815
16-Nov-2022
09:41
linh
pham

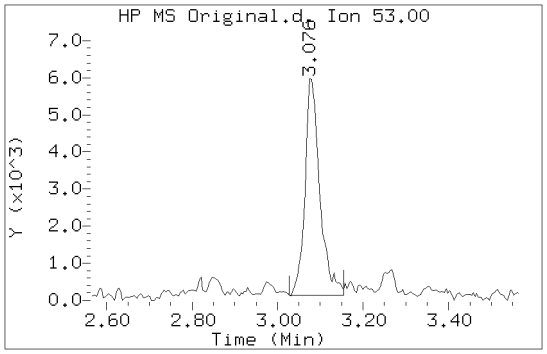


Acrylonitrile (107-13-1)

Reason Code:

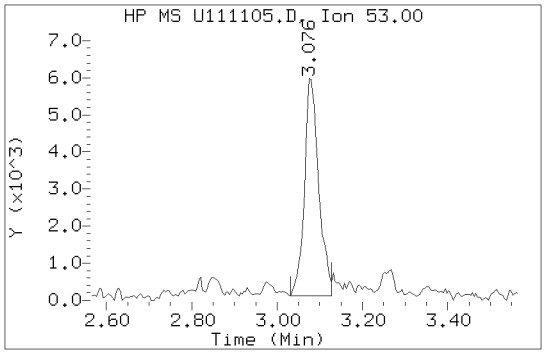
BEFORE

MASS
53
AREA
14214
HEIGHT
5844
16-Nov-2022
09:38
linh
pham



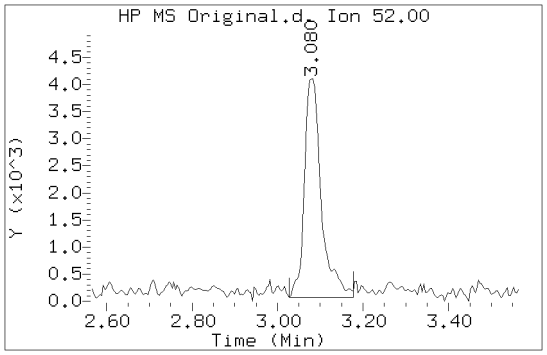
AFTER

MASS
53
AREA
13691
HEIGHT
5847
16-Nov-2022
09:41
linh
pham



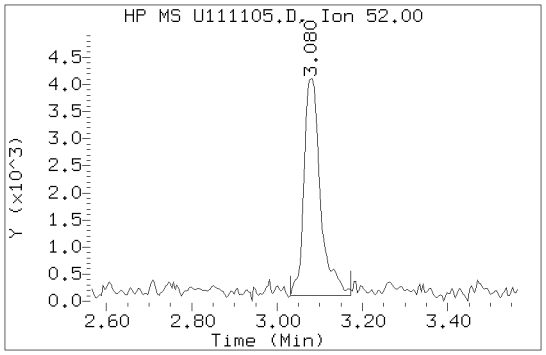
BEFORE

MASS
52
AREA
11199
HEIGHT
4035
16-Nov-2022
09:38
linh
pham



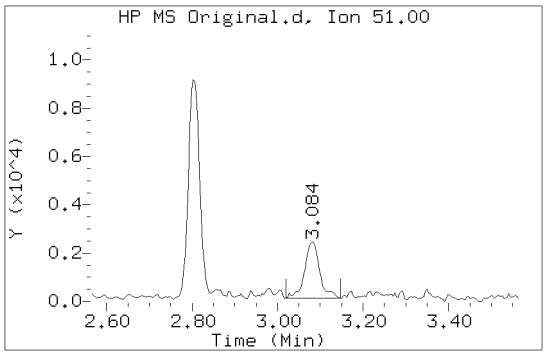
AFTER

MASS
52
AREA
10874
HEIGHT
4001
16-Nov-2022
09:41
linh
pham



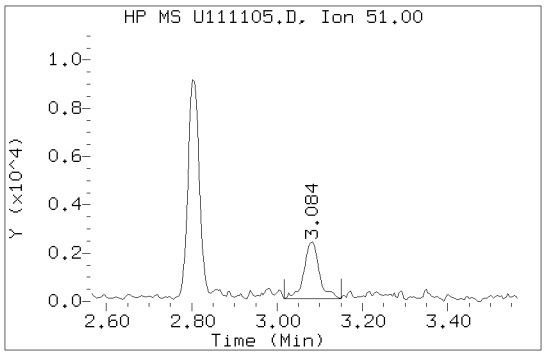
BEFORE

MASS
51
AREA
5730
HEIGHT
2328
16-Nov-2022
09:38
linh
pham



AFTER

MASS
51
AREA
5862
HEIGHT
2344
16-Nov-2022
09:41
linh
pham



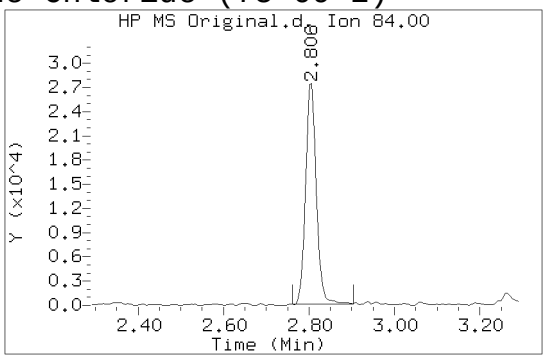
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Methylene Chloride (75-09-2)

Reason Code:

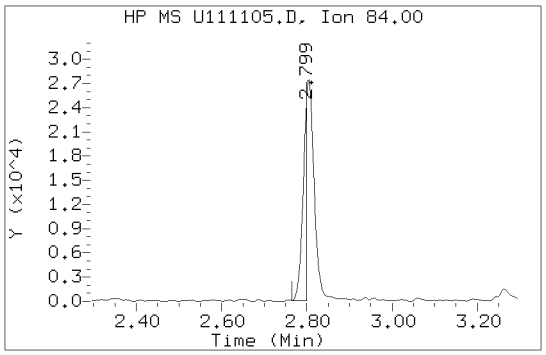
BEFORE

MASS
84
AREA
48450
HEIGHT
27283
16-Nov-2022
09:38
linh
pham



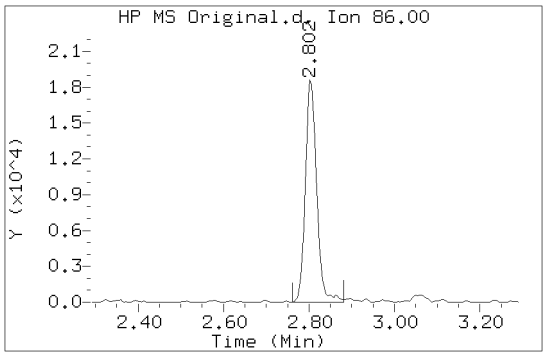
AFTER

MASS
84
AREA
17193
HEIGHT
24664
16-Nov-2022
09:41
linh
pham



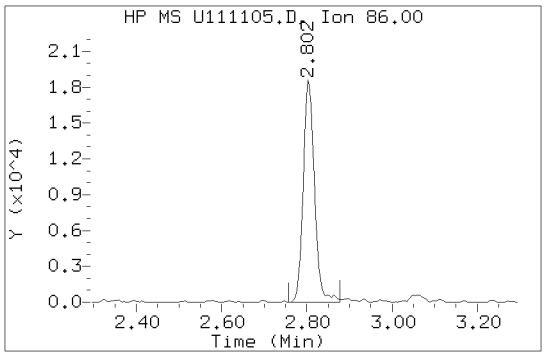
BEFORE

MASS
86
AREA
35033
HEIGHT
18616
16-Nov-2022
09:38
linh
pham



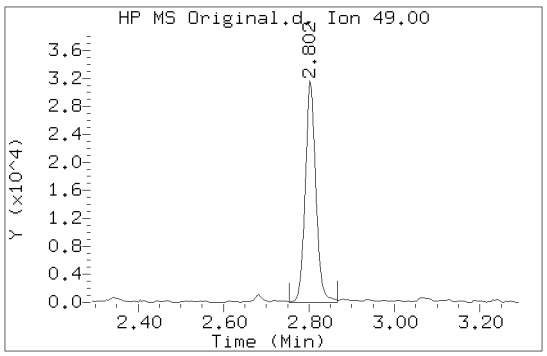
AFTER

MASS
86
AREA
34974
HEIGHT
18616
16-Nov-2022
09:41
linh
pham



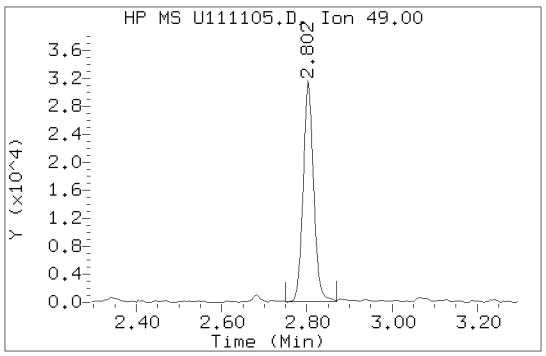
BEFORE

MASS
49
AREA
55631
HEIGHT
31672
16-Nov-2022
09:38
linh
pham



AFTER

MASS
49
AREA
55079
HEIGHT
31586
16-Nov-2022
09:41
linh
pham

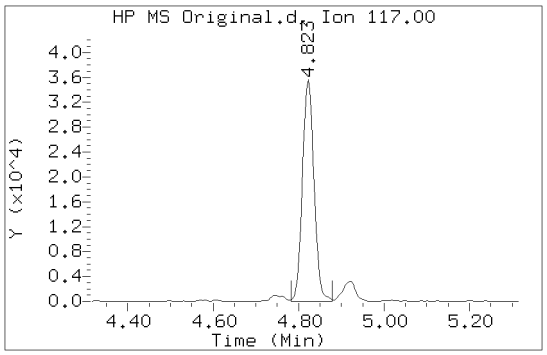


Carbon Tetrachloride (56-23-5)

Reason Code:

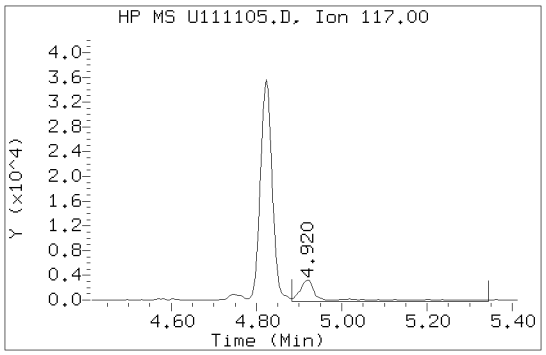
BEFORE

MASS
117
AREA
68020
HEIGHT
35624
16-Nov-2022
09:38
linh
pham



AFTER

MASS
117
AREA
12588
HEIGHT
3436
16-Nov-2022
09:41
linh
pham



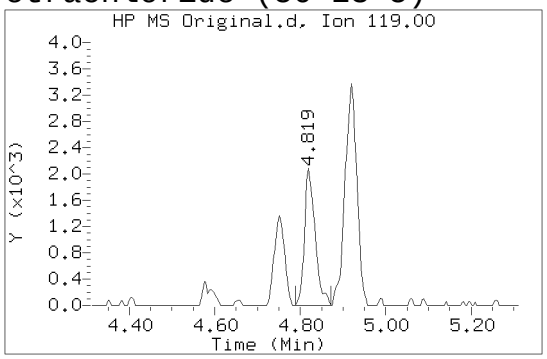
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Carbon Tetrachloride (56-23-5)

Reason Code:

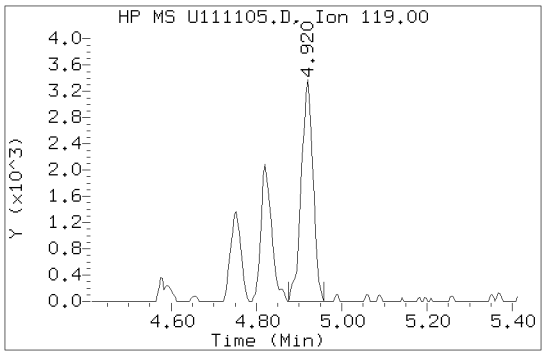
BEFORE

MASS
119
AREA
3654
HEIGHT
2086
16-Nov-2022
09:38
linh
pham



AFTER

MASS
119
AREA
6546
HEIGHT
3378
16-Nov-2022
09:41
linh
pham

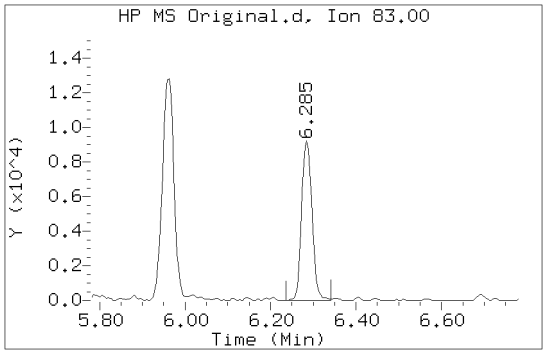


Bromodichloromethane (75-27-4)

Reason Code:

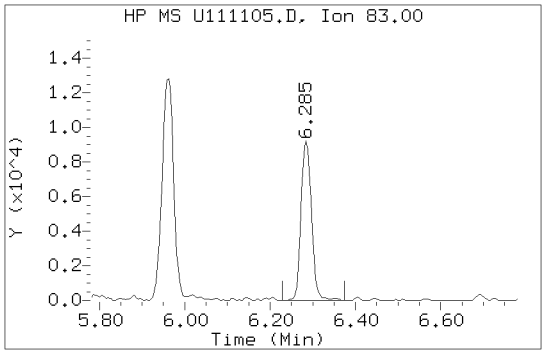
BEFORE

MASS
83
AREA
16064
HEIGHT
9221
16-Nov-2022
09:38
linh
pham



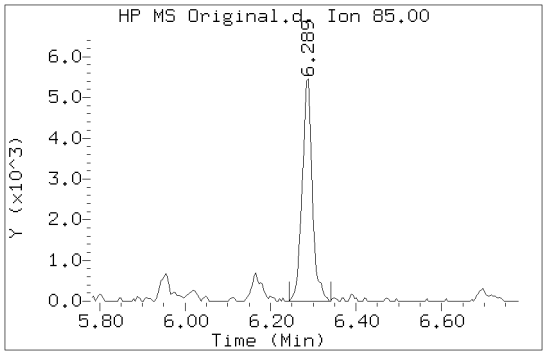
AFTER

MASS
83
AREA
16187
HEIGHT
9221
16-Nov-2022
09:41
linh
pham



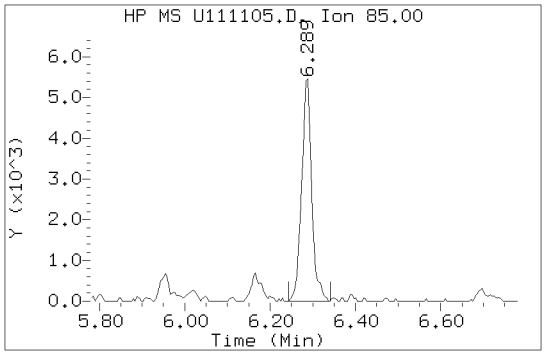
BEFORE

MASS
85
AREA
9177
HEIGHT
5457
16-Nov-2022
09:38
linh
pham



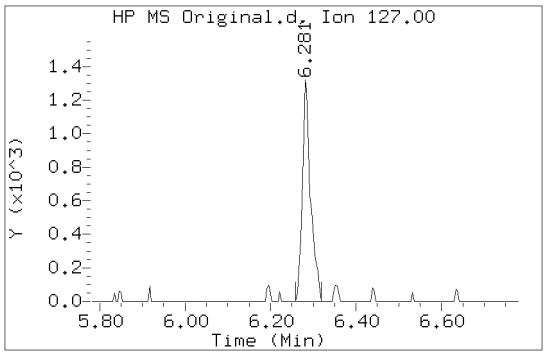
AFTER

MASS
85
AREA
9177
HEIGHT
5457
16-Nov-2022
09:41
linh
pham



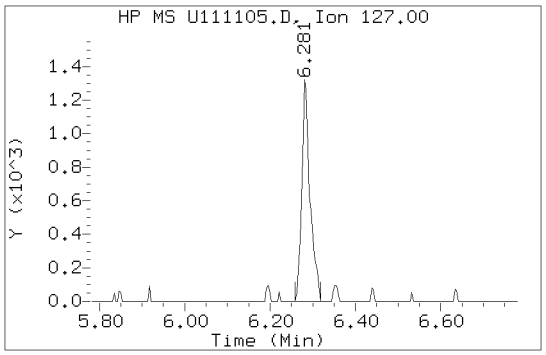
BEFORE

MASS
127
AREA
1824
HEIGHT
1322
16-Nov-2022
09:38
linh
pham



AFTER

MASS
127
AREA
1824
HEIGHT
1322
16-Nov-2022
09:41
linh
pham



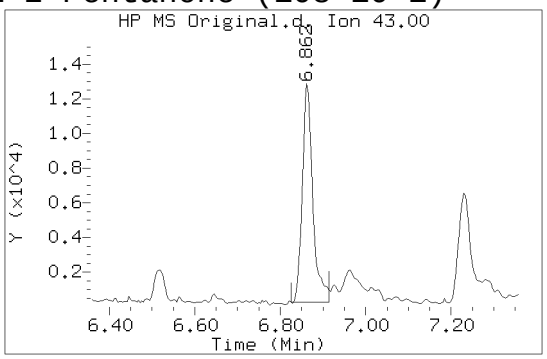
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

4-Methyl-2-Pentanone (108-10-1)

Reason Code:

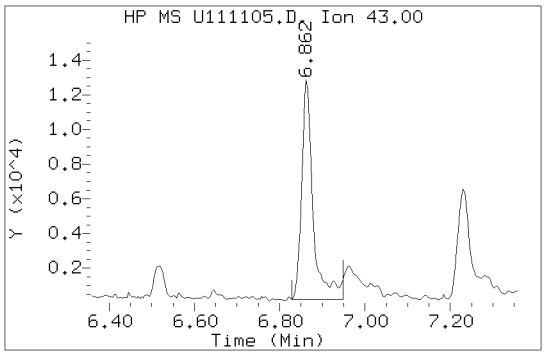
BEFORE

MASS
43
AREA
22006
HEIGHT
12596
16-Nov-2022
09:38
linh
pham



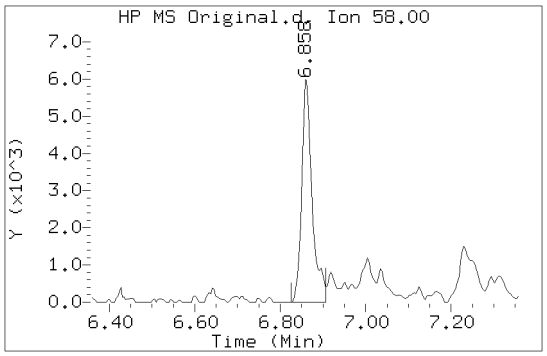
AFTER

MASS
43
AREA
24145
HEIGHT
12668
16-Nov-2022
09:41
linh
pham



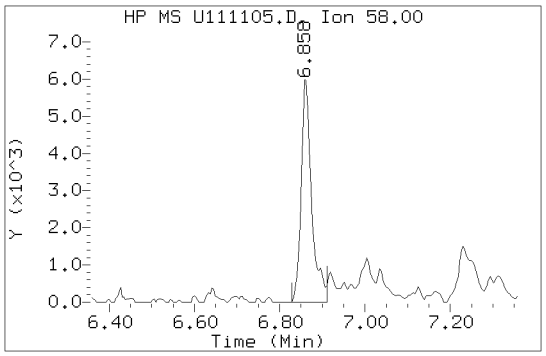
BEFORE

MASS
58
AREA
10421
HEIGHT
5976
16-Nov-2022
09:38
linh
pham



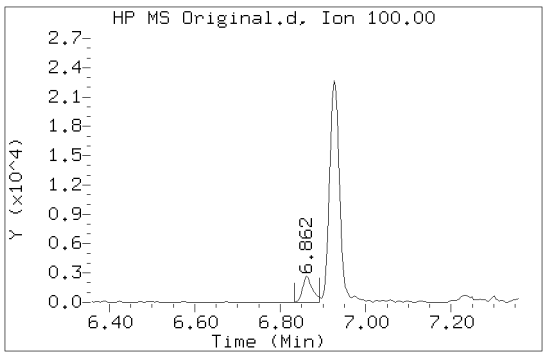
AFTER

MASS
58
AREA
10523
HEIGHT
5976
16-Nov-2022
09:41
linh
pham



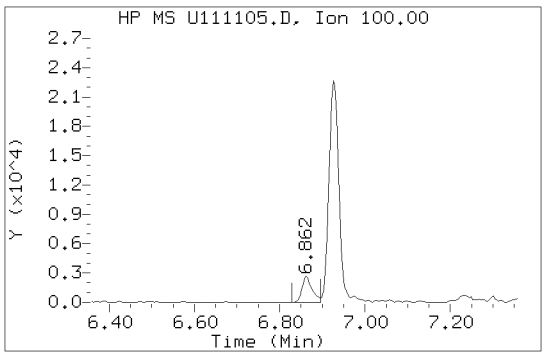
BEFORE

MASS
100
AREA
4434
HEIGHT
2672
16-Nov-2022
09:38
linh
pham



AFTER

MASS
100
AREA
4529
HEIGHT
2672
16-Nov-2022
09:41
linh
pham

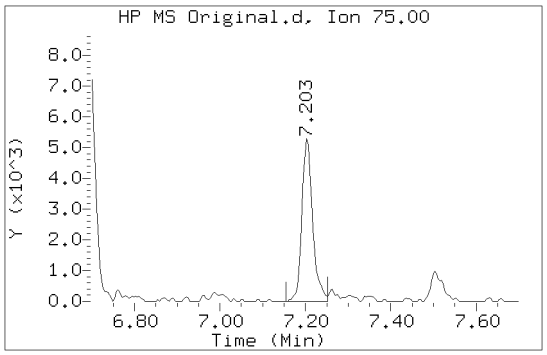


trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

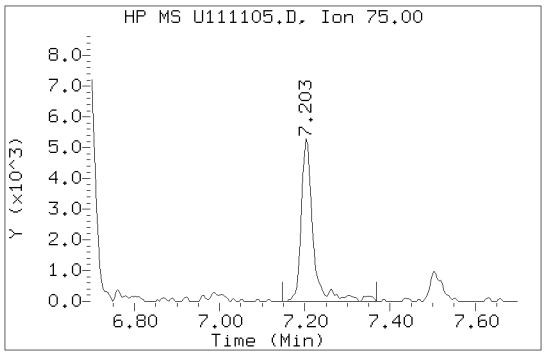
BEFORE

MASS
75
AREA
9434
HEIGHT
5297
16-Nov-2022
09:38
linh
pham



AFTER

MASS
75
AREA
10490
HEIGHT
5297
16-Nov-2022
09:41
linh
pham



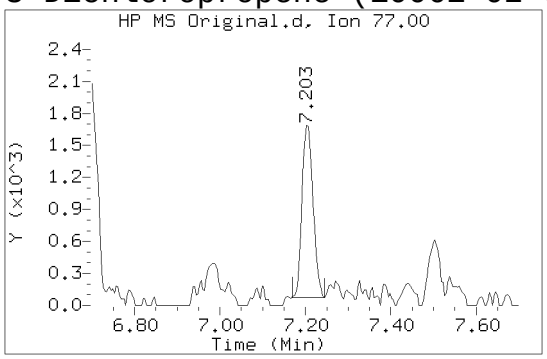
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

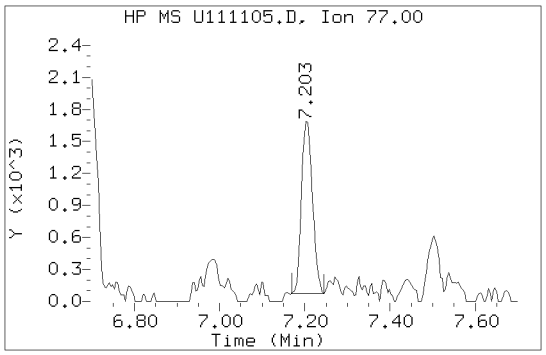
BEFORE

MASS
77
AREA
2936
HEIGHT
1617
16-Nov-2022
09:38
linh
pham



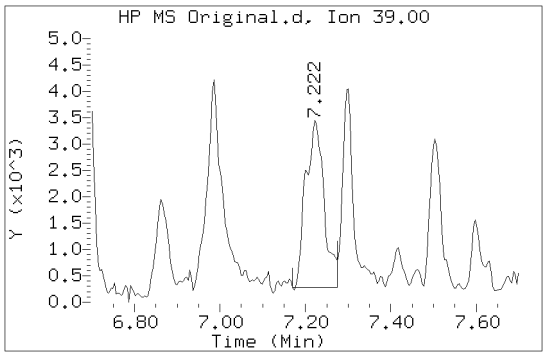
AFTER

MASS
77
AREA
2936
HEIGHT
1617
16-Nov-2022
09:41
linh
pham



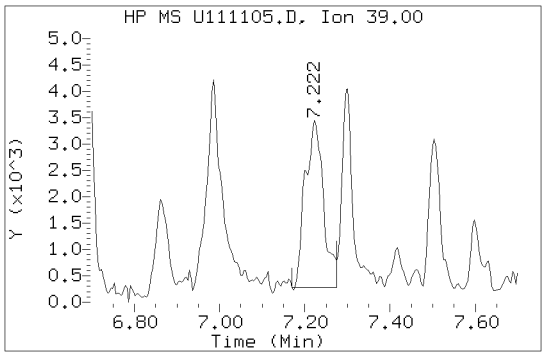
BEFORE

MASS
39
AREA
9473
HEIGHT
3166
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
9473
HEIGHT
3166
16-Nov-2022
09:41
linh
pham

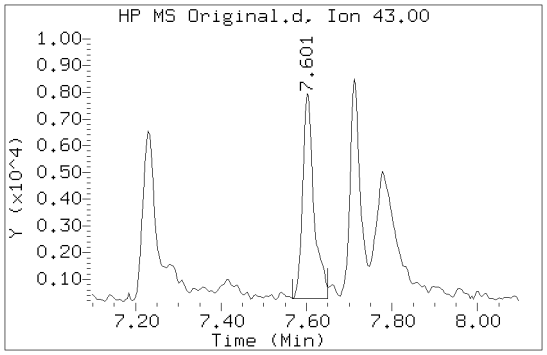


2-Hexanone (591-78-6)

Reason Code:

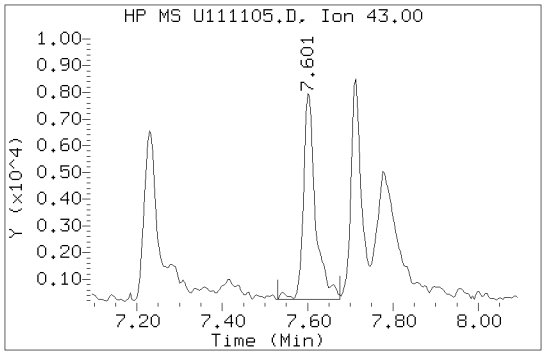
BEFORE

MASS
43
AREA
14384
HEIGHT
7666
16-Nov-2022
09:38
linh
pham



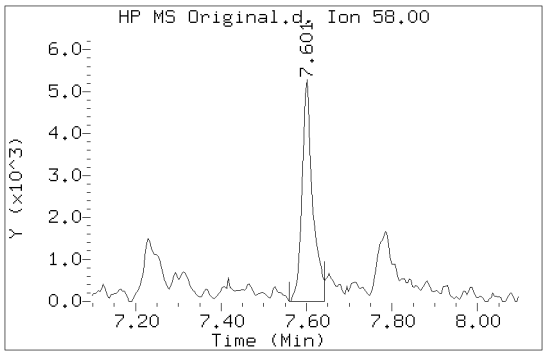
AFTER

MASS
43
AREA
15502
HEIGHT
7702
16-Nov-2022
09:41
linh
pham



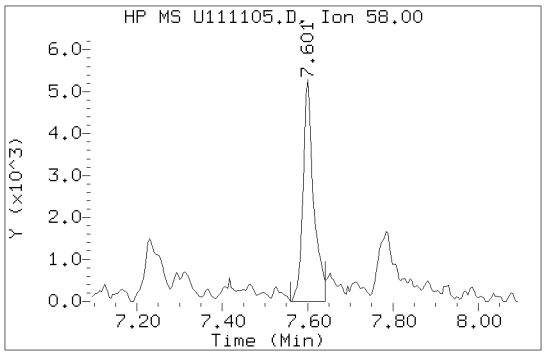
BEFORE

MASS
58
AREA
9305
HEIGHT
5285
16-Nov-2022
09:38
linh
pham



AFTER

MASS
58
AREA
9305
HEIGHT
5285
16-Nov-2022
09:41
linh
pham



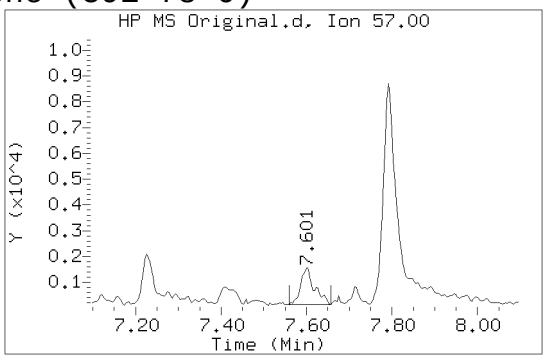
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

2-Hexanone (591-78-6)

Reason Code:

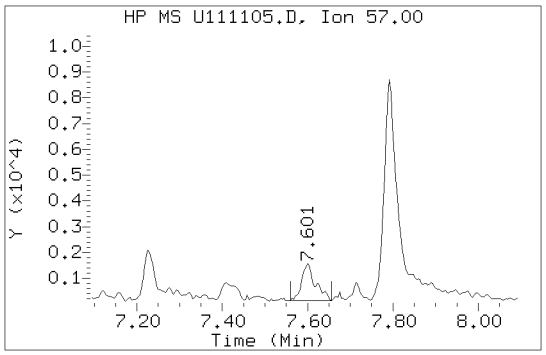
BEFORE

MASS
57
AREA
3259
HEIGHT
1441
16-Nov-2022
09:38
linh
pham



AFTER

MASS
57
AREA
3259
HEIGHT
1441
16-Nov-2022
09:41
linh
pham

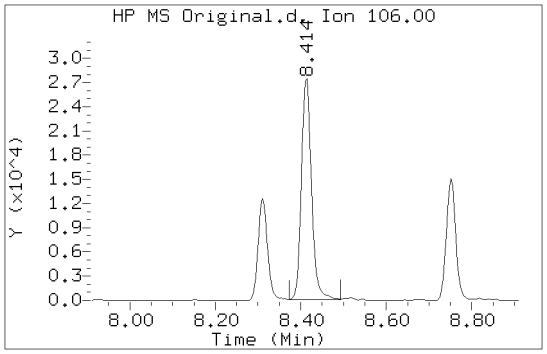


m,p-Xylenes ()

Reason Code:

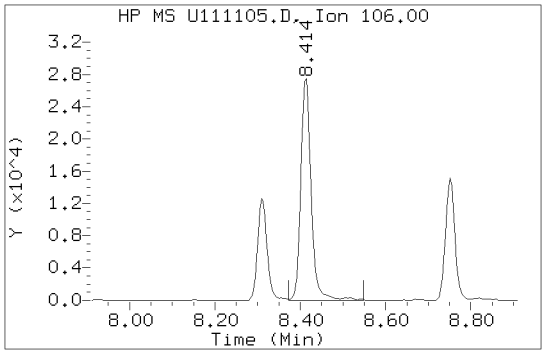
BEFORE

MASS
106
AREA
46362
HEIGHT
27406
16-Nov-2022
09:38
linh
pham



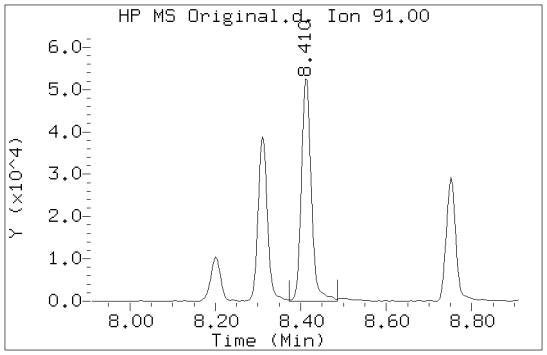
AFTER

MASS
106
AREA
47631
HEIGHT
27496
16-Nov-2022
09:41
linh
pham



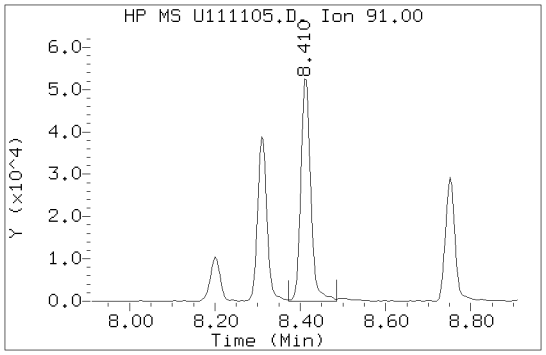
BEFORE

MASS
91
AREA
86830
HEIGHT
52475
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
86830
HEIGHT
52475
16-Nov-2022
09:41
linh
pham

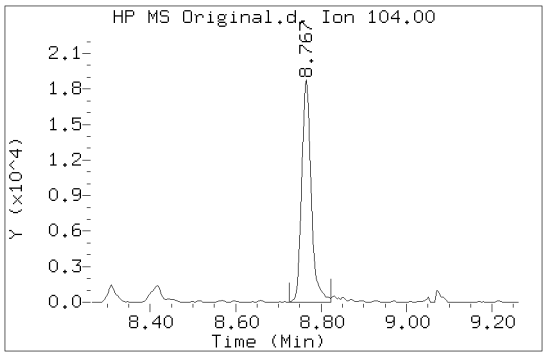


Styrene (100-42-5)

Reason Code:

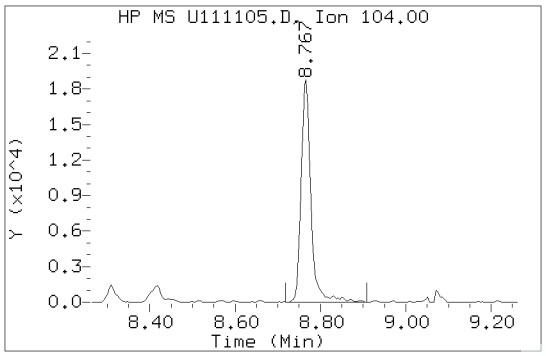
BEFORE

MASS
104
AREA
29906
HEIGHT
18768
16-Nov-2022
09:38
linh
pham



AFTER

MASS
104
AREA
30964
HEIGHT
18768
16-Nov-2022
09:41
linh
pham



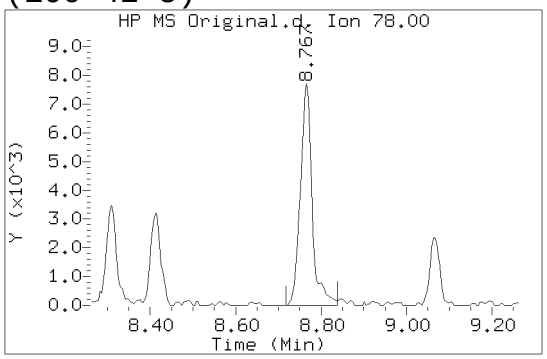
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Styrene (100-42-5)

Reason Code:

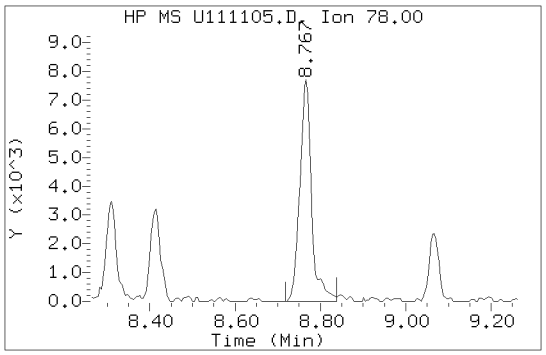
BEFORE

MASS
78
AREA
15064
HEIGHT
7711
16-Nov-2022
09:38
linh
pham



AFTER

MASS
78
AREA
15064
HEIGHT
7711
16-Nov-2022
09:41
linh
pham

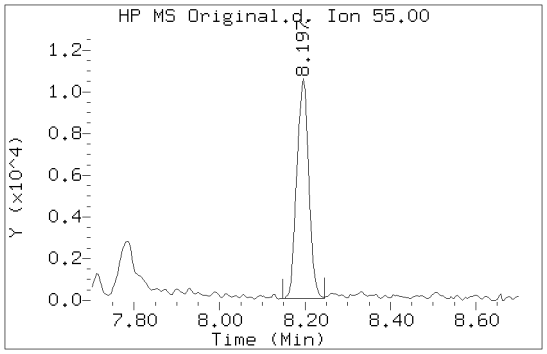


1-Chlorohexane (544-10-5)

Reason Code:

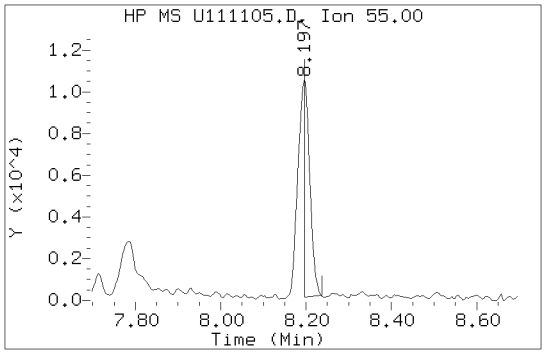
BEFORE

MASS
55
AREA
20998
HEIGHT
10550
16-Nov-2022
09:38
linh
pham



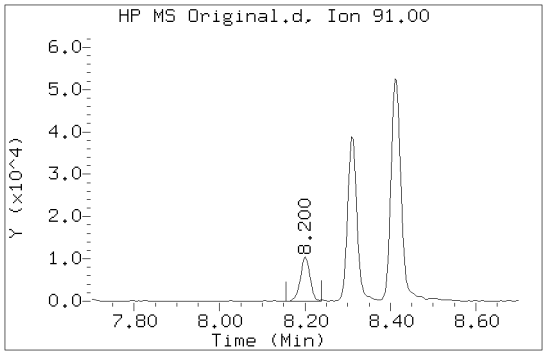
AFTER

MASS
55
AREA
10304
HEIGHT
10491
16-Nov-2022
09:41
linh
pham



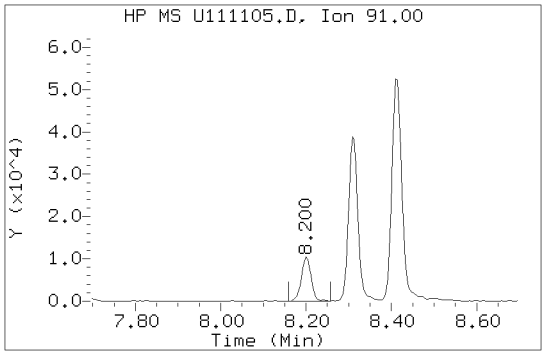
BEFORE

MASS
91
AREA
16655
HEIGHT
10460
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
16811
HEIGHT
10460
16-Nov-2022
09:41
linh
pham

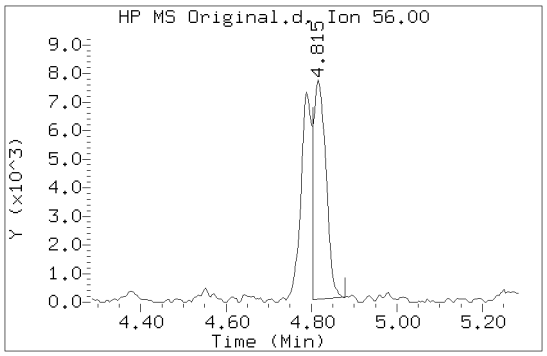


Cyclohexane (110-82-7)

Reason Code:

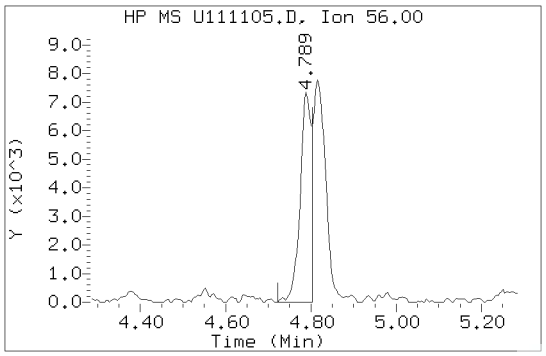
BEFORE

MASS
56
AREA
15386
HEIGHT
7670
16-Nov-2022
09:38
linh
pham



AFTER

MASS
56
AREA
14256
HEIGHT
7360
16-Nov-2022
09:41
linh
pham



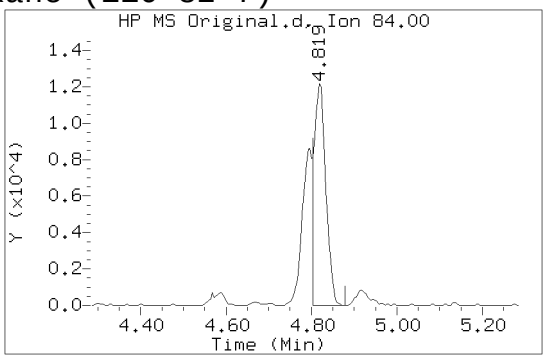
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111105.D
Inj Date : 11-NOV-2022 13:25
InstruID : VOA9.i
LabSampID : VSTD002

Cyclohexane (110-82-7)

Reason Code:

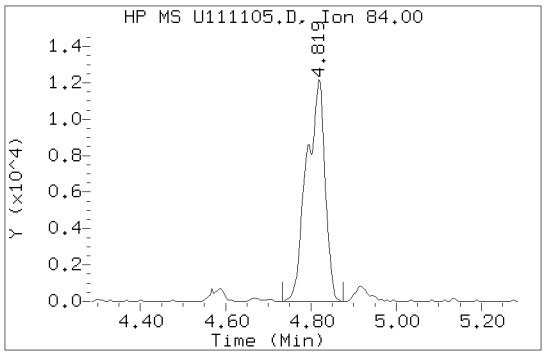
BEFORE

MASS
84
AREA
22964
HEIGHT
12170
16-Nov-2022
09:38
linh
pham



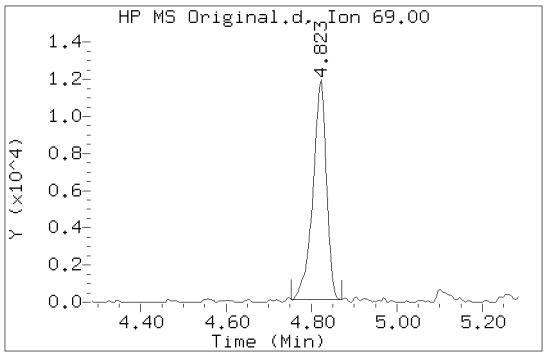
AFTER

MASS
84
AREA
36732
HEIGHT
12170
16-Nov-2022
09:41
linh
pham



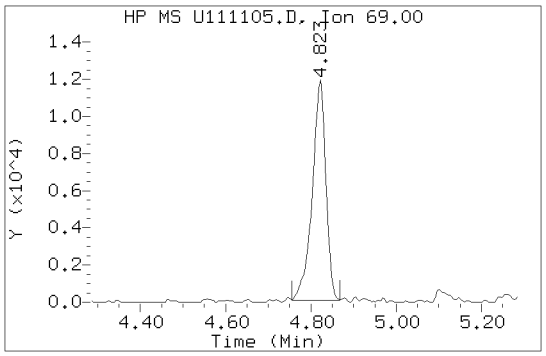
BEFORE

MASS
69
AREA
26026
HEIGHT
11827
16-Nov-2022
09:38
linh
pham



AFTER

MASS
69
AREA
26185
HEIGHT
11851
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 11-NOV-2022 13:47
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 13:25 Cal File: U111105.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.819	4.819	(1.000)	748411	50.0000	
2	Dichlorodifluoromethane	85	1.164	1.164	(0.242)	27052	5.00000	5.10
3	Chloromethane	50	1.299	1.299	(0.270)	42615	5.00000	5.37(M)
5	Vinyl Chloride	62	1.378	1.378	(0.286)	34188	5.00000	4.47(M)
6	Bromomethane	94	1.625	1.625	(0.337)	31789	5.00000	5.06(M)
7	Chloroethane	64	1.704	1.704	(0.354)	26876	5.00000	4.81
8	Trichlorofluoromethane	101	1.903	1.903	(0.395)	46511	5.00000	4.68
9	Acrolein	56	2.270	2.270	(0.471)	6241	10.0000	12.51
10	Acetone	43	2.416	2.416	(0.501)	50255	10.0000	10.18
11	1,1-Dichloroethene	96	2.337	2.337	(0.485)	28925	5.00000	4.53(M)
15	Iodomethane	142	2.472	2.472	(0.513)	51771	10.0000	10.89
16	Acrylonitrile	53	3.076	3.076	(0.638)	36995	10.0000	10.64
17	Methylene Chloride	84	2.799	2.799	(0.581)	39927	5.00000	3.44(M)
18	Methyl tert-butyl ether	73	3.087	3.087	(0.641)	104310	5.00000	4.84
19	Carbon Disulfide	76	2.525	2.525	(0.524)	168705	10.0000	9.08
20	trans-1,2-Dichloroethene	96	3.065	3.065	(0.636)	33425	5.00000	4.73(M)
21	Vinyl Acetate	43	3.616	3.616	(0.750)	185962	10.0000	10.08
22	1,1-Dichloroethane	63	3.522	3.522	(0.731)	60861	5.00000	4.84
24	2-Butanone	43	4.276	4.276	(0.887)	31782	10.0000	10.50
26	2,2-Dichloropropane	77	4.186	4.186	(0.869)	26695	5.00000	5.18

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	40376	5.00000	4.86
28 Chloroform	83	4.579	4.579 (0.950)	66102	5.00000	4.93

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D Page 2
Report Date: 16-Nov-2022 09:41

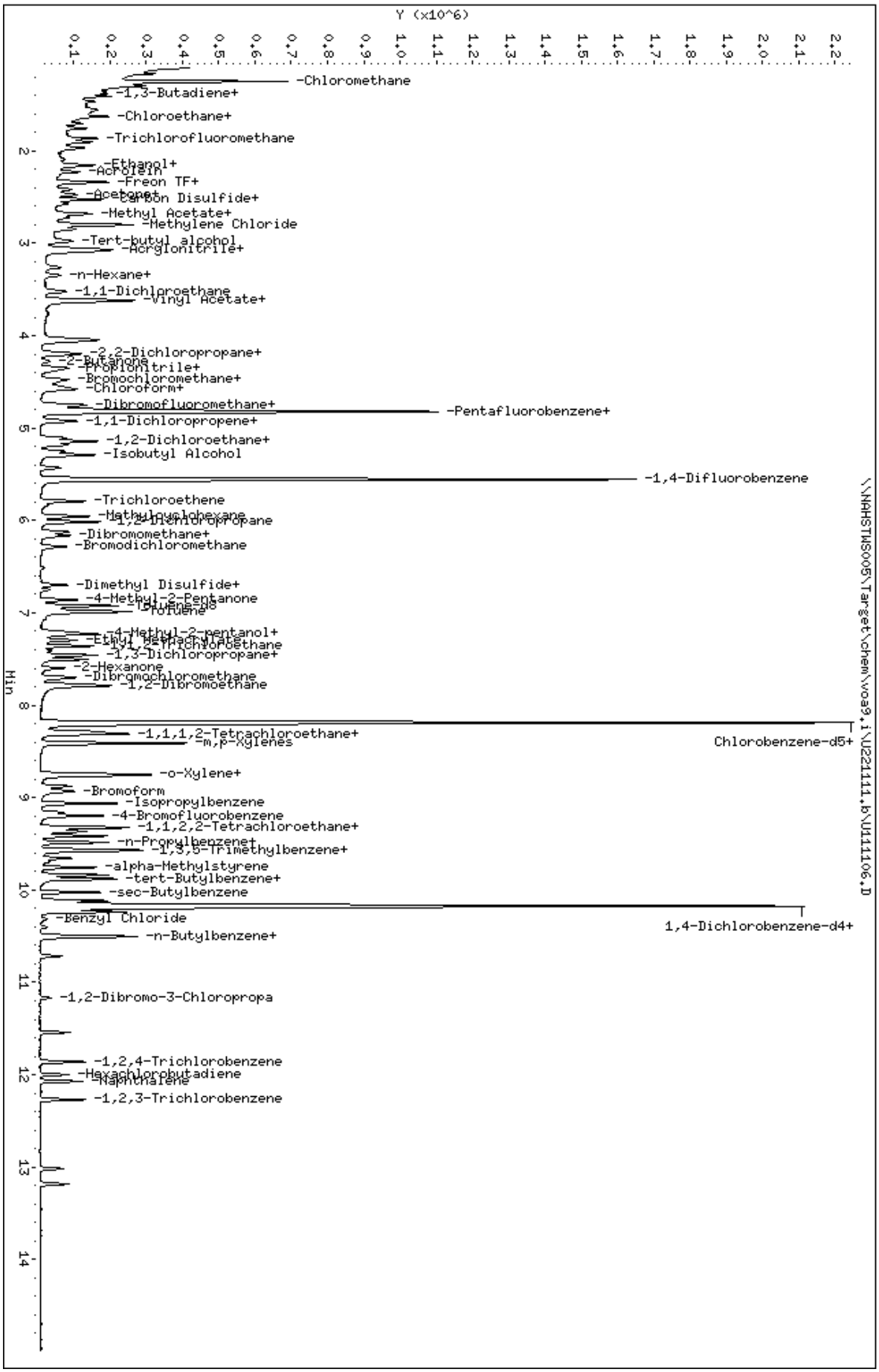
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.474	4.474	(0.928)	22149	5.00000	4.99
$	30 Dibromofluoromethane	113	4.752	4.752	(0.986)	36389	5.00000	4.54
	31 1,1,1-Trichloroethane	97	4.748	4.748	(0.985)	40005	5.00000	4.43
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	39356	5.00000	4.48(M)
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	54464	5.00000	4.90
	34 Carbon Tetrachloride	117	4.917	4.917	(0.885)	26439	5.00000	5.10(MH)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.059)	47752	5.00000	5.05
*	36 1,4-Difluorobenzene	114	5.558	5.558	(1.000)	1264749	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	139839	5.00000	4.69
	38 Trichloroethene	130	5.794	5.794	(1.042)	39382	5.00000	4.83
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	40439	5.00000	4.44(M)
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	37534	5.00000	4.95
	44 Dibromomethane	93	6.124	6.124	(1.102)	26886	5.00000	4.92
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	65855	10.0000	9.77
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	36717	5.00000	5.63(M)
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1146855	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	127033	5.00000	4.65
	50 Toluene	91	6.982	6.982	(0.853)	146024	5.00000	4.79
	51 trans-1,3-Dichloropropene	75	7.203	7.203	(1.296)	28169	5.00000	5.96(M)
	52 2-Hexanone	43	7.597	7.597	(0.928)	43345	10.0000	9.87
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	31556	5.00000	4.81
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	70577	5.00000	5.26
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	32648	5.00000	5.13
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	32428	5.00000	4.90
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	38150	5.00000	4.74
	58 1-Chlorohexane	55	8.197	8.197	(1.475)	25743	5.00000	5.93(M)
	59 Chlorobenzene	112	8.212	8.212	(1.003)	107002	5.00000	4.91
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	32485	5.00000	4.55
	61 Ethylbenzene	106	8.309	8.309	(1.015)	48644	5.00000	4.84
	62 m,p-Xylenes	106	8.414	8.414	(1.027)	114599	10.0000	9.15
	63 o-Xylene	106	8.748	8.748	(1.068)	57990	5.00000	4.69
	64 Styrene	104	8.763	8.763	(1.070)	87295	5.00000	5.11(M)
	66 Bromoform	173	8.920	8.920	(1.089)	20007	5.00000	5.57
	67 Isopropylbenzene	105	9.063	9.063	(1.107)	131029	5.00000	4.60
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	58164	5.00000	5.26
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	50749	5.00000	5.18
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	555284	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	48872	5.00000	5.12
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	133875	5.00000	4.47
	74 Bromobenzene	156	9.321	9.321	(0.916)	44696	5.00000	5.07
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	106236	5.00000	4.79
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	103500	5.00000	4.91
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	113898	5.00000	4.84
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	84895	5.00000	4.37
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	113976	5.00000	4.89
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	104963	5.00000	5.52
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	94902	5.00000	4.46
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	73825	5.00000	4.89
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	79339	5.00000	4.78
	87 n-Butylbenzene	91	10.495	10.495	(1.032)	69831	5.00000	5.75
	88 1,2-Dichlorobenzene	146	10.510	10.510	(1.033)	77734	5.00000	4.87
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	6526	5.00000	6.07

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	35633	5.00000	4.08
91 Hexachlorobutadiene	225	12.002	12.002 (1.180)	13306	5.00000	5.16

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	86972	5.00000	3.99
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	36621	5.00000	4.23
M	94 1,2-Dichloroethylene (total)	96				73801	10.0000	
M	95 Xylenes (total)	106				172589	15.0000	
	135 1,4-Dioxane	88	6.176	6.176	(1.282)	10776	100.000	94.80
	141 Cyclohexane	56	4.789	4.789	(0.994)	30806	5.00000	5.02(M)
	138 Freon TF	101	2.341	2.341	(0.486)	24730	5.00000	5.50
	140 1,3-Butadiene	54	1.408	1.408	(0.292)	21652	5.00000	5.26
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	73309	5.00000	4.11
	146 Methyl Acetate	43	2.720	2.720	(0.564)	31419	5.00000	5.13
	148 Tert-Butyl alcohol	59	2.975	2.975	(0.617)	76422	100.000	105.56
	149 Isopropyl Alcohol	45	2.574	2.574	(0.534)	49211	100.000	103.14

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\U111106,D
Date : 11-NOV-2022 13:47
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

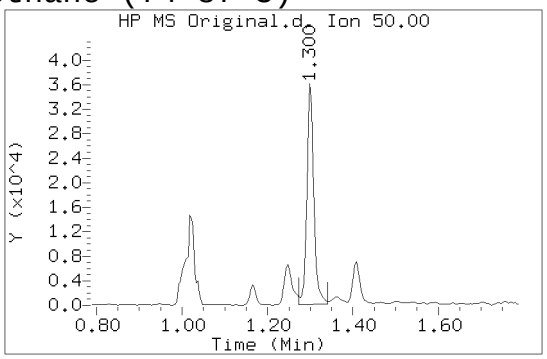
Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

Chloromethane (74-87-3)

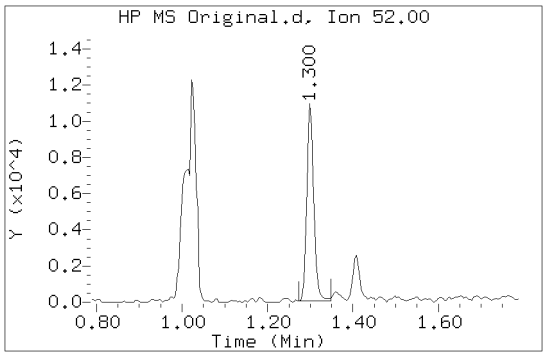
BEFORE

MASS
50
AREA
41513
HEIGHT
35998
16-Nov-2022
09:38
linh
pham



BEFORE

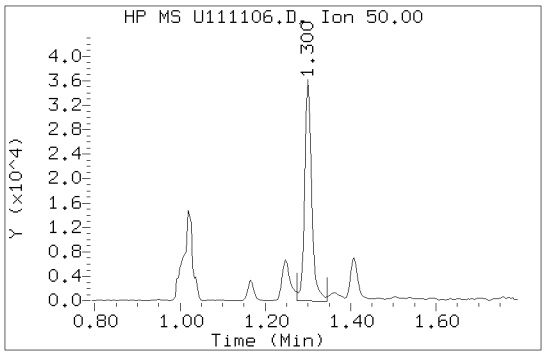
MASS
52
AREA
12707
HEIGHT
10930
16-Nov-2022
09:38
linh
pham



Reason Code:

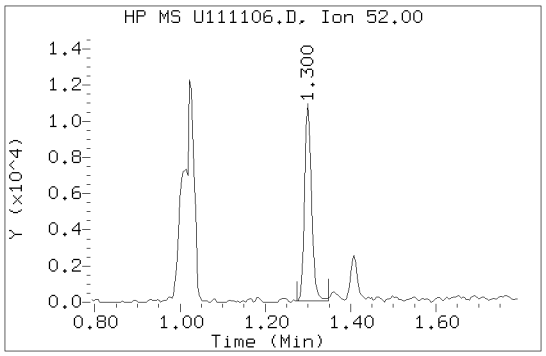
AFTER

MASS
50
AREA
42615
HEIGHT
36205
16-Nov-2022
09:41
linh
pham



AFTER

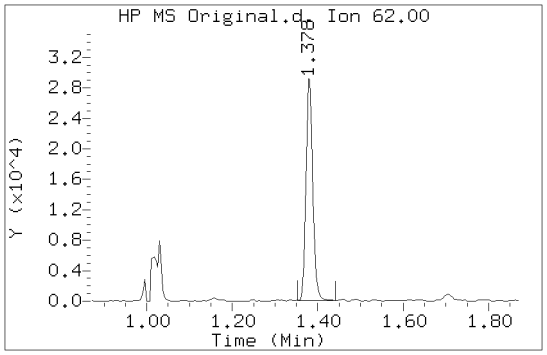
MASS
52
AREA
12707
HEIGHT
10930
16-Nov-2022
09:41
linh
pham



Vinyl Chloride (75-01-4)

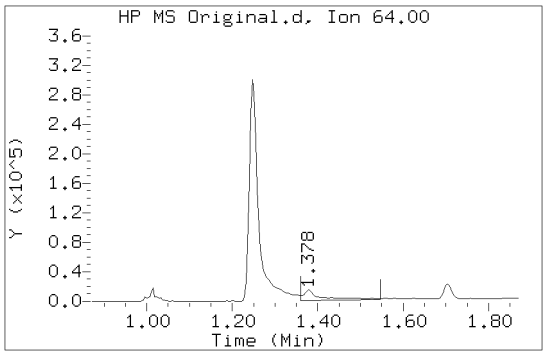
BEFORE

MASS
62
AREA
33234
HEIGHT
29075
16-Nov-2022
09:38
linh
pham



BEFORE

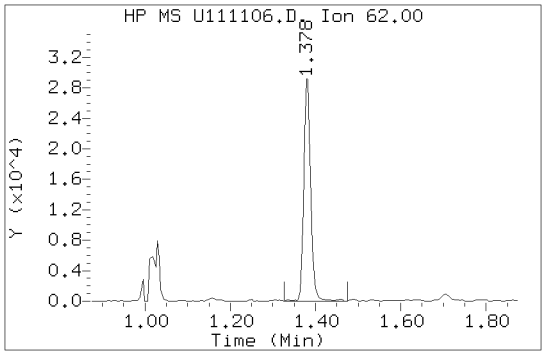
MASS
64
AREA
41515
HEIGHT
14203
16-Nov-2022
09:38
linh
pham



Reason Code:

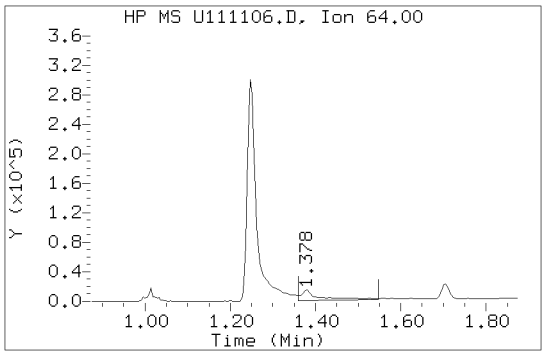
AFTER

MASS
62
AREA
34188
HEIGHT
29176
16-Nov-2022
09:41
linh
pham



AFTER

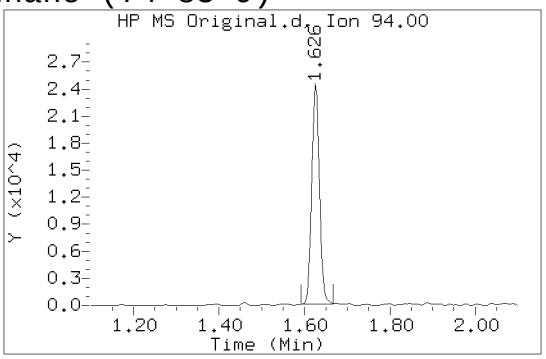
MASS
64
AREA
41515
HEIGHT
14203
16-Nov-2022
09:41
linh
pham



Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

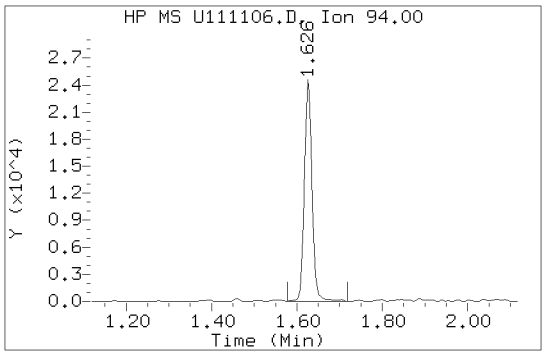
Bromomethane (74-83-9)

BEFORE
MASS
94
AREA
30709
HEIGHT
24474
16-Nov-2022
09:38
linh
pham

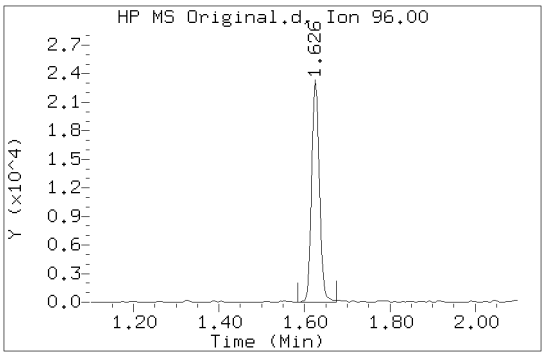


Reason Code:

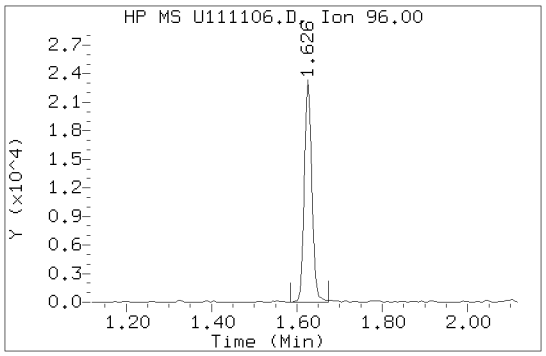
AFTER
MASS
94
AREA
31789
HEIGHT
24600
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
96
AREA
29734
HEIGHT
23344
16-Nov-2022
09:38
linh
pham

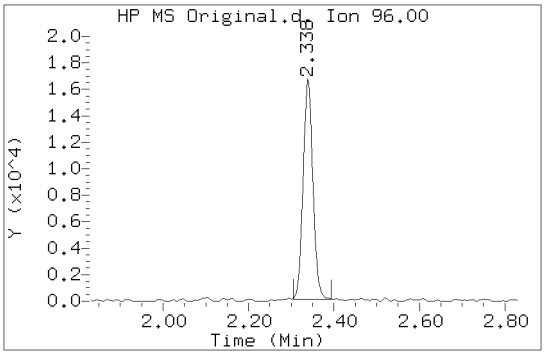


AFTER
MASS
96
AREA
29734
HEIGHT
23344
16-Nov-2022
09:41
linh
pham



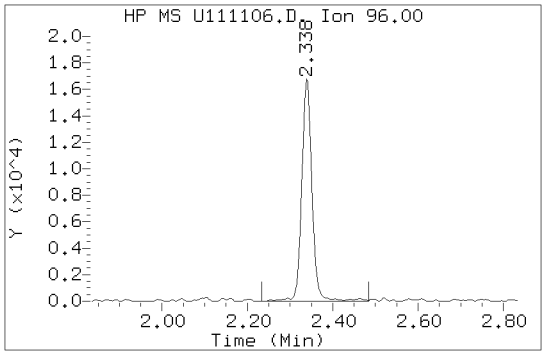
1,1-Dichloroethene (75-35-4)

BEFORE
MASS
96
AREA
27214
HEIGHT
16654
16-Nov-2022
09:38
linh
pham

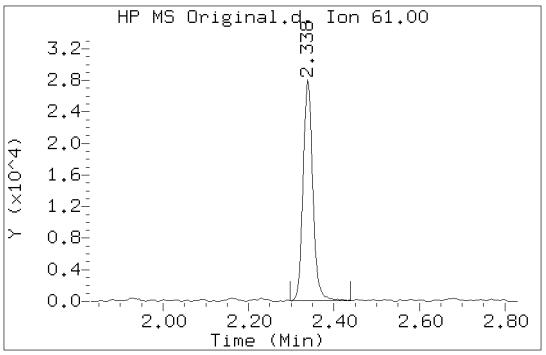


Reason Code:

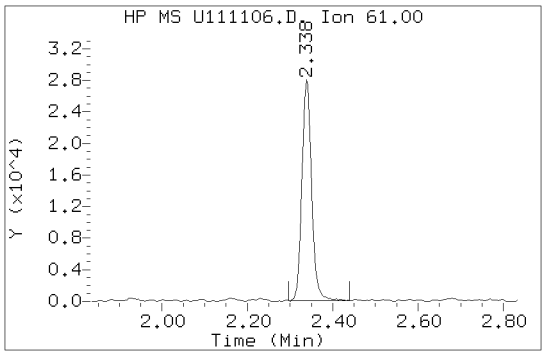
AFTER
MASS
96
AREA
28925
HEIGHT
16784
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
61
AREA
45737
HEIGHT
28028
16-Nov-2022
09:38
linh
pham



AFTER
MASS
61
AREA
45737
HEIGHT
28028
16-Nov-2022
09:41
linh
pham



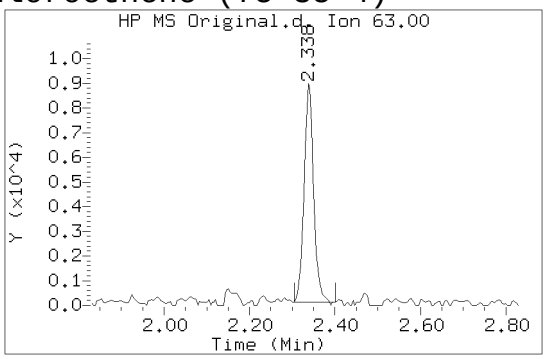
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

1,1-Dichloroethene (75-35-4)

Reason Code:

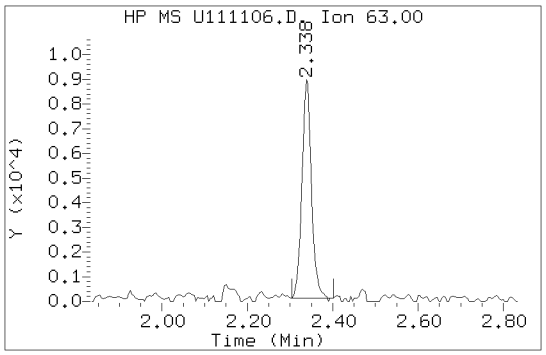
BEFORE

MASS
63
AREA
13992
HEIGHT
8850
16-Nov-2022
09:38
linh
pham



AFTER

MASS
63
AREA
13992
HEIGHT
8850
16-Nov-2022
09:41
linh
pham

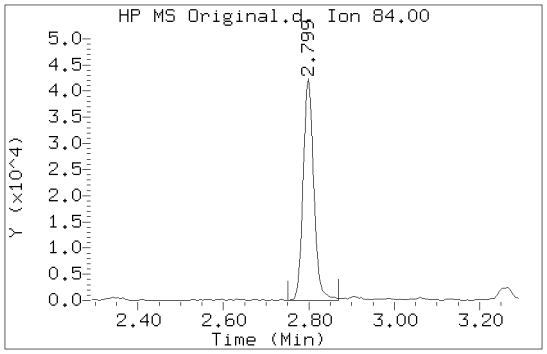


Methylene Chloride (75-09-2)

Reason Code:

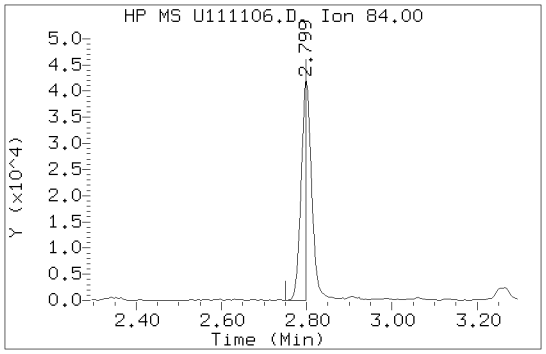
BEFORE

MASS
84
AREA
73921
HEIGHT
42352
16-Nov-2022
09:38
linh
pham



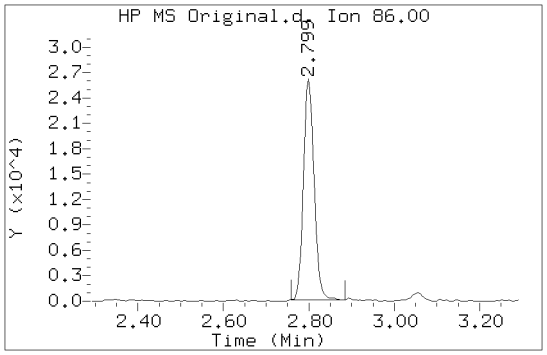
AFTER

MASS
84
AREA
39927
HEIGHT
42352
16-Nov-2022
09:41
linh
pham



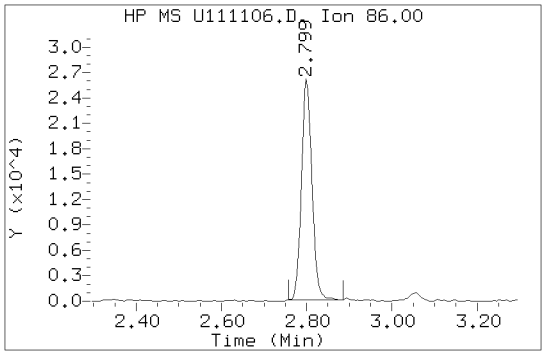
BEFORE

MASS
86
AREA
45489
HEIGHT
26078
16-Nov-2022
09:38
linh
pham



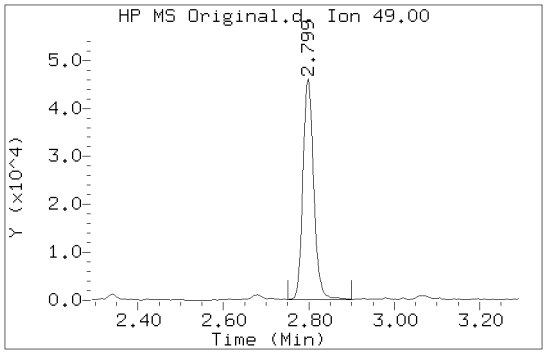
AFTER

MASS
86
AREA
45489
HEIGHT
26078
16-Nov-2022
09:41
linh
pham



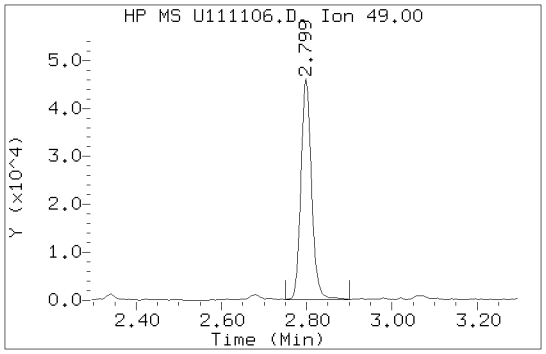
BEFORE

MASS
49
AREA
82374
HEIGHT
46127
16-Nov-2022
09:38
linh
pham



AFTER

MASS
49
AREA
82374
HEIGHT
46127
16-Nov-2022
09:41
linh
pham

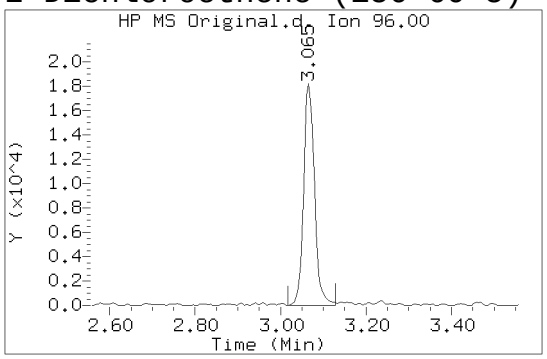


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

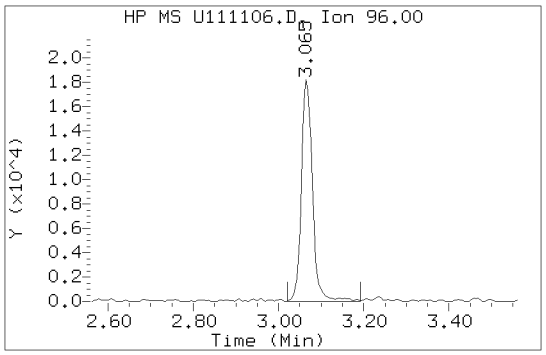
trans-1,2-Dichloroethene (156-60-5)

Reason Code:

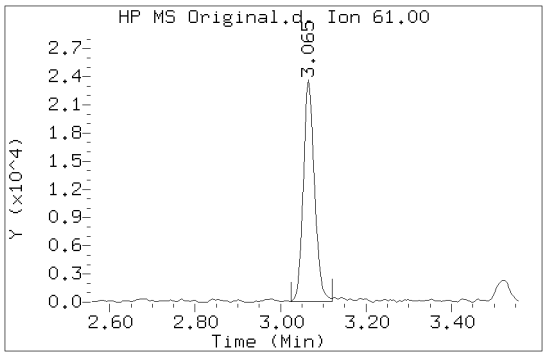
BEFORE
MASS
96
AREA
32752
HEIGHT
18208
16-Nov-2022
09:38
linh
pham



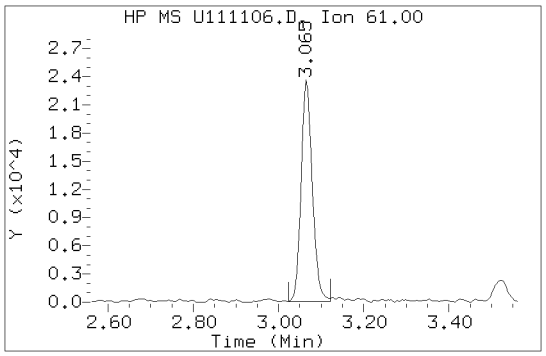
AFTER
MASS
96
AREA
33425
HEIGHT
18208
16-Nov-2022
09:41
linh
pham



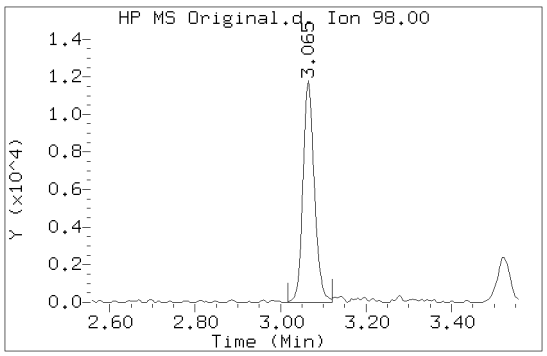
BEFORE
MASS
61
AREA
43467
HEIGHT
23562
16-Nov-2022
09:38
linh
pham



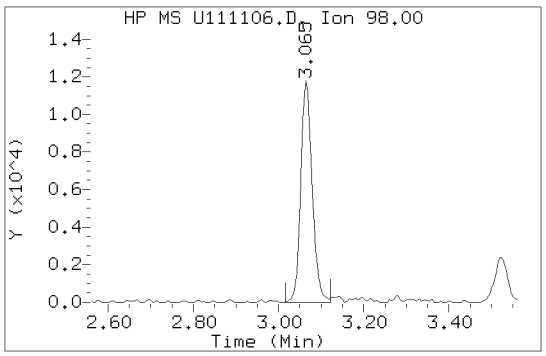
AFTER
MASS
61
AREA
43467
HEIGHT
23562
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
98
AREA
22331
HEIGHT
11796
16-Nov-2022
09:38
linh
pham



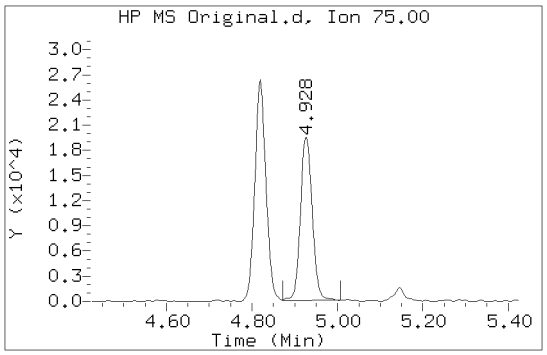
AFTER
MASS
98
AREA
22331
HEIGHT
11796
16-Nov-2022
09:41
linh
pham



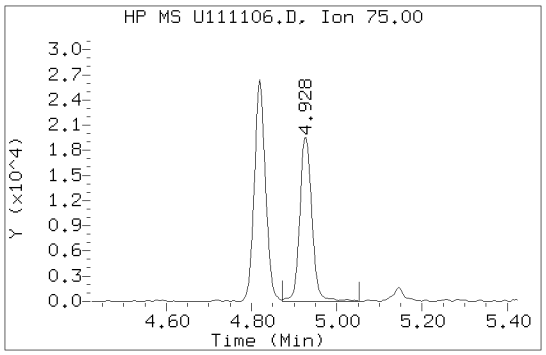
1,1-Dichloropropene (563-58-6)

Reason Code:

BEFORE
MASS
75
AREA
38344
HEIGHT
19464
16-Nov-2022
09:38
linh
pham



AFTER
MASS
75
AREA
39356
HEIGHT
19535
16-Nov-2022
09:41
linh
pham

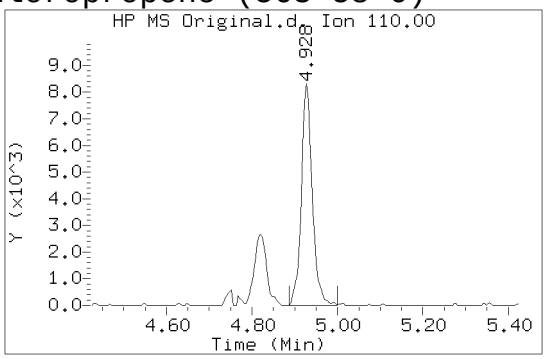


Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

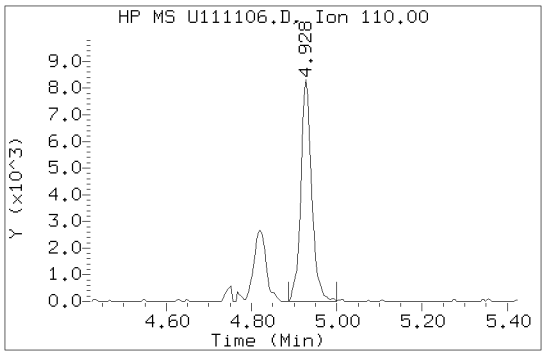
1,1-Dichloropropene (563-58-6)

Reason Code:

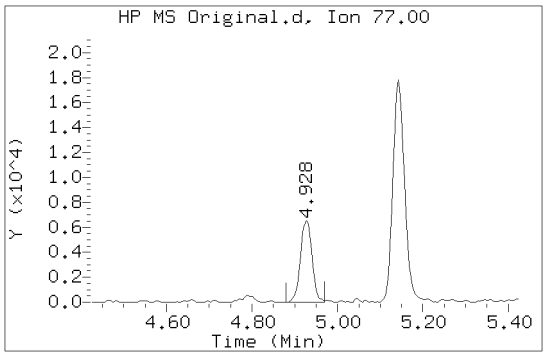
BEFORE
MASS
110
AREA
14970
HEIGHT
8318
16-Nov-2022
09:38
linh
pham



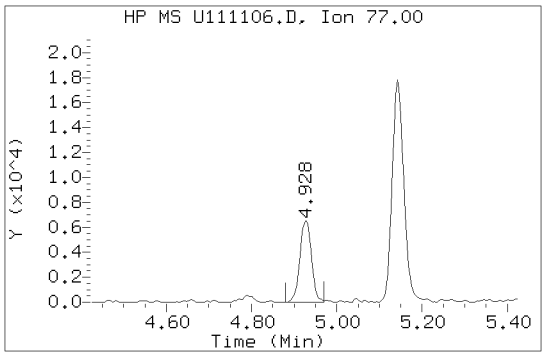
AFTER
MASS
110
AREA
14970
HEIGHT
8318
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
77
AREA
12594
HEIGHT
6536
16-Nov-2022
09:38
linh
pham



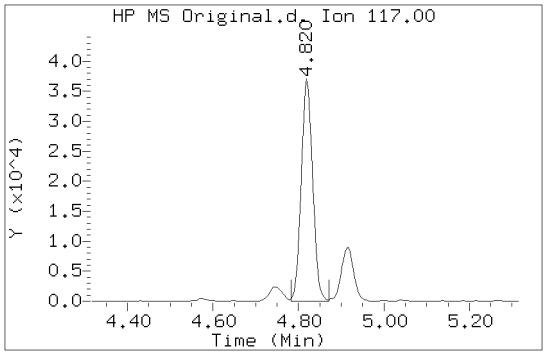
AFTER
MASS
77
AREA
12594
HEIGHT
6536
16-Nov-2022
09:41
linh
pham



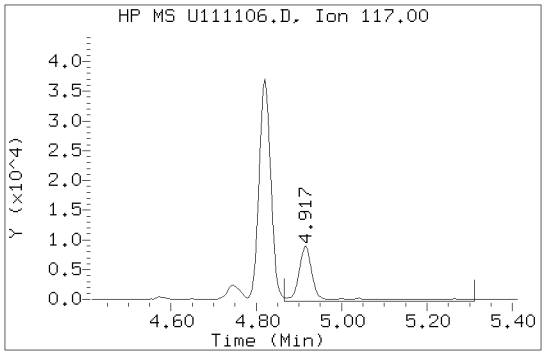
Carbon Tetrachloride (56-23-5)

Reason Code:

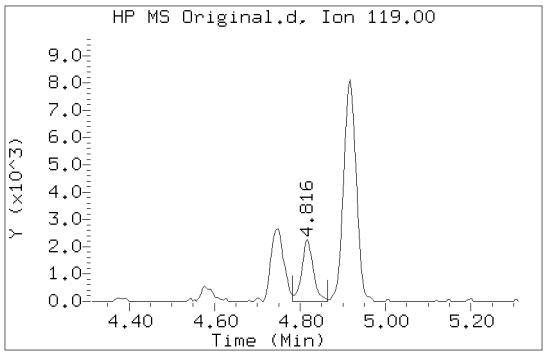
BEFORE
MASS
117
AREA
70347
HEIGHT
37056
16-Nov-2022
09:38
linh
pham



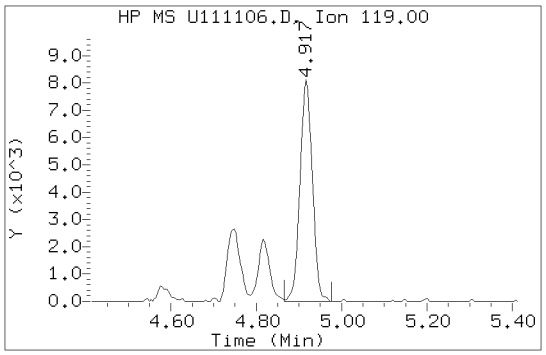
AFTER
MASS
117
AREA
26439
HEIGHT
9250
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
119
AREA
4362
HEIGHT
2268
16-Nov-2022
09:38
linh
pham



AFTER
MASS
119
AREA
16720
HEIGHT
8120
16-Nov-2022
09:41
linh
pham



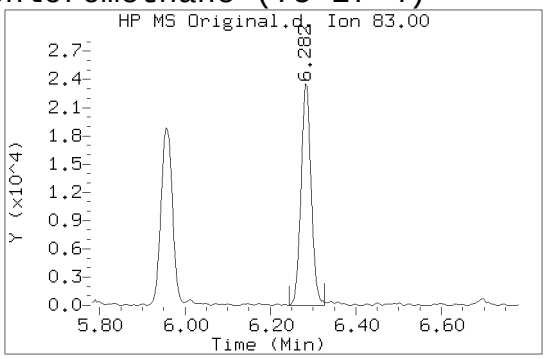
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

Bromodichloromethane (75-27-4)

Reason Code:

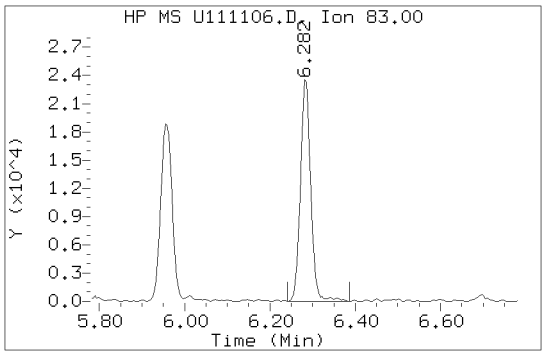
BEFORE

MASS
83
AREA
39635
HEIGHT
23544
16-Nov-2022
09:38
linh
pham



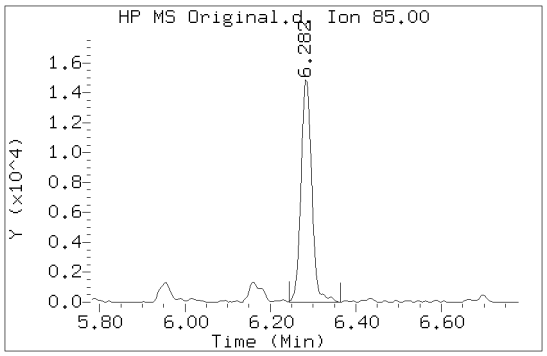
AFTER

MASS
83
AREA
40439
HEIGHT
23544
16-Nov-2022
09:41
linh
pham



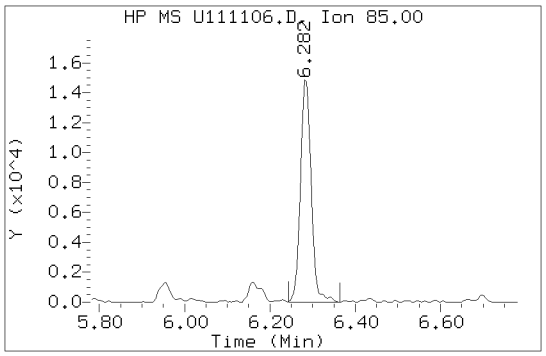
BEFORE

MASS
85
AREA
26749
HEIGHT
14857
16-Nov-2022
09:38
linh
pham



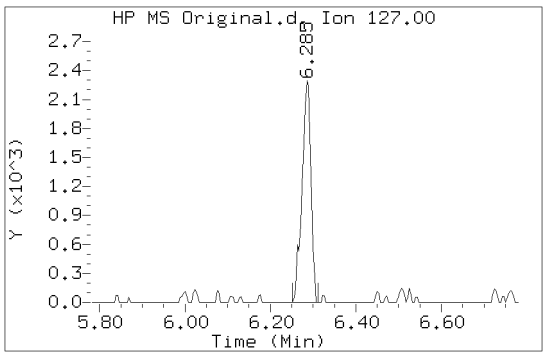
AFTER

MASS
85
AREA
26749
HEIGHT
14857
16-Nov-2022
09:41
linh
pham



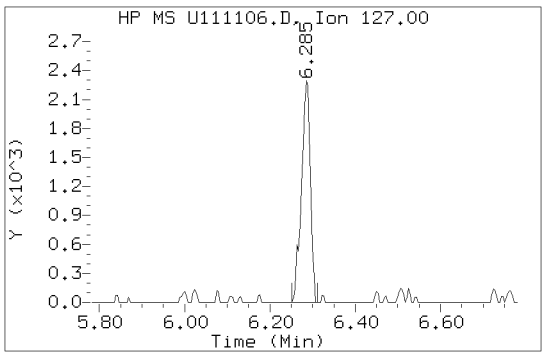
BEFORE

MASS
127
AREA
3421
HEIGHT
2295
16-Nov-2022
09:38
linh
pham



AFTER

MASS
127
AREA
3421
HEIGHT
2295
16-Nov-2022
09:41
linh
pham

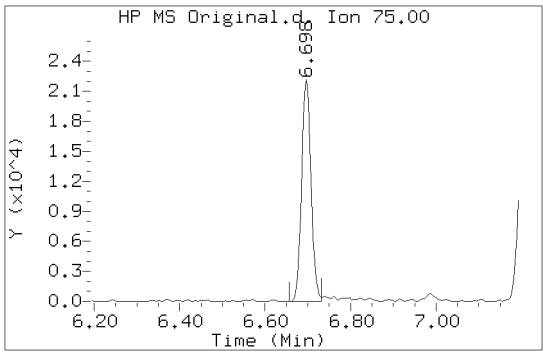


cis-1,3-Dichloropropene (10061-01-5)

Reason Code:

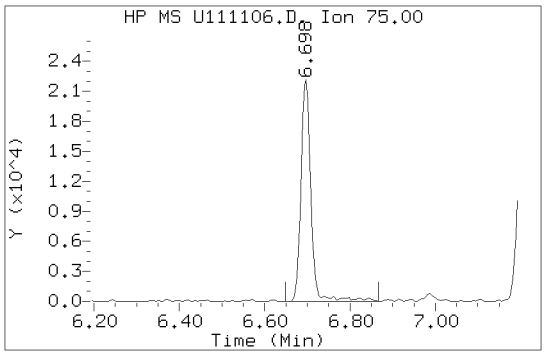
BEFORE

MASS
75
AREA
34563
HEIGHT
22160
16-Nov-2022
09:38
linh
pham



AFTER

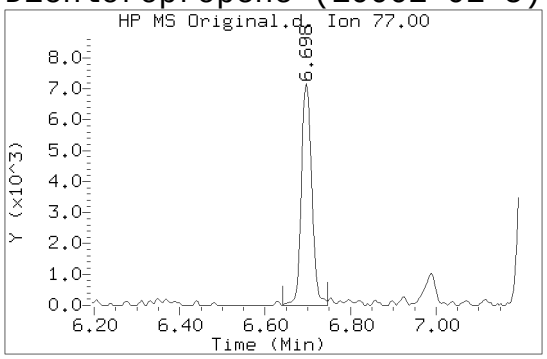
MASS
75
AREA
36717
HEIGHT
22160
16-Nov-2022
09:41
linh
pham



Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

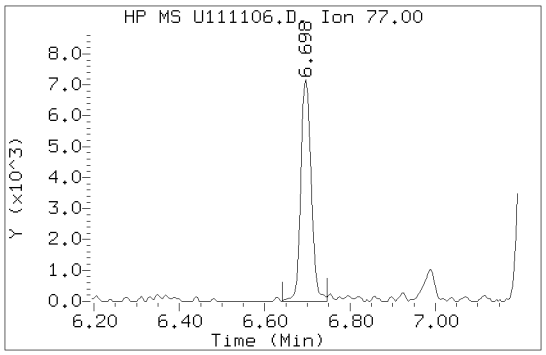
cis-1,3-Dichloropropene (10061-01-5)

BEFORE
MASS
77
AREA
12442
HEIGHT
7167
16-Nov-2022
09:38
linh
pham

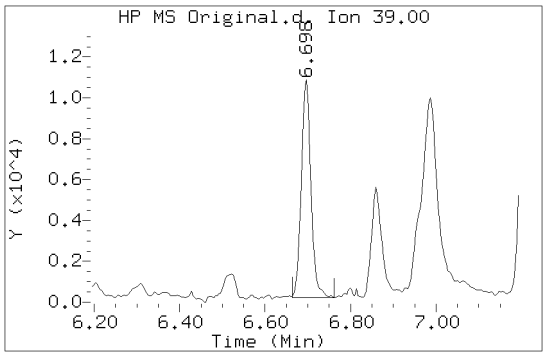


Reason Code:

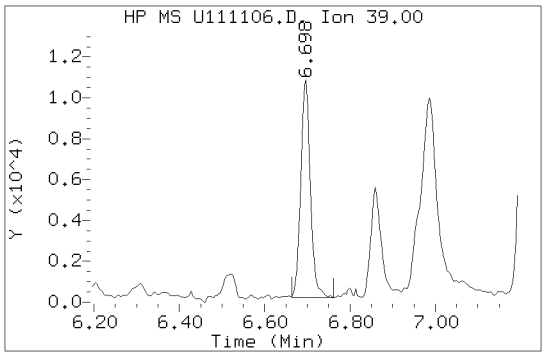
AFTER
MASS
77
AREA
12442
HEIGHT
7167
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
39
AREA
16901
HEIGHT
10647
16-Nov-2022
09:38
linh
pham

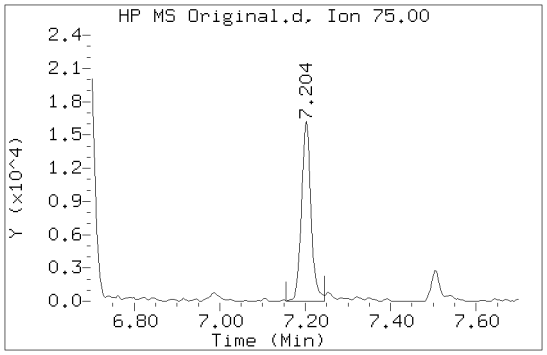


AFTER
MASS
39
AREA
16901
HEIGHT
10647
16-Nov-2022
09:41
linh
pham



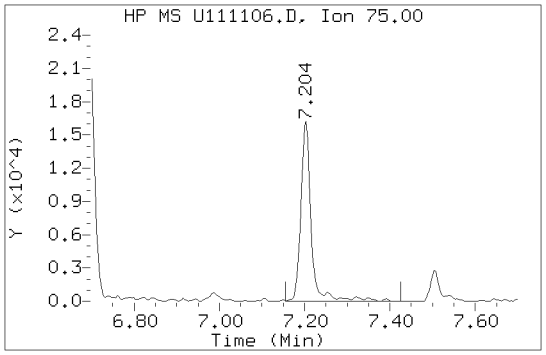
trans-1,3-Dichloropropene (10061-02-6)

BEFORE
MASS
75
AREA
25866
HEIGHT
16244
16-Nov-2022
09:38
linh
pham

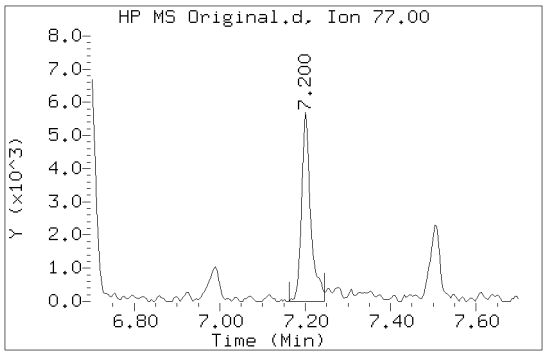


Reason Code:

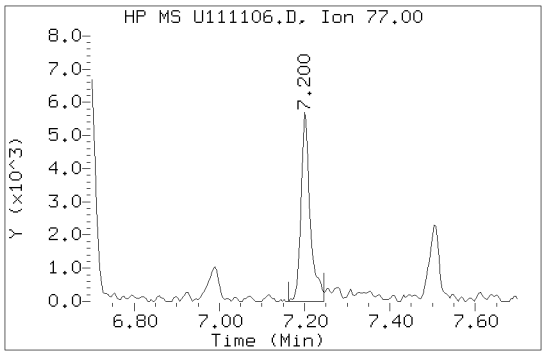
AFTER
MASS
75
AREA
28169
HEIGHT
16244
16-Nov-2022
09:41
linh
pham



BEFORE
MASS
77
AREA
8739
HEIGHT
5690
16-Nov-2022
09:38
linh
pham



AFTER
MASS
77
AREA
8739
HEIGHT
5690
16-Nov-2022
09:41
linh
pham



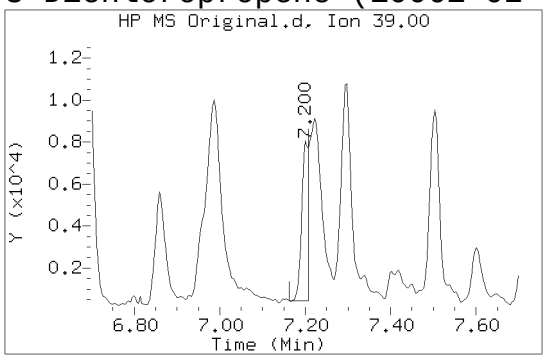
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

trans-1,3-Dichloropropene (10061-02-6)

Reason Code:

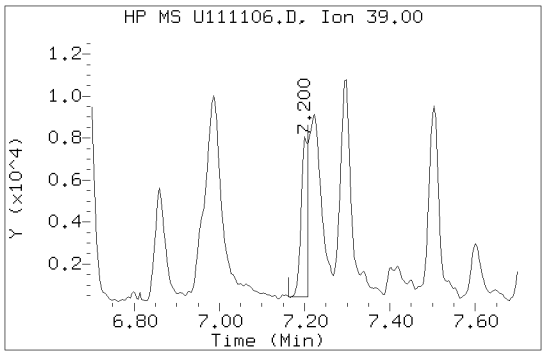
BEFORE

MASS
39
AREA
8739
HEIGHT
7652
16-Nov-2022
09:38
linh
pham



AFTER

MASS
39
AREA
8739
HEIGHT
7652
16-Nov-2022
09:41
linh
pham

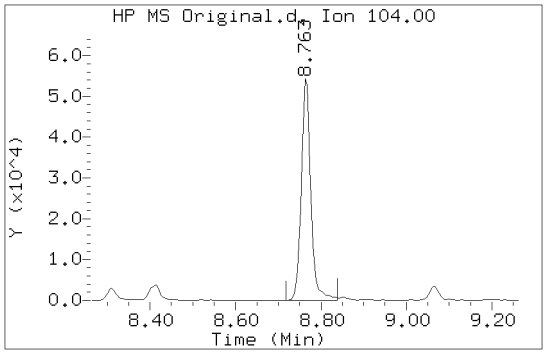


Styrene (100-42-5)

Reason Code:

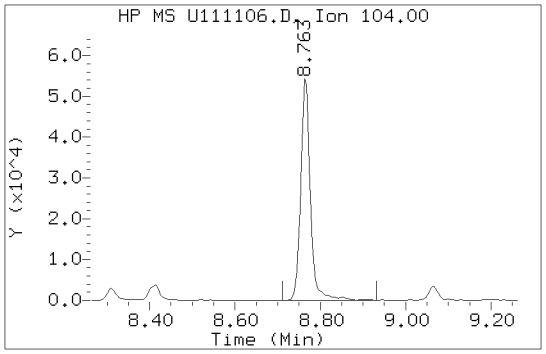
BEFORE

MASS
104
AREA
85821
HEIGHT
54328
16-Nov-2022
09:38
linh
pham



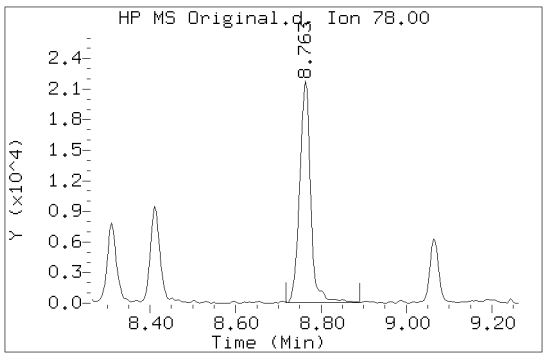
AFTER

MASS
104
AREA
87295
HEIGHT
54328
16-Nov-2022
09:41
linh
pham



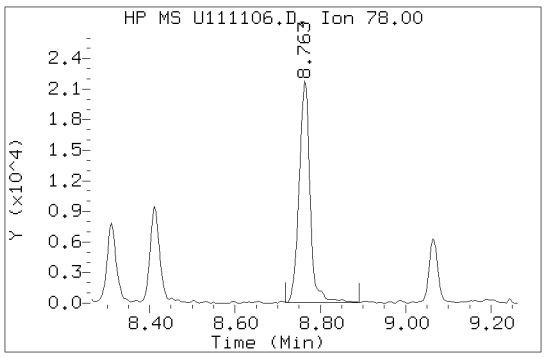
BEFORE

MASS
78
AREA
39453
HEIGHT
21721
16-Nov-2022
09:38
linh
pham



AFTER

MASS
78
AREA
39453
HEIGHT
21721
16-Nov-2022
09:41
linh
pham

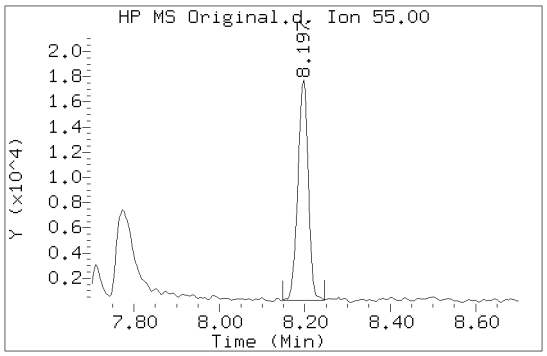


1-Chlorohexane (544-10-5)

Reason Code:

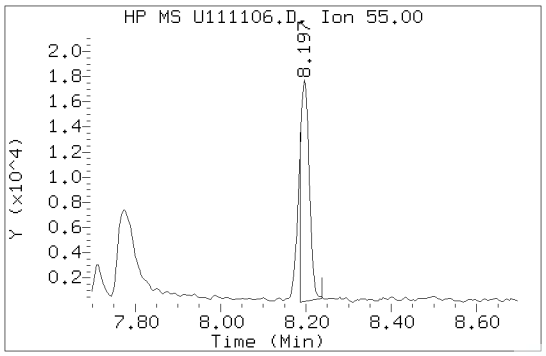
BEFORE

MASS
55
AREA
30409
HEIGHT
17501
16-Nov-2022
09:38
linh
pham



AFTER

MASS
55
AREA
25743
HEIGHT
17599
16-Nov-2022
09:41
linh
pham



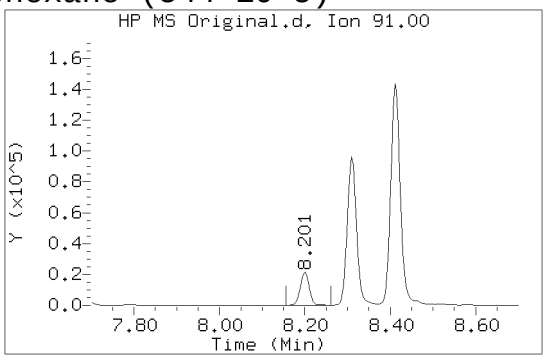
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111106.D
Inj Date : 11-NOV-2022 13:47
InstruID : VOA9.i
LabSampID : VSTD005

1-Chlorohexane (544-10-5)

Reason Code:

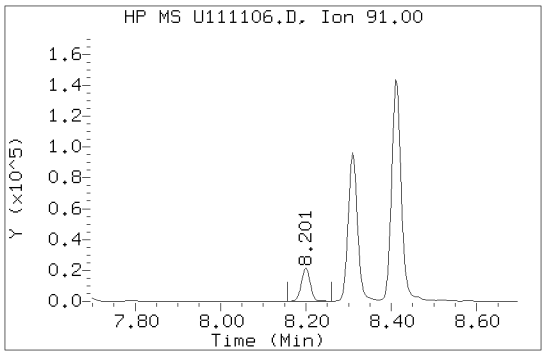
BEFORE

MASS
91
AREA
32333
HEIGHT
21472
16-Nov-2022
09:38
linh
pham



AFTER

MASS
91
AREA
32333
HEIGHT
21472
16-Nov-2022
09:41
linh
pham

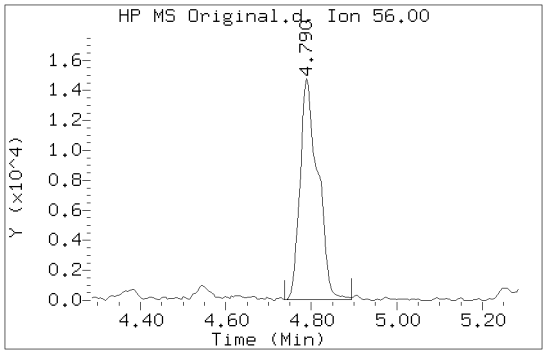


Cyclohexane (110-82-7)

Reason Code:

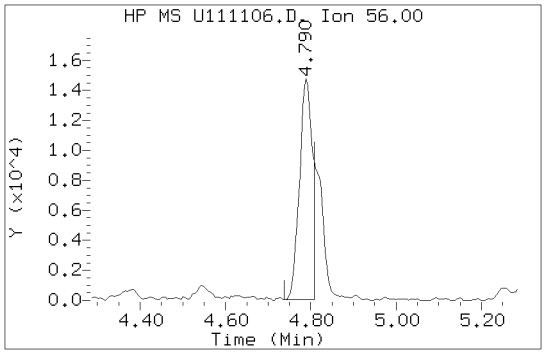
BEFORE

MASS
56
AREA
43204
HEIGHT
14722
16-Nov-2022
09:38
linh
pham



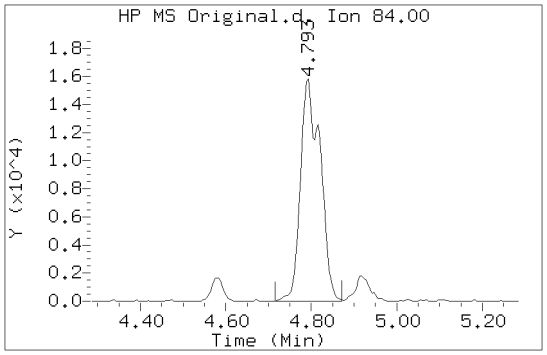
AFTER

MASS
56
AREA
30806
HEIGHT
14722
16-Nov-2022
09:41
linh
pham



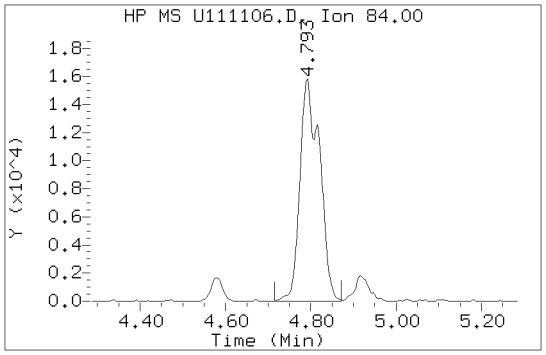
BEFORE

MASS
84
AREA
51343
HEIGHT
15822
16-Nov-2022
09:38
linh
pham



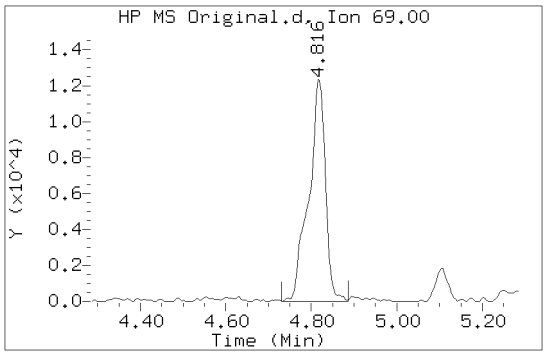
AFTER

MASS
84
AREA
51343
HEIGHT
15822
16-Nov-2022
09:41
linh
pham



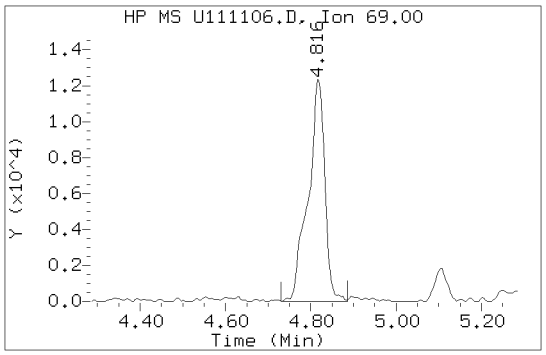
BEFORE

MASS
69
AREA
33613
HEIGHT
12333
16-Nov-2022
09:38
linh
pham



AFTER

MASS
69
AREA
33613
HEIGHT
12333
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 11-NOV-2022 14:09
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 13:47 Cal File: U111106.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.815	4.815	(1.000)	772810	50.0000	
2	Dichlorodifluoromethane	85	1.160	1.160	(0.241)	102320	20.0000	17.58
3	Chloromethane	50	1.295	1.295	(0.269)	151074	20.0000	17.86
5	Vinyl Chloride	62	1.374	1.374	(0.285)	127334	20.0000	16.15
6	Bromomethane	94	1.617	1.617	(0.336)	112053	20.0000	19.98
7	Chloroethane	64	1.696	1.696	(0.352)	98029	20.0000	17.02
8	Trichlorofluoromethane	101	1.895	1.895	(0.394)	169022	20.0000	16.49
9	Acrolein	56	2.266	2.266	(0.471)	19477	40.0000	35.80
10	Acetone	43	2.408	2.408	(0.500)	138833	40.0000	39.85
11	1,1-Dichloroethene	96	2.333	2.333	(0.485)	112330	20.0000	17.04
15	Iodomethane	142	2.464	2.464	(0.512)	213421	40.0000	31.53
16	Acrylonitrile	53	3.068	3.068	(0.637)	138298	40.0000	38.53
17	Methylene Chloride	84	2.794	2.794	(0.580)	187449	20.0000	21.13
18	Methyl tert-butyl ether	73	3.079	3.079	(0.640)	421972	20.0000	18.99
19	Carbon Disulfide	76	2.517	2.517	(0.523)	623860	40.0000	32.53
20	trans-1,2-Dichloroethene	96	3.060	3.060	(0.636)	127310	20.0000	17.45
21	Vinyl Acetate	43	3.608	3.608	(0.749)	755041	40.0000	39.66
22	1,1-Dichloroethane	63	3.514	3.514	(0.730)	230735	20.0000	17.79
24	2-Butanone	43	4.268	4.268	(0.886)	128175	40.0000	41.01
26	2,2-Dichloropropane	77	4.181	4.181	(0.868)	103832	20.0000	15.84

27 cis-1,2-Dichloroethene	96	4.196	4.196 (0.872)	157410	20.0000	18.36
28 Chloroform	83	4.575	4.575 (0.950)	255987	20.0000	18.49

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D Page 2
Report Date: 16-Nov-2022 09:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	86707	20.0000	18.94
$	30 Dibromofluoromethane	113	4.751	4.751	(0.987)	161737	20.0000	20.72
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	161239	20.0000	17.31
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	149156	20.0000	16.91
	33 1,2-Dichloroethane	62	5.178	5.178	(0.933)	218272	20.0000	19.52
	34 Carbon Tetrachloride	117	4.912	4.912	(0.885)	99378	20.0000	18.01(MH)
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	187085	20.0000	20.97
*	36 1,4-Difluorobenzene	114	5.553	5.553	(1.000)	1272199	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	545291	20.0000	18.19
	38 Trichloroethene	130	5.790	5.790	(1.043)	144714	20.0000	17.64
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	173335	20.0000	18.92
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	145372	20.0000	19.07
	44 Dibromomethane	93	6.123	6.123	(1.103)	105517	20.0000	19.21
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	276257	40.0000	39.73
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	175436	20.0000	16.20
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1183393	50.0000	
$	48 Toluene-d8	98	6.925	6.925	(0.846)	579036	20.0000	20.56
	50 Toluene	91	6.982	6.982	(0.853)	595597	20.0000	18.96
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	139963	20.0000	15.96
	52 2-Hexanone	43	7.596	7.596	(0.928)	182995	40.0000	36.24
	53 1,1,2-Trichloroethane	83	7.356	7.356	(0.898)	131723	20.0000	19.46
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	267253	20.0000	19.32
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	144312	20.0000	17.22
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	113823	20.0000	16.67
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	166169	20.0000	20.03
	58 1-Chlorohexane	55	8.196	8.196	(1.476)	88434	20.0000	16.73
	59 Chlorobenzene	112	8.211	8.211	(1.003)	419821	20.0000	18.67
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	136735	20.0000	18.59
	61 Ethylbenzene	106	8.309	8.309	(1.015)	186789	20.0000	18.03
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	452798	40.0000	35.07
	63 o-Xylene	106	8.751	8.751	(1.069)	234394	20.0000	18.38
	64 Styrene	104	8.762	8.762	(1.070)	369850	20.0000	17.20
	66 Bromoform	173	8.920	8.920	(1.089)	94499	20.0000	17.28
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	519303	20.0000	17.66
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	231177	20.0000	19.93
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	205602	20.0000	19.84
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	583309	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.362	(0.920)	194772	20.0000	19.45
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	544491	20.0000	17.32
	74 Bromobenzene	156	9.321	9.321	(0.916)	180015	20.0000	19.47
	75 1,3,5-Trimethylbenzene	105	9.564	9.564	(0.940)	429004	20.0000	18.44
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	418542	20.0000	18.93
	77 4-Chlorotoluene	91	9.579	9.579	(0.942)	470703	20.0000	19.04
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	348236	20.0000	17.07
	79 1,2,4-Trimethylbenzene	105	9.879	9.879	(0.971)	454043	20.0000	18.56
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	417125	20.0000	16.00
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	371945	20.0000	16.66
	83 1,3-Dichlorobenzene	146	10.119	10.119	(0.995)	294716	20.0000	18.60
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	306903	20.0000	17.60
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	294780	20.0000	16.40
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	309206	20.0000	18.44
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	27340	20.0000	17.35

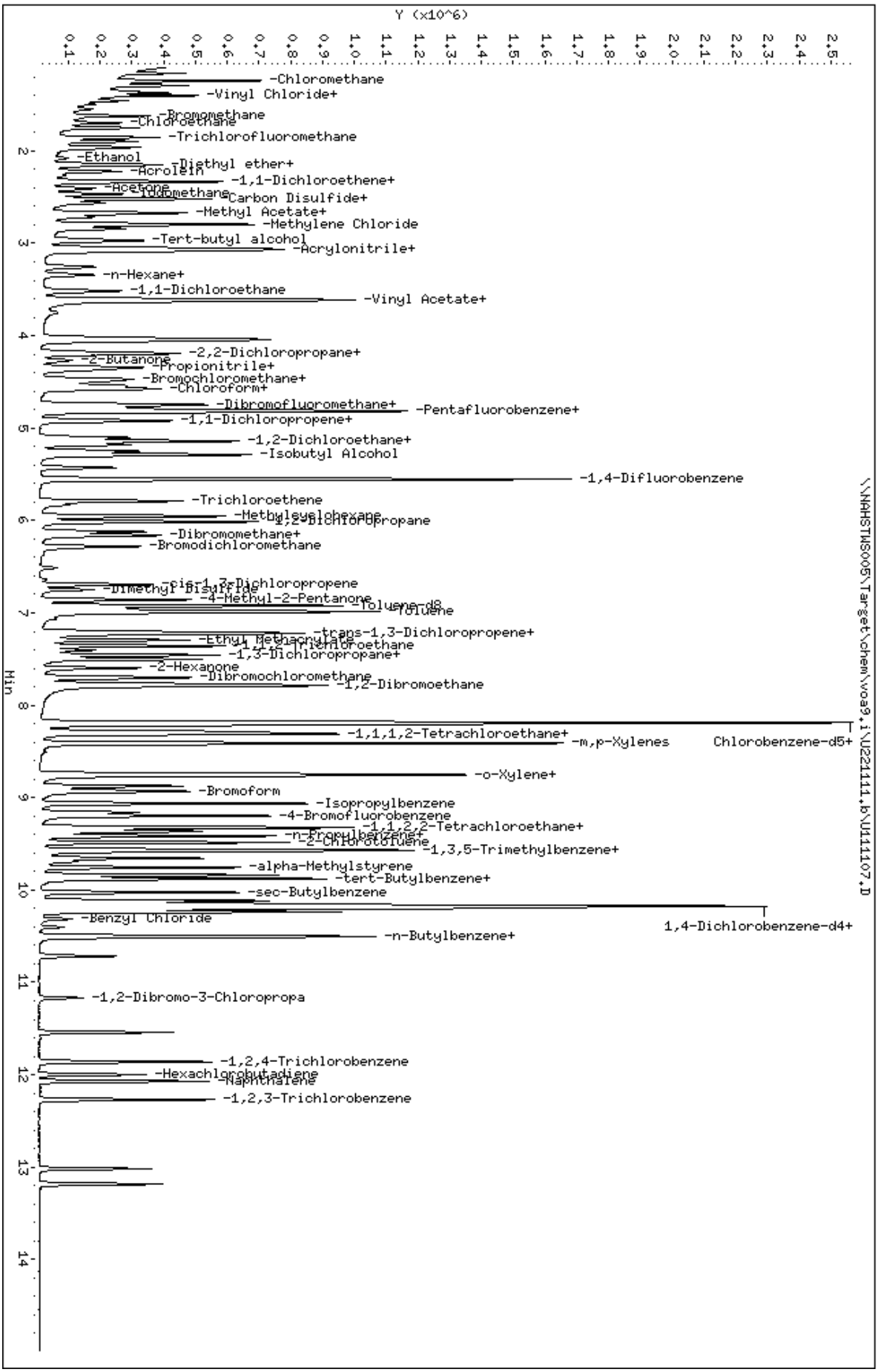
90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	157107	20.0000	17.13
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	60901	20.0000	18.12

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D Page 3
Report Date: 16-Nov-2022 09:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	397549	20.0000	17.37
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	161195	20.0000	17.73
M	94 1,2-Dichloroethylene (total)	96				284720	40.0000	
M	95 Xylenes (total)	106				687192	60.0000	
	135 1,4-Dioxane	88	6.172	6.172	(1.282)	48571	400.000	413.82
	141 Cyclohexane	56	4.785	4.785	(0.994)	124554	20.0000	19.51
	138 Freon TF	101	2.333	2.333	(0.485)	87464	20.0000	18.93
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	86035	20.0000	15.27
	147 Methylcyclohexane	55	5.951	5.951	(1.072)	319555	20.0000	17.81
	146 Methyl Acetate	43	2.716	2.716	(0.564)	124692	20.0000	19.71
	148 Tert-Butyl alcohol	59	2.971	2.971	(0.617)	296243	400.000	396.30
	149 Isopropyl Alcohol	45	2.562	2.562	(0.532)	191634	400.000	388.99

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\U111107.D
Date : 11-NOV-2022 14:09
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

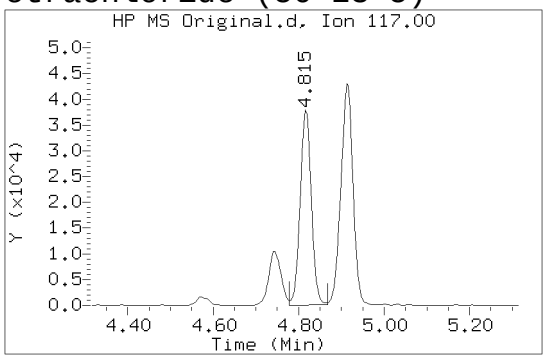
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111107.D
Inj Date : 11-NOV-2022 14:09
InstruID : VOA9.i
LabSampID : VSTD020

Carbon Tetrachloride (56-23-5)

Reason Code:

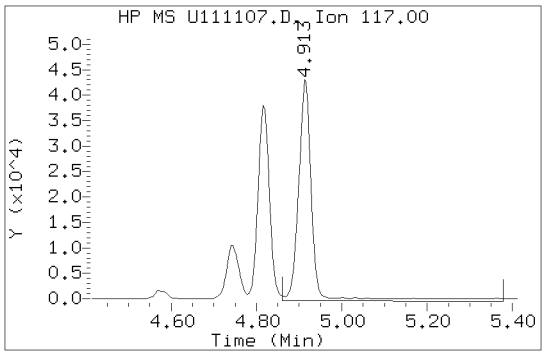
BEFORE

MASS
117
AREA
70129
HEIGHT
37899
16-Nov-2022
09:38
linh
pham



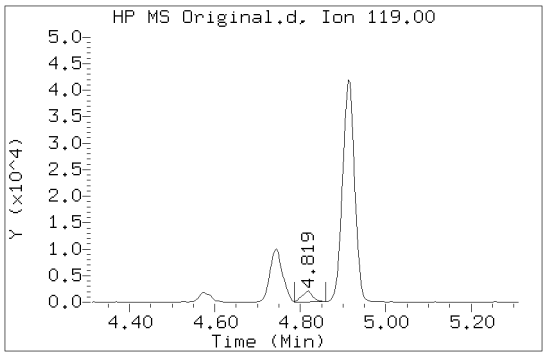
AFTER

MASS
117
AREA
99378
HEIGHT
43410
16-Nov-2022
09:41
linh
pham



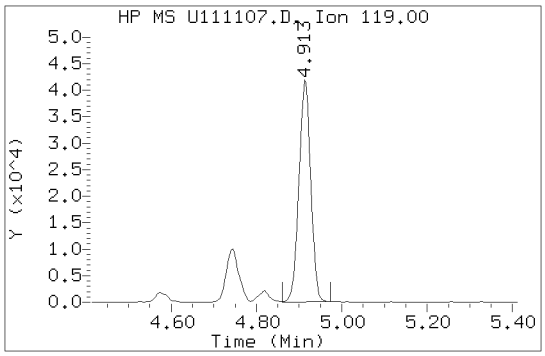
BEFORE

MASS
119
AREA
3781
HEIGHT
2073
16-Nov-2022
09:38
linh
pham



AFTER

MASS
119
AREA
82052
HEIGHT
41877
16-Nov-2022
09:41
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111108.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-NOV-2022 14:31
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:09 Cal File: U111107.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.823	4.823	(1.000)	812571	50.0000	
2	Dichlorodifluoromethane	85	1.171	1.171	(0.243)	341105	50.0000	51.06
3	Chloromethane	50	1.306	1.306	(0.271)	443180	50.0000	49.39
5	Vinyl Chloride	62	1.385	1.385	(0.287)	412771	50.0000	49.80
6	Bromomethane	94	1.629	1.629	(0.338)	297603	50.0000	52.18
7	Chloroethane	64	1.708	1.708	(0.354)	307590	50.0000	50.80
8	Trichlorofluoromethane	101	1.906	1.906	(0.395)	524429	50.0000	48.66
9	Acrolein	56	2.274	2.274	(0.471)	55154	100.000	94.75
10	Acetone	43	2.420	2.420	(0.502)	354366	100.000	107.49
11	1,1-Dichloroethene	96	2.345	2.345	(0.486)	344288	50.0000	49.68
15	Iodomethane	142	2.476	2.476	(0.513)	724437	100.000	93.00
16	Acrylonitrile	53	3.076	3.076	(0.638)	360930	100.000	95.63
17	Methylene Chloride	84	2.802	2.802	(0.581)	474209	50.0000	53.00
18	Methyl tert-butyl ether	73	3.091	3.091	(0.641)	1129602	50.0000	48.37
19	Carbon Disulfide	76	2.528	2.528	(0.524)	1981178	100.000	98.27
20	trans-1,2-Dichloroethene	96	3.068	3.068	(0.636)	390750	50.0000	50.95
21	Vinyl Acetate	43	3.619	3.619	(0.751)	2038112	100.000	101.83
22	1,1-Dichloroethane	63	3.526	3.526	(0.731)	691036	50.0000	50.69
24	2-Butanone	43	4.275	4.275	(0.887)	333171	100.000	101.39
26	2,2-Dichloropropane	77	4.193	4.193	(0.869)	341067	50.0000	46.68

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	448891	50.0000	49.80
28 Chloroform	83	4.583	4.583 (0.950)	736374	50.0000	50.59

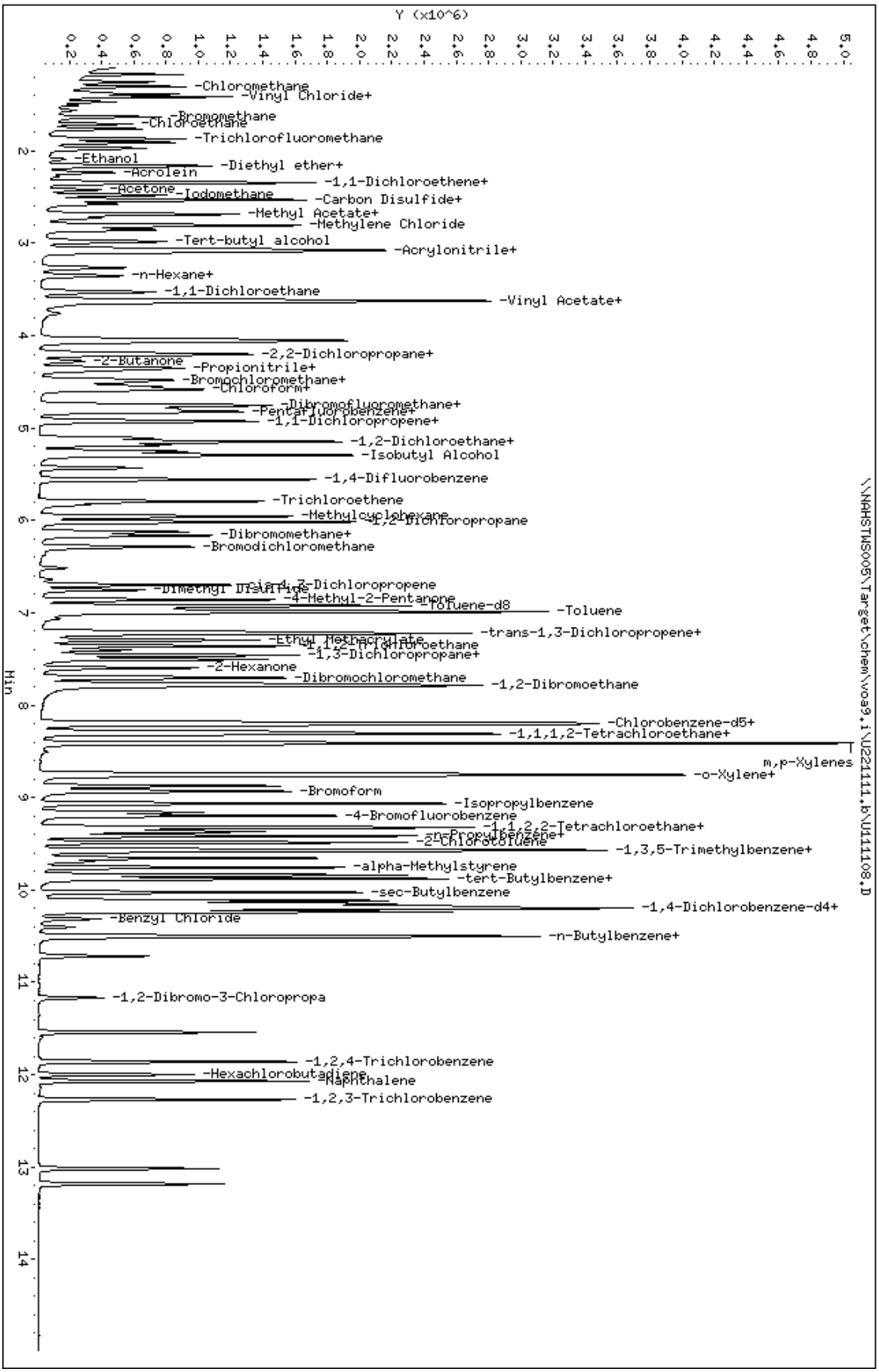
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	238693	50.0000	49.61
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	387990	50.0000	47.73
	31 1,1,1-Trichloroethane	97	4.751	4.751	(0.985)	505108	50.0000	51.59
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	451088	50.0000	49.77
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	588781	50.0000	51.25
	34 Carbon Tetrachloride	117	4.916	4.916	(0.885)	320902	50.0000	50.82(H)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.058)	449979	50.0000	48.79
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1307600	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	1593869	50.0000	51.74
	38 Trichloroethene	130	5.794	5.794	(1.042)	433111	50.0000	51.39
	39 Bromodichloromethane	83	6.285	6.285	(1.131)	527754	50.0000	56.04
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	407482	50.0000	52.01
	44 Dibromomethane	93	6.127	6.127	(1.103)	293688	50.0000	52.02
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	775791	100.000	106.73
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	589702	50.0000	46.60
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1237070	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	1356612	50.0000	46.09
	50 Toluene	91	6.986	6.986	(0.853)	1716781	50.0000	52.28
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	478316	50.0000	45.14
	52 2-Hexanone	43	7.597	7.597	(0.928)	526402	100.000	97.39
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	352998	50.0000	49.90
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	742056	50.0000	51.32
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	445683	50.0000	48.05
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	328049	50.0000	45.97
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	464886	50.0000	53.62
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	266333	50.0000	45.09
	59 Chlorobenzene	112	8.211	8.211	(1.003)	1173726	50.0000	49.95
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	408823	50.0000	53.18
	61 Ethylbenzene	106	8.309	8.309	(1.015)	538156	50.0000	49.70
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1380089	100.000	102.26
	63 o-Xylene	106	8.751	8.751	(1.069)	695717	50.0000	52.19
	64 Styrene	104	8.763	8.763	(1.070)	1123787	50.0000	47.67
	66 Bromoform	173	8.920	8.920	(1.089)	291068	50.0000	46.44
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	1573253	50.0000	51.20
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	623822	50.0000	50.25
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	515213	50.0000	47.30
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	624341	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	532419	50.0000	49.69
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1679400	50.0000	49.93
	74 Bromobenzene	156	9.321	9.321	(0.916)	498617	50.0000	50.39
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1261866	50.0000	50.67
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1190280	50.0000	50.31
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	1354647	50.0000	51.20
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1051666	50.0000	48.16
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	1293736	50.0000	49.41
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1297343	50.0000	43.16
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	1116432	50.0000	46.72
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	844411	50.0000	49.79
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	866696	50.0000	46.44
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	902009	50.0000	42.77
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	860829	50.0000	47.97
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	84642	50.0000	45.87

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	477841	50.0000	48.68
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	169934	50.0000	43.90

		QUANT SIG					AMOUNTS CAL-AMT	AMOUNTS ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	1213056	50.0000	49.53
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	466636	50.0000	47.95
M	94 1,2-Dichloroethylene (total)	96				839641	100.000	
M	95 Xylenes (total)	106				2075806	150.000	
	135 1,4-Dioxane	88	6.172	6.172	(1.280)	127214	1000.00	1030.82
	141 Cyclohexane	56	4.789	4.789	(0.993)	367931	50.0000	50.21
	138 Freon TF	101	2.345	2.345	(0.486)	265554	50.0000	50.40
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	295655	50.0000	45.96
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	858917	50.0000	46.58
	146 Methyl Acetate	43	2.723	2.723	(0.565)	318972	50.0000	47.97
	148 Tert-Butyl alcohol	59	2.978	2.978	(0.618)	783084	1000.00	996.31
	149 Isopropyl Alcohol	45	2.573	2.573	(0.534)	502529	1000.00	970.16

QC Flag Legend

H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\U111108.D
Date : 11-NOV-2022 14:31
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa9,i\U221111,b\U111108.D

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111108.D
Inj Date : 11-NOV-2022 14:31
InstruID : VOA9.i
LabSampID : VSTD050

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 11-NOV-2022 14:53
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.819	4.819	(1.000)	829812	50.0000	
2	Dichlorodifluoromethane	85	1.164	1.164	(0.242)	811364	100.000	99.84
3	Chloromethane	50	1.299	1.299	(0.270)	920649	100.000	100.22
5	Vinyl Chloride	62	1.378	1.378	(0.286)	908173	100.000	107.30
6	Bromomethane	94	1.618	1.618	(0.336)	575509	100.000	99.81
7	Chloroethane	64	1.700	1.700	(0.353)	674958	100.000	109.15
8	Trichlorofluoromethane	101	1.903	1.903	(0.395)	1251739	100.000	113.74
9	Acrolein	56	2.270	2.270	(0.471)	117779	200.000	197.04
10	Acetone	43	2.412	2.412	(0.501)	675630	200.000	207.20(A)
11	1,1-Dichloroethene	96	2.337	2.337	(0.485)	788572	100.000	111.42
15	Iodomethane	142	2.472	2.472	(0.513)	1610926	200.000	198.28
16	Acrylonitrile	53	3.072	3.072	(0.638)	754362	200.000	195.73
17	Methylene Chloride	84	2.799	2.799	(0.581)	927668	100.000	102.95
18	Methyl tert-butyl ether	73	3.087	3.087	(0.641)	2372627	100.000	99.48
19	Carbon Disulfide	76	2.525	2.525	(0.524)	4294866	200.000	208.61
20	trans-1,2-Dichloroethene	96	3.065	3.065	(0.636)	830414	100.000	106.04
21	Vinyl Acetate	43	3.612	3.612	(0.750)	4171958	200.000	204.12
22	1,1-Dichloroethane	63	3.522	3.522	(0.731)	1385774	100.000	99.54
24	2-Butanone	43	4.272	4.272	(0.886)	680227	200.000	202.71
26	2,2-Dichloropropane	77	4.189	4.189	(0.869)	779680	100.000	102.84

27 cis-1,2-Dichloroethene	96	4.201	4.201 (0.872)	912807	100.000	99.16
28 Chloroform	83	4.579	4.579 (0.950)	1504695	100.000	101.22

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D Page 2
Report Date: 16-Nov-2022 09:41

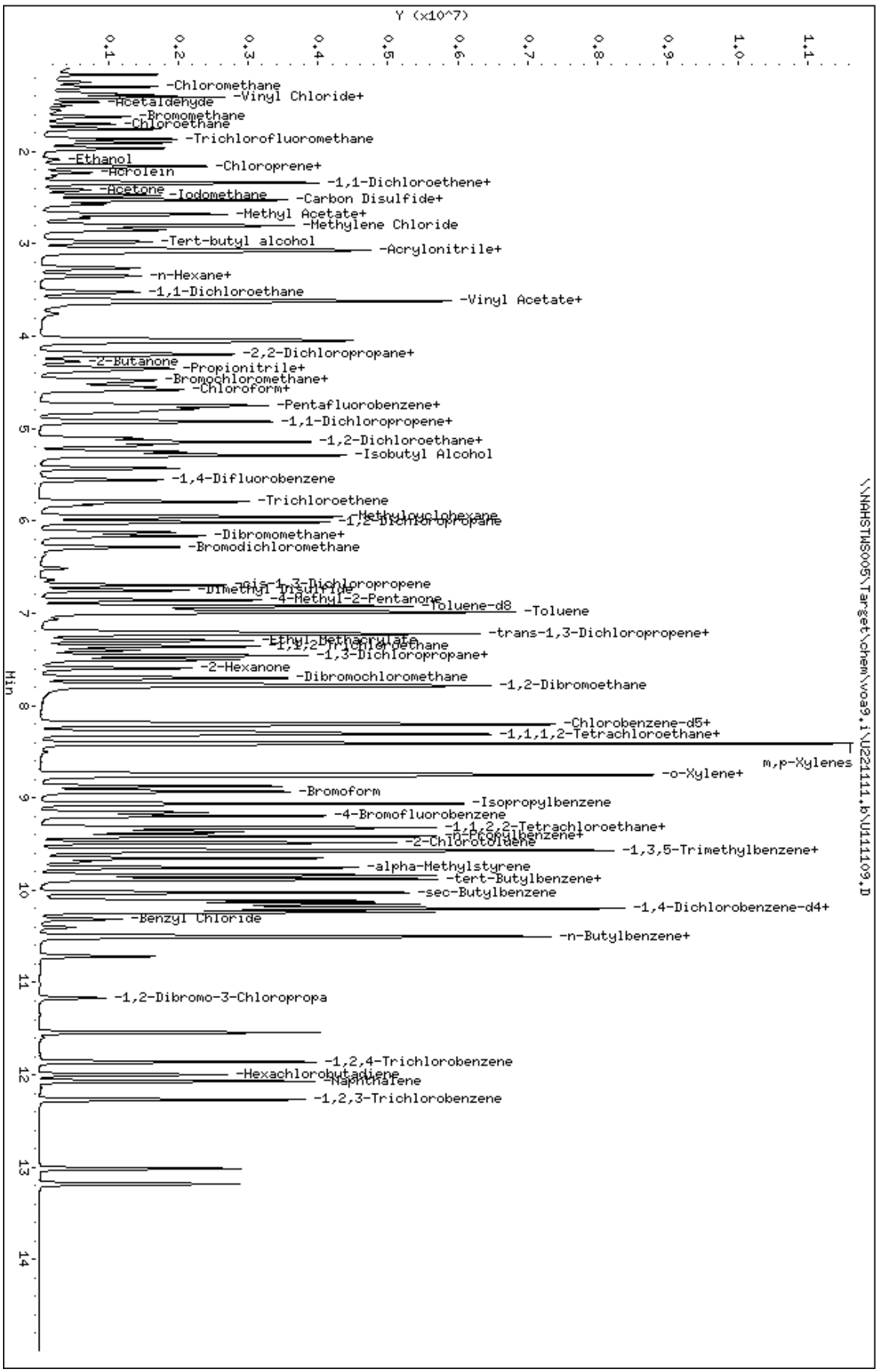
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.474	4.474	(0.928)	474397	100.000	96.55
$	30 Dibromofluoromethane	113	4.755	4.755	(0.987)	851798	100.000	103.02
	31 1,1,1-Trichloroethane	97	4.748	4.748	(0.985)	1173978	100.000	117.42
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	1056974	100.000	113.14
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	1206603	100.000	101.89
	34 Carbon Tetrachloride	117	4.917	4.917	(0.885)	877292	100.000	99.91(H)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.059)	940738	100.000	100.56
*	36 1,4-Difluorobenzene	114	5.558	5.558	(1.000)	1347798	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	3318477	100.000	104.52
	38 Trichloroethene	130	5.794	5.794	(1.042)	943387	100.000	108.59
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	1105555	100.000	113.91
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	855507	100.000	105.95
	44 Dibromomethane	93	6.124	6.124	(1.102)	596416	100.000	102.49
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	1649677	200.000	219.72
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	1314625	100.000	97.52
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1277881	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	3140659	100.000	103.31
	50 Toluene	91	6.982	6.982	(0.853)	3683725	100.000	108.60
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	1103954	100.000	96.84
	52 2-Hexanone	43	7.593	7.593	(0.927)	1147474	200.000	204.02
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	719281	100.000	98.44
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	1516127	100.000	101.52
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	982012	100.000	100.86
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	799766	100.000	108.50
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	963236	100.000	107.56
	58 1-Chlorohexane	55	8.200	8.200	(1.475)	699070	100.000	105.24
	59 Chlorobenzene	112	8.212	8.212	(1.003)	2494297	100.000	102.76
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	870281	100.000	109.60
	61 Ethylbenzene	106	8.309	8.309	(1.015)	1233798	100.000	110.30
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	3160058	200.000	226.68
	63 o-Xylene	106	8.748	8.748	(1.068)	1532844	100.000	111.33
	64 Styrene	104	8.763	8.763	(1.070)	2515807	100.000	101.89
	66 Bromoform	173	8.920	8.920	(1.089)	649870	100.000	97.71
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	3736190	100.000	117.71
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	1273124	100.000	96.46
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	1154383	100.000	102.39
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	663876	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	1174548	100.000	103.10
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	4075504	100.000	113.96
	74 Bromobenzene	156	9.321	9.321	(0.916)	1082776	100.000	102.92
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	2918072	100.000	110.21
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	2623517	100.000	104.30
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	3031770	100.000	107.77
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	2619000	100.000	112.81
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	2894060	100.000	103.95
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	3454225	100.000	105.43
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	2860193	100.000	112.57
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	1858925	100.000	103.10
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	1940353	100.000	97.78
	87 n-Butylbenzene	91	10.495	10.495	(1.032)	2374641	100.000	102.61
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	1887767	100.000	98.93
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	194924	100.000	96.67

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	1159756	100.000	111.12
91 Hexachlorobutadiene	225	12.002	12.002 (1.180)	483913	100.000	105.49

		QUANT SIG					AMOUNTS CAL-AMT	AMOUNTS ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	2897700	100.000	111.26
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	1114963	100.000	107.75
M	94 1,2-Dichloroethylene (total)	96				1743221	200.000	
M	95 Xylenes (total)	106				4692902	300.000	
	135 1,4-Dioxane	88	6.172	6.172	(1.281)	257083	2000.00	2039.87
	141 Cyclohexane	56	4.789	4.789	(0.994)	998644	100.000	99.97
	138 Freon TF	101	2.341	2.341	(0.486)	692856	100.000	99.95
	140 1,3-Butadiene	54	1.408	1.408	(0.292)	689246	100.000	102.68
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	2142631	100.000	112.74(A)
	146 Methyl Acetate	43	2.720	2.720	(0.564)	643954	100.000	94.83
	148 Tert-Butyl alcohol	59	2.975	2.975	(0.617)	1622406	2000.00	2021.29
	149 Isopropyl Alcohol	45	2.570	2.570	(0.533)	1024602	2000.00	1936.96

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\woa9.i\U221111.b\U111109.D
Date : 11-NOV-2022 14:53
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111109.D
Inj Date : 11-NOV-2022 14:53
InstruID : VOA9.i
LabSampID : VSTD100

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 11-NOV-2022 15:16
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:53 Cal File: U111109.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.823	4.823	(1.000)	828884	50.0000	
2	Dichlorodifluoromethane	85	1.168	1.168	(0.242)	1207713	150.000	124.64
3	Chloromethane	50	1.303	1.303	(0.270)	1404641	150.000	152.95
5	Vinyl Chloride	62	1.381	1.381	(0.287)	1402887	150.000	165.93
6	Bromomethane	94	1.618	1.618	(0.335)	870933	150.000	151.80
7	Chloroethane	64	1.704	1.704	(0.353)	982326	150.000	159.04
8	Trichlorofluoromethane	101	1.903	1.903	(0.395)	1817450	150.000	165.34
9	Acrolein	56	2.274	2.274	(0.471)	185978	300.000	310.90
10	Acetone	43	2.416	2.416	(0.501)	999241	300.000	310.41(A)
11	1,1-Dichloroethene	96	2.341	2.341	(0.485)	1168198	150.000	165.25
15	Iodomethane	142	2.476	2.476	(0.513)	2556299	300.000	313.47
16	Acrylonitrile	53	3.076	3.076	(0.638)	1116139	300.000	289.92
17	Methylene Chloride	84	2.802	2.802	(0.581)	1389833	150.000	155.18
18	Methyl tert-butyl ether	73	3.091	3.091	(0.641)	3653746	150.000	153.37
19	Carbon Disulfide	76	2.525	2.525	(0.524)	6401851	300.000	311.30
20	trans-1,2-Dichloroethene	96	3.068	3.068	(0.636)	1241525	150.000	158.72
21	Vinyl Acetate	43	3.616	3.616	(0.750)	6360761	300.000	311.57
22	1,1-Dichloroethane	63	3.526	3.526	(0.731)	2077294	150.000	149.38
24	2-Butanone	43	4.275	4.275	(0.887)	1018651	300.000	303.90
26	2,2-Dichloropropane	77	4.193	4.193	(0.869)	1201871	150.000	157.99

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	1408492	150.000	153.18
28 Chloroform	83	4.583	4.583 (0.950)	2281202	150.000	153.63

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D Page 2
Report Date: 16-Nov-2022 09:41

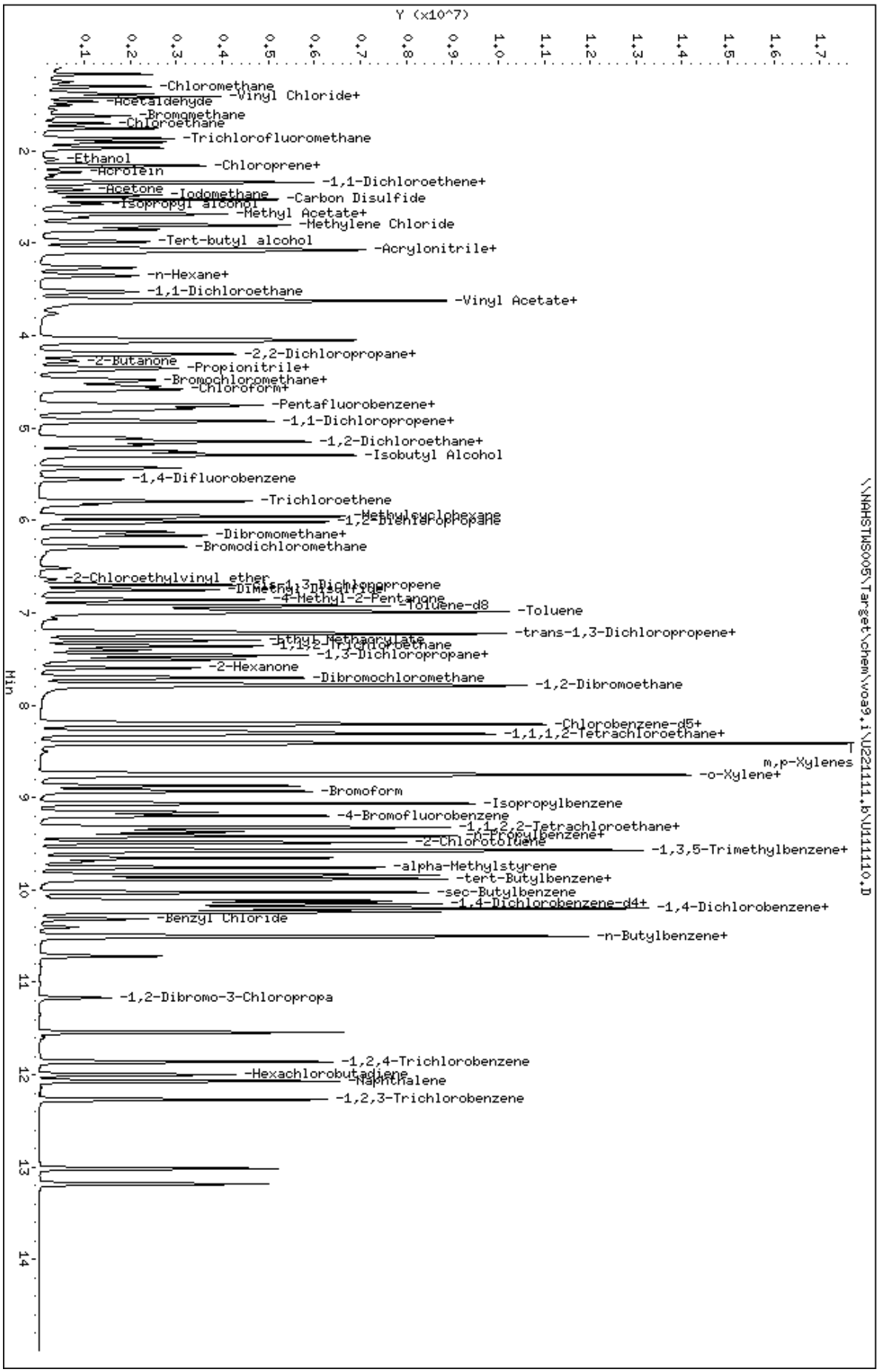
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	725474	150.000	147.82
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	1264289	150.000	153.25
	31 1,1,1-Trichloroethane	97	4.752	4.752	(0.985)	1786137	150.000	178.85
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	1583473	150.000	164.70
	33 1,2-Dichloroethane	62	5.183	5.183	(0.933)	1828835	150.000	150.07
	34 Carbon Tetrachloride	117	4.920	4.920	(0.885)	1382113	150.000	107.71(H)
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.058)	1438278	150.000	154.26
*	36 1,4-Difluorobenzene	114	5.558	5.558	(1.000)	1387080	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	4991600	150.000	152.76
	38 Trichloroethene	130	5.794	5.794	(1.042)	1457254	150.000	163.00
	39 Bromodichloromethane	83	6.285	6.285	(1.131)	1744141	150.000	174.61
	41 2-Chloroethylvinyl ether	63	6.637	6.637	(1.194)	2806	300.000	
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	1298725	150.000	156.28
	44 Dibromomethane	93	6.124	6.124	(1.102)	915651	150.000	152.89
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	2554596	300.000	325.36
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	2111427	150.000	150.62
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1336375	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	4505364	150.000	141.71
	50 Toluene	91	6.986	6.986	(0.853)	5611422	150.000	158.19
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	1776839	150.000	149.52
	52 2-Hexanone	43	7.597	7.597	(0.928)	1804472	300.000	306.12
	53 1,1,2-Trichloroethane	83	7.361	7.361	(0.899)	1116139	150.000	146.06
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	2322064	150.000	148.68
	55 Dibromochloromethane	129	7.698	7.698	(0.940)	1554115	150.000	151.89
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	1206878	150.000	156.56
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	1482684	150.000	158.32
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	1079275	150.000	148.02
	59 Chlorobenzene	112	8.212	8.212	(1.003)	3815579	150.000	150.32
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.287	(1.012)	1375009	150.000	165.59
	61 Ethylbenzene	106	8.309	8.309	(1.015)	1921044	150.000	164.23
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	4870772	300.000	334.11
	63 o-Xylene	106	8.751	8.751	(1.069)	2417950	150.000	167.93
	64 Styrene	104	8.763	8.763	(1.070)	3972522	150.000	153.22
	66 Bromoform	173	8.920	8.920	(1.089)	1062982	150.000	151.53
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	5773262	150.000	173.93
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	1960046	150.000	141.85
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	1769020	150.000	149.95
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	694986	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	1861149	150.000	156.06
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	6409319	150.000	171.19
	74 Bromobenzene	156	9.321	9.321	(0.916)	1698038	150.000	154.18
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	4566398	150.000	164.74
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	4063643	150.000	154.32
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	4759800	150.000	161.63
	78 tert-Butylbenzene	119	9.839	9.839	(0.967)	4069891	150.000	167.46
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	4585262	150.000	157.32
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	5412058	150.000	156.92
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	4616018	150.000	173.55
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	2942446	150.000	155.89
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	3075621	150.000	148.06
	87 n-Butylbenzene	91	10.495	10.495	(1.032)	3785172	150.000	155.08
	88 1,2-Dichlorobenzene	146	10.510	10.510	(1.033)	2996374	150.000	150.00

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	327600	150.000	153.80
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	1891097	150.000	173.09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	12.002	12.002	(1.180)	776762	150.000	148.03
	92 Naphthalene	128	12.069	12.069	(1.186)	4699937	150.000	172.39
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	1814441	150.000	167.50
M	94 1,2-Dichloroethylene (total)	96				2650017	300.000	
M	95 Xylenes (total)	106				7288722	450.000	
	135 1,4-Dioxane	88	6.172	6.172	(1.280)	378469	3000.00	3006.39
	141 Cyclohexane	56	4.789	4.789	(0.993)	1498127	150.000	109.40
	138 Freon TF	101	2.341	2.341	(0.485)	1033853	150.000	113.96
	140 1,3-Butadiene	54	1.411	1.411	(0.293)	1073997	150.000	159.20
	147 Methylcyclohexane	55	5.951	5.951	(1.071)	3377575	150.000	172.69(A)
	146 Methyl Acetate	43	2.724	2.724	(0.565)	959384	150.000	141.44
	148 Tert-Butyl alcohol	59	2.982	2.982	(0.618)	2478594	3000.00	3091.45
	149 Isopropyl Alcohol	45	2.574	2.574	(0.534)	1556758	3000.00	2946.27

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D
Date : 11-NOV-2022 15:16
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111110.D
Inj Date : 11-NOV-2022 15:16
InstruID : VOA9.i
LabSampID : VSTD150

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 11-NOV-2022 15:38
Operator : PC Inst ID: VOA9.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 15:16 Cal File: U111110.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.815	4.815	(1.000)	902669	50.0000	
2	Dichlorodifluoromethane	85	1.156	1.156	(0.240)	1585170	200.000	132.11
3	Chloromethane	50	1.288	1.288	(0.267)	1980029	200.000	197.91
5	Vinyl Chloride	62	1.370	1.370	(0.285)	1897666	200.000	206.11(A)
6	Bromomethane	94	1.599	1.599	(0.332)	1235875	200.000	198.13
7	Chloroethane	64	1.689	1.689	(0.351)	1312142	200.000	195.08
8	Trichlorofluoromethane	101	1.891	1.891	(0.393)	2311910	200.000	193.13
9	Acrolein	56	2.259	2.259	(0.469)	257093	400.000	394.39
10	Acetone	43	2.405	2.405	(0.499)	1345589	400.000	385.62(A)
11	1,1-Dichloroethene	96	2.330	2.330	(0.484)	1555002	200.000	201.99(A)
15	Iodomethane	142	2.461	2.461	(0.511)	3486199	400.000	392.25
16	Acrylonitrile	53	3.064	3.064	(0.636)	1544836	400.000	368.48
17	Methylene Chloride	84	2.791	2.791	(0.580)	1881972	200.000	193.33
18	Methyl tert-butyl ether	73	3.079	3.079	(0.640)	5073009	200.000	195.54
19	Carbon Disulfide	76	2.513	2.513	(0.522)	8467076	400.000	378.07
20	trans-1,2-Dichloroethene	96	3.057	3.057	(0.635)	1680883	200.000	197.32
21	Vinyl Acetate	43	3.608	3.608	(0.749)	8517236	400.000	383.10
22	1,1-Dichloroethane	63	3.514	3.514	(0.730)	2767452	200.000	182.74
24	2-Butanone	43	4.268	4.268	(0.886)	1397427	400.000	382.83
26	2,2-Dichloropropane	77	4.182	4.182	(0.868)	1601634	200.000	193.03

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.872)	1915555	200.000	191.30
28 Chloroform	83	4.575	4.575 (0.950)	3102241	200.000	191.85

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D Page 2
Report Date: 16-Nov-2022 09:41

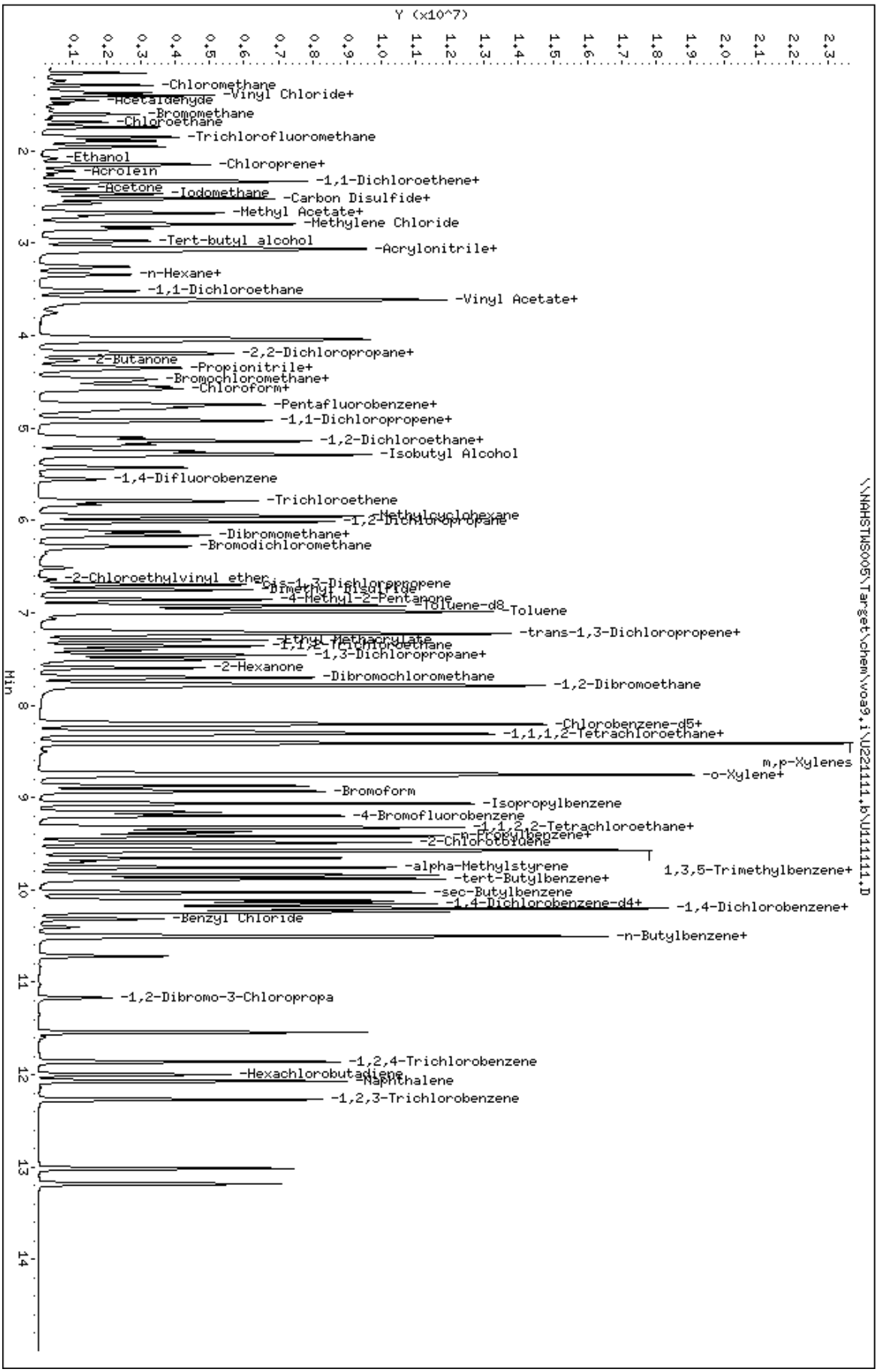
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	994790	200.000	186.12
$	30 Dibromofluoromethane	113	4.751	4.751	(0.987)	1763288	200.000	196.36
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	2381933	200.000	219.01(A)
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	2101515	200.000	207.64(A)
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	2507241	200.000	195.43
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	1867061	200.000	90.86(H)
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	1994105	200.000	196.56
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1460248	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	6792893	200.000	197.47
	38 Trichloroethene	130	5.790	5.790	(1.043)	1974142	200.000	209.75(A)
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	2436310	200.000	231.69(A)
	41 2-Chloroethylvinyl ether	63	6.637	6.637	(1.195)	4550	400.000	
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	1795902	200.000	205.28(A)
	44 Dibromomethane	93	6.120	6.120	(1.102)	1273209	200.000	201.95(A)
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	3507946	400.000	418.70(A)
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	2990718	200.000	201.68(A)
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1426014	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	6432000	200.000	189.60
	50 Toluene	91	6.982	6.982	(0.853)	7472960	200.000	197.42
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	2555944	200.000	203.05(A)
	52 2-Hexanone	43	7.597	7.597	(0.928)	2481566	400.000	394.13
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	1528222	200.000	187.42
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	3189971	200.000	191.42
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	2175278	200.000	198.78
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	1597367	200.000	194.19
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	2061309	200.000	206.27(A)
	58 1-Chlorohexane	55	8.200	8.200	(1.477)	1405026	200.000	174.68
	59 Chlorobenzene	112	8.211	8.211	(1.003)	5256392	200.000	194.07
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	1899770	200.000	214.41(A)
	61 Ethylbenzene	106	8.309	8.309	(1.015)	2576228	200.000	206.39(A)
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	6457254	400.000	415.09(A)
	63 o-Xylene	106	8.751	8.751	(1.069)	3295988	200.000	214.52(A)
	64 Styrene	104	8.762	8.762	(1.070)	5467718	200.000	197.28
	66 Bromoform	173	8.924	8.924	(1.090)	1509527	200.000	200.90(A)
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	7620726	200.000	215.16(A)
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	2688484	200.000	182.39
$	69 4-Bromofluorobenzene	95	9.197	9.197	(1.123)	2511444	200.000	199.44
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	741394	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	2597070	200.000	204.14(A)
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	8091721	200.000	202.60(A)
	74 Bromobenzene	156	9.321	9.321	(0.916)	2366942	200.000	201.46(A)
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	6106217	200.000	206.51(A)
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	5447970	200.000	193.94
	77 4-Chlorotoluene	91	9.576	9.576	(0.941)	6333292	200.000	201.60(A)
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	5383177	200.000	207.63(A)
	79 1,2,4-Trimethylbenzene	105	9.883	9.883	(0.972)	6132740	200.000	197.24
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	7122212	200.000	193.17
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	6152832	200.000	216.85(A)
	83 1,3-Dichlorobenzene	146	10.120	10.120	(0.995)	3991215	200.000	198.22
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	4180524	200.000	188.65
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	5128466	200.000	196.37
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	4055565	200.000	190.31

89	1,2-Dibromo-3-Chloropropane	155	11.169	11.169 (1.098)	455426	200.000	199.74
90	1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	2572834	200.000	220.75(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	91 Hexachlorobutadiene	225	12.001	12.001	(1.180)	1001731	200.000	169.22
	92 Naphthalene	128	12.069	12.069	(1.186)	6493084	200.000	223.26(A)
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	2468081	200.000	213.59(A)
M	94 1,2-Dichloroethylene (total)	96				3596438	400.000	
M	95 Xylenes (total)	106				9753242	600.000	
	135 1,4-Dioxane	88	6.168	6.168	(1.281)	523461	4000.00	3818.25
	141 Cyclohexane	56	4.785	4.785	(0.994)	1915642	200.000	103.49
	138 Freon TF	101	2.330	2.330	(0.484)	1338573	200.000	111.43
	140 1,3-Butadiene	54	1.396	1.396	(0.290)	1414871	200.000	192.22
	147 Methylcyclohexane	55	5.947	5.947	(1.071)	4697351	200.000	228.14(A)
	146 Methyl Acetate	43	2.712	2.712	(0.563)	1312197	200.000	177.64
	148 Tert-Butyl alcohol	59	2.971	2.971	(0.617)	3461937	4000.00	3964.98
	149 Isopropyl Alcohol	45	2.566	2.566	(0.533)	2109579	4000.00	3666.17

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\U111111,D
Date : 11-NOV-2022 15:38
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111111.D
Inj Date : 11-NOV-2022 15:38
InstruID : VOA9.i
LabSampID : VSTD200

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D Page 1
Report Date: 16-Nov-2022 09:41

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 11-NOV-2022 16:44
Operator : PC Inst ID: VOA9.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 09:41 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 15:38 Cal File: U111111.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260V9.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	903566	50.0000	
2 Dichlorodifluoromethane	85	1.168	1.156	(0.242)	339897	46.3518	46.35
3 Chloromethane	50	1.299	1.288	(0.270)	439111	44.0426	44.04
5 Vinyl Chloride	62	1.381	1.370	(0.287)	396199	42.9901	42.99
6 Bromomethane	94	1.625	1.599	(0.337)	306260	48.2123	48.21
7 Chloroethane	64	1.704	1.689	(0.354)	301887	44.8379	44.83
8 Trichlorofluoromethane	101	1.902	1.891	(0.395)	516374	43.0942	43.09
9 Acrolein	56	2.270	2.259	(0.471)	62358	96.3215	96.32
10 Acetone	43	2.412	2.405	(0.501)	341779	92.2347	92.23
11 1,1-Dichloroethene	96	2.341	2.330	(0.486)	335443	43.5304	43.53
15 Iodomethane	142	2.472	2.461	(0.513)	723163	83.8885	83.88
16 Acrylonitrile	53	3.072	3.064	(0.638)	366124	87.2440	87.24
17 Methylene Chloride	84	2.798	2.791	(0.581)	479084	48.0204	48.02
18 Methyl tert-butyl ether	73	3.087	3.079	(0.641)	1181037	45.4800	45.47
19 Carbon Disulfide	76	2.525	2.513	(0.524)	1945931	86.8052	86.80
20 trans-1,2-Dichloroethene	96	3.065	3.057	(0.636)	392501	46.0313	46.03
21 Vinyl Acetate	43	3.616	3.608	(0.750)	2145502	96.4085	96.40
22 1,1-Dichloroethane	63	3.522	3.514	(0.731)	657620	43.3829	43.38
24 2-Butanone	43	4.272	4.268	(0.886)	341017	93.3309	93.33
26 2,2-Dichloropropane	77	4.189	4.182	(0.869)	356318	43.9375	43.93

27 cis-1,2-Dichloroethene	96	4.204	4.197 (0.872)	446229	44.5194	44.51
28 Chloroform	83	4.579	4.575 (0.950)	729812	45.0901	45.09

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D Page 2
Report Date: 16-Nov-2022 09:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.478	4.470	(0.929)	239563	44.7787	44.77
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	444059	49.1418	49.14
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	506065	46.4866	46.48
	32 1,1-Dichloropropene	75	4.928	4.924	(0.887)	454927	44.9896	44.98
	33 1,2-Dichloroethane	62	5.183	5.179	(0.933)	590455	46.0656	46.06
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	327270	47.0953	47.09
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	493674	48.1349	48.13
*	36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1458939	50.0000	
	37 Benzene	78	5.145	5.141	(0.926)	1561785	45.4439	45.44
	38 Trichloroethene	130	5.794	5.790	(1.042)	441626	46.9648	46.96
	39 Bromodichloromethane	83	6.285	6.281	(1.131)	533093	50.7431	50.74
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	410894	47.0109	47.01
	44 Dibromomethane	93	6.123	6.120	(1.102)	295095	46.8489	46.84
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	812954	102.727	102.72
	46 cis-1,3-Dichloropropene	75	6.697	6.693	(1.205)	612033	43.5489	43.54
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1346975	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	1648046	51.4321	51.43
	50 Toluene	91	6.982	6.982	(0.853)	1736562	48.5704	48.57
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	505013	42.9012	42.90
	52 2-Hexanone	43	7.597	7.597	(0.928)	554920	94.3338	94.33
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	351552	45.6455	45.64
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	745926	47.3876	47.38
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	460116	45.6418	45.64
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	345019	44.4066	44.40
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	473574	50.1720	50.17
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	276164	42.1279	42.12
	59 Chlorobenzene	112	8.211	8.211	(1.003)	1198088	46.8312	46.83
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	422554	50.4897	50.48
	61 Ethylbenzene	106	8.309	8.309	(1.015)	571600	48.4820	48.48
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1457721	99.2056	99.20
	63 o-Xylene	106	8.748	8.751	(1.068)	724704	49.9375	49.93
	64 Styrene	104	8.763	8.762	(1.070)	1186991	46.2872	46.28
	66 Bromoform	173	8.920	8.924	(1.089)	304563	44.7264	44.72
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	1644157	49.1456	49.14
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	634417	46.6066	46.60
$	69 4-Bromofluorobenzene	95	9.194	9.197	(1.123)	604232	50.9379	50.93
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	684688	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	566529	48.2208	48.22
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1800408	48.8132	48.81
	74 Bromobenzene	156	9.321	9.321	(0.916)	536084	49.4092	49.40
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1360874	49.8369	49.83
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1261469	48.6270	48.62
	77 4-Chlorotoluene	91	9.580	9.576	(0.942)	1453611	50.1050	50.10
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1119496	46.7562	46.75
	79 1,2,4-Trimethylbenzene	105	9.880	9.883	(0.971)	1449923	50.4960	50.49
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1415536	42.9537	42.95
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	1256735	47.9610	47.96
	83 1,3-Dichlorobenzene	146	10.116	10.120	(0.994)	924074	49.6948	49.69
	84 1,4-Dichlorobenzene	146	10.195	10.194	(1.002)	971570	47.4754	47.47
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	1022097	44.1234	44.12
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	944927	48.0157	48.01
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	89589	44.3518	44.35

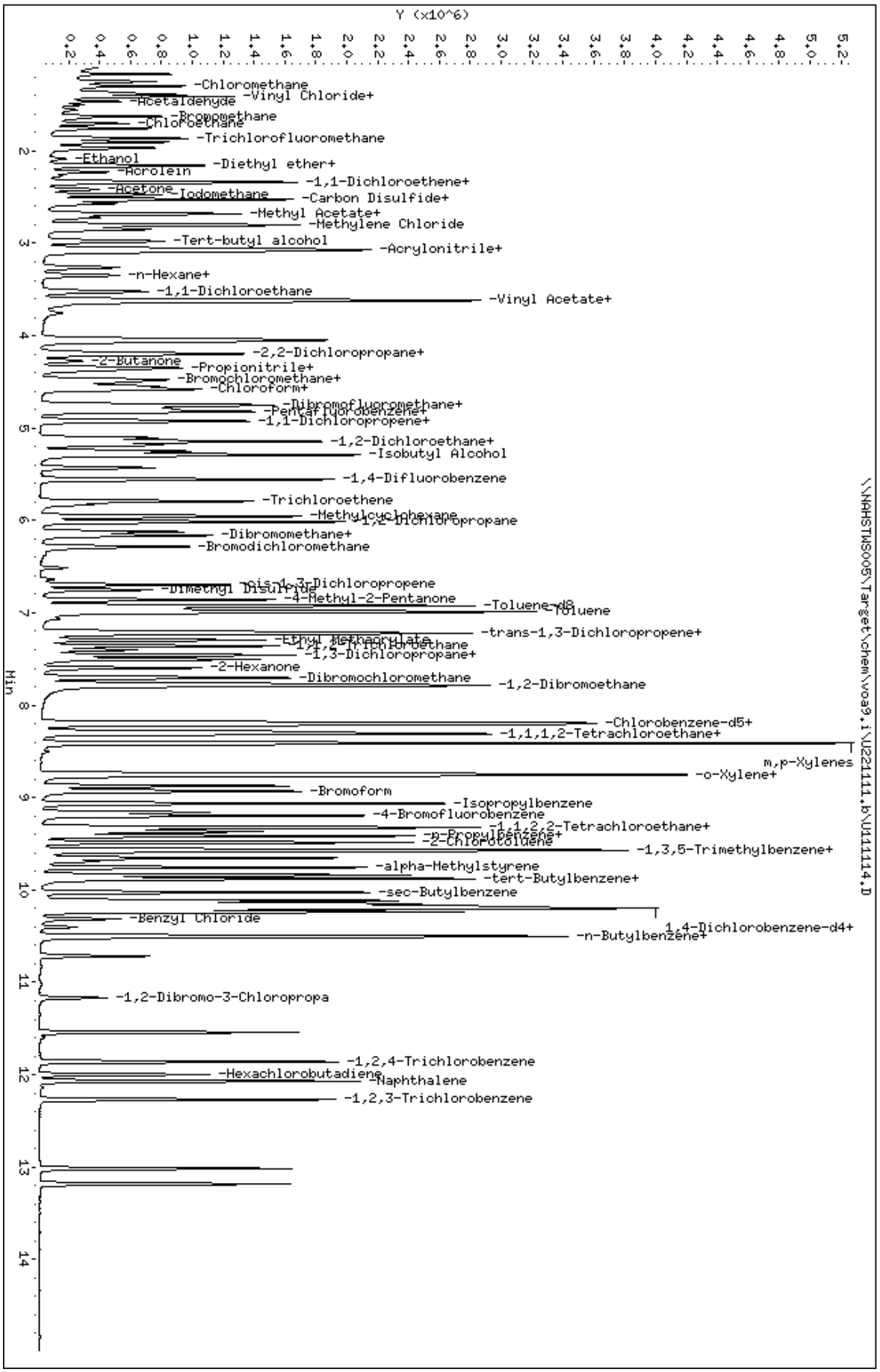
90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	568095	52.7807	52.78
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	193967	45.5503	45.55

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D Page 3
Report Date: 16-Nov-2022 09:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	1520233	56.6016	56.60
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	570054	53.4189	53.41
M	94 1,2-Dichloroethylene (total)	96				838730	90.5507	90.55(R)
M	95 Xylenes (total)	106				2182425	149.143	149.14
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	127503	929.116	929.11
	141 Cyclohexane	56	4.789	4.785	(0.994)	365175	45.5382	45.53
	138 Freon TF	101	2.341	2.330	(0.486)	263371	45.6394	45.63
	140 1,3-Butadiene	54	1.408	1.396	(0.292)	296170	41.5785	41.57
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	925534	44.9923	44.99
	146 Methyl Acetate	43	2.720	2.712	(0.564)	322186	43.5752	43.57
	148 Tert-Butyl alcohol	59	2.975	2.971	(0.617)	834771	955.121	955.12
	149 Isopropyl Alcohol	45	2.570	2.566	(0.533)	520783	904.154	904.15

QC Flag Legend

R - Spike/Surrogate failed recovery limits.



Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\U111114.D
Date : 11-NOV-2022 16:44
Client ID: ICV
Sample Info: CCV;CCV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\U111114.D
Inj Date : 11-NOV-2022 16:44
InstruID : VOA9.i
LabSampID : ICV

NO MANUAL INTEGRATIONS

right solutions.
right partner.

Raw Data VOA9 421679

Volatiles by by EPA 8260

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D Page 1
Report Date: 12-Nov-2022 20:53

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 11-NOV-2022 17:07
Operator : PC Inst ID: VOA9.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\bfb.m
Meth Date : 27-Sep-2022 15:12 Linh.Pham Quant Type: ISTD
Cal Date : 30-MAR-2018 18:09 Cal File: U033003.d
Als bottle: 16 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)	TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
9.197	9.262 (0.000)		95	375040			0.00- 100.00	100.00
9.197	9.262 (0.000)		50	63664			15.00- 40.00	16.98
9.197	9.262 (0.000)		75	185792			30.00- 60.00	49.54
9.197	9.262 (0.000)		96	26432			5.00- 9.00	7.05
9.197	9.262 (0.000)		173	0	0.0	0.0	0.00- 2.00	0.00
9.197	9.262 (0.000)		174	356928			50.00- 0.00	95.17
9.197	9.262 (0.000)		175	28272			5.00- 9.00	7.92
9.197	9.262 (0.000)		176	342016			95.00- 101.00	95.82
9.197	9.262 (0.000)		177	21560			5.00- 9.00	6.30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.98
75	30.00 - 60.00% of mass 95	49.54
96	5.00 - 9.00% of mass 95	7.05
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	95.17
175	5.00 - 9.00% of mass 174	7.54 (7.92)
176	95.00 - 101.00% of mass 174	91.19 (95.82)
177	5.00 - 9.00% of mass 176	5.75 (6.30)

Data File: V111101.D
Spectrum: Scan 2296 (9.20)
Location of Maximum: 95.05
Number of points: 119

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	163	65.10	243	97.90	339	136.90	953
36.10	2570	66.30	143	103.00	393	138.70	218
37.00	16296	68.00	36904	103.90	1710	140.90	4319
38.10	14601	69.00	37848	105.10	755	141.90	942
39.00	5100	70.00	3118	105.90	1800	143.00	4817
40.10	679	72.10	2343	106.90	565	144.00	267
41.20	505	73.00	16984	109.90	495	145.00	320
41.90	530	74.00	62584	110.70	338	145.90	720
43.00	742	75.10	185792	111.10	281	146.80	452
44.10	2330	76.10	16384	111.90	511	147.90	864
45.00	3166	77.10	2145	112.90	532	148.70	285
46.00	274	78.00	1802	115.00	440	149.90	439
47.10	4060	78.90	11947	115.90	1337	152.00	164
48.10	2583	80.00	3605	117.00	2703	153.00	410
49.10	15280	80.90	11973	117.90	1383	153.80	486
50.10	63664	81.90	2431	118.90	2303	154.80	1108
51.10	18944	83.00	276	119.80	196	156.10	302
52.00	846	83.80	129	121.60	73	157.00	778
53.10	128	84.10	107	122.90	215	158.90	515
54.10	85	87.00	17304	123.80	324	161.00	339
55.00	2013	88.00	15387	125.80	90	168.50	173
56.10	5943	89.30	74	126.60	221	169.40	98
57.00	10396	90.20	167	127.80	1264	170.00	282
57.90	564	91.00	1498	129.00	921	171.00	421
59.00	349	92.00	10701	129.90	1667	174.00	356928
60.00	4100	93.00	16094	130.90	569	175.00	28272
61.00	18104	94.10	47240	132.00	157	176.00	342016
62.10	16768	95.10	375040	133.80	155	177.00	21560
63.00	13834	96.00	26432	134.80	1097	177.90	779
64.00	990	97.00	778	135.90	94		

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D

Date : 11-NOV-2022 17:07

Client ID: BFB

Instrument: VOA9.i

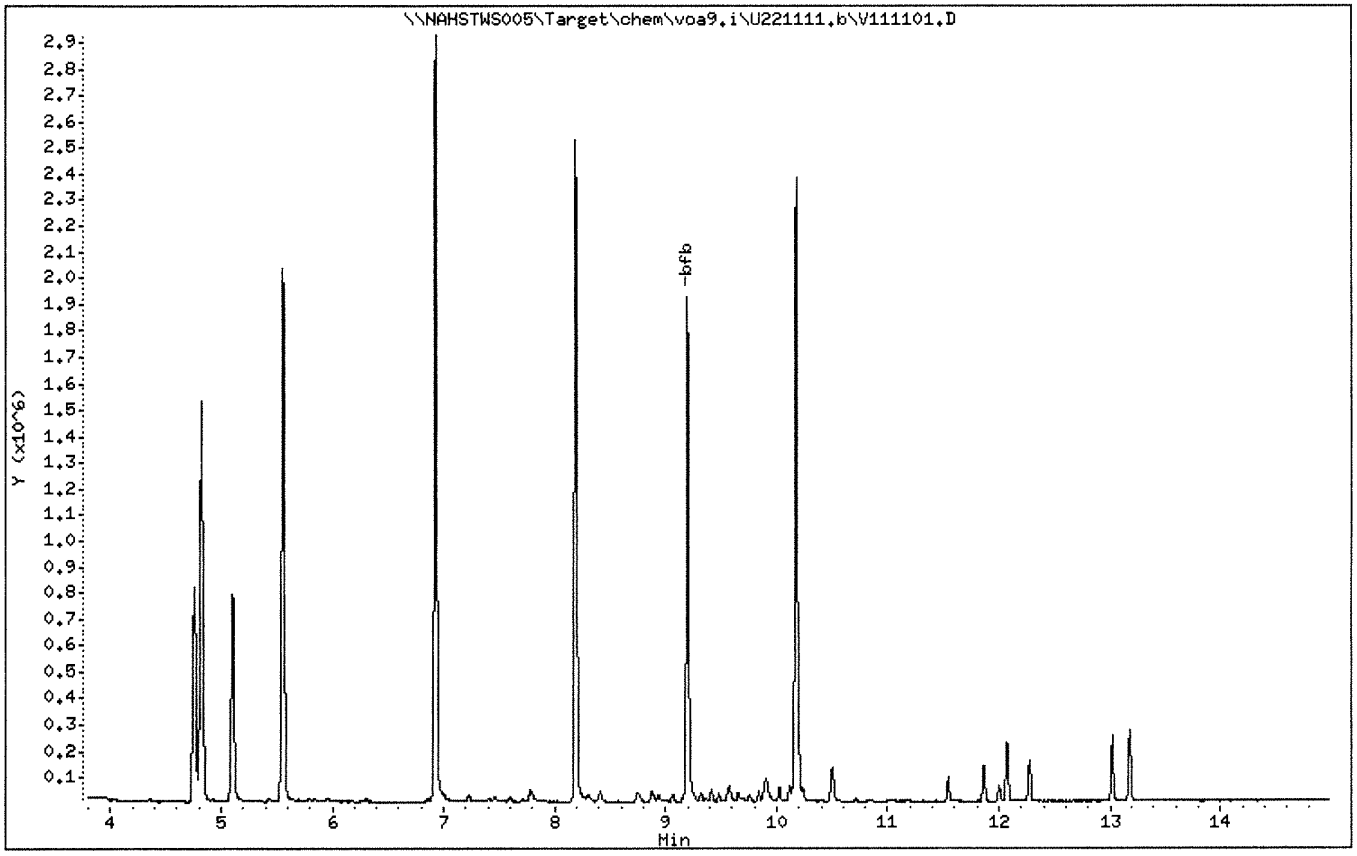
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D

Date : 11-NOV-2022 17:07

Client ID: BFB

Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

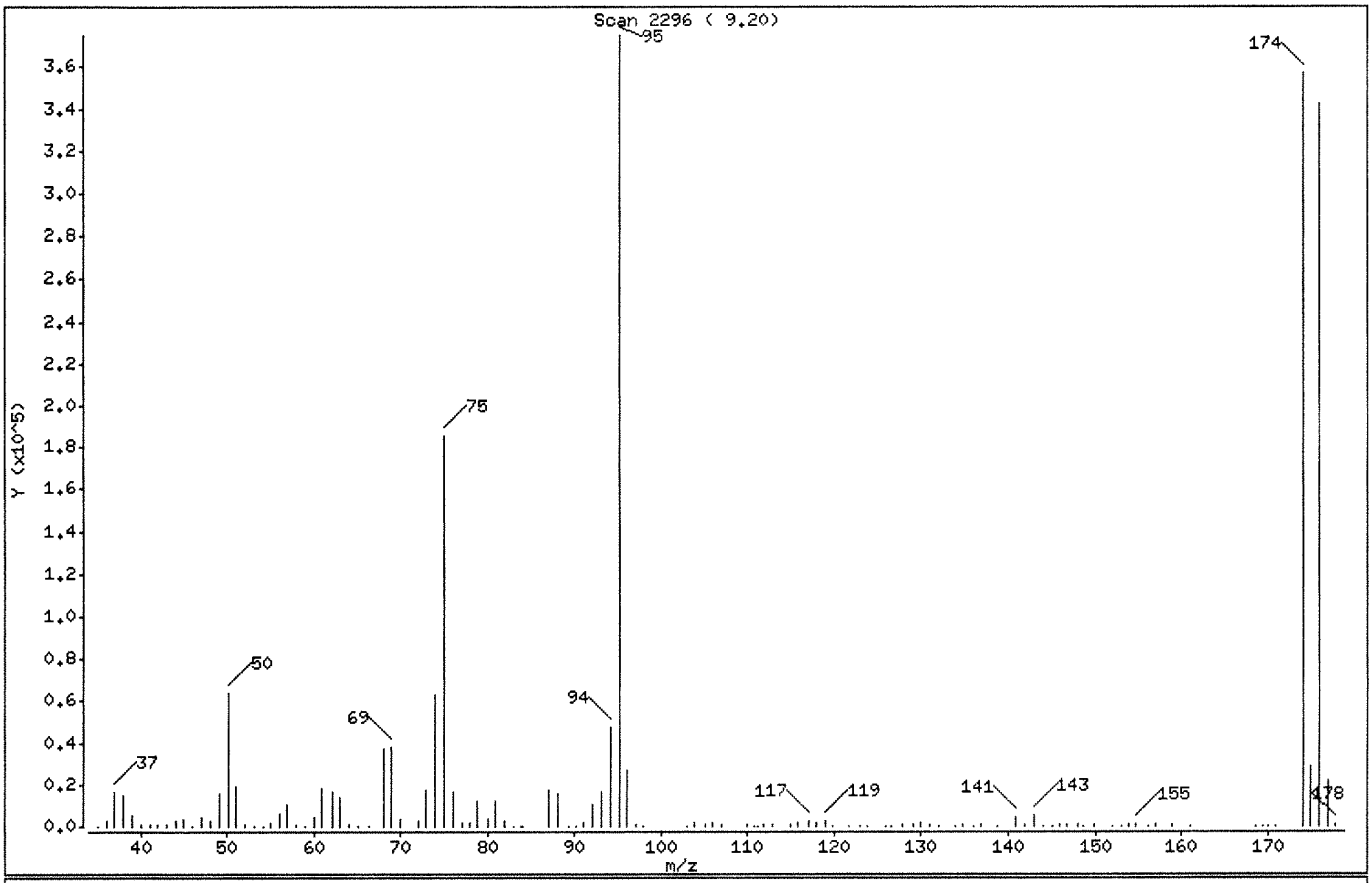
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.98
75	30.00 - 60.00% of mass 95	49.54
96	5.00 - 9.00% of mass 95	7.05
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	95.17
175	5.00 - 9.00% of mass 174	7.54 (7.92)
176	95.00 - 101.00% of mass 174	91.19 (95.82)
177	5.00 - 9.00% of mass 176	5.75 (6.30)

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D

Date : 11-NOV-2022 17:07

Client ID: BFB Instrument: VOA9.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: V111101.D
Spectrum: Scan 2296 (9.20)
Location of Maximum: 95.05
Number of points: 119

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	163	65.10	243	97.90	339	136.90	953
36.10	2570	66.30	143	103.00	393	138.70	218
37.00	16296	68.00	36904	103.90	1710	140.90	4319
38.10	14601	69.00	37848	105.10	755	141.90	942
39.00	5100	70.00	3118	105.90	1800	143.00	4817
40.10	679	72.10	2343	106.90	565	144.00	267
41.20	505	73.00	16984	109.90	495	145.00	320
41.90	530	74.00	62584	110.70	338	145.90	720
43.00	742	75.10	185792	111.10	281	146.80	452
44.10	2330	76.10	16384	111.90	511	147.90	864
45.00	3166	77.10	2145	112.90	532	148.70	285
46.00	274	78.00	1802	115.00	440	149.90	439
47.10	4060	78.90	11947	115.90	1337	152.00	164
48.10	2583	80.00	3605	117.00	2703	153.00	410
49.10	15280	80.90	11973	117.90	1383	153.80	486
50.10	63664	81.90	2431	118.90	2303	154.80	1108
51.10	18944	83.00	276	119.80	196	156.10	302
52.00	846	83.80	129	121.60	73	157.00	778
53.10	128	84.10	107	122.90	215	158.90	515
54.10	85	87.00	17304	123.80	324	161.00	339
55.00	2013	88.00	15387	125.80	90	168.50	173
56.10	5943	89.30	74	126.60	221	169.40	98
57.00	10396	90.20	167	127.80	1264	170.00	282
57.90	564	91.00	1498	129.00	921	171.00	421
59.00	349	92.00	10701	129.90	1667	174.00	356928
60.00	4100	93.00	16094	130.90	569	175.00	28272
61.00	18104	94.10	47240	132.00	157	176.00	342016
62.10	16768	95.10	375040	133.80	155	177.00	21560
63.00	13834	96.00	26432	134.80	1097	177.90	779
64.00	990	97.00	778	135.90	94		

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111101.D
Inj Date : 11-NOV-2022 17:07
InstruID : VOA9.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 11-NOV-2022 17:51
Operator : PC Inst ID: VOA9.i
Smp Info : CCV;CCV;2;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 18 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.815	4.815	(1.000)	878052	50.0000	
2	Dichlorodifluoromethane	85	1.160	1.160	(0.241)	321914	50.0000	45.30
3	Chloromethane	50	1.291	1.291	(0.268)	430276	50.0000	44.40
5	Vinyl Chloride	62	1.374	1.374	(0.285)	388143	50.0000	43.33
6	Bromomethane	94	1.618	1.618	(0.336)	288171	50.0000	46.64
7	Chloroethane	64	1.696	1.696	(0.352)	289719	50.0000	44.28
8	Trichlorofluoromethane	101	1.895	1.895	(0.394)	486050	50.0000	41.74
9	Acrolein	56	2.266	2.266	(0.471)	62330	100.000	99.04
10	Acetone	43	2.409	2.409	(0.500)	355669	100.000	99.30
11	1,1-Dichloroethene	96	2.334	2.334	(0.485)	323141	50.0000	43.15
15	Iodomethane	142	2.469	2.469	(0.513)	733362	100.000	87.37
16	Acrylonitrile	53	3.065	3.065	(0.636)	375074	100.000	91.97
17	Methylene Chloride	84	2.795	2.795	(0.580)	460652	50.0000	47.49
18	Methyl tert-butyl ether	73	3.080	3.080	(0.640)	1208765	50.0000	47.90
19	Carbon Disulfide	76	2.517	2.517	(0.523)	1883164	100.000	86.44
20	trans-1,2-Dichloroethene	96	3.061	3.061	(0.636)	370661	50.0000	44.73
21	Vinyl Acetate	43	3.608	3.608	(0.749)	2143764	100.000	99.12
22	1,1-Dichloroethane	63	3.514	3.514	(0.730)	641645	50.0000	43.55
24	2-Butanone	43	4.268	4.268	(0.886)	337659	100.000	95.09
26	2,2-Dichloropropane	77	4.185	4.185	(0.869)	344604	50.0000	43.73

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.872)	442352	50.0000	45.41
28 Chloroform	83	4.575	4.575 (0.950)	714611	50.0000	45.43

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D Page 2
Report Date: 16-Nov-2022 10:00

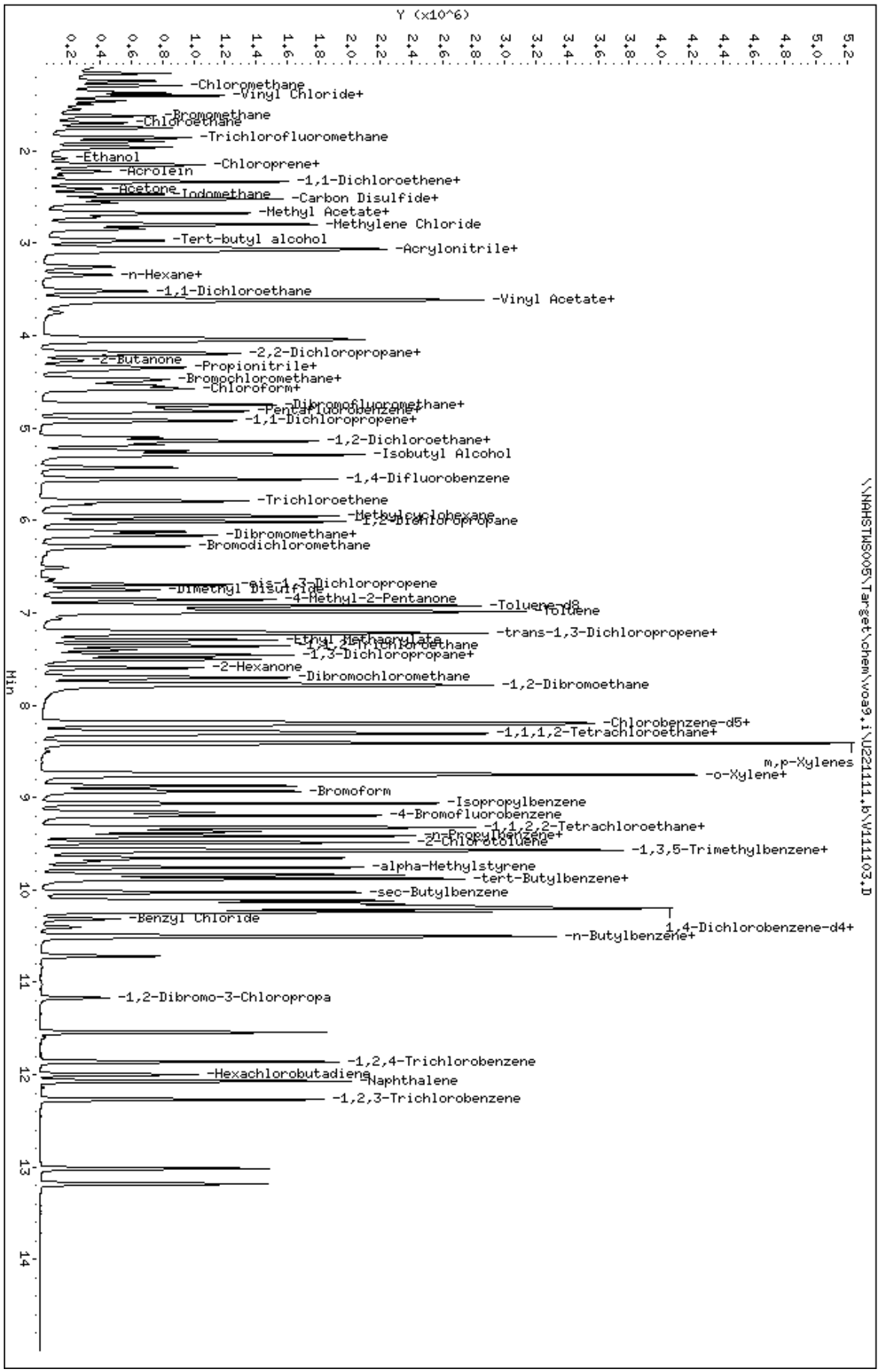
		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	235550	50.0000	45.30
$	30 Dibromofluoromethane	113	4.751	4.751	(0.987)	454193	50.0000	51.74
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	491366	50.0000	46.44
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	435049	50.0000	43.79
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	592061	50.0000	47.02
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	303832	50.0000	44.86
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	510652	50.0000	51.27
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1433114	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	1539151	50.0000	45.59
	38 Trichloroethene	130	5.790	5.790	(1.043)	427083	50.0000	46.23
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	515857	50.0000	49.98
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	404423	50.0000	47.10
	44 Dibromomethane	93	6.124	6.124	(1.103)	293060	50.0000	47.36
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	804890	100.000	101.88
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	605205	50.0000	43.82
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	1344668	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	1680194	50.0000	52.52
	50 Toluene	91	6.982	6.982	(0.853)	1703492	50.0000	47.72
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	504834	50.0000	43.59
	52 2-Hexanone	43	7.593	7.593	(0.928)	570270	100.000	97.07
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	361450	50.0000	47.01
	54 1,3-Dichloropropane	76	7.499	7.499	(0.916)	749856	50.0000	47.71
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	455426	50.0000	45.26
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	329711	50.0000	42.50
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	473049	50.0000	50.20
	58 1-Chlorohexane	55	8.197	8.197	(1.476)	260932	50.0000	40.63
	59 Chlorobenzene	112	8.212	8.212	(1.003)	1189230	50.0000	46.56
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	416051	50.0000	49.79
	61 Ethylbenzene	106	8.309	8.309	(1.015)	558472	50.0000	47.44
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1429055	100.000	97.42
	63 o-Xylene	106	8.748	8.748	(1.069)	720513	50.0000	49.73
	64 Styrene	104	8.763	8.763	(1.071)	1206403	50.0000	47.10
	66 Bromoform	173	8.920	8.920	(1.090)	299195	50.0000	44.05
	67 Isopropylbenzene	105	9.062	9.062	(1.107)	1601683	50.0000	47.95
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	640390	50.0000	46.69
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	620809	50.0000	52.41
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	689775	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	560857	50.0000	47.38
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1755864	50.0000	47.25
	74 Bromobenzene	156	9.317	9.317	(0.916)	535355	50.0000	48.97
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1335159	50.0000	48.53
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1241463	50.0000	47.50
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	1425599	50.0000	48.77
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1078100	50.0000	44.69
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	1432867	50.0000	49.53
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1361908	50.0000	41.10
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	1200693	50.0000	45.48
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	889295	50.0000	47.47
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	939798	50.0000	45.58
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	970297	50.0000	41.70
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	924838	50.0000	46.64
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	91240	50.0000	44.81

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	564600	50.0000	52.06
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	180197	50.0000	42.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
92	Naphthalene	128	12.069	12.069	(1.186)	1460939	50.0000	53.99
93	1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	535535	50.0000	49.81
M 94	1,2-Dichloroethylene (total)	96				813013	100.000	(a)
135	1,4-Dioxane	88	6.168	6.168	(1.281)	122082	1000.00	915.46
141	Cyclohexane	56	4.785	4.785	(0.994)	337067	50.0000	43.53
138	Freon TF	101	2.334	2.334	(0.485)	245745	50.0000	44.03
140	1,3-Butadiene	54	1.400	1.400	(0.291)	282537	50.0000	40.84
147	Methylcyclohexane	55	5.947	5.947	(1.071)	1025513	50.0000	50.75
146	Methyl Acetate	43	2.716	2.716	(0.564)	324506	50.0000	45.16
148	Tert-Butyl alcohol	59	2.967	2.967	(0.616)	819852	1000.00	965.30
149	Isopropyl Alcohol	45	2.562	2.562	(0.532)	509974	1000.00	911.11
72	trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	89623	50.0000	43.31
12	Isobutyl Alcohol	43	5.288	5.288	(1.098)	964658	1000.00	877.82
13	Acetonitrile	39	2.671	2.671	(0.555)	433209	500.000	485.52
14	Allyl Chloride	41	2.671	2.671	(0.555)	956527	50.0000	46.84
25	Methacrylonitrile	41	4.497	4.497	(0.934)	241319	50.0000	46.48
40	Methyl Methacrylate	41	6.157	6.157	(1.279)	392299	50.0000	50.24
4	Propionitrile	54	4.343	4.343	(0.902)	660242	500.000	470.05
136	n-Hexane	57	3.342	3.342	(0.694)	233483	50.0000	42.58
131	Methyl Acrylate	55	4.369	4.369	(0.907)	548027	50.0000	49.04
200	Dimethyl Disulfide	94	6.750	6.750	(0.825)	342200	50.0000	44.85
23	Chloroprene	53	2.157	2.157	(0.448)	121618	50.0000	45.65
49	Ethyl Methacrylate	69	7.293	7.293	(1.313)	724965	50.0000	54.41
166	1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	1475345	50.0000	48.82
167	Ethanol	45	2.079	2.079	(0.432)	103176	1000.00	866.88
164	Dicyclopentadiene	66	10.202	10.202	(1.003)	1563073	50.0000	51.22
145	alpha-Methylstyrene	118	9.756	9.756	(0.959)	597100	50.0000	45.55
142	Tetrahydrofuran	42	4.545	4.545	(0.944)	140560	100.000	91.47
156	Diisopropyl ether	45	3.623	3.623	(0.752)	1250252	50.0000	46.05
151	4-Methyl-2-pentanol	45	7.218	7.218	(1.300)	1422904	1000.00	855.33
150	Allyl alcohol	57	3.342	3.342	(0.694)	233483	1000.00	851.82
86	Benzyl Chloride	91	10.315	10.315	(1.260)	327898	50.0000	46.69
162	Butyl acrylate	55	8.736	8.736	(1.067)	799919	50.0000	46.19
139	Diethyl ether	59	2.146	2.146	(0.446)	361016	50.0000	45.79

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\W111103,D
Date : 11-NOV-2022 17:51
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111103.D
Inj Date : 11-NOV-2022 17:51
InstruID : VOA9.i
LabSampID : CCV

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111104.D Page 1
Report Date: 12-Nov-2022 20:55

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111104.D
Lab Smp Id: CCB Client Smp ID: CCB
Inj Date : 11-NOV-2022 18:13
Operator : PC Inst ID: VOA9.i
Smp Info : CCB;CCB;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 12-Nov-2022 20:47 pcabasca Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7051

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	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	4.819	4.815	(1.000)	1066844	50.0000	
$ 30 Dibromofluoromethane	113	4.751	4.751	(0.986)	471378	44.1462	44.14
$ 35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.058)	524951	43.2875	43.28
* 36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1575798	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1360971	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1756300	54.2468	54.24
$ 69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	591133	49.3270	49.32
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	642918	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D
Lab Smp Id: VLCSW-221110 Client Smp ID: VLCSW-221110
Inj Date : 11-NOV-2022 18:36
Operator : PC Inst ID: VOA9.i
Smp Info : VLCSW-221110;VLCSW-221110;3;;LCS
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 20 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	876868	50.0000	
2 Dichlorodifluoromethane	85	1.168	1.160	(0.242)	140484	21.0741	21.07
3 Chloromethane	50	1.299	1.291	(0.270)	178969	18.6413	18.64
5 Vinyl Chloride	62	1.382	1.374	(0.287)	157776	17.6409	17.64
6 Bromomethane	94	1.625	1.618	(0.337)	126680	19.9094	19.90
7 Chloroethane	64	1.704	1.696	(0.354)	120668	18.4679	18.46
8 Trichlorofluoromethane	101	1.903	1.895	(0.395)	228331	19.6356	19.63
9 Acrolein	56	2.270	2.266	(0.471)	23384	37.8324	37.83
10 Acetone	43	2.412	2.409	(0.501)	169028	43.3134	43.31
11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	138742	18.5527	18.55
15 Iodomethane	142	2.472	2.469	(0.513)	279557	35.7909	35.79
16 Acrylonitrile	53	3.072	3.065	(0.638)	153465	37.6827	37.68
17 Methylene Chloride	84	2.799	2.795	(0.581)	212598	21.1230	21.12
18 Methyl tert-butyl ether	73	3.087	3.080	(0.641)	487750	19.3544	19.35
19 Carbon Disulfide	76	2.525	2.517	(0.524)	799017	36.7282	36.72
20 trans-1,2-Dichloroethene	96	3.065	3.061	(0.636)	154329	18.6503	18.65
21 Vinyl Acetate	43	3.616	3.608	(0.750)	821991	38.0609	38.06
22 1,1-Dichloroethane	63	3.522	3.514	(0.731)	273068	18.5626	18.56
24 2-Butanone	43	4.272	4.268	(0.886)	140359	39.5836	39.58
26 2,2-Dichloropropane	77	4.186	4.185	(0.869)	133378	17.7648	17.76

27 cis-1,2-Dichloroethene	96	4.204	4.197 (0.872)	188500	19.3789	19.37
28 Chloroform	83	4.579	4.575 (0.950)	301426	19.1901	19.19

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D Page 2
Report Date: 16-Nov-2022 10:00

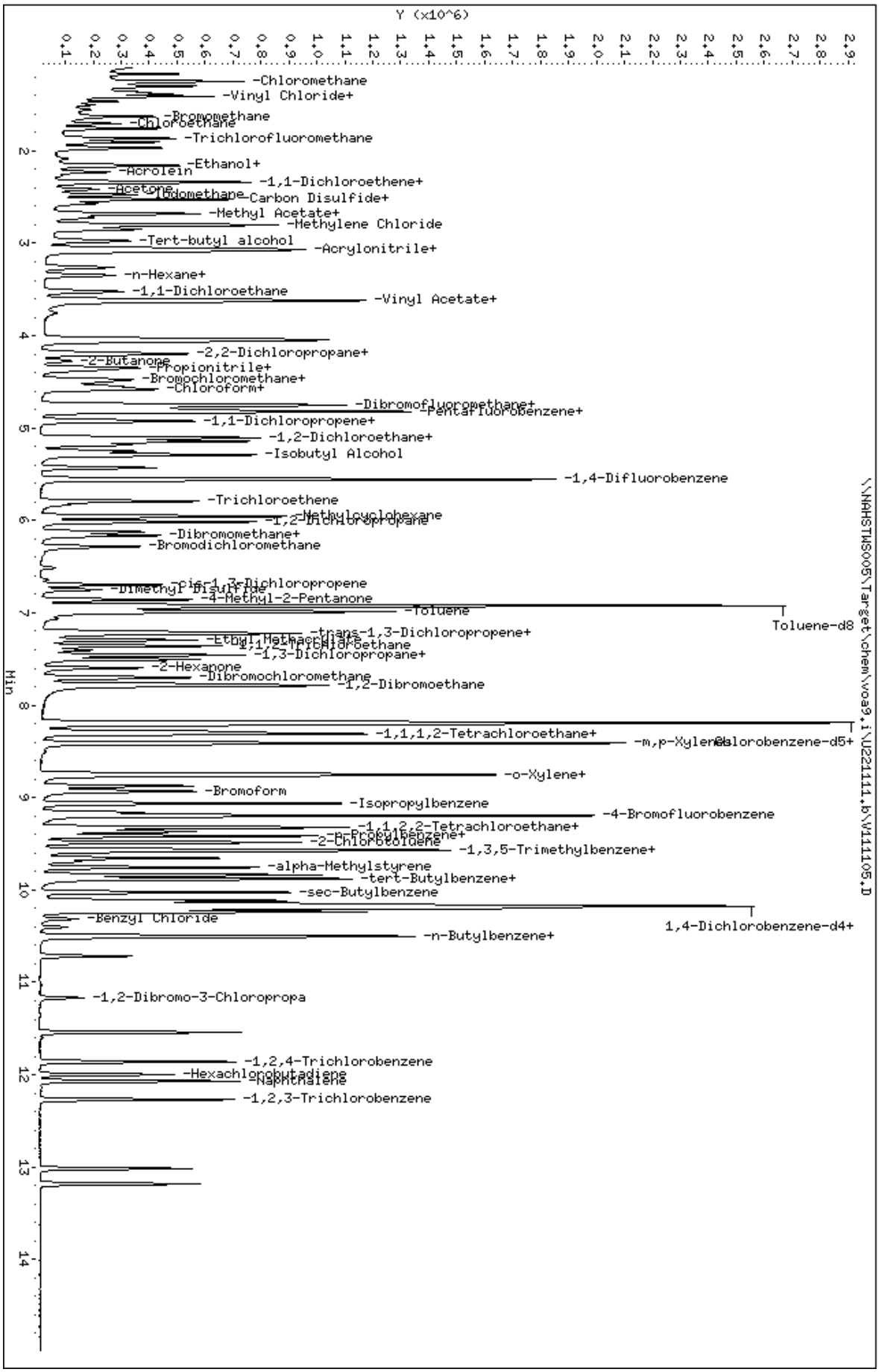
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	95071	18.3116	18.31
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	444378	50.6853	50.68
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	211243	19.9954	19.99
	32 1,1-Dichloropropene	75	4.924	4.924	(0.886)	192722	19.4284	19.42
	33 1,2-Dichloroethane	62	5.183	5.179	(0.933)	243368	19.3548	19.35
	34 Carbon Tetrachloride	117	4.917	4.913	(0.885)	117973	18.9523	18.95
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	494847	49.7393	49.73
*	36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1431204	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	648882	19.2467	19.24
	38 Trichloroethene	130	5.794	5.790	(1.042)	180081	19.5219	19.52
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	193684	18.7933	18.79
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	164548	19.1910	19.19
	44 Dibromomethane	93	6.124	6.124	(1.102)	120144	19.4436	19.44
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	302051	39.6723	39.67
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	212232	17.2130	17.21
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1295894	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1606272	52.1044	52.10
	50 Toluene	91	6.982	6.982	(0.853)	703108	20.4406	20.44
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	165314	16.5949	16.59
	52 2-Hexanone	43	7.597	7.593	(0.928)	214690	38.7388	38.73
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	145176	19.5927	19.59
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	305426	20.1681	20.16
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	163713	17.7948	17.79
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	148470	19.8625	19.86
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	187444	20.6412	20.64
	58 1-Chlorohexane	55	8.197	8.197	(1.475)	127927	21.0367	21.03
	59 Chlorobenzene	112	8.212	8.212	(1.003)	478403	19.4371	19.43
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	159120	19.7622	19.76
	61 Ethylbenzene	106	8.309	8.309	(1.015)	228916	20.1816	20.18
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	577654	40.8620	40.86
	63 o-Xylene	106	8.748	8.748	(1.068)	287036	20.5586	20.55
	64 Styrene	104	8.763	8.763	(1.070)	455868	19.2142	19.21
	66 Bromoform	173	8.920	8.920	(1.089)	103228	17.2500	17.24
	67 Isopropylbenzene	105	9.066	9.062	(1.107)	675872	20.9989	20.99
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	249575	19.4841	19.48
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	577244	50.5822	50.58
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	644296	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	211356	19.1176	19.11
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	726790	20.9403	20.94
	74 Bromobenzene	156	9.321	9.317	(0.916)	209073	20.4777	20.47
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	554045	21.5618	21.56
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	502252	20.5745	20.57
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	565113	20.7003	20.70
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	459556	20.3968	20.39
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	587630	21.7482	21.74
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	596683	20.2115	20.21
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	514971	20.8850	20.88
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	354193	20.2419	20.24
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	370388	19.2335	19.23
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	425359	20.7553	20.75
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	358150	19.3400	19.34
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	30875	17.6970	17.69

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	209359	20.6706	20.67
91 Hexachlorobutadiene	225	12.002	12.001 (1.180)	89093	23.4668	23.46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	526374	20.8267	20.82
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	206870	20.6008	20.60
M	94 1,2-Dichloroethylene (total)	96				342829	38.0292	38.02
M	95 Xylenes (total)	106				864690	61.4206	61.42
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	47486	356.567	356.56
	141 Cyclohexane	56	4.789	4.785	(0.994)	197214	26.7677	26.76
	138 Freon TF	101	2.341	2.334	(0.486)	125031	23.6437	23.64
	140 1,3-Butadiene	54	1.408	1.400	(0.292)	121613	18.6004	18.60
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	426590	21.1394	21.13
	146 Methyl Acetate	43	2.720	2.716	(0.564)	135354	18.8638	18.86
	148 Tert-Butyl alcohol	59	2.975	2.967	(0.617)	315012	371.401	371.40
	149 Isopropyl Alcohol	45	2.570	2.562	(0.533)	195955	350.564	350.56
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	29153	17.5828	17.58
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	355249	364.735	364.73
	13 Acetonitrile	39	2.679	2.671	(0.556)	178948	200.830	200.83
	14 Allyl Chloride	41	2.679	2.671	(0.556)	392411	19.2442	19.24
	25 Methacrylonitrile	41	4.500	4.497	(0.934)	97941	18.8898	18.88
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	148902	19.0963	19.09
	4 Propionitrile	54	4.347	4.343	(0.902)	260193	185.493	185.49(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	138914	26.6560	26.65
	194 Acetaldehyde	44	1.464	1.464	(0.304)	70858	72.4909	72.49(M)
	131 Methyl Acrylate	55	4.377	4.369	(0.908)	217752	19.5139	19.51
	200 Dimethyl Disulfide	94	6.750	6.750	(0.824)	94502	16.1585	16.15
	23 Chloroprene	53	2.161	2.157	(0.449)	50821	20.7092	20.70(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	265184	19.9295	19.92(MH)
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	603041	21.3668	21.36
	167 Ethanol	45	2.086	2.079	(0.433)	39680	333.842	333.84
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	648843	22.7661	22.76
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	227154	19.8374	19.83
	142 Tetrahydrofuran	42	4.553	4.545	(0.945)	58801	38.3175	38.31
	156 Diisopropyl ether	45	3.627	3.623	(0.753)	519787	19.1726	19.17
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	448176	327.006	327.00
	150 Allyl alcohol	57	3.346	3.342	(0.694)	138914	532.546	532.54
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	86297	16.4994	16.49
	162 Butyl acrylate	55	8.736	8.736	(1.067)	284204	18.6271	18.62
	139 Diethyl ether	59	2.150	2.146	(0.446)	149582	19.0005	19.00

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\V111105.D
Date : 11-NOV-2022 18:36
Client ID: VLCSW-221110
Sample Info: VLCSW-221110;VLCSW-221110;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

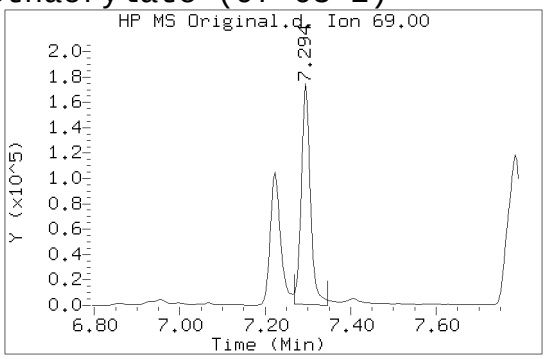
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D
Inj Date : 11-NOV-2022 18:36
InstruID : VOA9.i
LabSampID : VLCSW-221110

Ethyl Methacrylate (97-63-2)

Reason Code:

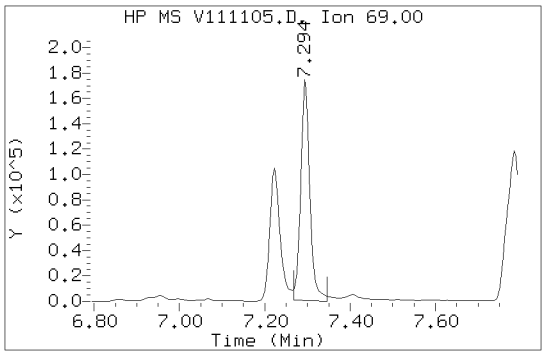
BEFORE

MASS
69
AREA
265184
HEIGHT
174070
16-Nov-2022
10:00
linh
pham



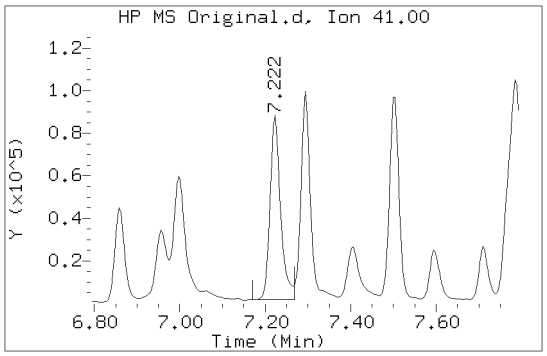
AFTER

MASS
69
AREA
265184
HEIGHT
174070
16-Nov-2022
10:00
linh
pham



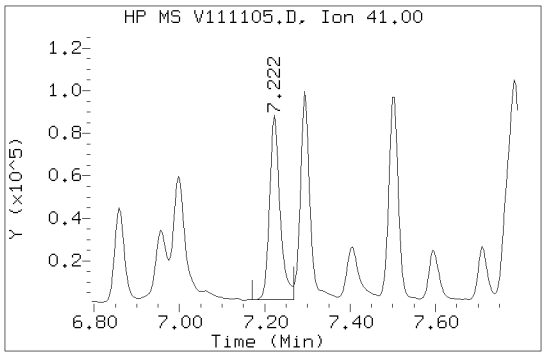
BEFORE

MASS
41
AREA
149297
HEIGHT
86959
16-Nov-2022
10:00
linh
pham



AFTER

MASS
41
AREA
149297
HEIGHT
86959
16-Nov-2022
10:00
linh
pham

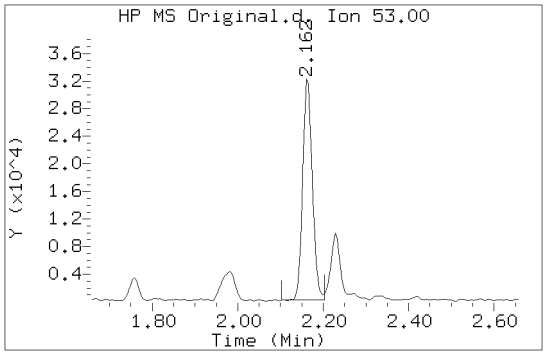


Chloroprene (126-99-8)

Reason Code:

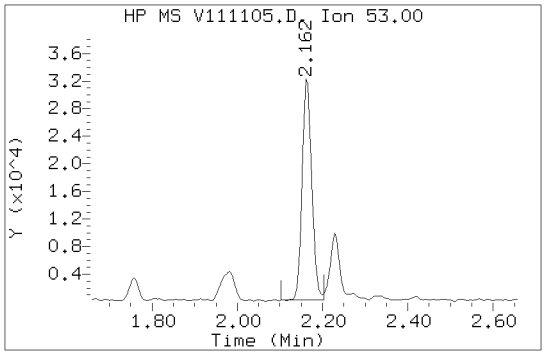
BEFORE

MASS
53
AREA
50821
HEIGHT
32033
16-Nov-2022
10:00
linh
pham



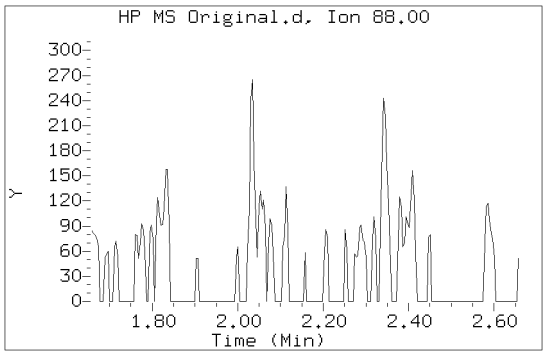
AFTER

MASS
53
AREA
50821
HEIGHT
32033
16-Nov-2022
10:00
linh
pham



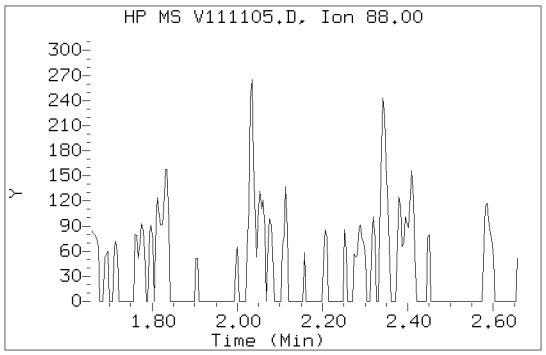
BEFORE

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



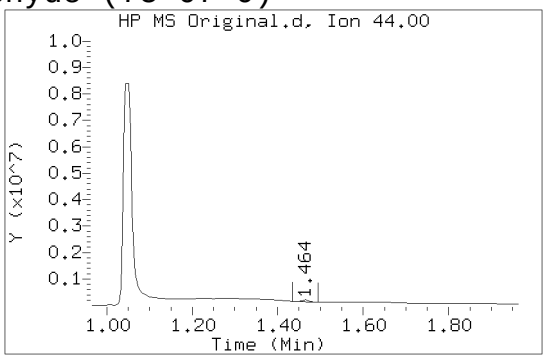
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111105.D
Inj Date : 11-NOV-2022 18:36
InstruID : VOA9.i
LabSampID : VLCSW-221110

Acetaldehyde (75-07-0)

Reason Code:

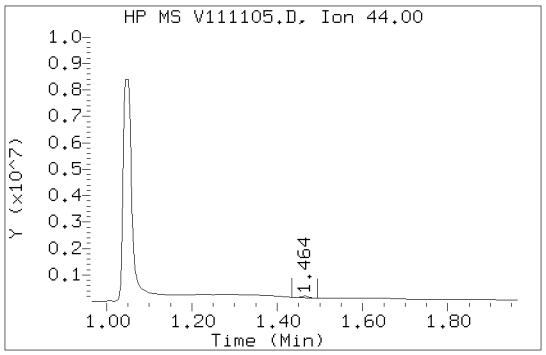
BEFORE

MASS
44
AREA
70858
HEIGHT
68500
16-Nov-2022
10:00
linh
pham



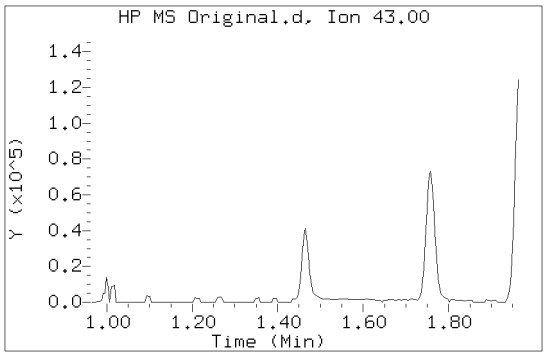
AFTER

MASS
44
AREA
70858
HEIGHT
68500
16-Nov-2022
10:00
linh
pham



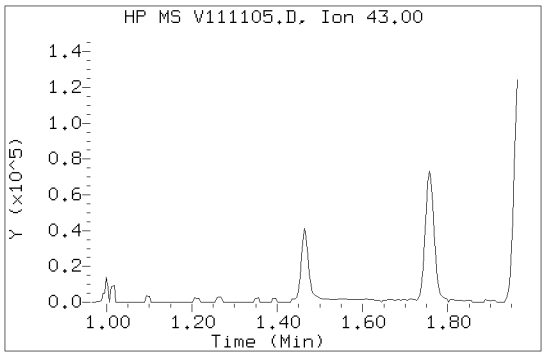
BEFORE

MASS
43
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



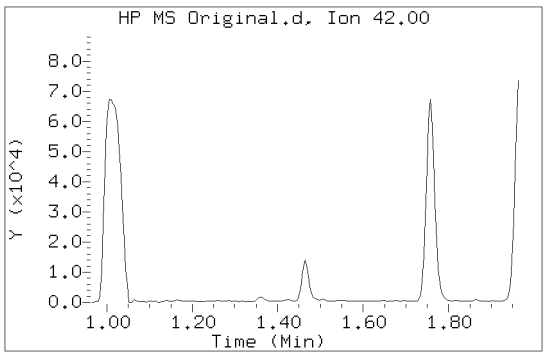
AFTER

MASS
43
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



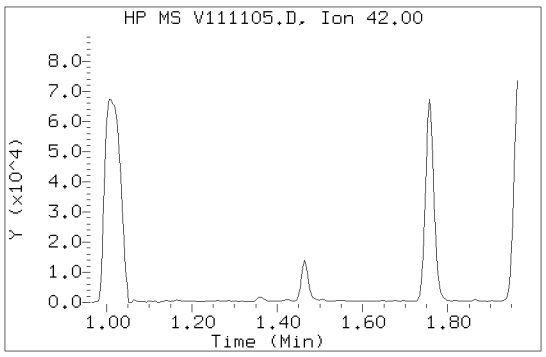
BEFORE

MASS
42
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER

MASS
42
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111107.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111107.D
Lab Smp Id: VBLKW-221110 Client Smp ID: VBLKW-221110
Inj Date : 11-NOV-2022 19:20
Operator : PC Inst ID: VOA9.i
Smp Info : VBLKW-221110;VBLKW-221110;3;;BLANK
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 22 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

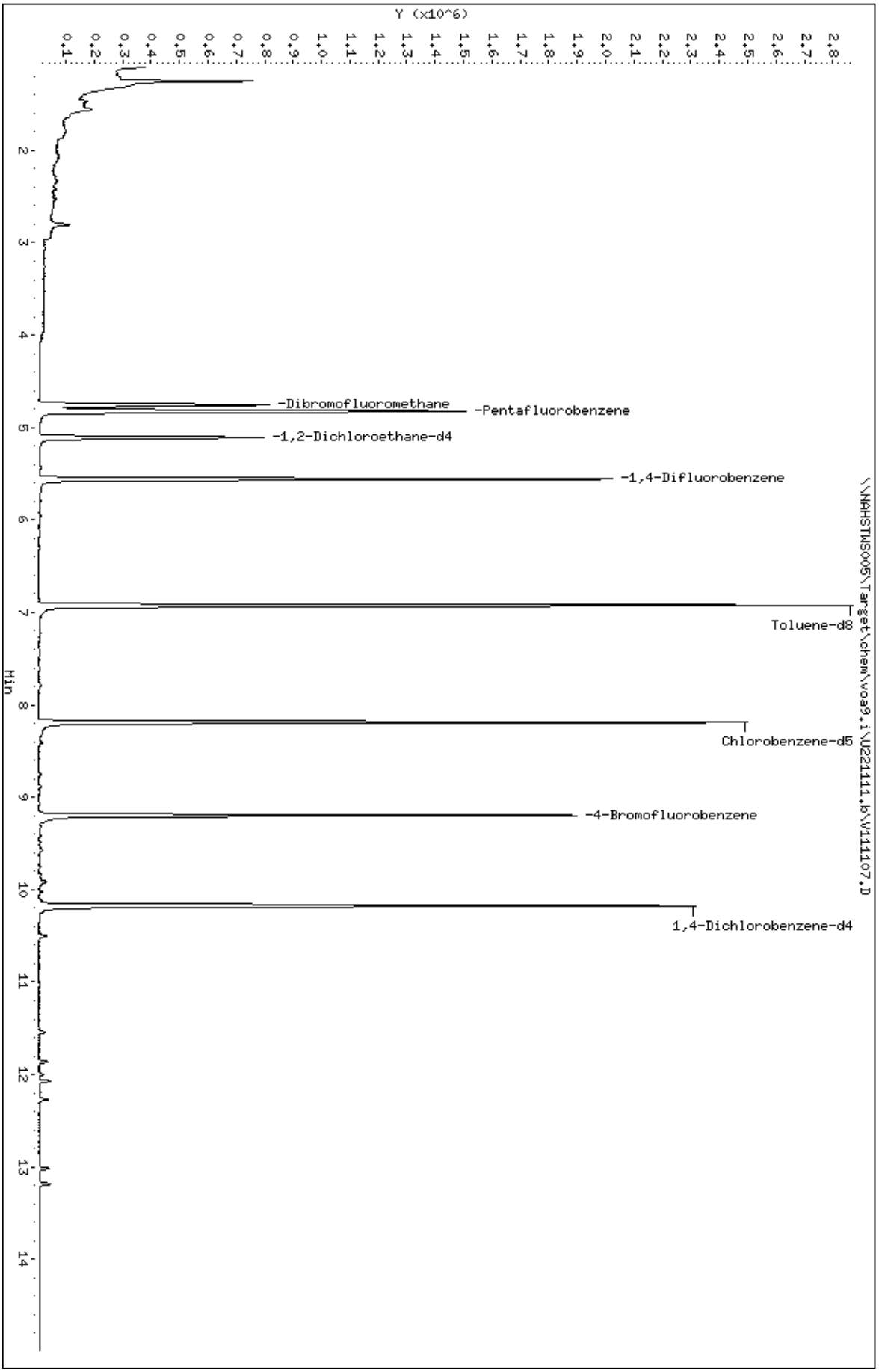
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	1027876	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.986)	468953	45.5955	45.59
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	520352	44.5533	44.55
* 36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1547005	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1339369	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1704417	53.4934	53.49
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	576018	48.8427	48.84
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	608012	50.0000	

Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\V111107.D
Date : 11-NOV-2022 19:20
Client ID: VBLKW-221110
Sample Info: VBLKW-221110;VBLKW-221110;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111107.D
Inj Date : 11-NOV-2022 19:20
InstruID : VOA9.i
LabSampID : VBLKW-221110

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111109.D Page 1
Report Date: 16-Nov-2022 10:00

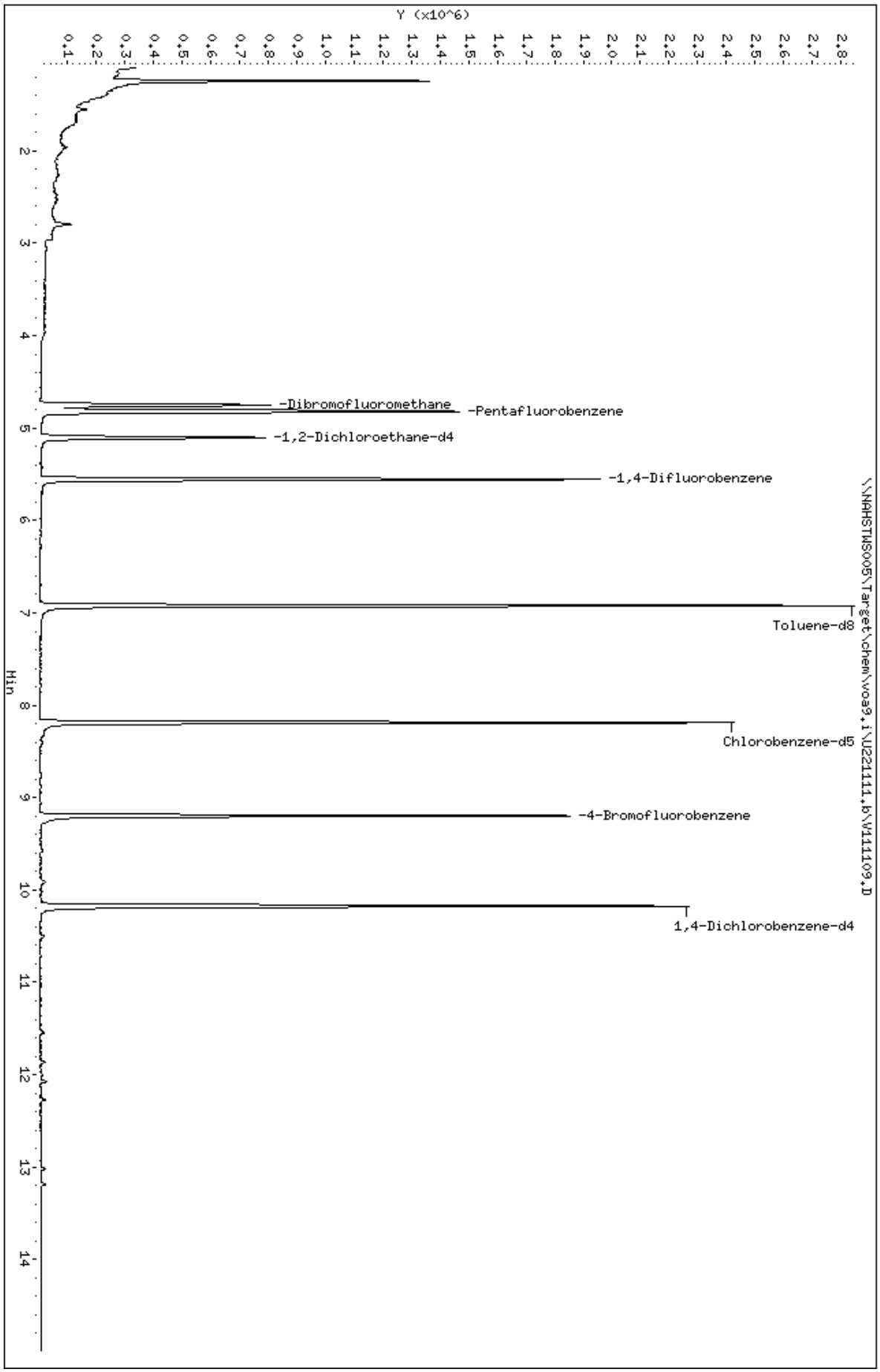
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111109.D
Lab Smp Id: HS22110281-08 Client Smp ID: HS22110281-08
Inj Date : 11-NOV-2022 20:05
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-08;HS22110281-08;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	1008630	50.0000	
$ 30 Dibromofluoromethane	113	4.751	4.751	(0.986)	458810	45.4594	45.45
$ 35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.058)	519003	45.2962	45.29
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1524101	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1320590	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1688451	53.7458	53.74
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	569671	48.9909	48.99
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	602850	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\W111109,D
Date : 11-NOV-2022 20:05
Client ID: HS22110281-08
Sample Info: HS22110281-08;HS22110281-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111109.D
Inj Date : 11-NOV-2022 20:05
InstruID : VOA9.i
LabSampID : HS22110281-08

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111119.D Page 1
Report Date: 16-Nov-2022 10:00

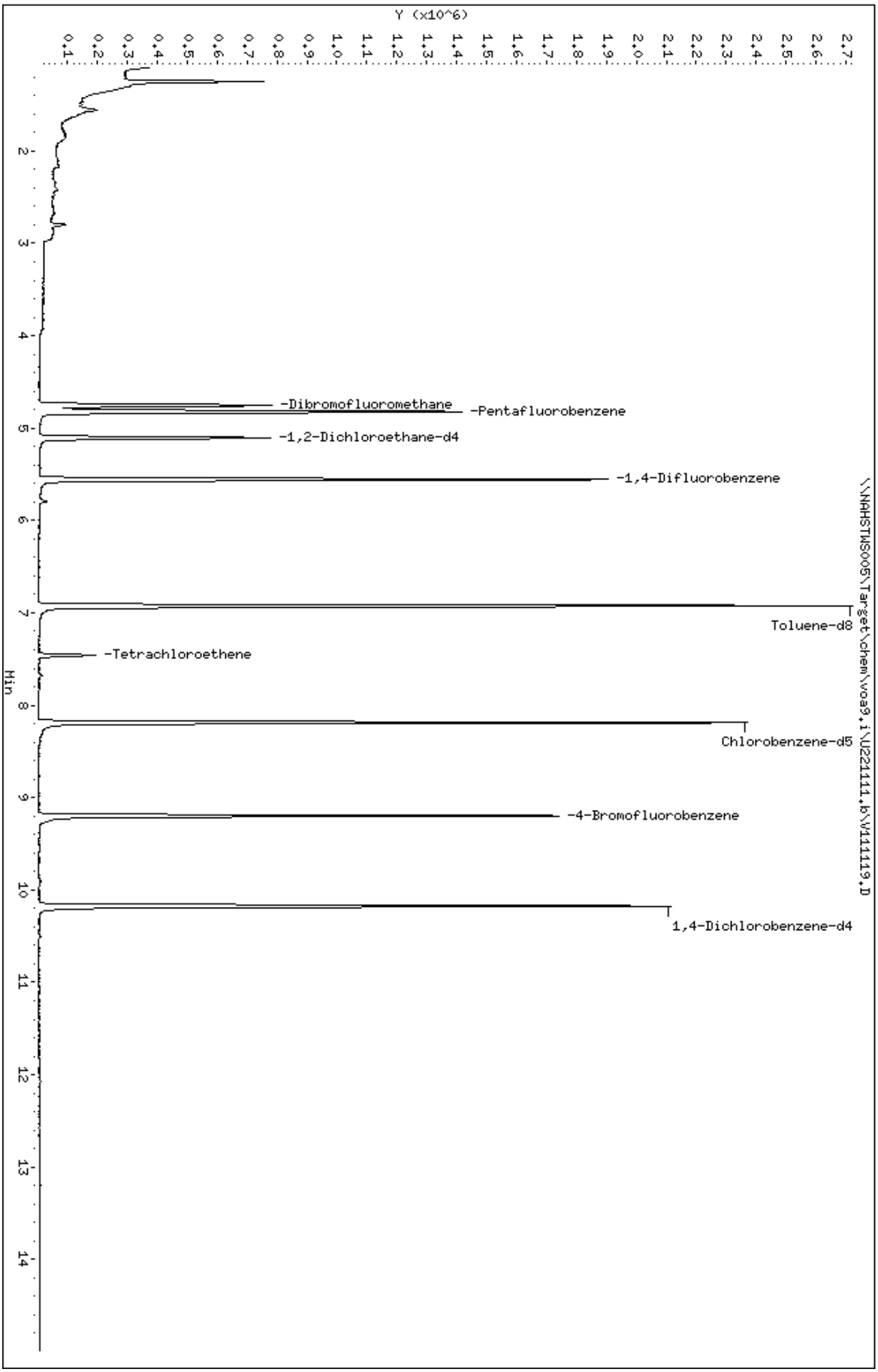
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111119.D
Lab Smp Id: HS22110281-01 Client Smp ID: HS22110281-01
Inj Date : 11-NOV-2022 23:48
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-01;HS22110281-01;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 34
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	966919	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.986)	445003	45.9975	45.99
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	507460	46.2121	46.21
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1453474	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1271281	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1618744	53.5255	53.52
56 Tetrachloroethene	164	7.462	7.458	(0.911)	39041	5.32406	5.32
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	541971	48.4187	48.41
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	572490	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111119.D
Date : 11-NOV-2022 23:48
Client ID: HS22110281-01
Sample Info: HS22110281-01;HS22110281-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Page 1

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111119.D

Date : 11-NOV-2022 23:48

Client ID: HS22110281-01

Instrument: VOA9.i

Sample Info: HS22110281-01;HS22110281-01;;;

Purge Volume: 5.0

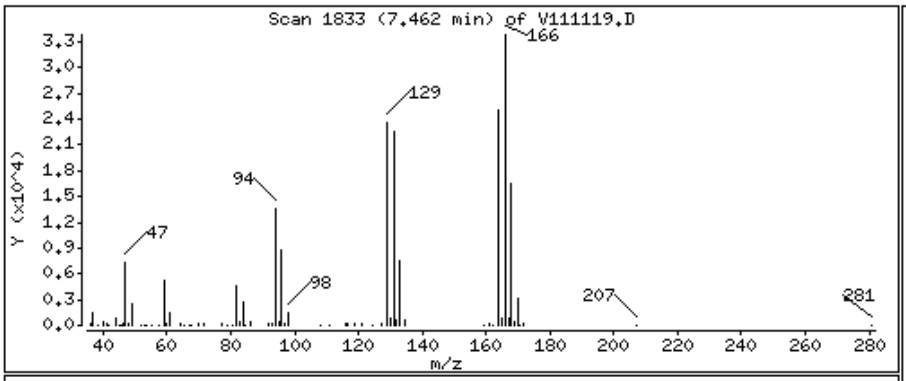
Operator: PC

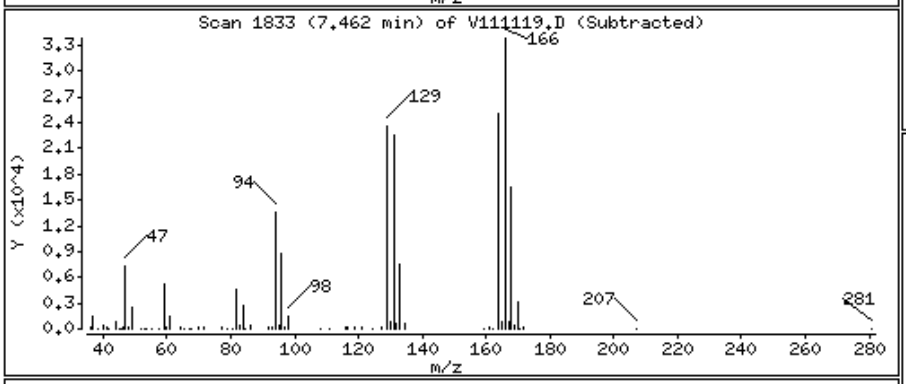
Column phase: DB624

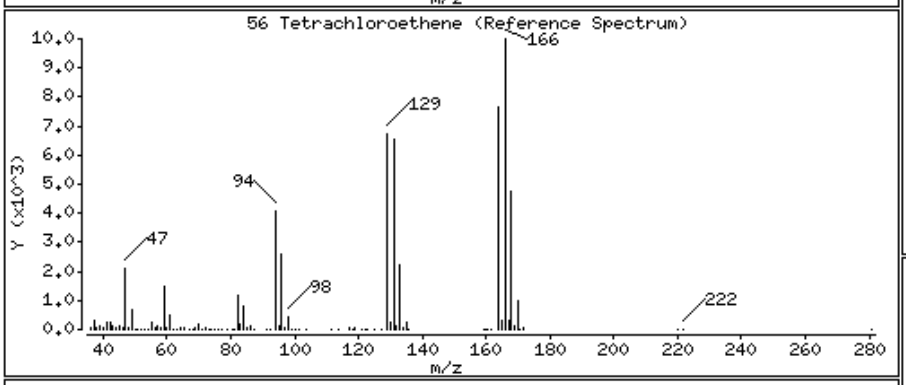
Column diameter: 0.18

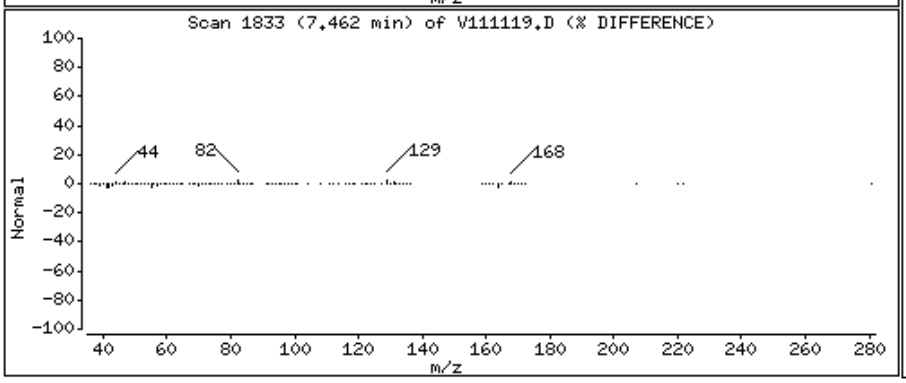
56 Tetrachloroethene

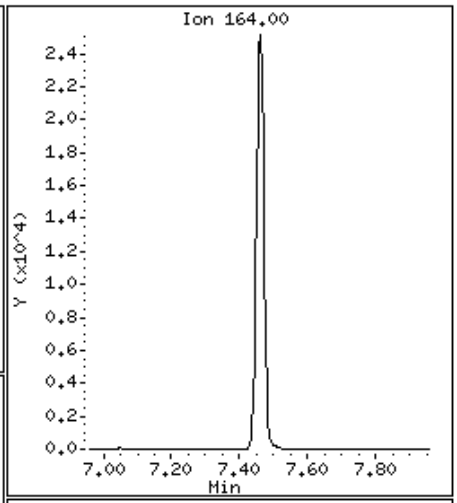
Concentration: 5.32 ug/l

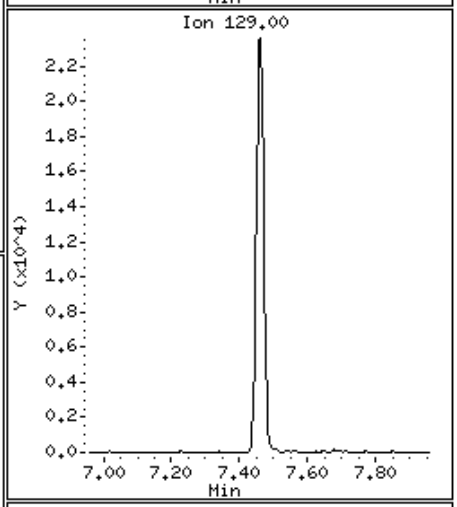


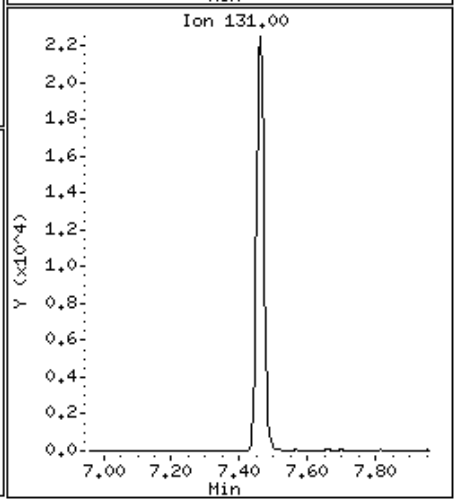












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111119.D
Inj Date : 11-NOV-2022 23:48
InstruID : VOA9.i
LabSampID : HS22110281-01

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111120.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111120.D
Lab Smp Id: HS22110281-02 Client Smp ID: HS22110281-02
Inj Date : 12-NOV-2022 00:10
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-02;HS22110281-02;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 35
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

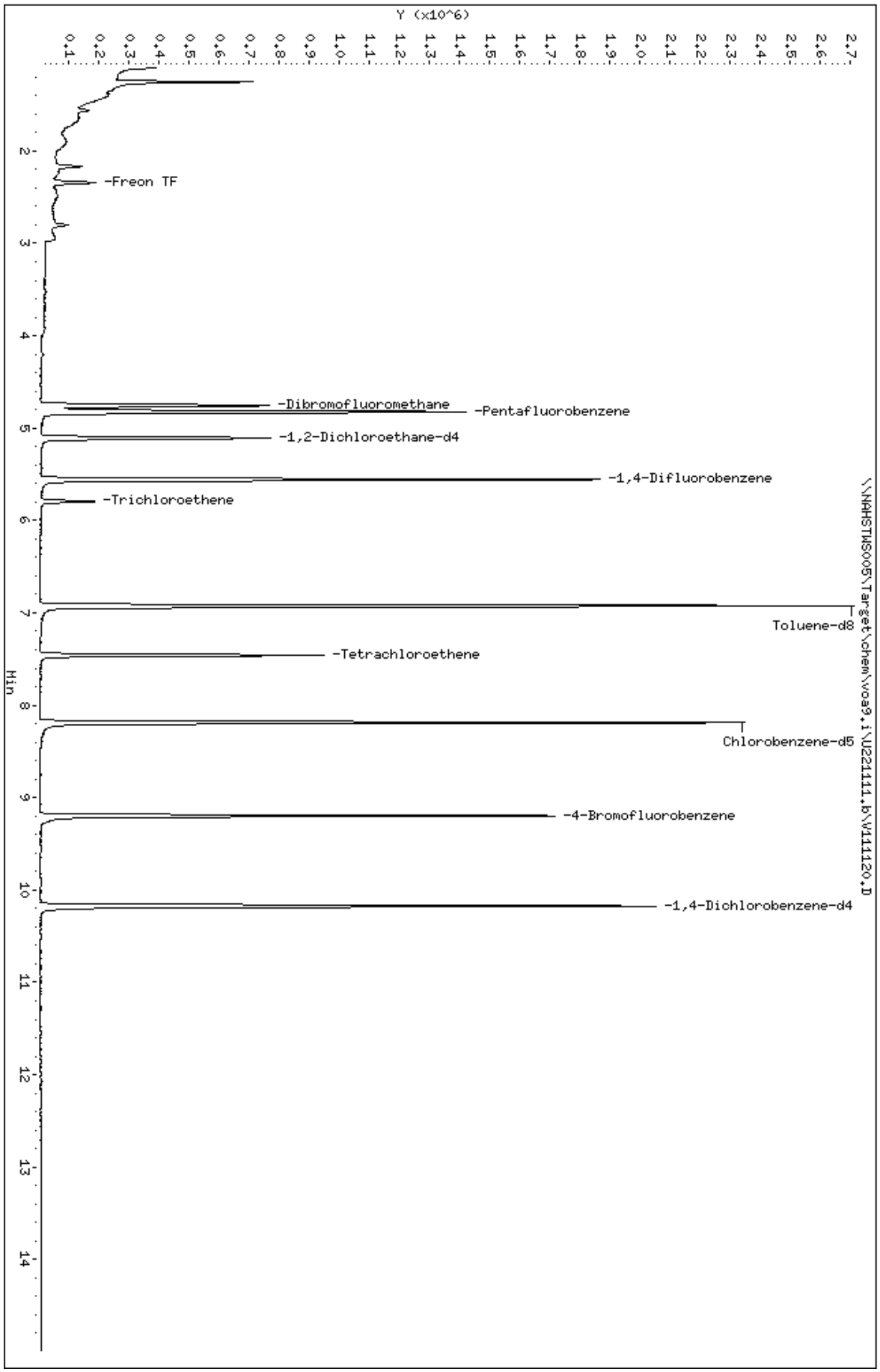
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	947431	50.0000	
$ 30 Dibromofluoromethane	113	4.759	4.751	(0.987)	445253	46.9774	46.97
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	518672	48.2321	48.23
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1418338	50.0000	
38 Trichloroethene	130	5.794	5.790	(1.042)	54565	5.96884	5.96
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1255797	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1617906	54.1575	54.15
56 Tetrachloroethene	164	7.462	7.458	(0.911)	197154	27.2176	27.21
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	534843	48.3712	48.37
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	552545	50.0000	
138 Freon TF	101	2.345	2.334	(0.486)	47379	8.42373	8.42

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111120.D
Date : 12-NOV-2022 00:10
Client ID: HS22110281-02
Sample Info: HS22110281-02;HS22110281-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111120.D Page 2

Date : 12-NOV-2022 00:10

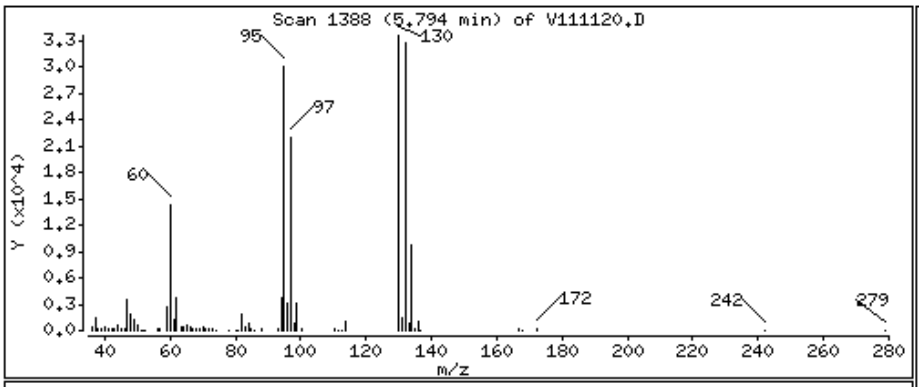
Client ID: HS22110281-02 Instrument: VOA9.i

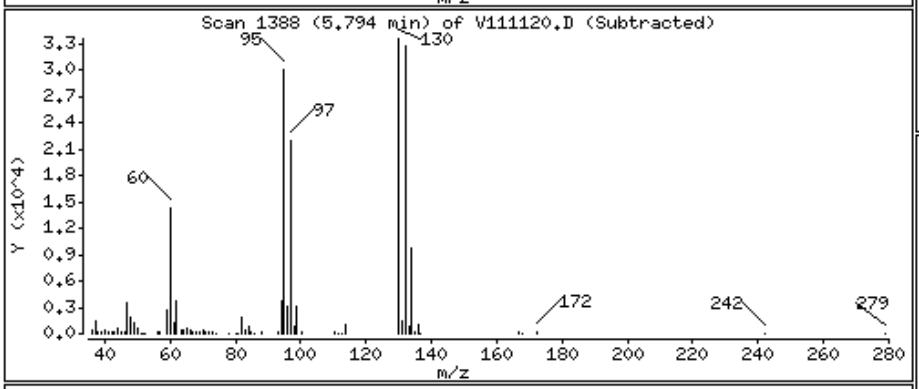
Sample Info: HS22110281-02;HS22110281-02;;;

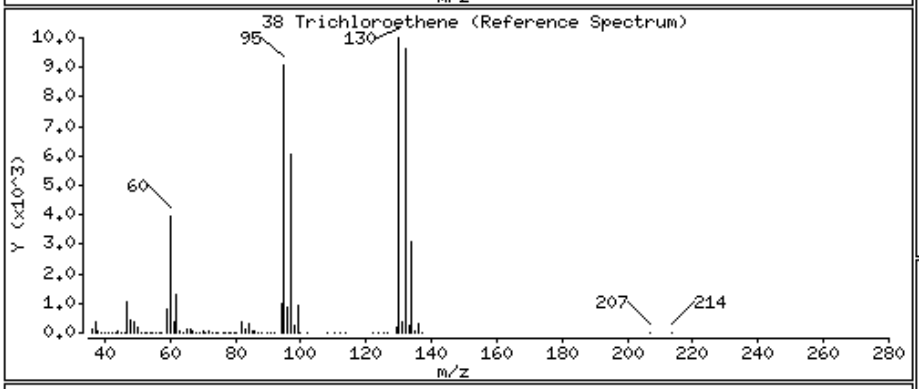
Purge Volume: 5.0 Operator: PC

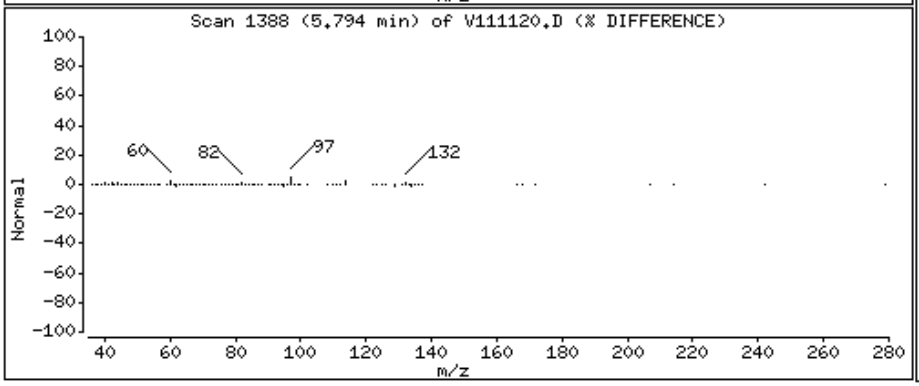
Column phase: DB624 Column diameter: 0.18

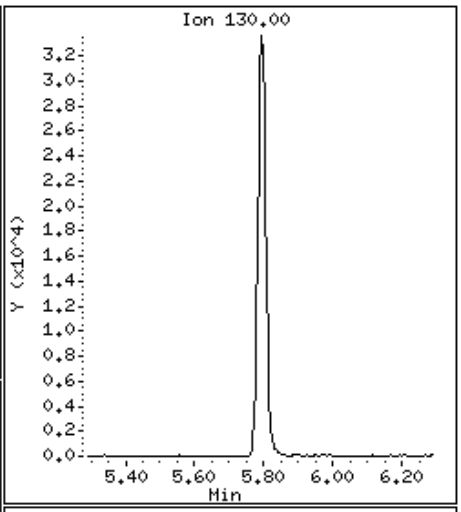
38 Trichloroethene Concentration: 5.96 ug/l

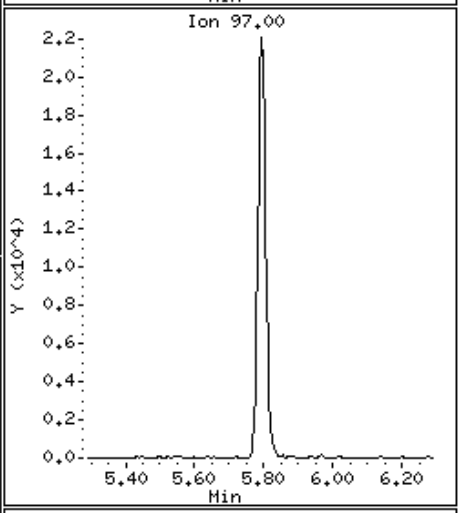


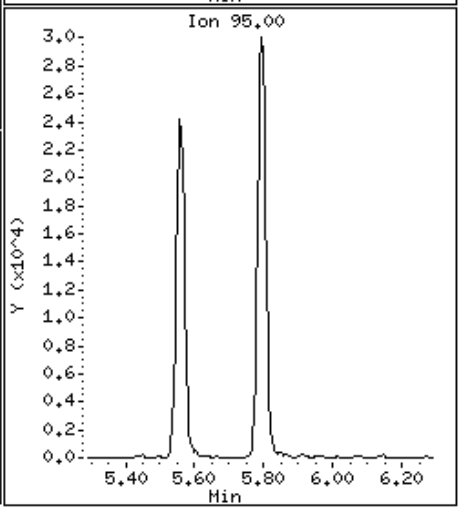












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111120.D

Date : 12-NOV-2022 00:10

Client ID: HS22110281-02

Instrument: VOA9.i

Sample Info: HS22110281-02;HS22110281-02;;;

Purge Volume: 5.0

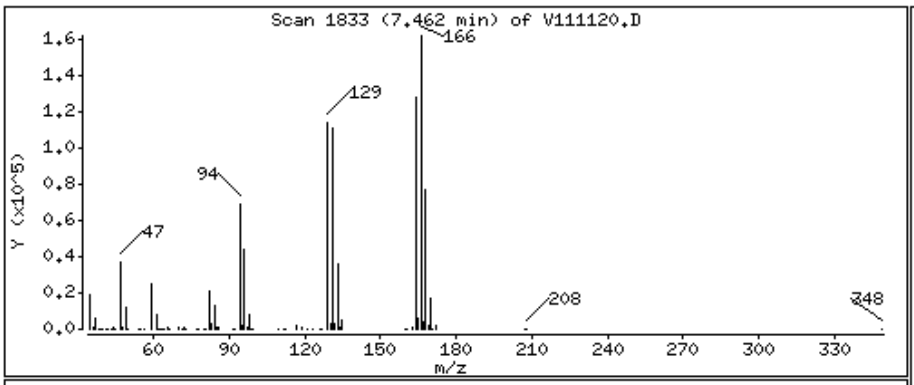
Operator: PC

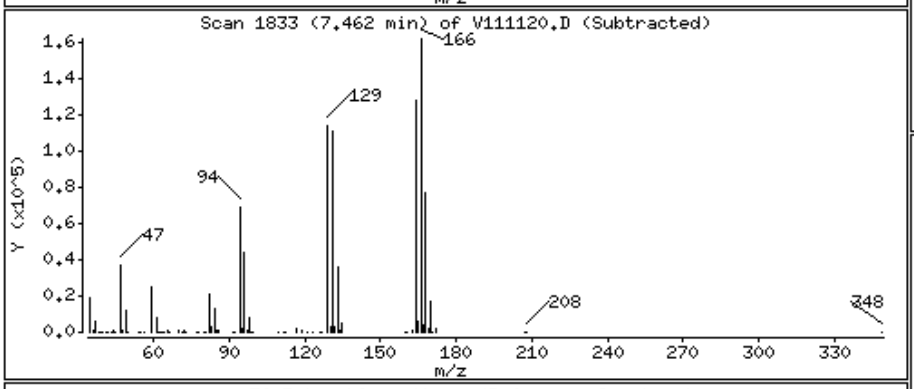
Column phase: DB624

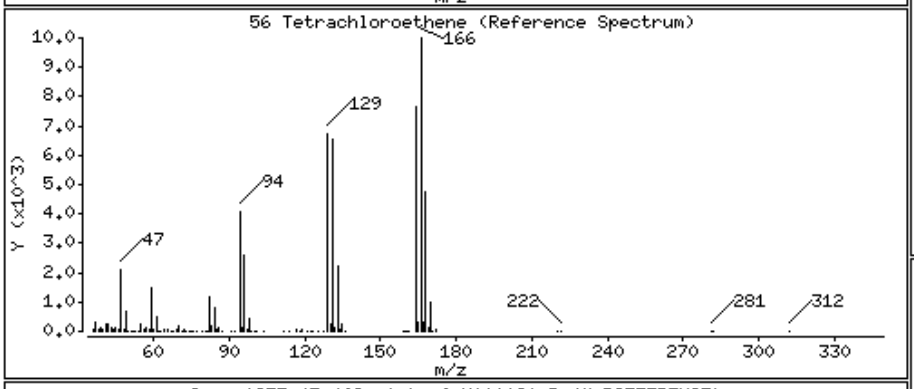
Column diameter: 0.18

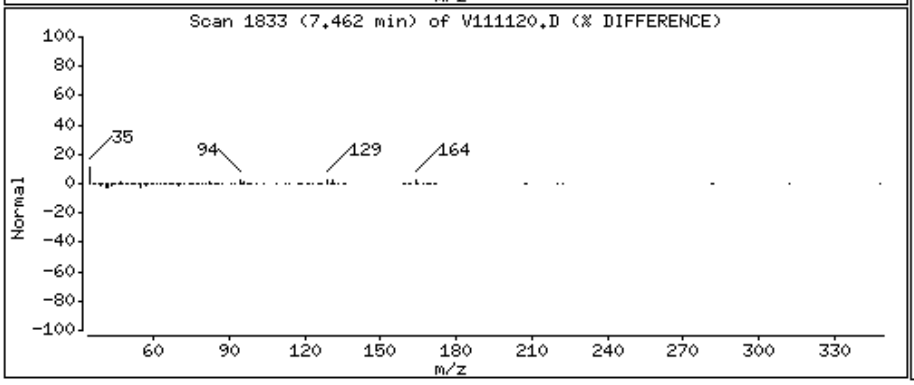
56 Tetrachloroethene

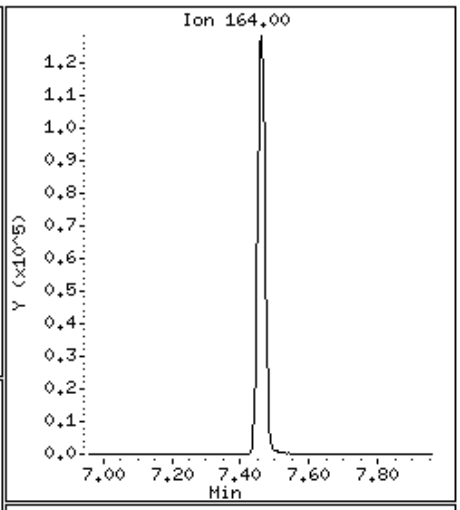
Concentration: 27.21 ug/l

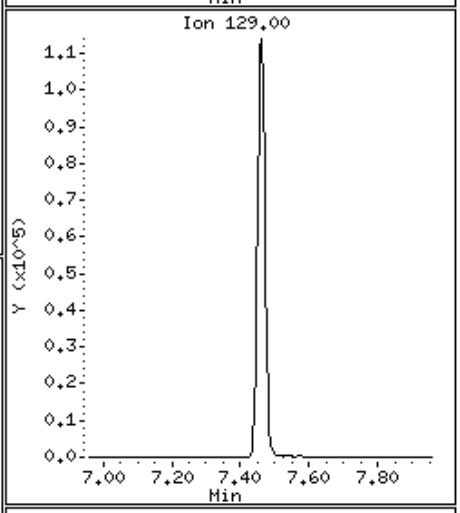


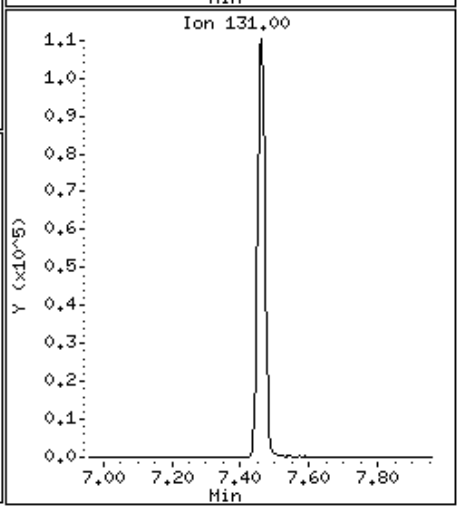












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111120.D

Date : 12-NOV-2022 00:10

Client ID: HS22110281-02

Instrument: VOA9.i

Sample Info: HS22110281-02;HS22110281-02;;;

Purge Volume: 5.0

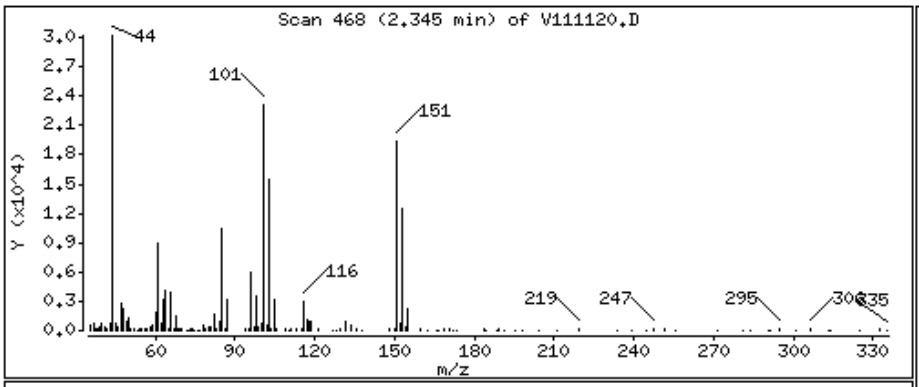
Operator: PC

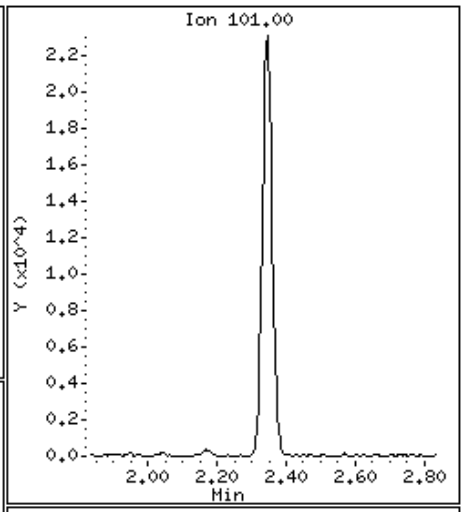
Column phase: DB624

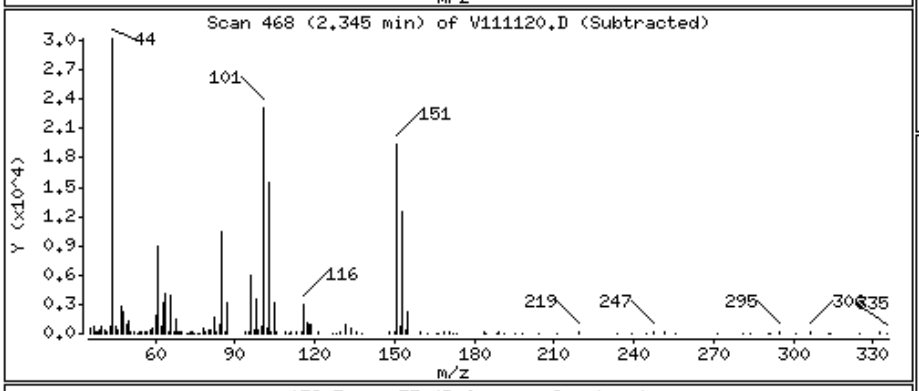
Column diameter: 0.18

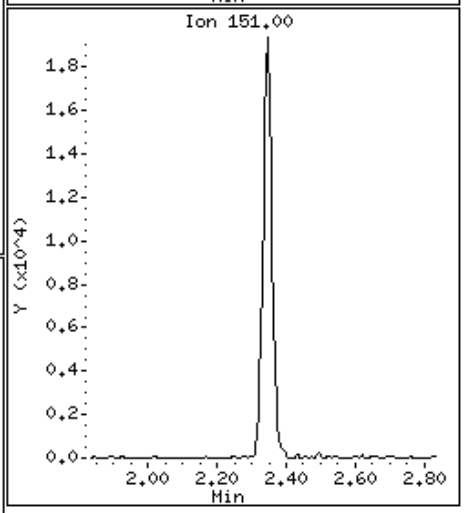
138 Freon TF

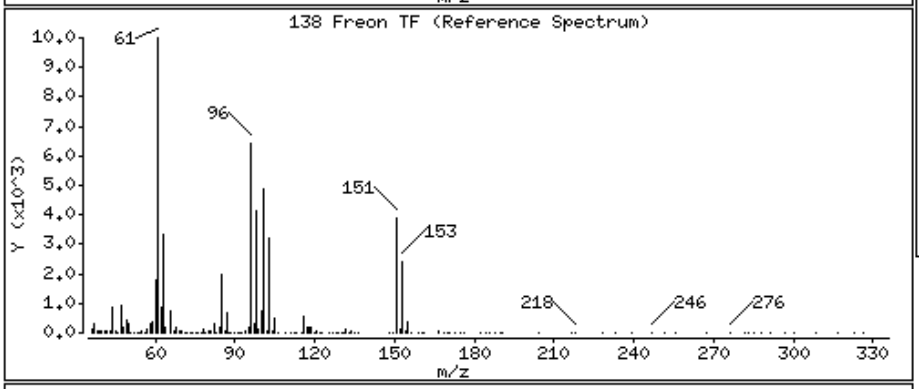
Concentration: 8.42 ug/l

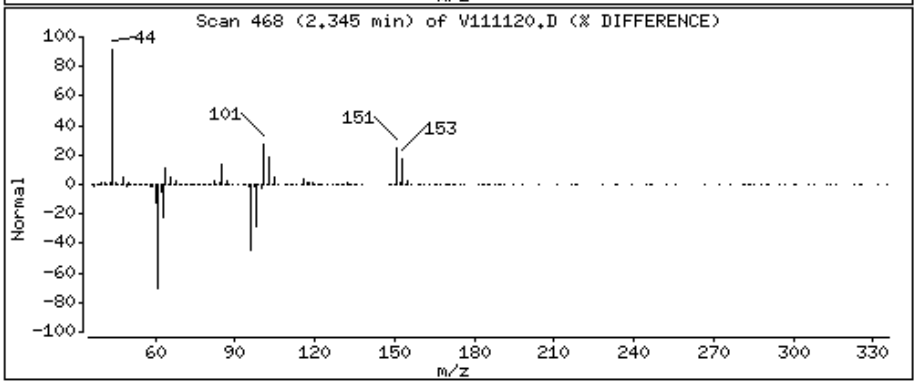












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111120.D
Inj Date : 12-NOV-2022 00:10
InstruID : VOA9.i
LabSampID : HS22110281-02

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111121.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111121.D
Lab Smp Id: HS22110281-03 Client Smp ID: HS22110281-03
Inj Date : 12-NOV-2022 00:33
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-03;HS22110281-03;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 36
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

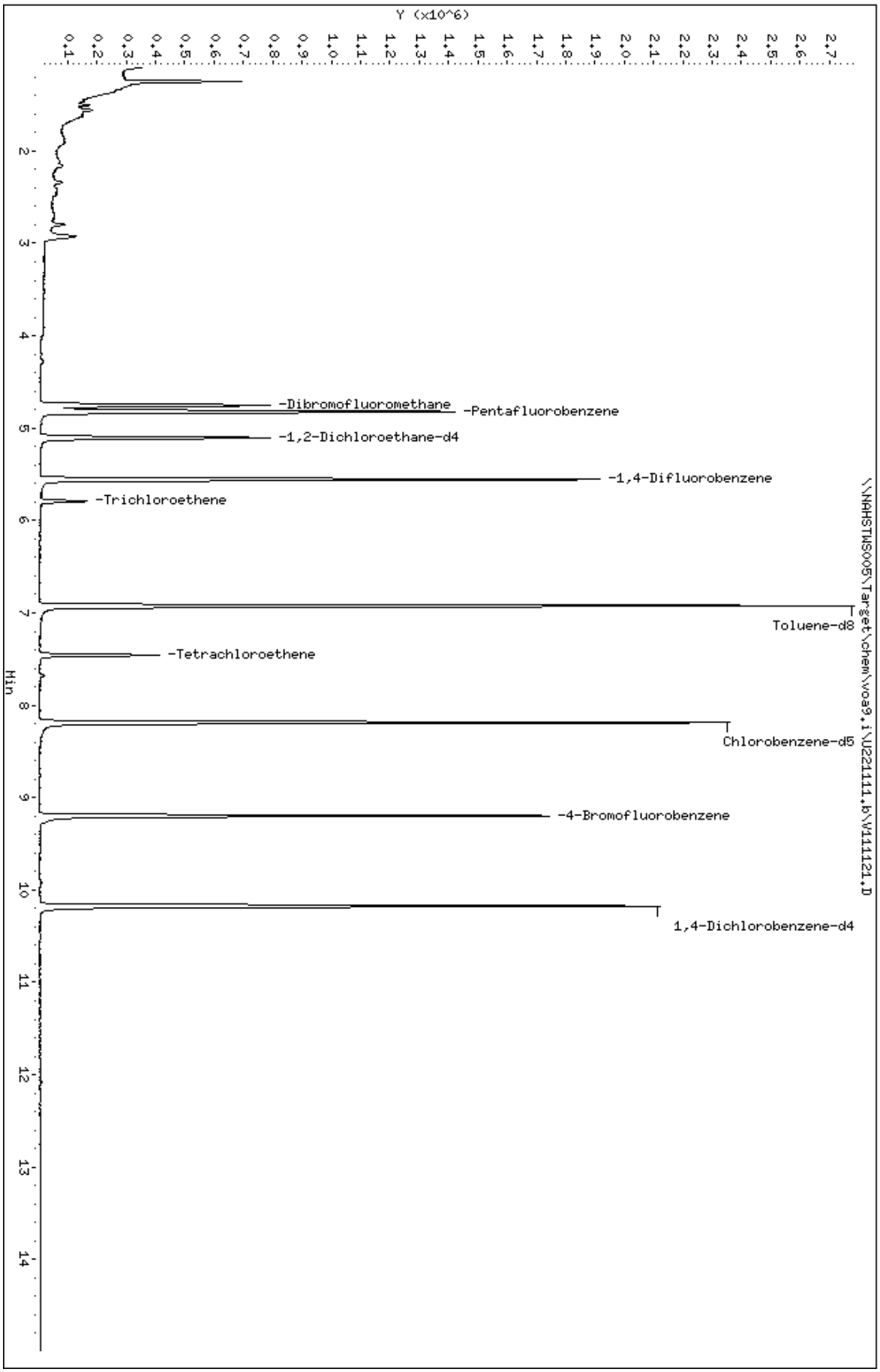
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	963087	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.987)	453179	47.0368	47.03
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	520688	47.6246	47.62
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1458619	50.0000	
38 Trichloroethene	130	5.794	5.790	(1.042)	49929	5.31088	5.31
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1287249	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1647363	53.7961	53.79
56 Tetrachloroethene	164	7.462	7.458	(0.911)	82941	11.1704	11.17
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	535128	47.2189	47.21
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	582103	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111121.D
Date : 12-NOV-2022 00:33
Client ID: HS22110281-03
Sample Info: HS22110281-03;HS22110281-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111121.D Page 2

Date : 12-NOV-2022 00:33

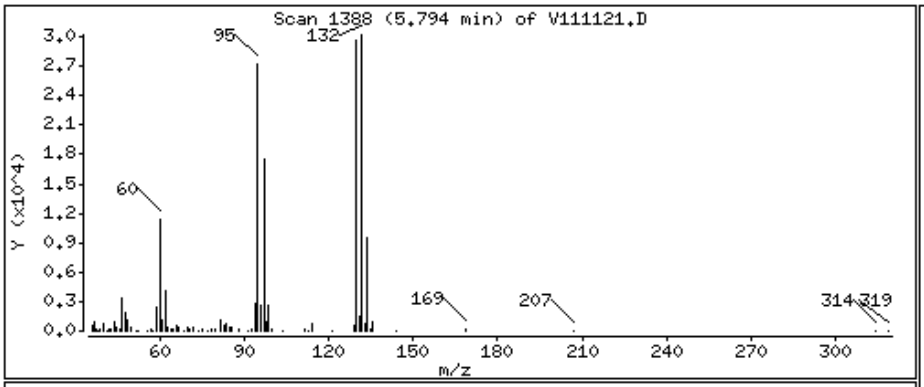
Client ID: HS22110281-03 Instrument: VOA9.i

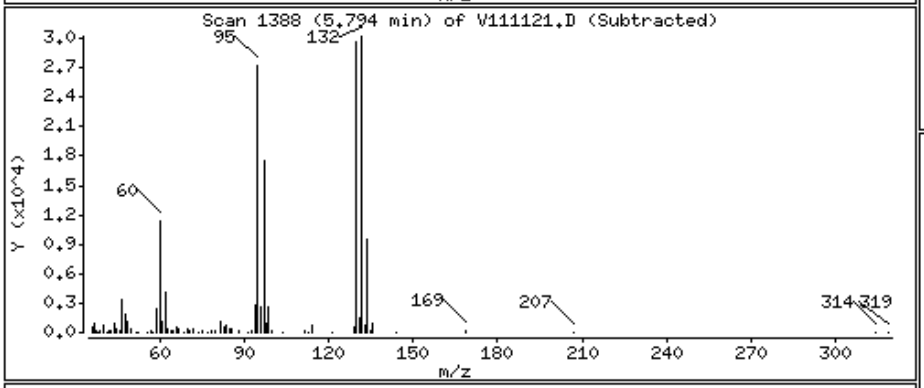
Sample Info: HS22110281-03;HS22110281-03;;;

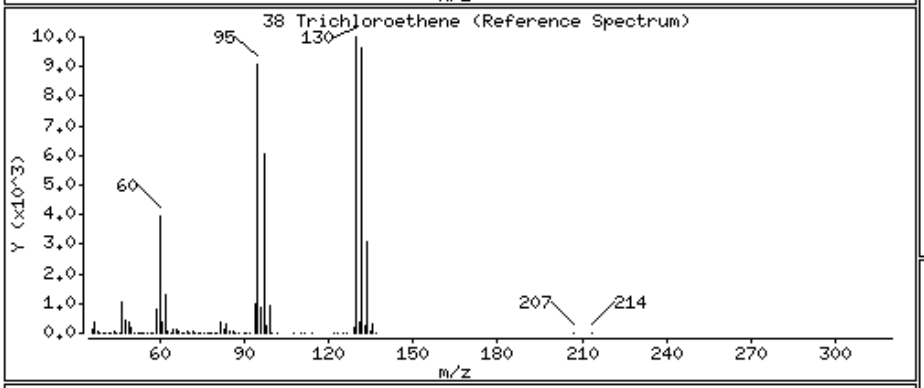
Purge Volume: 5.0 Operator: PC

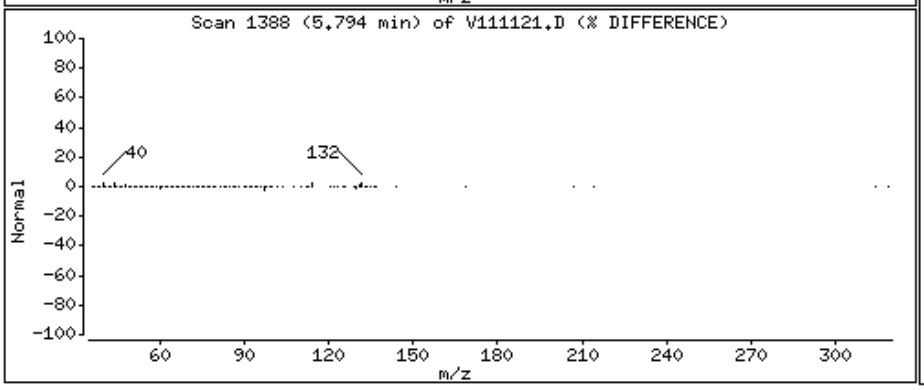
Column phase: DB624 Column diameter: 0.18

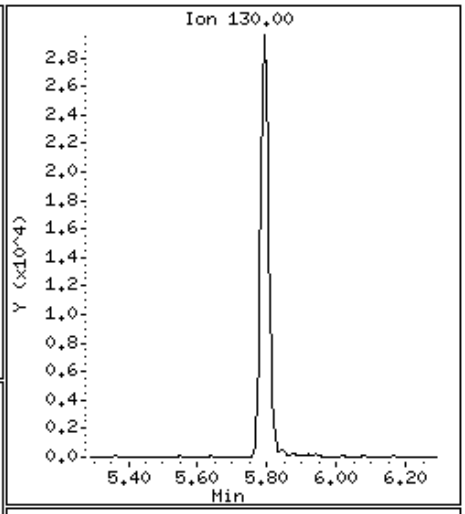
38 Trichloroethene Concentration: 5.31 ug/l

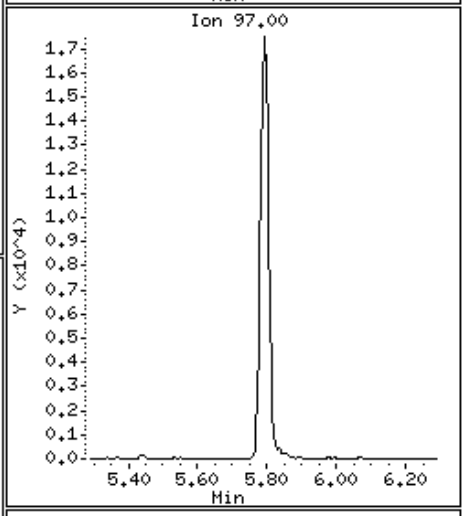


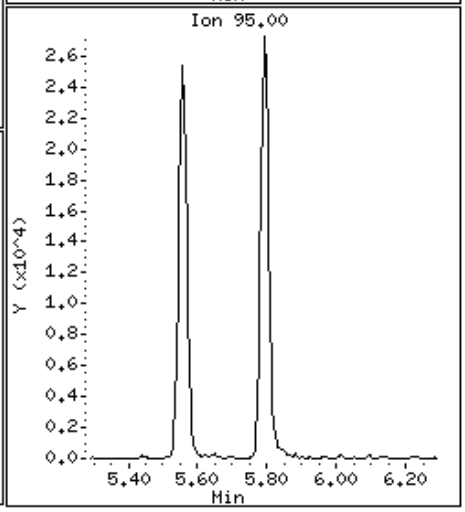












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111121.D Page 3

Date : 12-NOV-2022 00:33

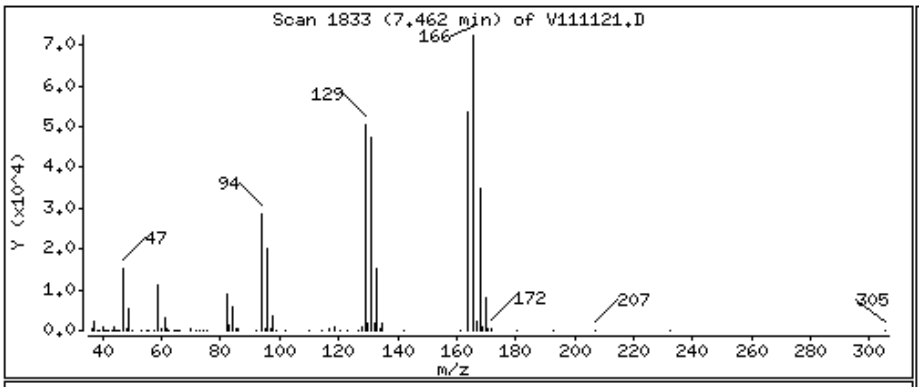
Client ID: HS22110281-03 Instrument: VOA9.i

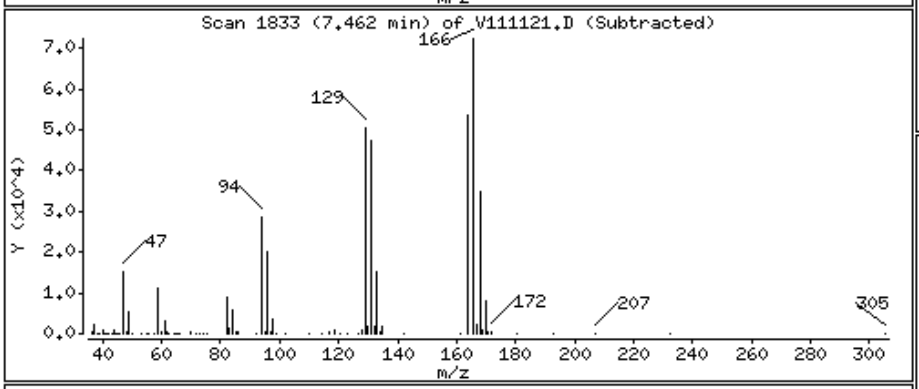
Sample Info: HS22110281-03;HS22110281-03;;;

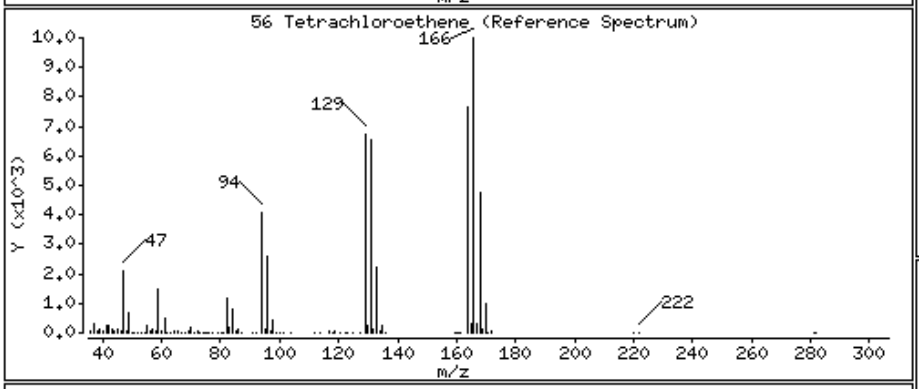
Purge Volume: 5.0 Operator: PC

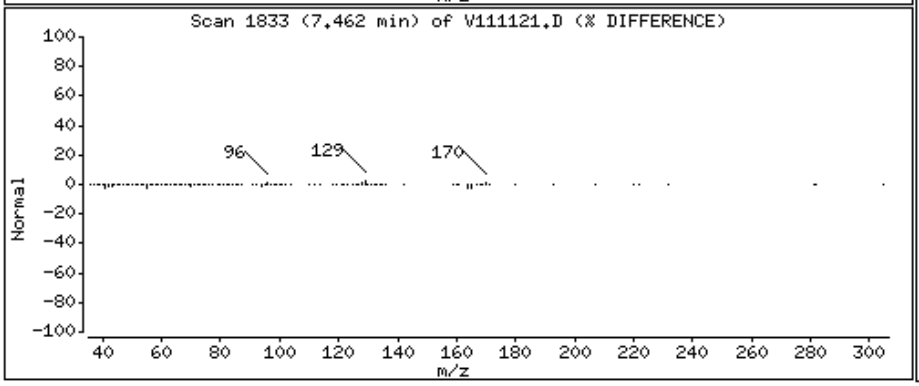
Column phase: DB624 Column diameter: 0.18

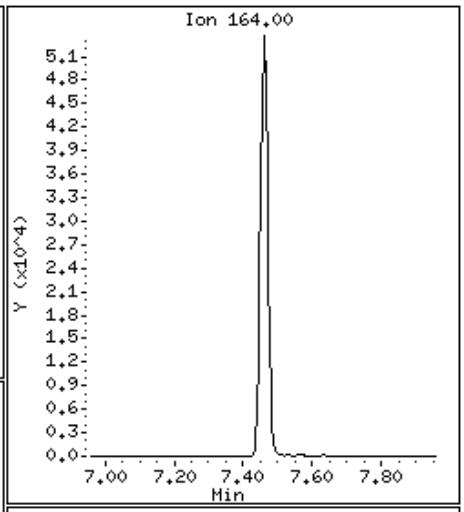
56 Tetrachloroethene Concentration: 11.17 ug/l

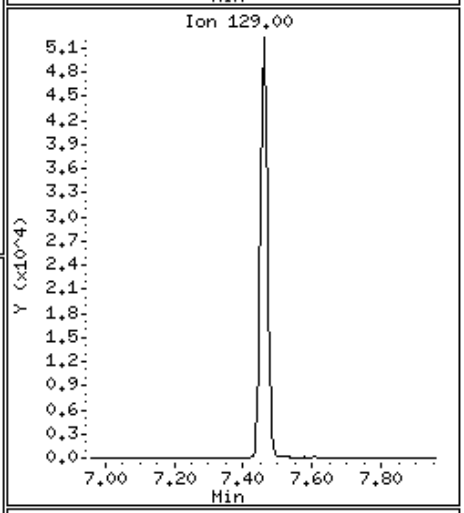


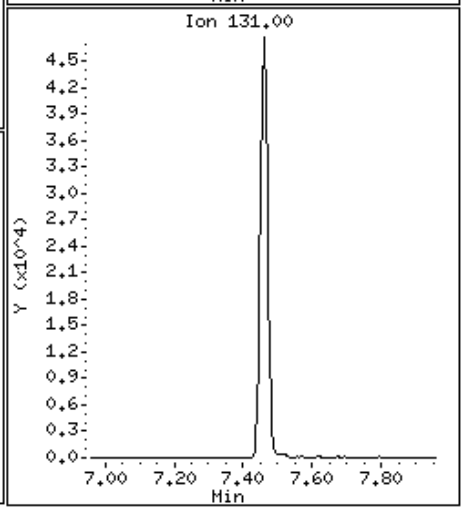












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111121.D
Inj Date : 12-NOV-2022 00:33
InstruID : VOA9.i
LabSampID : HS22110281-03

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111122.D Page 1
Report Date: 16-Nov-2022 10:00

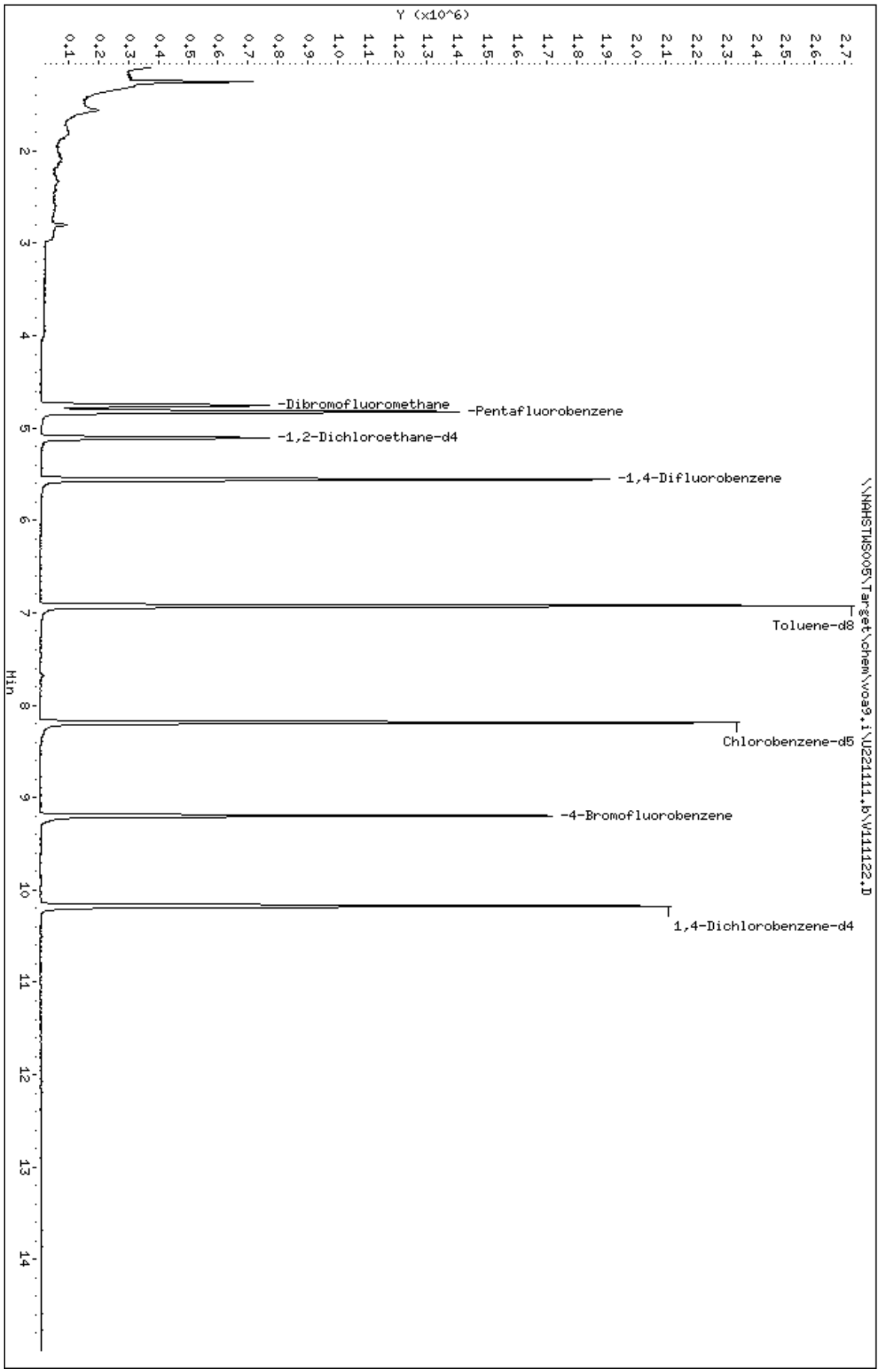
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111122.D
Lab Smp Id: HS22110281-04 Client Smp ID: HS22110281-04
Inj Date : 12-NOV-2022 00:55
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-04;HS22110281-04;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	961524	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.986)	443003	46.0481	46.04
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	507703	46.4975	46.49
* 36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1450789	50.0000	
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1266477	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1624751	53.9279	53.92
$ 69 4-Bromofluorobenzene	95	9.198	9.194	(1.123)	529372	47.4761	47.47
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	568251	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111122.D
Date : 12-NOV-2022 00:55
Client ID: HS22110281-04
Sample Info: HS22110281-04;HS22110281-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111122.D
Inj Date : 12-NOV-2022 00:55
InstruID : VOA9.i
LabSampID : HS22110281-04

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111123.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111123.D
Lab Smp Id: HS22110281-05 Client Smp ID: HS22110281-05
Inj Date : 12-NOV-2022 01:17
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-05;HS22110281-05;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 38
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

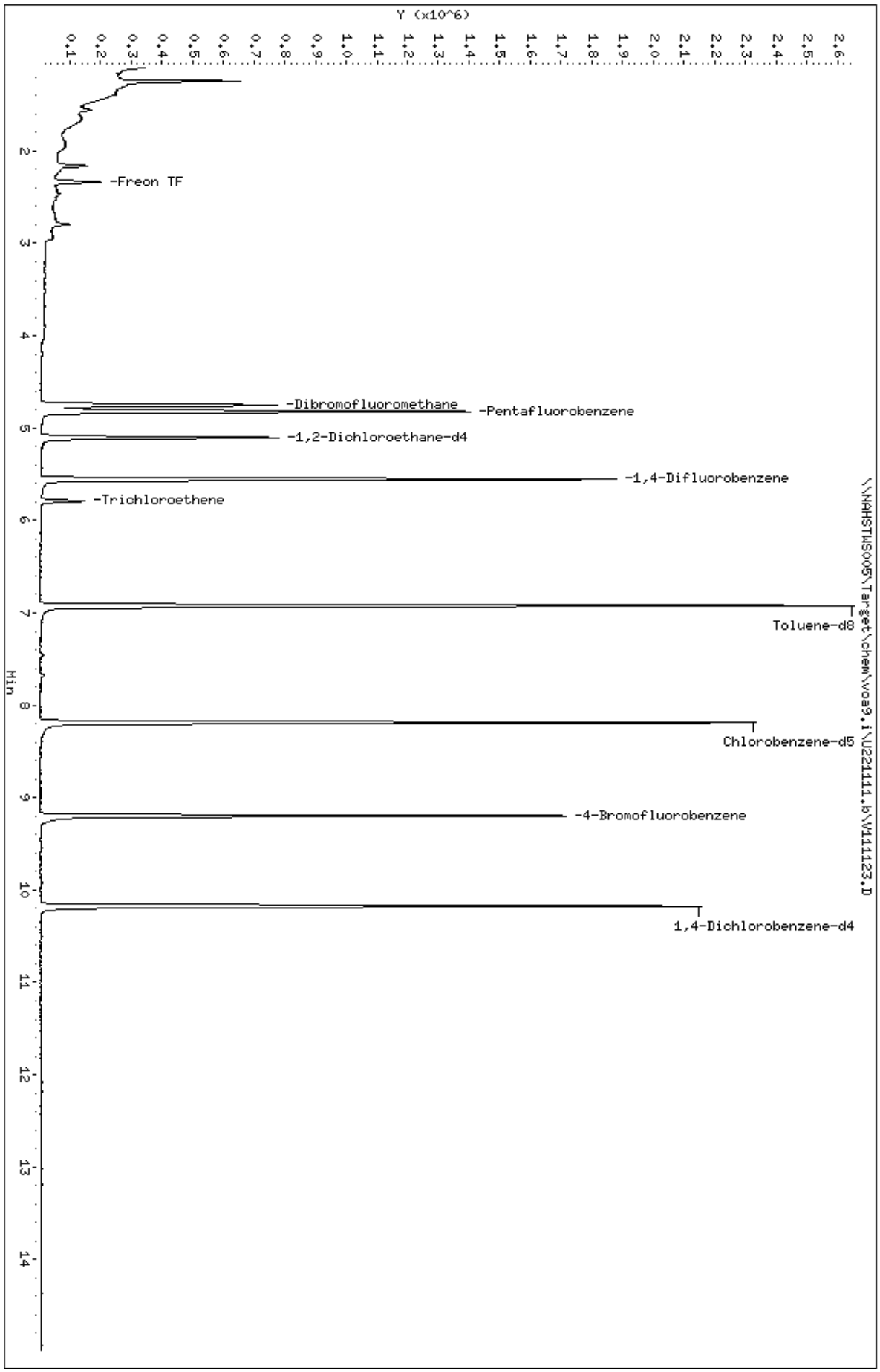
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	966615	50.0000	
$ 30 Dibromofluoromethane	113	4.751	4.751	(0.986)	444909	46.0023	46.00
$ 35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.058)	513435	46.7786	46.77
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1463869	50.0000	
38 Trichloroethene	130	5.790	5.790	(1.042)	44448	4.71091	4.71(a)
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1269090	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1624938	53.8231	53.82
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	535486	47.9238	47.92
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	580796	50.0000	
138 Freon TF	101	2.337	2.334	(0.485)	56861	9.92420	9.92

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\W111123.D
Date : 12-NOV-2022 01:17
Client ID: HS22110281-05
Sample Info: HS22110281-05;HS22110281-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111123.D Page 2

Date : 12-NOV-2022 01:17

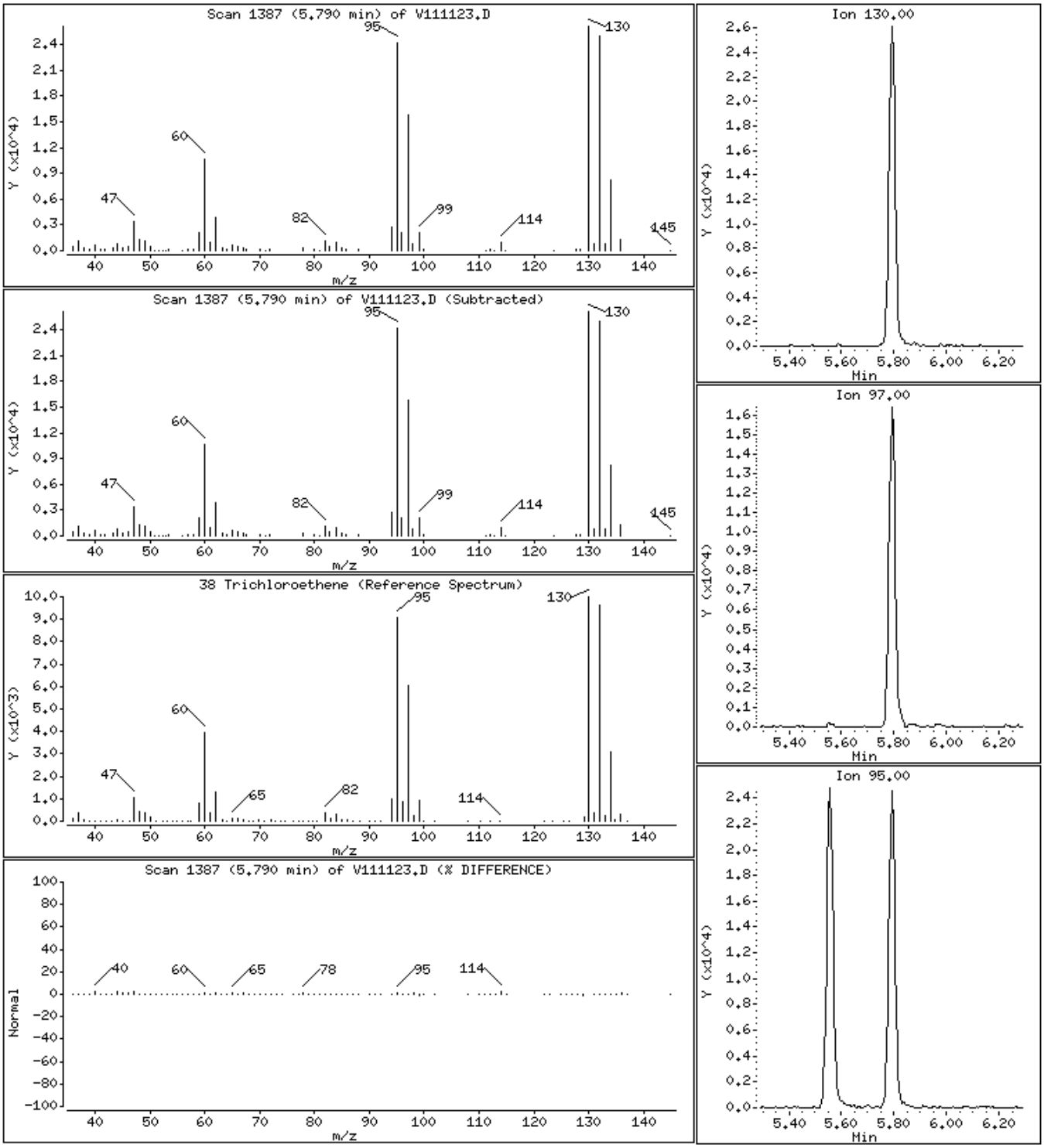
Client ID: HS22110281-05 Instrument: VOA9.i

Sample Info: HS22110281-05;HS22110281-05;;;

Purge Volume: 5.0 Operator: PC

Column phase: DB624 Column diameter: 0.18

38 Trichloroethene Concentration: 4.71 ug/l



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111123.D Page 3

Date : 12-NOV-2022 01:17

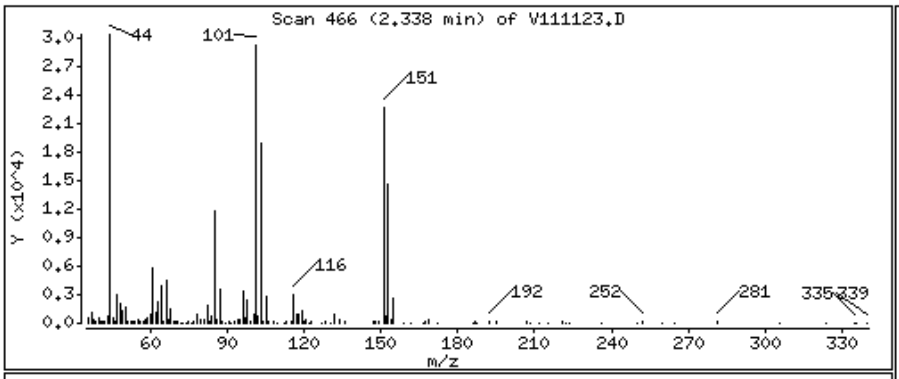
Client ID: HS22110281-05 Instrument: VOA9.i

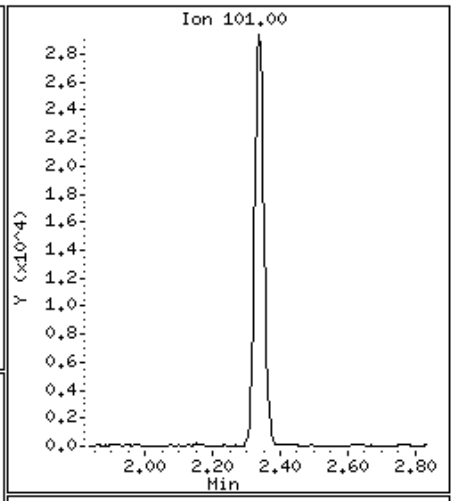
Sample Info: HS22110281-05;HS22110281-05;;;

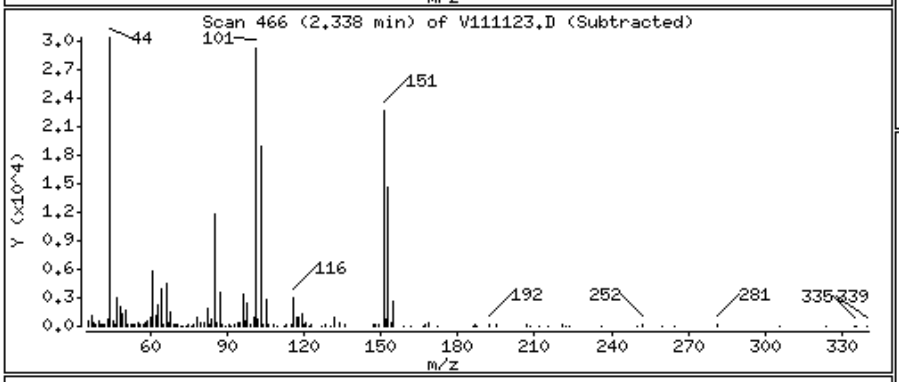
Purge Volume: 5.0 Operator: PC

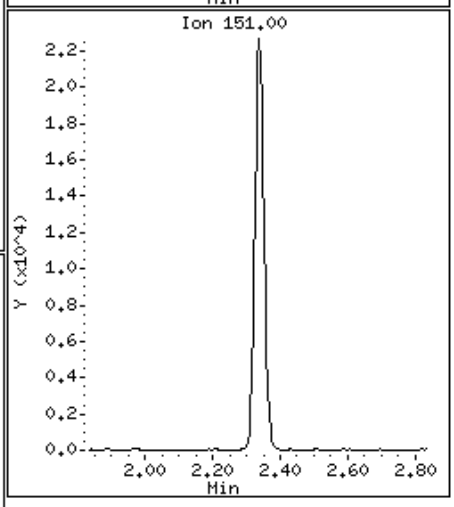
Column phase: DB624 Column diameter: 0.18

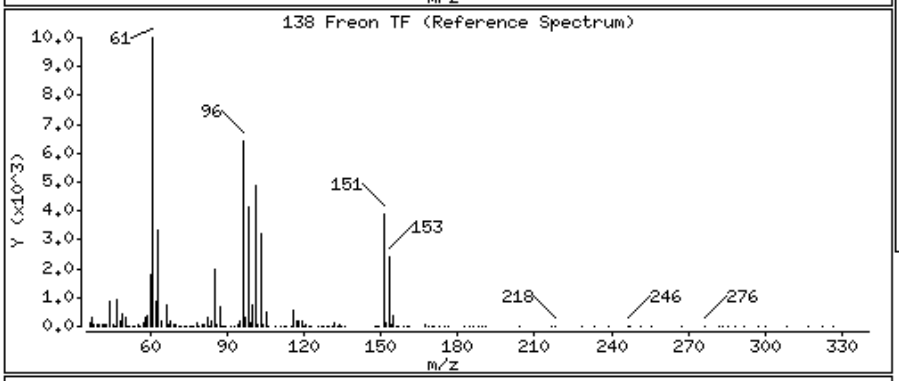
138 Freon TF Concentration: 9.92 ug/l

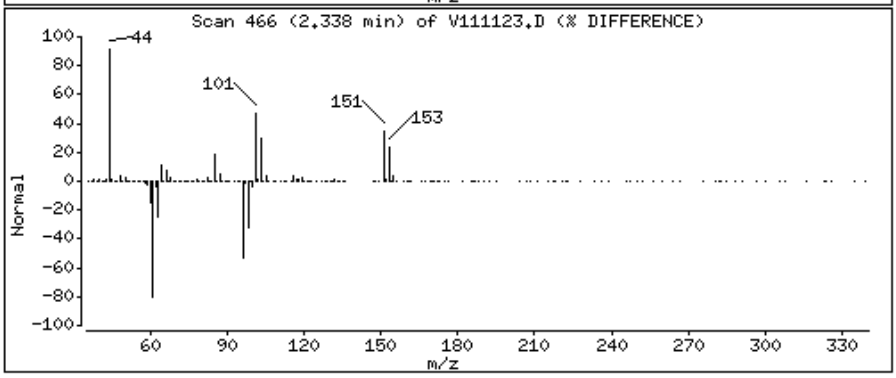












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111123.D
Inj Date : 12-NOV-2022 01:17
InstruID : VOA9.i
LabSampID : HS22110281-05

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111124.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111124.D
Lab Smp Id: HS22110281-06 Client Smp ID: HS22110281-06
Inj Date : 12-NOV-2022 01:40
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-06;HS22110281-06;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 39
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

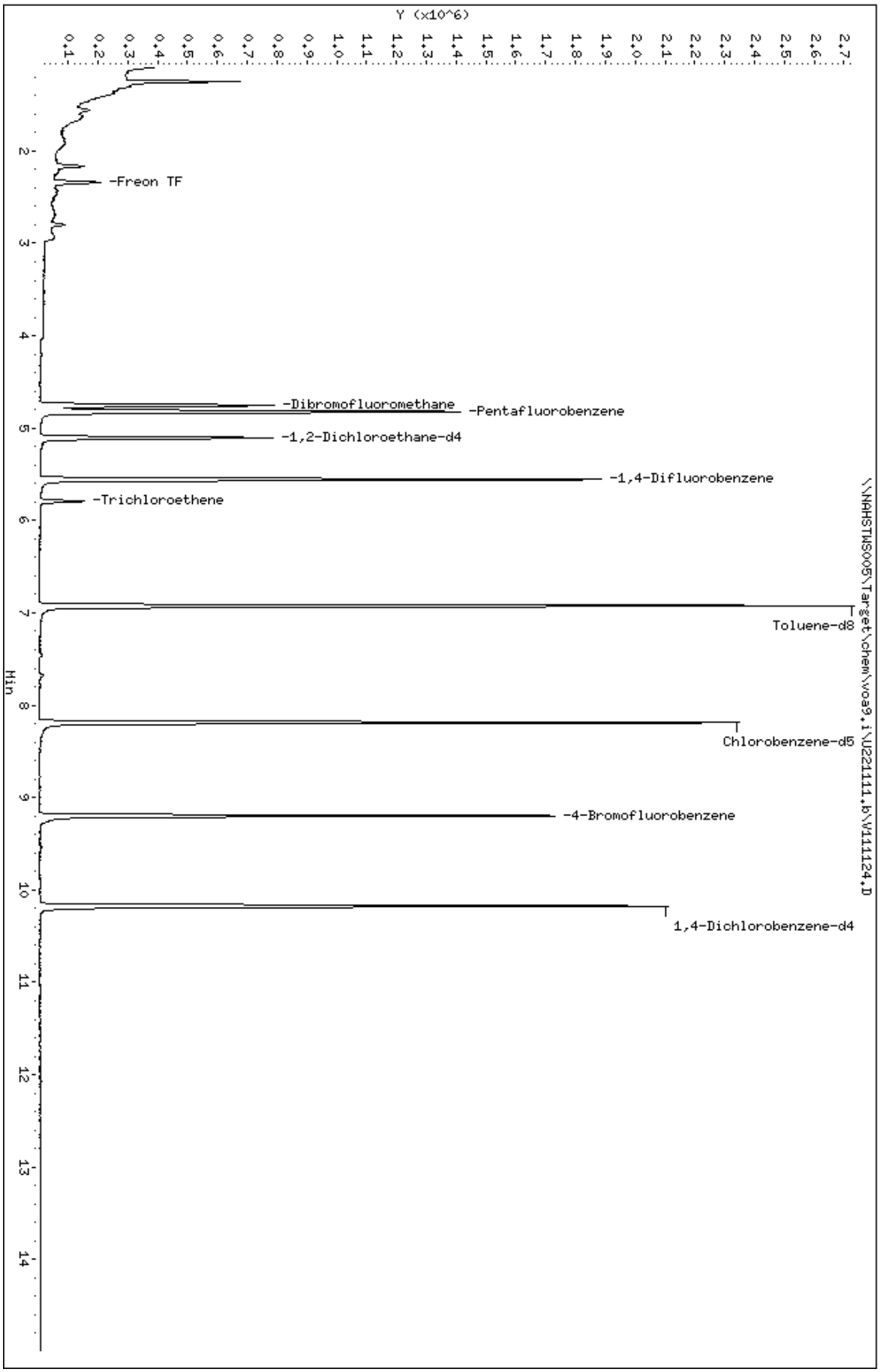
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.823	4.815	(1.000)	969444	50.0000	
$ 30 Dibromofluoromethane	113	4.755	4.751	(0.986)	447064	46.0909	46.09
$ 35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.058)	508345	46.1715	46.17
* 36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1440080	50.0000	
38 Trichloroethene	130	5.794	5.790	(1.042)	46587	5.01919	5.01
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1259881	50.0000	
$ 48 Toluene-d8	98	6.926	6.922	(0.846)	1623564	54.1707	54.17
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	528763	47.6690	47.66
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	576677	50.0000	
138 Freon TF	101	2.341	2.334	(0.485)	55078	9.58294	9.58

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111124.D
Date : 12-NOV-2022 01:40
Client ID: HS22110281-06
Sample Info: HS22110281-06;HS22110281-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111124.D Page 2

Date : 12-NOV-2022 01:40

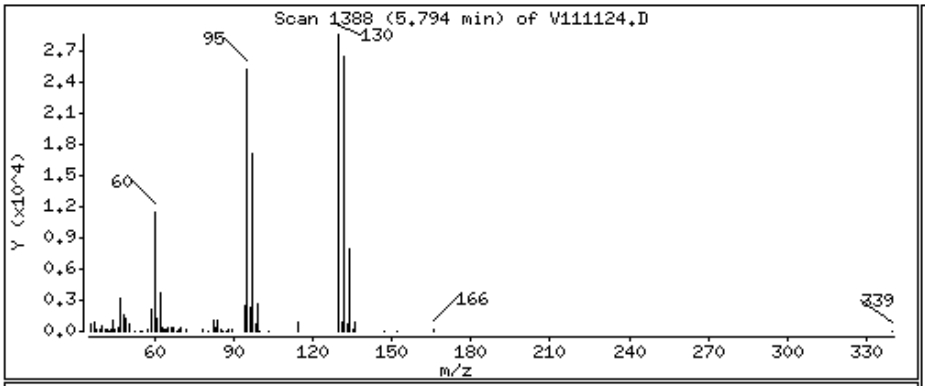
Client ID: HS22110281-06 Instrument: VOA9.i

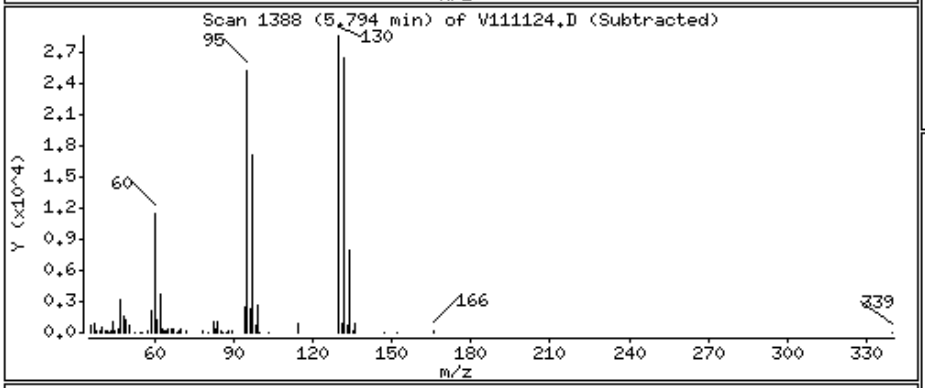
Sample Info: HS22110281-06;HS22110281-06;;;

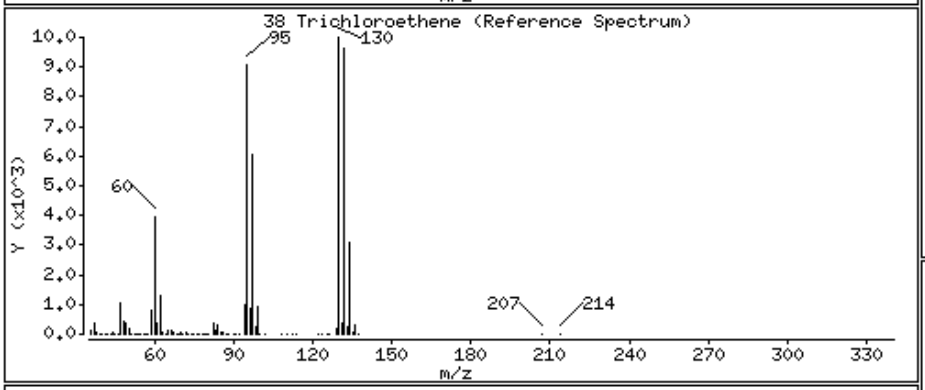
Purge Volume: 5.0 Operator: PC

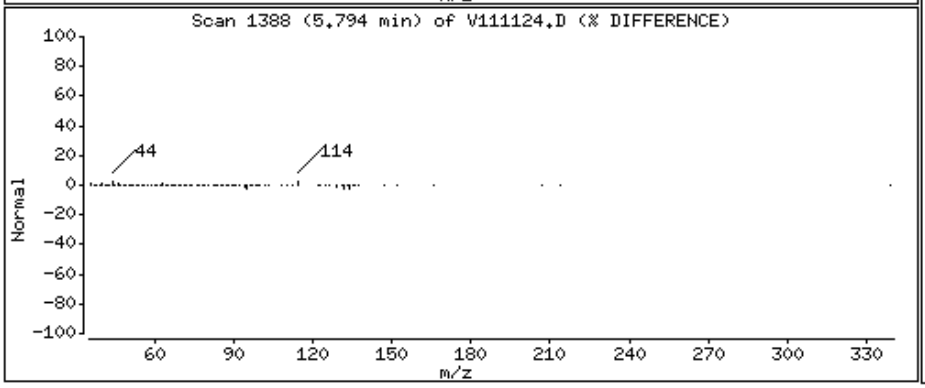
Column phase: DB624 Column diameter: 0.18

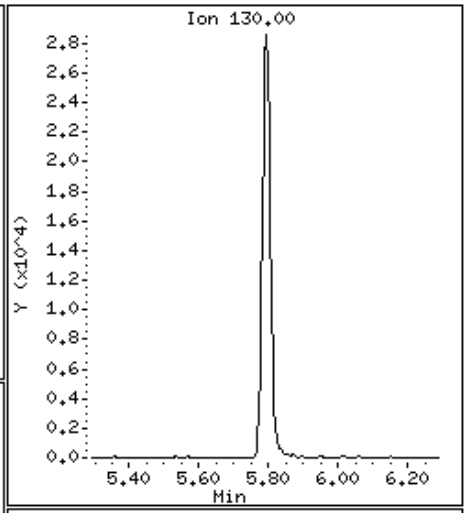
38 Trichloroethene Concentration: 5.01 ug/l

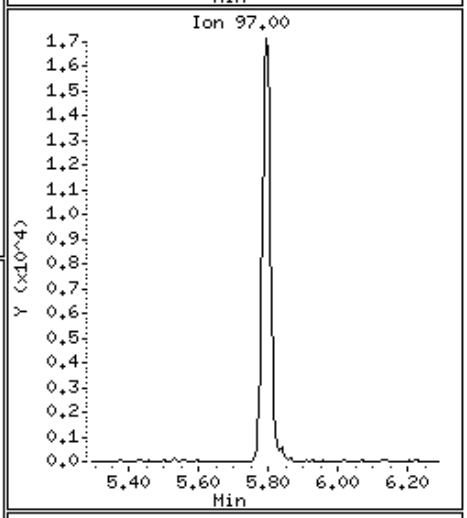


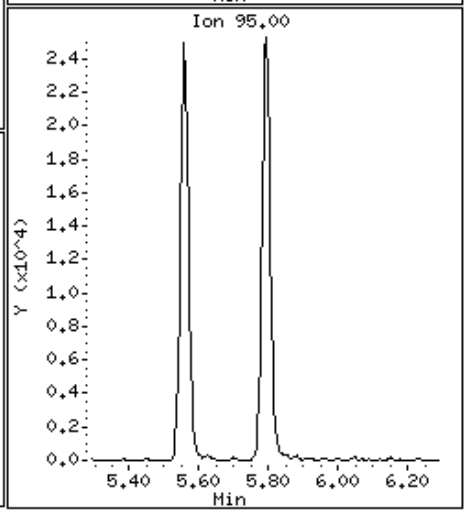












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111124.D

Date : 12-NOV-2022 01:40

Client ID: HS22110281-06

Instrument: VOA9.i

Sample Info: HS22110281-06;HS22110281-06;;;

Purge Volume: 5.0

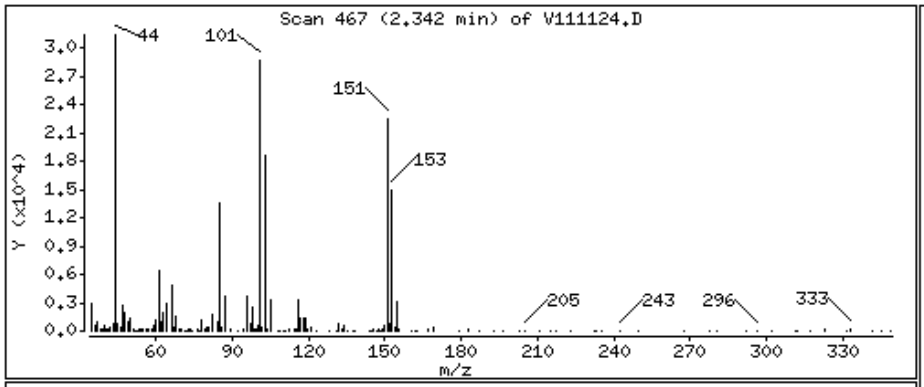
Operator: PC

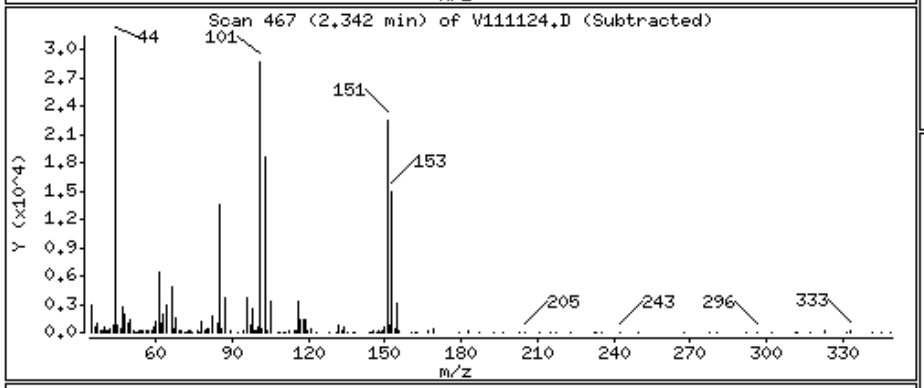
Column phase: DB624

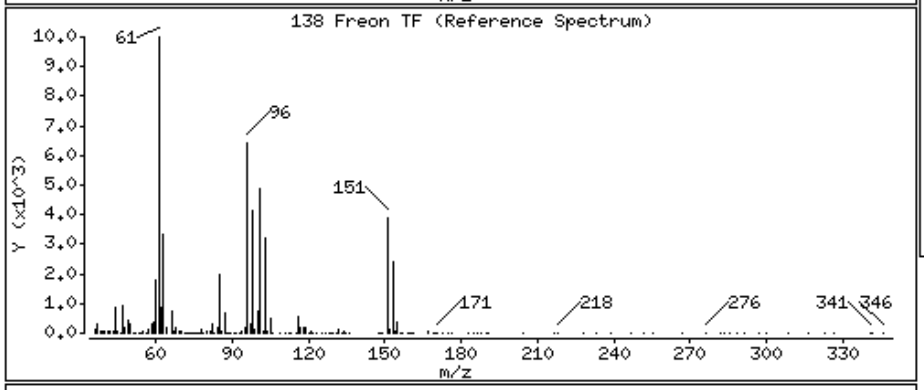
Column diameter: 0.18

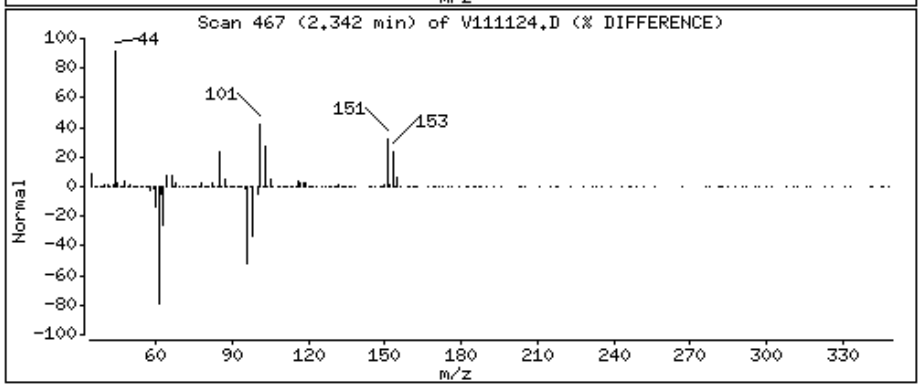
138 Freon TF

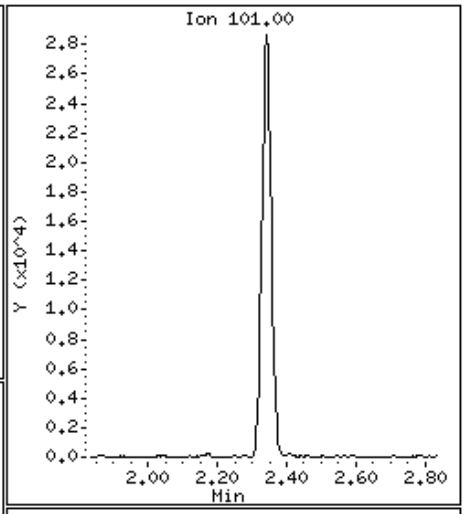
Concentration: 9.58 ug/l

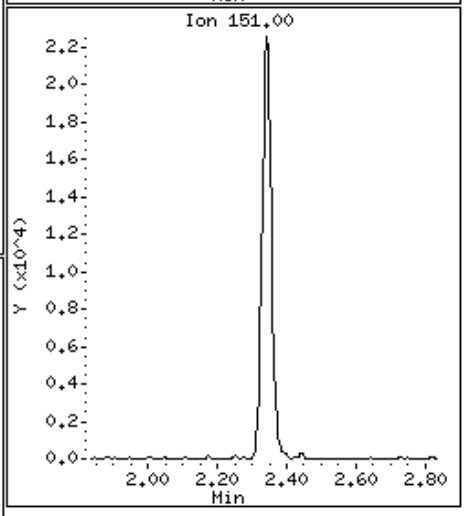












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111124.D
Inj Date : 12-NOV-2022 01:40
InstruID : VOA9.i
LabSampID : HS22110281-06

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111125.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111125.D
Lab Smp Id: HS22110281-07 Client Smp ID: HS22110281-07
Inj Date : 12-NOV-2022 02:02
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-07;HS22110281-07;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 40
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

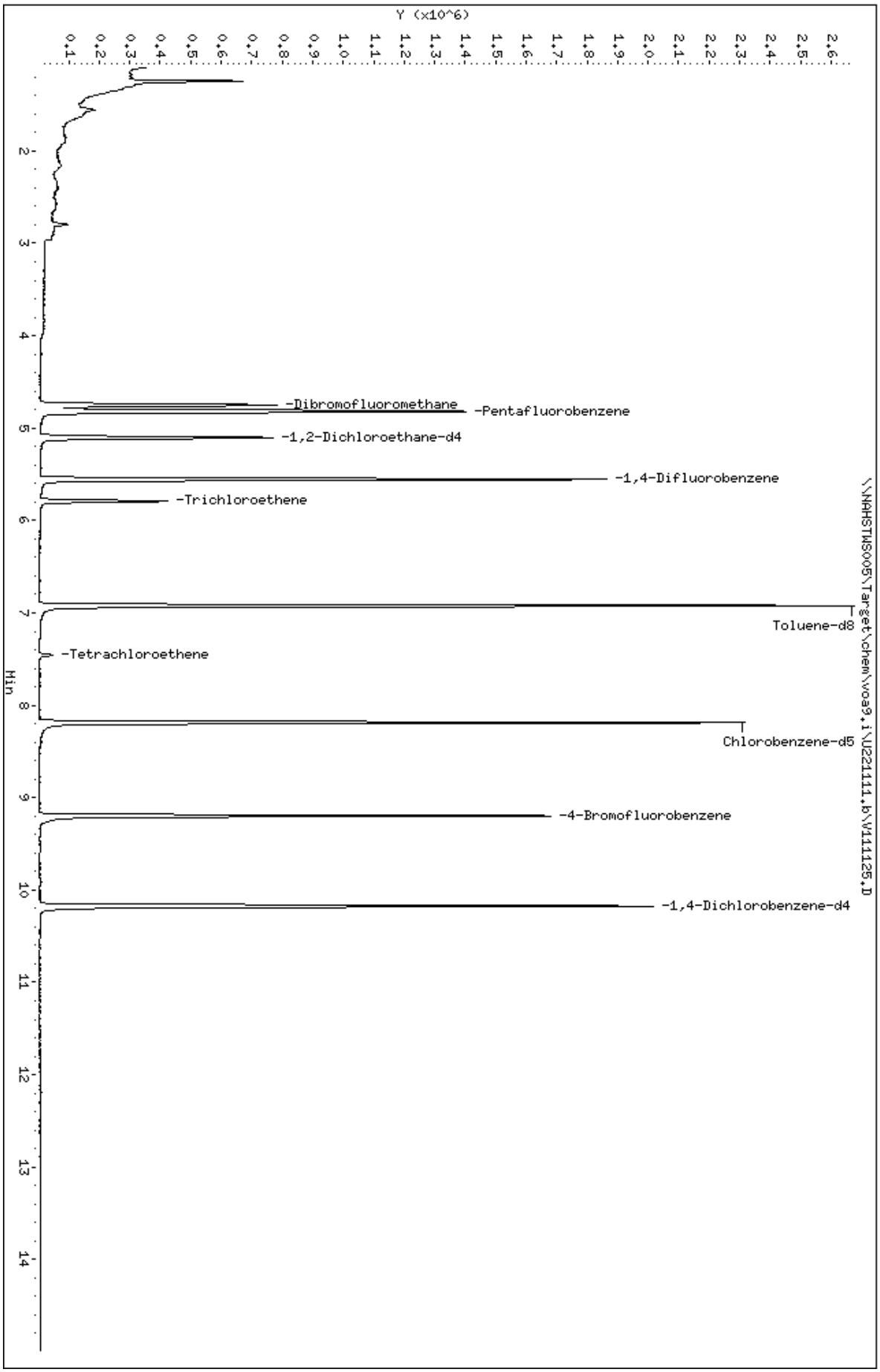
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	957187	50.0000	
$ 30 Dibromofluoromethane	113	4.751	4.751	(0.986)	451004	47.1001	47.10
$ 35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.058)	511107	47.0285	47.02
* 36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1438815	50.0000	
38 Trichloroethene	130	5.790	5.790	(1.042)	129408	13.9544	13.95
* 47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1238982	50.0000	
$ 48 Toluene-d8	98	6.925	6.922	(0.846)	1614944	54.7920	54.79
56 Tetrachloroethene	164	7.458	7.458	(0.911)	9799	1.37114	1.37(a)
$ 69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	522183	47.8691	47.86
* 70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	548765	50.0000	

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\V111125.D
Date : 12-NOV-2022 02:02
Client ID: HS22110281-07
Sample Info: HS22110281-07;HS22110281-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9,i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111125.D Page 2

Date : 12-NOV-2022 02:02

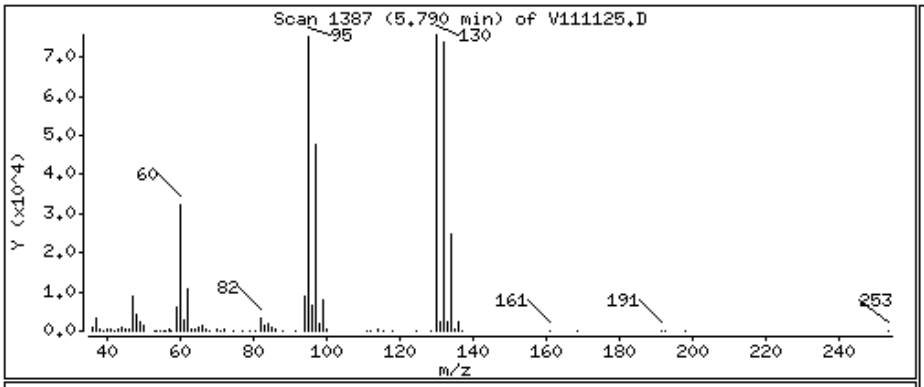
Client ID: HS22110281-07 Instrument: VOA9.i

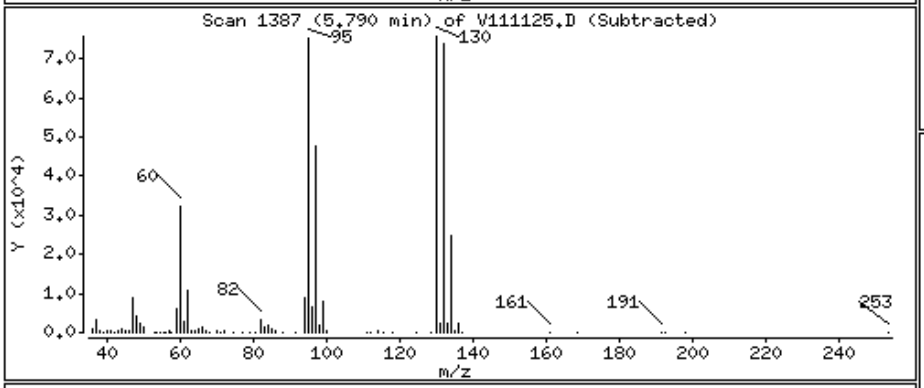
Sample Info: HS22110281-07;HS22110281-07;;;

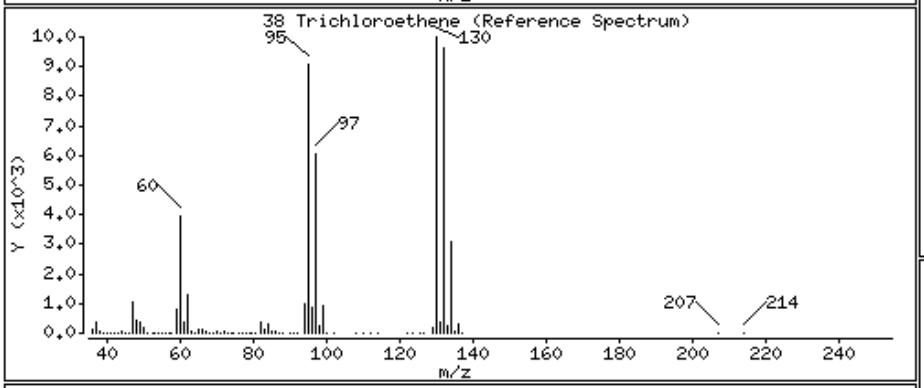
Purge Volume: 5.0 Operator: PC

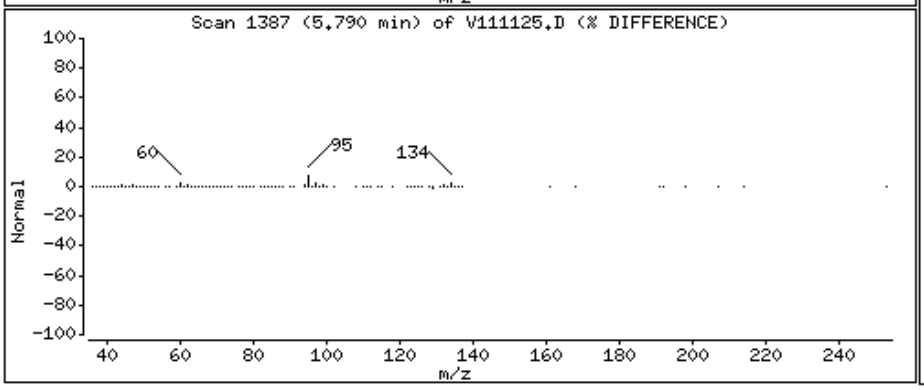
Column phase: DB624 Column diameter: 0.18

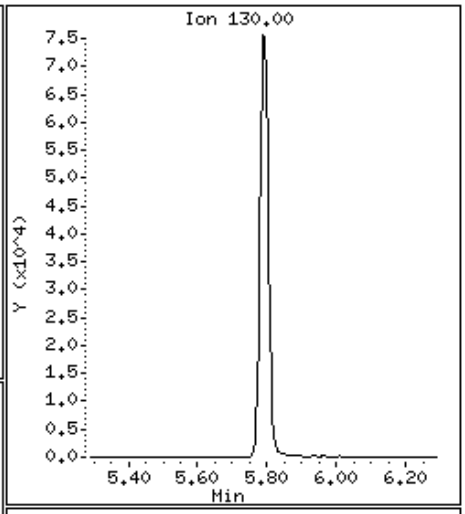
38 Trichloroethene Concentration: 13.95 ug/l

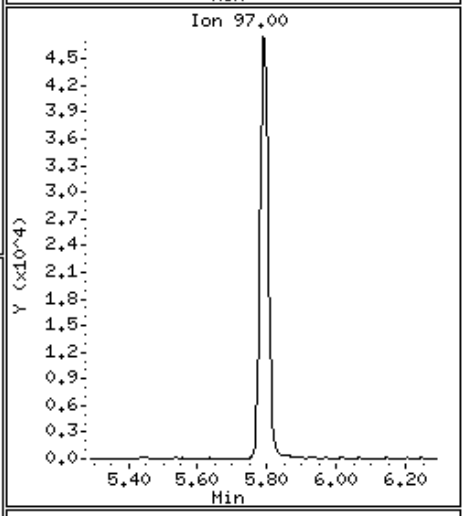


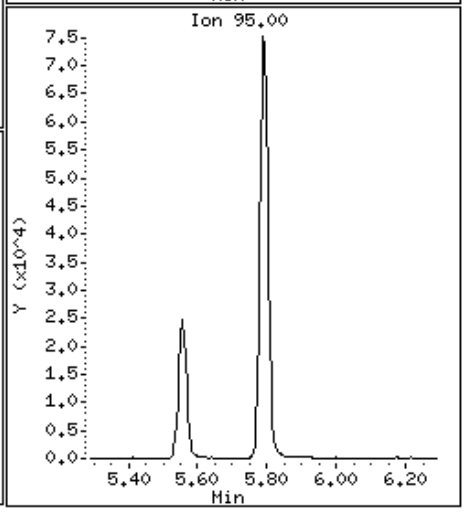












Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111125.D

Date : 12-NOV-2022 02:02

Client ID: HS22110281-07

Instrument: VOA9.i

Sample Info: HS22110281-07;HS22110281-07;;;

Purge Volume: 5.0

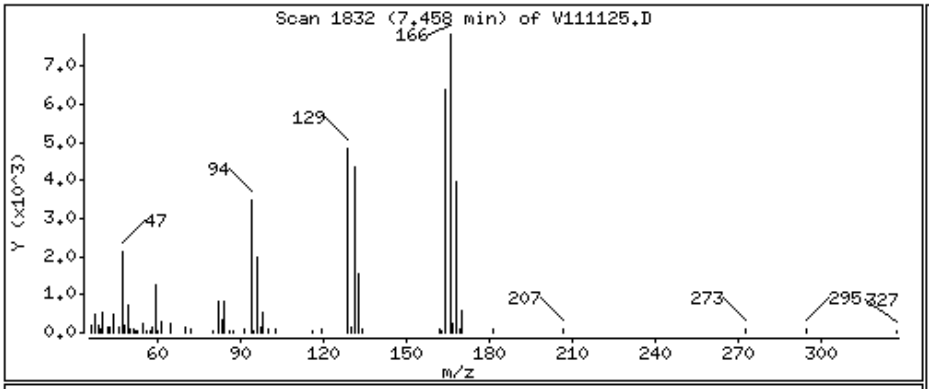
Operator: PC

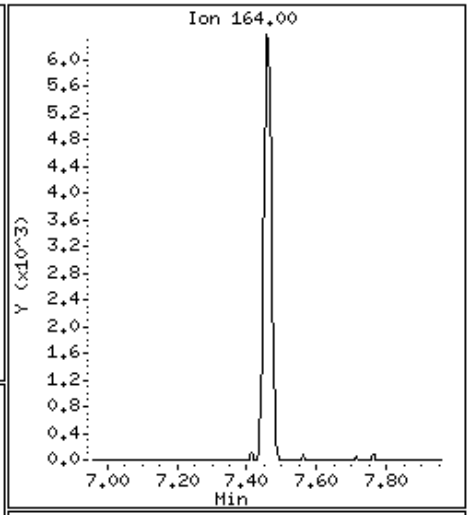
Column phase: DB624

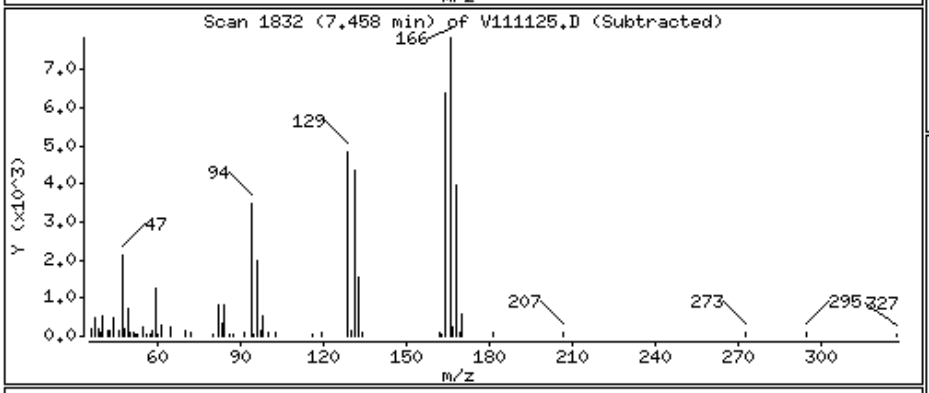
Column diameter: 0.18

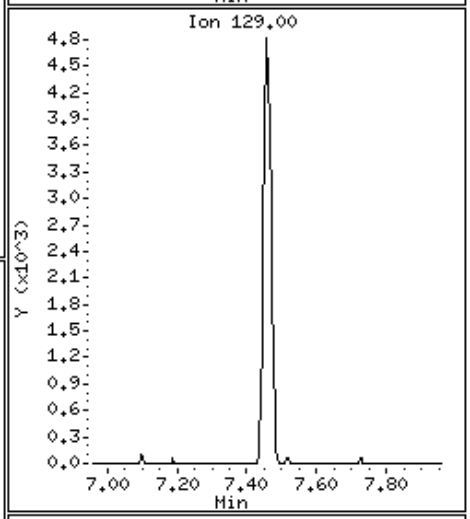
56 Tetrachloroethene

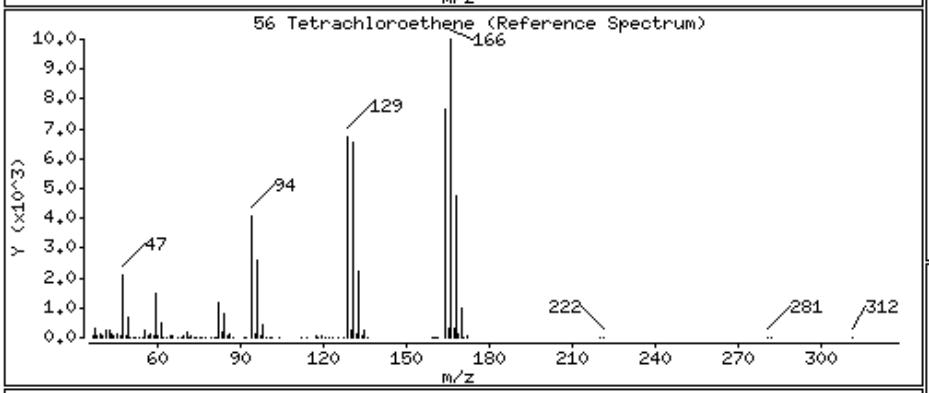
Concentration: 1.37 ug/l

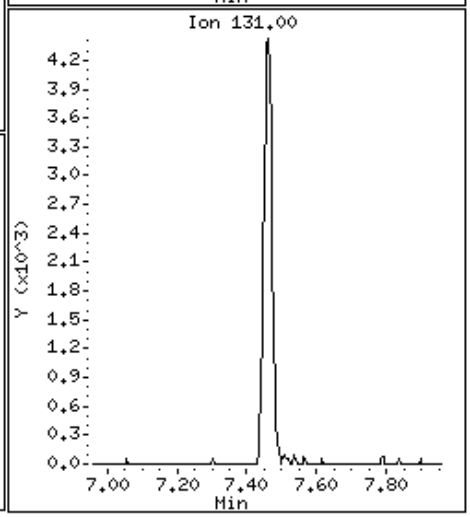


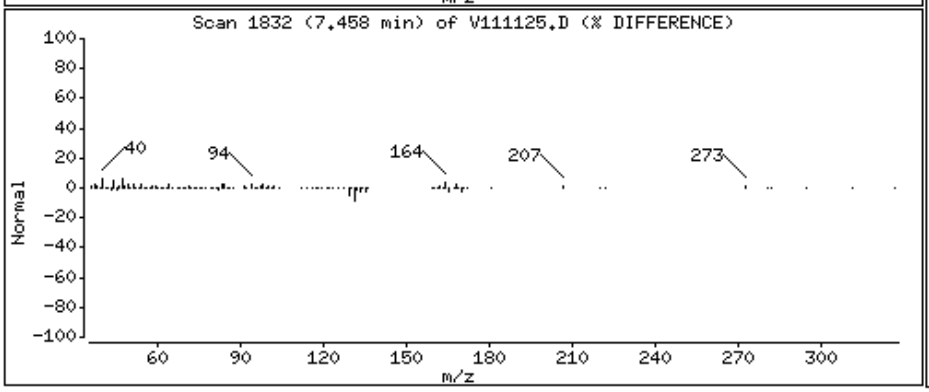












Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111125.D
Inj Date : 12-NOV-2022 02:02
InstruID : VOA9.i
LabSampID : HS22110281-07

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D
Lab Smp Id: HS22110281-01MS Client Smp ID: HS22110281-01MS
Inj Date : 12-NOV-2022 03:09
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-01MS;HS22110281-01MS;3;;MS
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 43 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	980561	50.0000	
2 Dichlorodifluoromethane	85	1.164	1.160	(0.242)	179140	23.8550	23.85
3 Chloromethane	50	1.295	1.291	(0.269)	221271	20.5839	20.58
5 Vinyl Chloride	62	1.378	1.374	(0.286)	214760	21.4730	21.47
6 Bromomethane	94	1.621	1.618	(0.337)	153912	21.7278	21.72
7 Chloroethane	64	1.700	1.696	(0.353)	150812	20.6406	20.64
8 Trichlorofluoromethane	101	1.899	1.895	(0.394)	308932	23.7576	23.75
9 Acrolein	56	2.270	2.266	(0.471)	14065	20.8103	20.81
10 Acetone	43	2.412	2.409	(0.501)	130127	27.4742	27.47
11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	180508	21.5852	21.58
15 Iodomethane	142	2.469	2.469	(0.512)	294999	33.9985	33.99
16 Acrylonitrile	53	3.068	3.065	(0.637)	148334	32.5712	32.57
17 Methylene Chloride	84	2.795	2.795	(0.580)	225520	19.9582	19.95
18 Methyl tert-butyl ether	73	3.083	3.080	(0.640)	427545	15.1713	15.17
19 Carbon Disulfide	76	2.521	2.517	(0.523)	981219	40.3338	40.33
20 trans-1,2-Dichloroethene	96	3.061	3.061	(0.635)	191524	20.6976	20.69
21 Vinyl Acetate	43	3.612	3.608	(0.750)	713893	29.5600	29.56
22 1,1-Dichloroethane	63	3.518	3.514	(0.730)	331410	20.1462	20.14
24 2-Butanone	43	4.272	4.268	(0.886)	142166	35.8534	35.85
26 2,2-Dichloropropane	77	4.185	4.185	(0.869)	129427	15.5915	15.59

27 cis-1,2-Dichloroethene	96	4.200	4.197 (0.872)	217688	20.0130	20.01
28 Chloroform	83	4.575	4.575 (0.949)	349025	19.8707	19.87

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D Page 2
Report Date: 16-Nov-2022 10:00

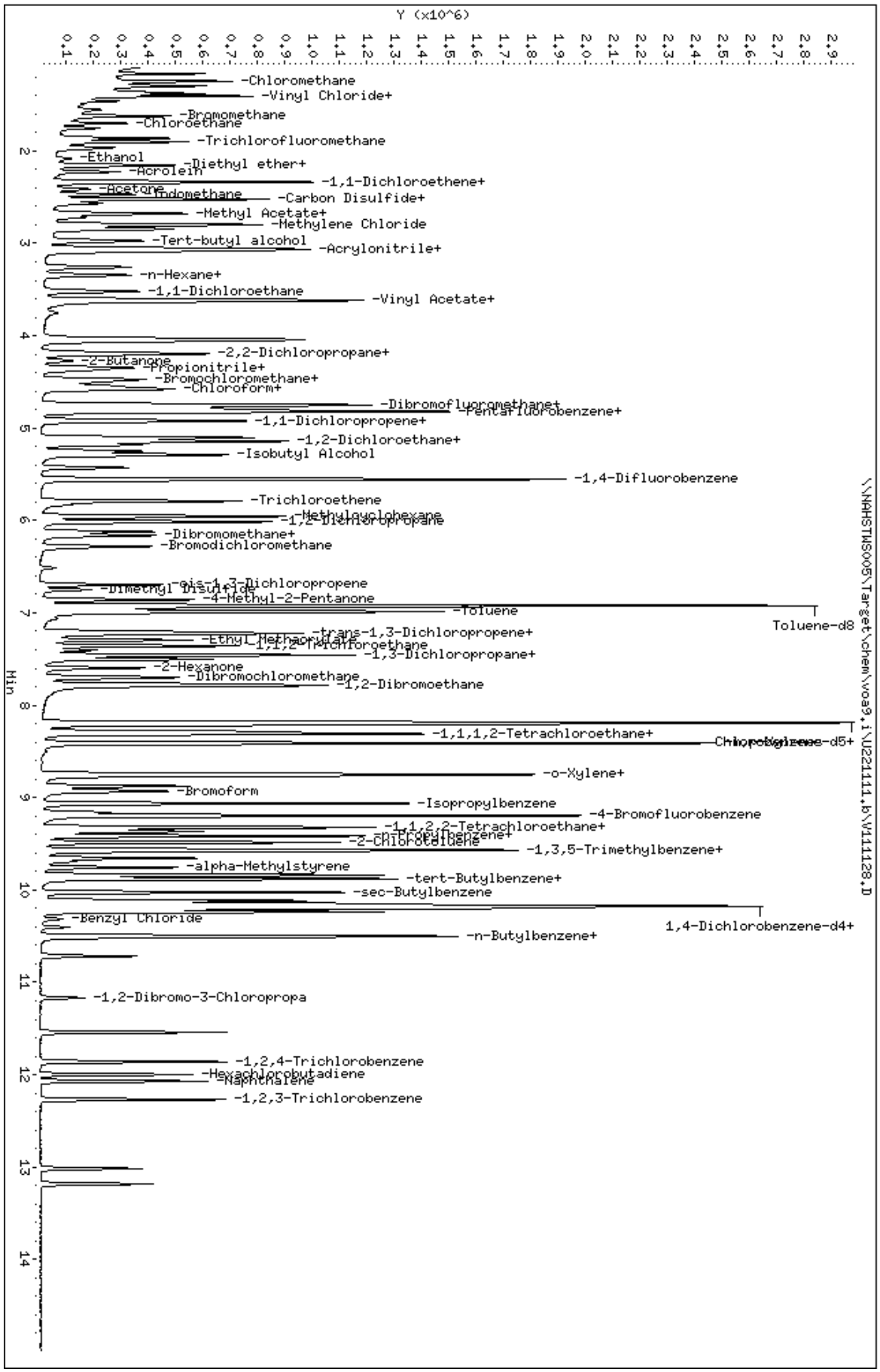
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	108997	18.7738	18.77
$	30 Dibromofluoromethane	113	4.752	4.751	(0.986)	458913	46.7813	46.78
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	267999	22.6851	22.68
	32 1,1-Dichloropropene	75	4.924	4.924	(0.886)	255951	24.9603	24.96
	33 1,2-Dichloroethane	62	5.179	5.179	(0.932)	269656	20.7455	20.74
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	173763	26.3885	26.38
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	506445	45.4679	45.46
*	36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1479499	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	773000	22.1797	22.17
	38 Trichloroethene	130	5.790	5.790	(1.042)	230936	24.2177	24.21
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	220287	20.6769	20.67
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	191634	21.6204	21.62
	44 Dibromomethane	93	6.124	6.124	(1.102)	133436	20.8898	20.88
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	330409	42.7976	42.79
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	219893	17.2458	17.24
*	47 Chlorobenzene-d5	117	8.185	8.185	(1.000)	1314041	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.846)	1701999	54.4471	54.44
	50 Toluene	91	6.982	6.982	(0.853)	848378	24.3233	24.32
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	165690	16.1939	16.19
	52 2-Hexanone	43	7.597	7.593	(0.928)	213837	38.0759	38.07
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.899)	159174	21.1851	21.18
	54 1,3-Dichloropropane	76	7.503	7.499	(0.917)	334566	21.7872	21.78
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	178818	19.0561	19.05
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	224155	29.5735	29.57
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	199422	21.6569	21.65
	58 1-Chlorohexane	55	8.197	8.197	(1.475)	158631	24.8683	24.86
	59 Chlorobenzene	112	8.212	8.212	(1.003)	558054	22.3601	22.36
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	181762	22.2625	22.26
	61 Ethylbenzene	106	8.309	8.309	(1.015)	277436	24.1214	24.12
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	684879	47.7778	47.77
	63 o-Xylene	106	8.748	8.748	(1.069)	335675	23.7102	23.71
	64 Styrene	104	8.763	8.763	(1.071)	494324	20.4623	20.46
	66 Bromoform	173	8.920	8.920	(1.090)	109231	17.9007	17.90
	67 Isopropylbenzene	105	9.066	9.062	(1.108)	844130	25.8643	25.86
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.329	(0.917)	275564	21.1375	21.13
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	594545	51.3759	51.37
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	655744	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	222812	19.8020	19.80
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	874606	24.7592	24.75
	74 Bromobenzene	156	9.321	9.317	(0.916)	226682	21.8148	21.81
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	645297	24.6747	24.67
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	582190	23.4328	23.43
	77 4-Chlorotoluene	91	9.576	9.580	(0.941)	651901	23.4624	23.46
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	588885	25.6806	25.68
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	651827	23.7030	23.70
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	738255	24.1913	24.19
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	608126	24.2324	24.23
	83 1,3-Dichlorobenzene	146	10.120	10.116	(0.995)	393829	22.1141	22.11
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	410500	20.9443	20.94
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	498608	23.5669	23.56
	88 1,2-Dichlorobenzene	146	10.506	10.506	(1.033)	400195	21.2332	21.23
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	31340	17.6560	17.65

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	199064	19.3110	19.31
91 Hexachlorobutadiene	225	12.002	12.001 (1.180)	99112	25.4771	25.47

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	452379	17.5865	17.58
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	199565	19.5264	19.52
M	94 1,2-Dichloroethylene (total)	96				409212	40.7106	40.71
M	95 Xylenes (total)	106				1020554	71.4881	71.48
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	49992	335.688	335.68
	141 Cyclohexane	56	4.785	4.785	(0.993)	269069	32.1913	32.19
	138 Freon TF	101	2.337	2.334	(0.485)	176422	29.4461	29.44
	140 1,3-Butadiene	54	1.404	1.400	(0.291)	160367	21.6209	21.62
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	409863	19.6475	19.64
	146 Methyl Acetate	43	2.716	2.716	(0.564)	102895	12.8237	12.82
	148 Tert-Butyl alcohol	59	2.971	2.967	(0.617)	331373	349.376	349.37
	149 Isopropyl Alcohol	45	2.566	2.562	(0.533)	208449	333.481	333.48
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	23338	14.8228	14.82
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	310400	299.198	299.19
	13 Acetonitrile	39	2.675	2.671	(0.555)	161387	161.968	161.96
	14 Allyl Chloride	41	2.675	2.671	(0.555)	366725	16.0827	16.08
	25 Methacrylonitrile	41	4.500	4.497	(0.934)	100466	17.3277	17.32
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	148437	17.0236	17.02
	4 Propionitrile	54	4.343	4.343	(0.901)	271419	173.034	173.03(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	165392	28.2546	28.25
	131 Methyl Acrylate	55	4.373	4.369	(0.907)	208695	16.7245	16.72
	200 Dimethyl Disulfide	94	6.750	6.750	(0.825)	82601	14.4733	14.47
	23 Chloroprene	53	2.161	2.157	(0.449)	61795	22.3882	22.38(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	268387	19.5118	19.51
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	657948	22.9053	22.90
	167 Ethanol	45	2.082	2.079	(0.432)	50044	376.513	376.51
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	587179	20.2428	20.24
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	142751	13.0779	13.07
	142 Tetrahydrofuran	42	4.545	4.545	(0.943)	53904	31.4118	31.41
	156 Diisopropyl ether	45	3.623	3.623	(0.752)	496077	16.3631	16.36
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	434365	311.806	311.80
	150 Allyl alcohol	57	3.346	3.342	(0.694)	165392	564.584	564.58
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	50261	11.4411	11.44
	162 Butyl acrylate	55	8.736	8.736	(1.067)	264186	17.2864	17.28
	139 Diethyl ether	59	2.146	2.146	(0.445)	122888	13.9590	13.95

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\woa9.i\U221111.b\V111128.D
Date : 12-NOV-2022 03:09
Client ID: HS22110281-01MS
Sample Info: HS22110281-01MS;HS22110281-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

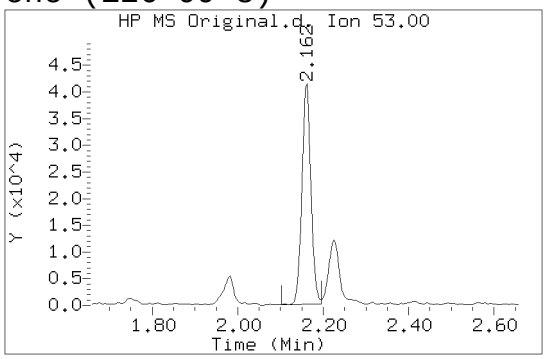
Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111128.D
Inj Date : 12-NOV-2022 03:09
InstruID : VOA9.i
LabSampID : HS22110281-01MS

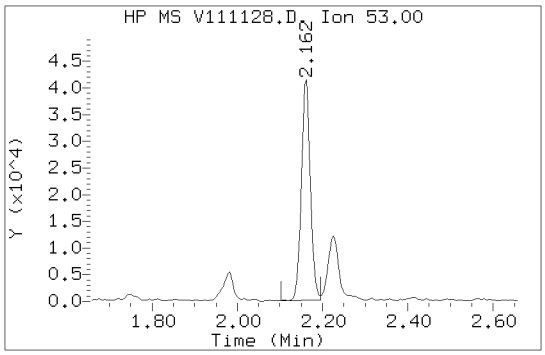
Chloroprene (126-99-8)

Reason Code:

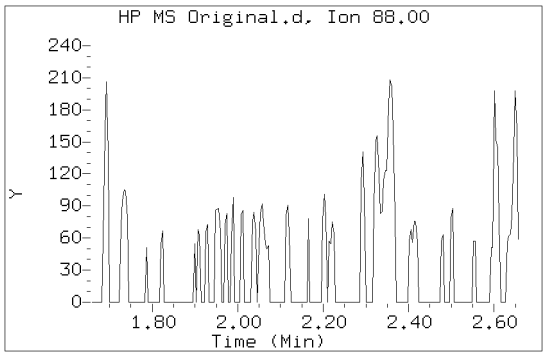
BEFORE
MASS
53
AREA
61795
HEIGHT
41308
16-Nov-2022
10:00
linh
pham



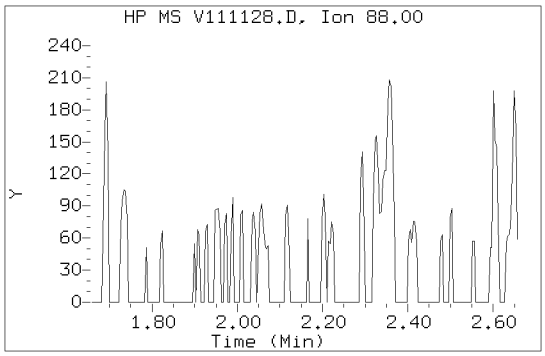
AFTER
MASS
53
AREA
61795
HEIGHT
41308
16-Nov-2022
10:00
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER
MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D
Lab Smp Id: HS22110281-01MSD Client Smp ID: HS22110281-01MSD
Inj Date : 12-NOV-2022 03:31
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-01MSD;HS22110281-01MSD;3;;MSD
Misc Info : 180315V9;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 43 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	986832	50.0000	
2 Dichlorodifluoromethane	85	1.164	1.160	(0.242)	173066	22.9538	22.95
3 Chloromethane	50	1.299	1.291	(0.270)	212968	19.6965	19.69
5 Vinyl Chloride	62	1.378	1.374	(0.286)	210792	20.9424	20.94
6 Bromomethane	94	1.621	1.618	(0.337)	148311	20.7566	20.75
7 Chloroethane	64	1.704	1.696	(0.354)	151631	20.6208	20.62
8 Trichlorofluoromethane	101	1.903	1.895	(0.395)	300336	22.9498	22.94
9 Acrolein	56	2.270	2.266	(0.471)	18191	26.4594	26.45
10 Acetone	43	2.412	2.409	(0.501)	125119	25.9133	25.91
11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	175531	20.8567	20.85
15 Iodomethane	142	2.472	2.469	(0.513)	301287	34.4434	34.44
16 Acrylonitrile	53	3.072	3.065	(0.638)	142266	31.0402	31.04
17 Methylene Chloride	84	2.798	2.795	(0.581)	221529	19.4436	19.44
18 Methyl tert-butyl ether	73	3.087	3.080	(0.641)	427958	15.0895	15.08
19 Carbon Disulfide	76	2.525	2.517	(0.524)	955463	39.0255	39.02
20 trans-1,2-Dichloroethene	96	3.065	3.061	(0.636)	187319	20.1146	20.11
21 Vinyl Acetate	43	3.616	3.608	(0.750)	705352	29.0208	29.02
22 1,1-Dichloroethane	63	3.522	3.514	(0.731)	311783	18.8327	18.83
24 2-Butanone	43	4.272	4.268	(0.886)	139118	34.8617	34.86
26 2,2-Dichloropropane	77	4.189	4.185	(0.869)	125658	15.0882	15.08

27 cis-1,2-Dichloroethene	96	4.204	4.197 (0.872)	209571	19.1443	19.14
28 Chloroform	83	4.579	4.575 (0.950)	347117	19.6365	19.63

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D Page 2
Report Date: 16-Nov-2022 10:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	108502	18.5698	18.56
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	455553	46.1389	46.13
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	266755	22.4363	22.43
	32 1,1-Dichloropropene	75	4.928	4.924	(0.887)	253945	24.9161	24.91
	33 1,2-Dichloroethane	62	5.183	5.179	(0.933)	279192	21.6104	21.61
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	171637	26.2372	26.23
$	35 1,2-Dichloroethane-d4	65	5.104	5.100	(1.059)	508886	45.3957	45.39
*	36 1,4-Difluorobenzene	114	5.558	5.554	(1.000)	1470507	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	757972	21.8815	21.88
	38 Trichloroethene	130	5.794	5.790	(1.042)	222332	23.4580	23.45
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	218269	20.6127	20.61
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	187790	21.3163	21.31
	44 Dibromomethane	93	6.124	6.124	(1.102)	126936	19.9937	19.99
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	322561	42.5622	42.56
	46 cis-1,3-Dichloropropene	75	6.697	6.693	(1.205)	218182	17.2211	17.22
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1289923	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1695945	55.2678	55.26
	50 Toluene	91	6.982	6.982	(0.853)	826234	24.1313	24.13
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	167447	16.4082	16.40
	52 2-Hexanone	43	7.597	7.593	(0.928)	218011	39.4930	39.49
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	158977	21.5545	21.55
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	329789	21.8777	21.87
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	177196	19.2226	19.22
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	222403	29.8910	29.89
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	201644	22.3077	22.30
	58 1-Chlorohexane	55	8.200	8.197	(1.475)	153064	24.1980	24.19
	59 Chlorobenzene	112	8.212	8.212	(1.003)	550891	22.4858	22.48
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	178274	22.2436	22.24
	61 Ethylbenzene	106	8.309	8.309	(1.015)	271099	24.0111	24.01
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	684476	48.6425	48.64
	63 o-Xylene	106	8.748	8.748	(1.068)	327164	23.5411	23.54
	64 Styrene	104	8.763	8.763	(1.070)	492887	20.7650	20.76
	66 Bromoform	173	8.924	8.920	(1.090)	107422	17.9291	17.92
	67 Isopropylbenzene	105	9.066	9.062	(1.107)	833478	26.0154	26.01
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.329	(0.917)	275655	20.9223	20.92
$	69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	595976	52.4586	52.45
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	662708	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	217109	19.0924	19.09
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	867130	24.2896	24.28
	74 Bromobenzene	156	9.321	9.317	(0.916)	232624	22.1514	22.15
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	633878	23.9833	23.98
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	579719	23.0881	23.08
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	640743	22.8185	22.81
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	579112	24.9890	24.98
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	648695	23.3412	23.34
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	738788	23.9716	23.97
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	609983	24.0510	24.05
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	400750	22.2663	22.26
	84 1,4-Dichlorobenzene	146	10.191	10.195	(1.002)	410586	20.7286	20.72
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	512546	23.9330	23.93
	88 1,2-Dichlorobenzene	146	10.510	10.506	(1.033)	403841	21.2015	21.20
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	31242	17.4470	17.44

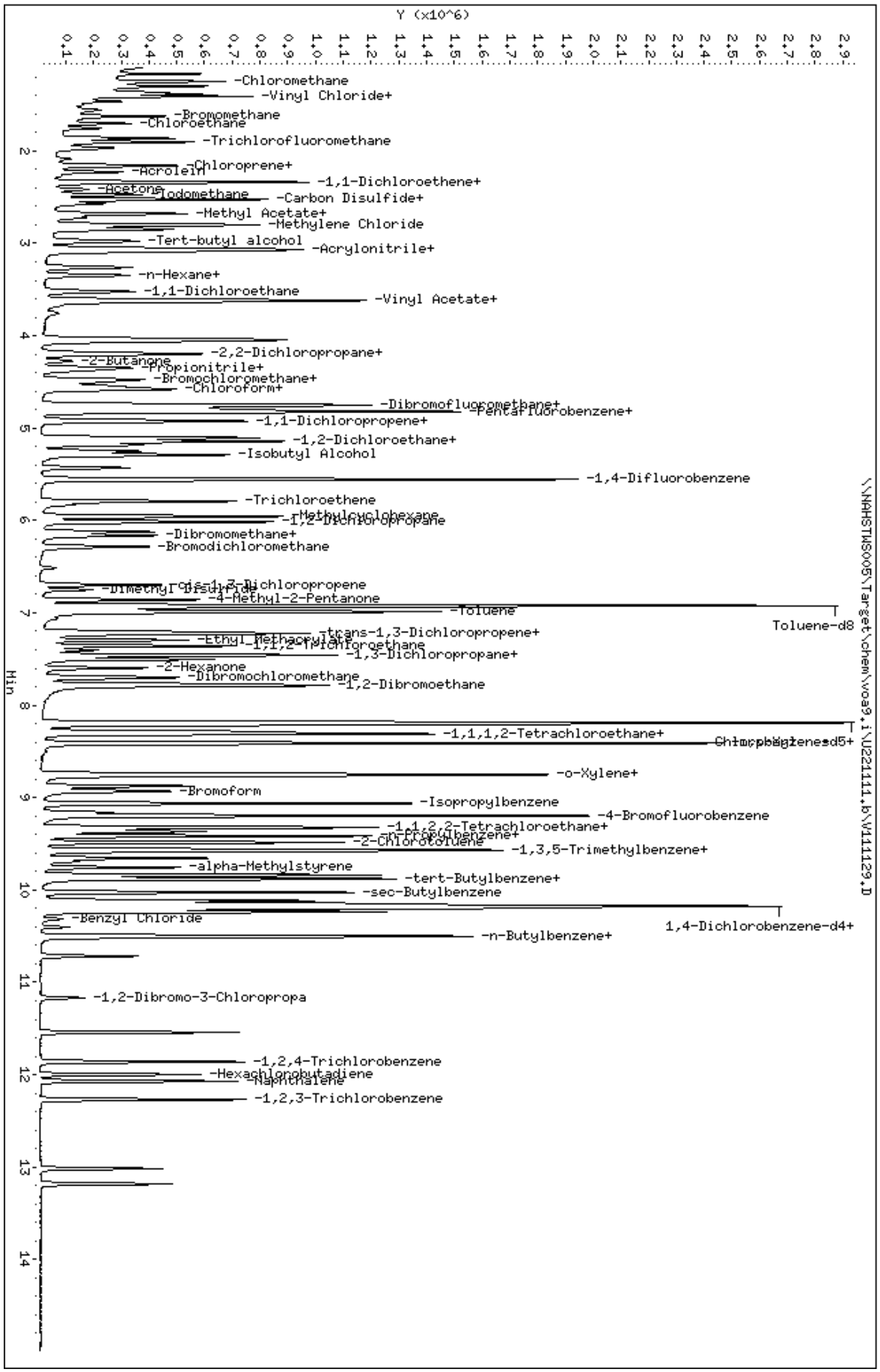
90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	216634	20.7946	20.79
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	101345	25.7546	25.75

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D Page 3
Report Date: 16-Nov-2022 10:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	527804	20.3031	20.30
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	216878	20.9974	20.99
M	94 1,2-Dichloroethylene (total)	96				396890	39.2589	39.25
M	95 Xylenes (total)	106				1011640	72.1836	72.18
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	49168	328.056	328.05
	141 Cyclohexane	56	4.789	4.785	(0.994)	260466	31.0602	31.06
	138 Freon TF	101	2.341	2.334	(0.486)	172454	28.6549	28.65
	140 1,3-Butadiene	54	1.408	1.400	(0.292)	153230	20.6157	20.61
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	414974	20.0141	20.01
	146 Methyl Acetate	43	2.720	2.716	(0.564)	109147	13.5164	13.51
	148 Tert-Butyl alcohol	59	2.975	2.967	(0.617)	336203	352.216	352.21
	149 Isopropyl Alcohol	45	2.570	2.562	(0.533)	213054	338.682	338.68
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	20189	13.5936	13.59
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	314619	300.873	300.87
	13 Acetonitrile	39	2.679	2.671	(0.556)	158509	158.069	158.06
	14 Allyl Chloride	41	2.679	2.671	(0.556)	369172	16.0871	16.08
	25 Methacrylonitrile	41	4.504	4.497	(0.935)	98653	16.9069	16.90
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	146632	16.7097	16.70
	4 Propionitrile	54	4.347	4.343	(0.902)	267619	169.527	169.52(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	161365	27.4531	27.45
	131 Methyl Acrylate	55	4.377	4.369	(0.908)	209632	16.6929	16.69
	200 Dimethyl Disulfide	94	6.750	6.750	(0.824)	82970	14.7187	14.71
	23 Chloroprene	53	2.161	2.157	(0.449)	59375	21.4439	21.44
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	266970	19.5275	19.52
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	652311	22.4704	22.47
	167 Ethanol	45	2.086	2.079	(0.433)	49814	372.401	372.40
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	562605	19.1918	19.19
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	140752	12.8121	12.81
	142 Tetrahydrofuran	42	4.553	4.545	(0.945)	56820	32.9007	32.90
	156 Diisopropyl ether	45	3.627	3.623	(0.753)	489904	16.0568	16.05
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	446694	319.718	319.71
	150 Allyl alcohol	57	3.346	3.342	(0.694)	161365	548.521	548.52
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	50154	11.5546	11.55
	162 Butyl acrylate	55	8.736	8.736	(1.067)	276698	18.2744	18.27
	139 Diethyl ether	59	2.150	2.146	(0.446)	124434	14.0448	14.04

QC Flag Legend

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



Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\V111129.D
Date : 12-NOV-2022 03:31
Client ID: HS22110281-01HSD
Sample Info: HS22110281-01HSD;HS22110281-01HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111129.D
Inj Date : 12-NOV-2022 03:31
InstruID : VOA9.i
LabSampID : HS22110281-01MSD

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111130.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111130.D
Lab Smp Id: HS22110281-07MS Client Smp ID: HS22110281-07MS
Inj Date : 12-NOV-2022 03:54
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-07MS;HS22110281-07MS;3;;MS
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 44 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.815	4.815	(1.000)	1004508	50.0000	
2 Dichlorodifluoromethane	85	1.160	1.160	(0.241)	175883	22.9190	22.91
3 Chloromethane	50	1.292	1.291	(0.268)	219569	19.9465	19.94
5 Vinyl Chloride	62	1.374	1.374	(0.285)	214566	20.9422	20.94
6 Bromomethane	94	1.618	1.618	(0.336)	148199	20.3555	20.35
7 Chloroethane	64	1.696	1.696	(0.352)	159036	21.2472	21.24
8 Trichlorofluoromethane	101	1.895	1.895	(0.394)	305995	22.9707	22.97
9 Acrolein	56	2.266	2.266	(0.471)	19753	28.1592	28.15
10 Acetone	43	2.409	2.409	(0.500)	128628	26.2462	26.24
11 1,1-Dichloroethene	96	2.334	2.334	(0.485)	181199	21.1513	21.15
15 Iodomethane	142	2.465	2.469	(0.512)	326039	36.3659	36.36
16 Acrylonitrile	53	3.065	3.065	(0.636)	143480	30.7542	30.75
17 Methylene Chloride	84	2.795	2.795	(0.580)	223883	19.2934	19.29
18 Methyl tert-butyl ether	73	3.080	3.080	(0.640)	433092	15.0018	15.00
19 Carbon Disulfide	76	2.517	2.517	(0.523)	979076	39.2863	39.28
20 trans-1,2-Dichloroethene	96	3.061	3.061	(0.636)	193013	20.3613	20.36
21 Vinyl Acetate	43	3.608	3.608	(0.749)	746226	30.1622	30.16
22 1,1-Dichloroethane	63	3.515	3.514	(0.730)	329158	19.5323	19.53
24 2-Butanone	43	4.268	4.268	(0.886)	139183	34.2643	34.26
26 2,2-Dichloropropane	77	4.186	4.185	(0.869)	128793	15.1833	15.18

27 cis-1,2-Dichloroethene	96	4.197	4.197 (0.872)	214467	19.2468	19.24
28 Chloroform	83	4.575	4.575 (0.950)	352991	19.6174	19.61

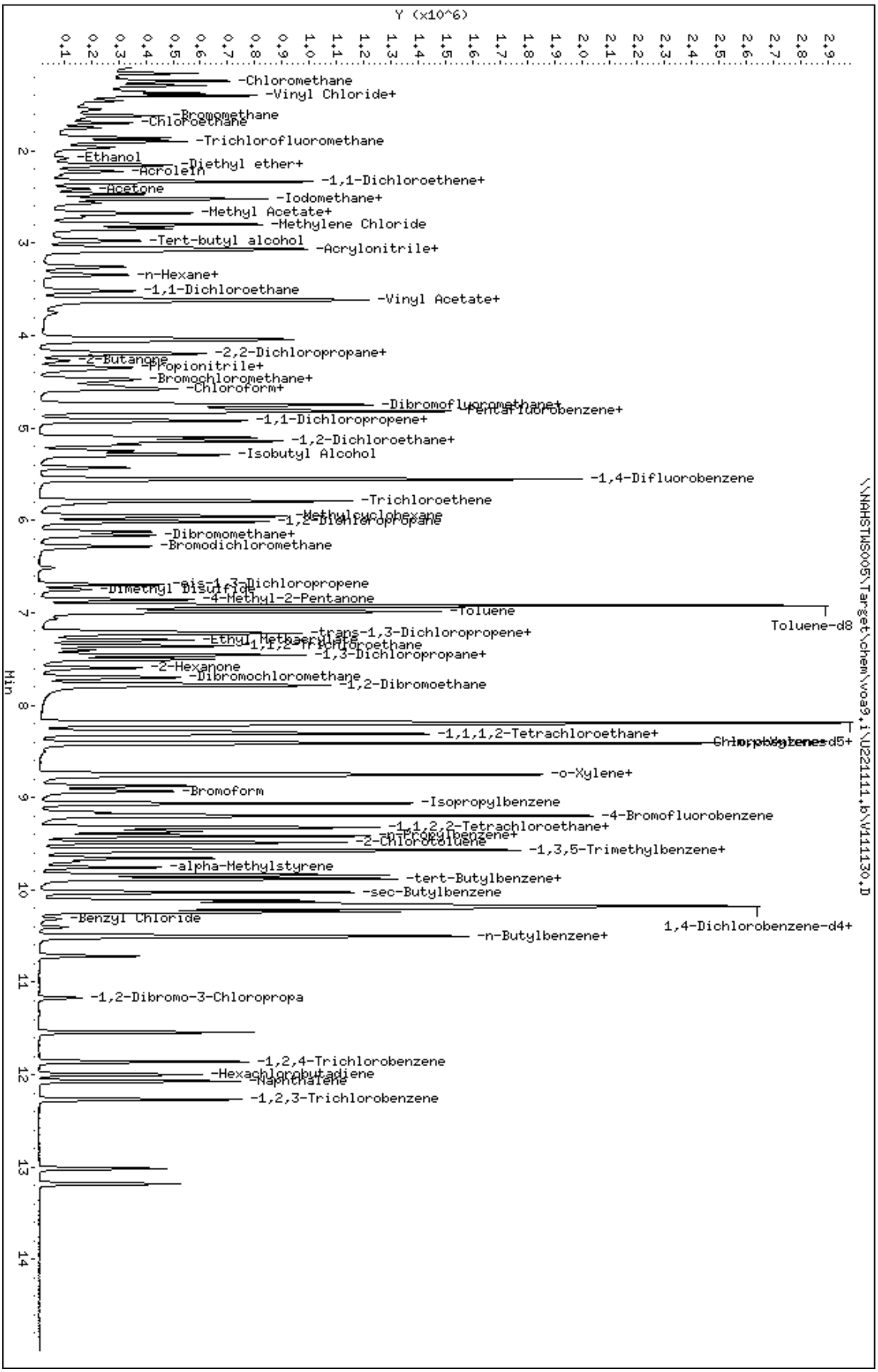
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.470	4.470	(0.928)	109237	18.3666	18.36
$	30 Dibromofluoromethane	113	4.752	4.751	(0.987)	462020	45.9692	45.96
	31 1,1,1-Trichloroethane	97	4.744	4.744	(0.985)	272360	22.5046	22.50
	32 1,1-Dichloropropene	75	4.924	4.924	(0.887)	250229	23.8078	23.80
	33 1,2-Dichloroethane	62	5.179	5.179	(0.933)	274740	20.6216	20.62
	34 Carbon Tetrachloride	117	4.913	4.913	(0.885)	174817	25.9378	25.93
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.059)	505498	44.2846	44.28
*	36 1,4-Difluorobenzene	114	5.554	5.554	(1.000)	1516443	50.0000	
	37 Benzene	78	5.141	5.141	(0.926)	766615	21.4606	21.46
	38 Trichloroethene	130	5.790	5.790	(1.043)	359113	36.7418	36.74
	39 Bromodichloromethane	83	6.281	6.281	(1.131)	223264	20.4458	20.44
	42 1,2-Dichloropropane	63	6.011	6.011	(1.082)	188754	20.7767	20.77
	44 Dibromomethane	93	6.124	6.124	(1.103)	129925	19.8446	19.84
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.838)	319238	40.6528	40.65
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.205)	224644	17.1984	17.19
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1336596	50.0000	
$	48 Toluene-d8	98	6.922	6.922	(0.845)	1726927	54.3123	54.31
	50 Toluene	91	6.982	6.982	(0.853)	845470	23.8308	23.83
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.296)	170037	16.2096	16.20
	52 2-Hexanone	43	7.597	7.593	(0.928)	212861	37.2912	37.29
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	156168	20.4343	20.43
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	340704	21.8125	21.81
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	181705	19.0385	19.03
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	196303	25.4619	25.46
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	202657	21.6369	21.63
	58 1-Chlorohexane	55	8.200	8.197	(1.476)	152987	23.5109	23.51
	59 Chlorobenzene	112	8.212	8.212	(1.003)	563071	22.1804	22.18
	60 1,1,1,2-Tetrachloroethane	131	8.287	8.286	(1.012)	182352	21.9579	21.95
	61 Ethylbenzene	106	8.309	8.309	(1.015)	280972	24.0166	24.01
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	693127	47.5373	47.53
	63 o-Xylene	106	8.751	8.748	(1.069)	343330	23.8417	23.84
	64 Styrene	104	8.763	8.763	(1.070)	501115	20.3975	20.39
	66 Bromoform	173	8.920	8.920	(1.089)	108683	17.5606	17.56
	67 Isopropylbenzene	105	9.063	9.062	(1.107)	858803	25.8699	25.86
	68 1,1,2,2-Tetrachloroethane	83	9.329	9.329	(0.917)	275252	20.8150	20.81
$	69 4-Bromofluorobenzene	95	9.198	9.194	(1.123)	601528	51.1031	51.10
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	665150	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	218320	19.1284	19.12
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	890921	24.8644	24.86
	74 Bromobenzene	156	9.321	9.317	(0.916)	235055	22.3007	22.30
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	664150	25.0364	25.03
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	602111	23.8919	23.89
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	676719	24.0112	24.01
	78 tert-Butylbenzene	119	9.839	9.838	(0.967)	598727	25.7406	25.74
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	659300	23.6357	23.63
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	757980	24.4650	24.46
	82 p-Isopropyltoluene	119	10.150	10.150	(0.998)	629221	24.7184	24.71
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	405927	22.4711	22.47
	84 1,4-Dichlorobenzene	146	10.195	10.195	(1.002)	420483	21.1503	21.15
	87 n-Butylbenzene	91	10.495	10.494	(1.032)	521837	24.2453	24.24
	88 1,2-Dichlorobenzene	146	10.510	10.506	(1.033)	411066	21.5016	21.50
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	33153	18.3149	18.31

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	223419	21.3672	21.36
91 Hexachlorobutadiene	225	12.002	12.001 (1.180)	109144	27.4898	27.48

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	548029	21.0037	21.00
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	224671	21.6720	21.67
M	94 1,2-Dichloroethylene (total)	96				407480	39.6081	39.60
M	95 Xylenes (total)	106				1036457	71.3790	71.37
	135 1,4-Dioxane	88	6.169	6.168	(1.281)	48240	316.201	316.20
	141 Cyclohexane	56	4.785	4.785	(0.994)	264345	30.9753	30.97
	138 Freon TF	101	2.334	2.334	(0.485)	172739	28.2256	28.22
	140 1,3-Butadiene	54	1.400	1.400	(0.291)	161457	21.2790	21.27
	147 Methylcyclohexane	55	5.951	5.947	(1.072)	432769	20.2401	20.24
	146 Methyl Acetate	43	2.716	2.716	(0.564)	111533	13.5688	13.56
	148 Tert-Butyl alcohol	59	2.971	2.967	(0.617)	327084	336.633	336.63
	149 Isopropyl Alcohol	45	2.562	2.562	(0.532)	203198	317.330	317.33
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	22758	14.3952	14.39
	12 Isobutyl Alcohol	43	5.291	5.288	(1.099)	316233	297.911	297.91
	13 Acetonitrile	39	2.671	2.671	(0.555)	170510	167.045	167.04
	14 Allyl Chloride	41	2.671	2.671	(0.555)	382556	16.3770	16.37
	25 Methacrylonitrile	41	4.500	4.497	(0.935)	94231	15.8649	15.86
	40 Methyl Methacrylate	41	6.157	6.157	(1.279)	149348	16.7197	16.71
	4 Propionitrile	54	4.343	4.343	(0.902)	265237	165.062	165.06(a)
	136 n-Hexane	57	3.342	3.342	(0.694)	160512	26.8708	26.87
	131 Methyl Acrylate	55	4.373	4.369	(0.908)	212591	16.6306	16.63
	200 Dimethyl Disulfide	94	6.746	6.750	(0.824)	84273	14.5053	14.50
	23 Chloroprene	53	2.158	2.157	(0.448)	61428	21.7705	21.77(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.313)	271087	19.2280	19.22
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	687883	23.6088	23.60
	167 Ethanol	45	2.079	2.079	(0.432)	47815	351.167	351.16
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	529912	18.0102	18.01
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	121667	11.3350	11.33
	142 Tetrahydrofuran	42	4.545	4.545	(0.944)	52992	30.1442	30.14
	156 Diisopropyl ether	45	3.623	3.623	(0.752)	512135	16.4900	16.49
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.300)	446116	312.269	312.26
	150 Allyl alcohol	57	3.342	3.342	(0.694)	160512	536.851	536.85
	86 Benzyl Chloride	91	10.315	10.315	(1.260)	49998	11.2898	11.28
	162 Butyl acrylate	55	8.736	8.736	(1.067)	292215	18.5768	18.57
	139 Diethyl ether	59	2.143	2.146	(0.445)	129133	14.3187	14.31

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\voa9.i\U221111.b\V111130.D
Date : 12-NOV-2022 03:54
Client ID: HS22110281-07MS
Sample Info: HS22110281-07MS;HS22110281-07MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

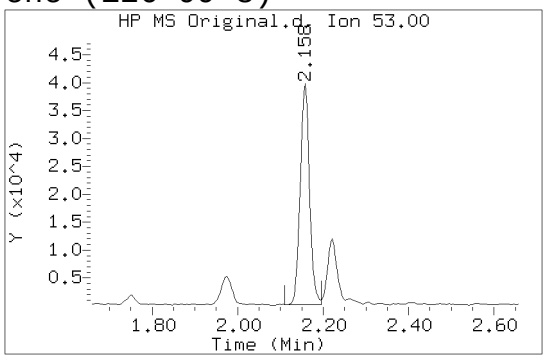
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111130.D
Inj Date : 12-NOV-2022 03:54
InstruID : VOA9.i
LabSampID : HS22110281-07MS

Chloroprene (126-99-8)

Reason Code:

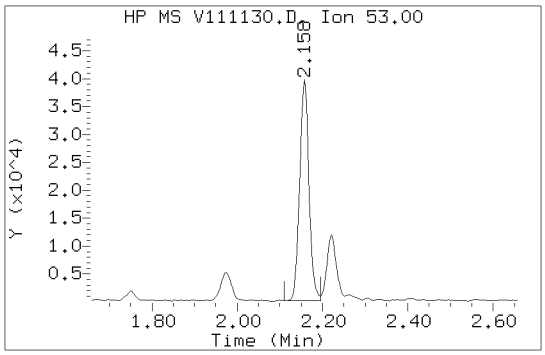
BEFORE

MASS
53
AREA
61428
HEIGHT
39640
16-Nov-2022
10:00
linh
pham



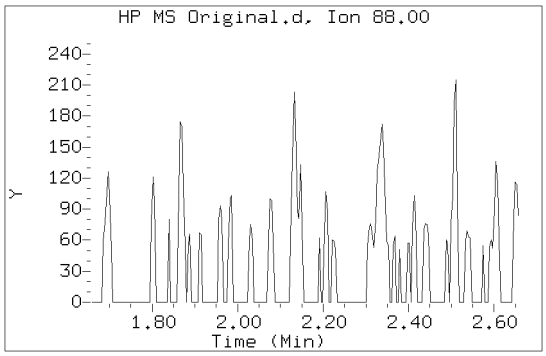
AFTER

MASS
53
AREA
61428
HEIGHT
39640
16-Nov-2022
10:00
linh
pham



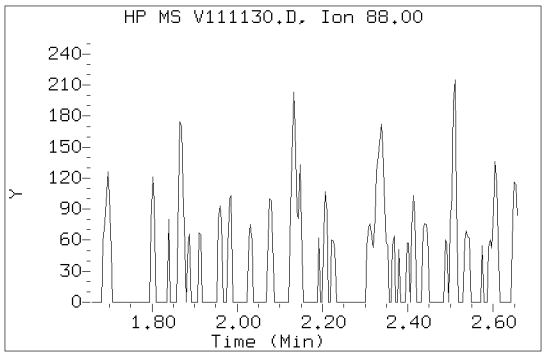
BEFORE

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D
Lab Smp Id: HS22110281-07MSD Client Smp ID: HS22110281-07MSD
Inj Date : 12-NOV-2022 04:16
Operator : PC Inst ID: VOA9.i
Smp Info : HS22110281-07MSD;HS22110281-07MSD;3;;MSD
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 44 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.819	4.815	(1.000)	1017481	50.0000	
2 Dichlorodifluoromethane	85	1.164	1.160	(0.242)	171576	22.1194	22.11
3 Chloromethane	50	1.299	1.291	(0.270)	211251	18.9586	18.95
5 Vinyl Chloride	62	1.378	1.374	(0.286)	205519	19.8034	19.80
6 Bromomethane	94	1.621	1.618	(0.336)	142023	19.1984	19.19
7 Chloroethane	64	1.700	1.696	(0.353)	150694	19.8761	19.87
8 Trichlorofluoromethane	101	1.899	1.895	(0.394)	292162	21.6527	21.65
9 Acrolein	56	2.266	2.266	(0.470)	18844	26.5789	26.57
10 Acetone	43	2.412	2.409	(0.501)	130352	26.2625	26.26
11 1,1-Dichloroethene	96	2.337	2.334	(0.485)	177884	20.4996	20.49
15 Iodomethane	142	2.472	2.469	(0.513)	314444	34.8160	34.81
16 Acrylonitrile	53	3.072	3.065	(0.638)	147111	31.1305	31.13
17 Methylene Chloride	84	2.798	2.795	(0.581)	223174	18.9627	18.96
18 Methyl tert-butyl ether	73	3.083	3.080	(0.640)	452563	15.4764	15.47
19 Carbon Disulfide	76	2.525	2.517	(0.524)	951108	37.6775	37.67
20 trans-1,2-Dichloroethene	96	3.064	3.061	(0.636)	186883	19.4633	19.46
21 Vinyl Acetate	43	3.612	3.608	(0.750)	740561	29.5516	29.55
22 1,1-Dichloroethane	63	3.518	3.514	(0.730)	318591	18.6642	18.66
24 2-Butanone	43	4.272	4.268	(0.886)	140883	34.2406	34.24
26 2,2-Dichloropropane	77	4.185	4.185	(0.869)	125084	14.6128	14.61

27 cis-1,2-Dichloroethene	96	4.200	4.197 (0.872)	209392	18.5518	18.55
28 Chloroform	83	4.579	4.575 (0.950)	347163	19.0475	19.04

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D Page 2
Report Date: 16-Nov-2022 10:00

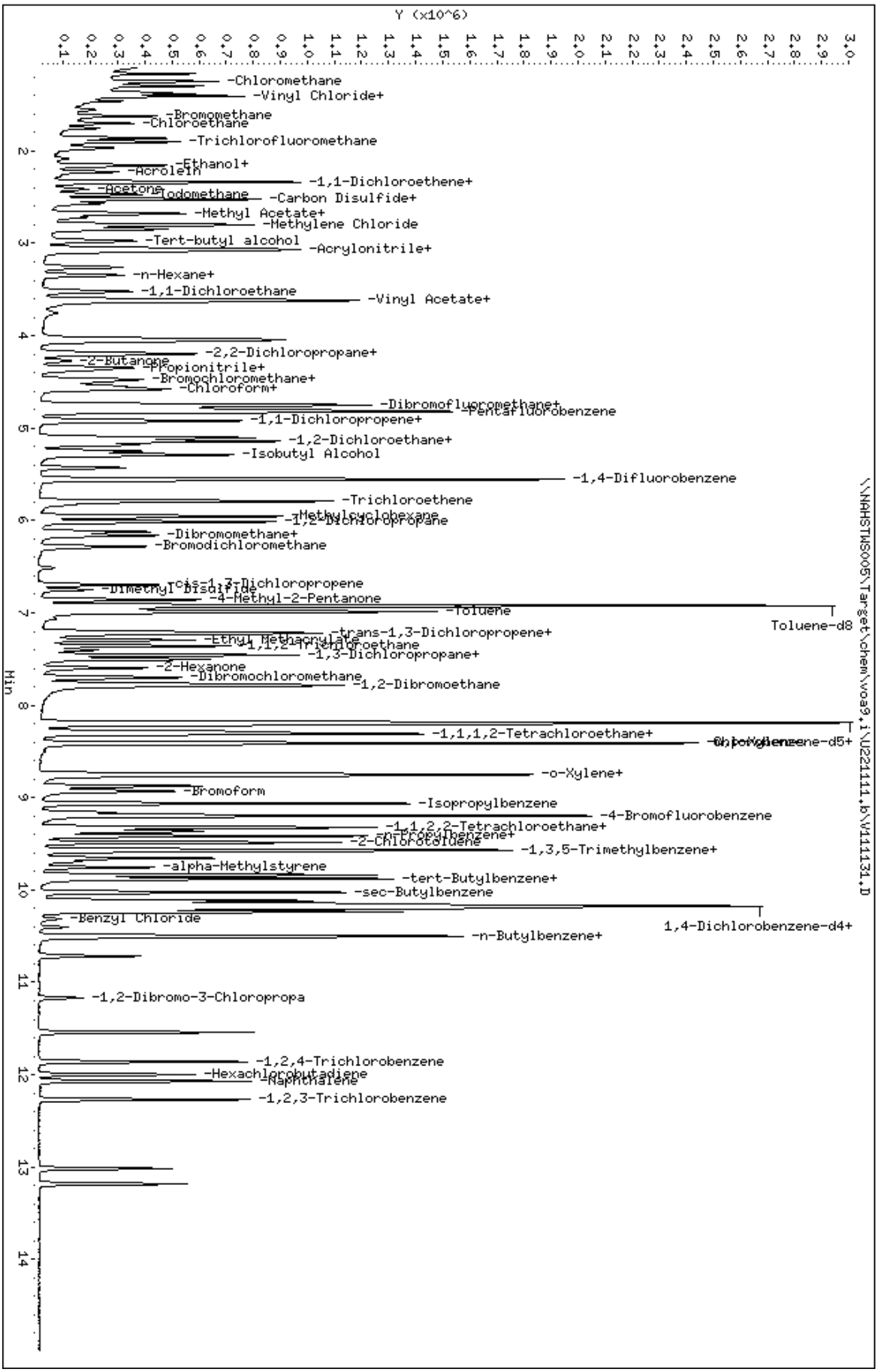
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	29 Bromochloromethane	128	4.474	4.470	(0.928)	111007	18.4262	18.42
$	30 Dibromofluoromethane	113	4.755	4.751	(0.987)	466774	45.8492	45.84
	31 1,1,1-Trichloroethane	97	4.748	4.744	(0.985)	266708	21.7566	21.75
	32 1,1-Dichloropropene	75	4.924	4.924	(0.886)	247629	23.9836	23.98
	33 1,2-Dichloroethane	62	5.182	5.179	(0.933)	276051	21.0922	21.09
	34 Carbon Tetrachloride	117	4.916	4.913	(0.885)	170677	25.7902	25.79
$	35 1,2-Dichloroethane-d4	65	5.100	5.100	(1.058)	515023	44.5475	44.54
*	36 1,4-Difluorobenzene	114	5.557	5.554	(1.000)	1489684	50.0000	
	37 Benzene	78	5.141	5.141	(0.925)	763154	21.7475	21.74
	38 Trichloroethene	130	5.790	5.790	(1.042)	342564	35.6782	35.67
	39 Bromodichloromethane	83	6.281	6.281	(1.130)	218742	20.3915	20.39
	42 1,2-Dichloropropane	63	6.015	6.011	(1.082)	193466	21.6779	21.67
	44 Dibromomethane	93	6.123	6.124	(1.102)	134311	20.8830	20.88
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	341345	43.6391	43.63
	46 cis-1,3-Dichloropropene	75	6.693	6.693	(1.204)	225918	17.5399	17.53
*	47 Chlorobenzene-d5	117	8.189	8.185	(1.000)	1331355	50.0000	
$	48 Toluene-d8	98	6.926	6.922	(0.846)	1739598	54.9262	54.92
	50 Toluene	91	6.982	6.982	(0.853)	827727	23.4226	23.42
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	167601	16.2528	16.25
	52 2-Hexanone	43	7.597	7.593	(0.928)	228248	40.0414	40.04
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	159006	20.8876	20.88
	54 1,3-Dichloropropane	76	7.503	7.499	(0.916)	334202	21.4805	21.48
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	178888	18.8340	18.83
	56 Tetrachloroethene	164	7.458	7.458	(0.911)	191667	24.9584	24.95
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	202437	21.6985	21.69
	58 1-Chlorohexane	55	8.200	8.197	(1.476)	152751	23.8657	23.86
	59 Chlorobenzene	112	8.211	8.212	(1.003)	553185	21.8767	21.87
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	177513	21.4593	21.45
	61 Ethylbenzene	106	8.309	8.309	(1.015)	276962	23.7670	23.76
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	680650	46.8653	46.86
	63 o-Xylene	106	8.751	8.748	(1.069)	329396	22.9641	22.96
	64 Styrene	104	8.762	8.763	(1.070)	495944	20.2743	20.27
	66 Bromoform	173	8.924	8.920	(1.090)	109150	17.6864	17.68
	67 Isopropylbenzene	105	9.066	9.062	(1.107)	838135	25.3467	25.34
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.329	(0.917)	276047	20.7890	20.78
$	69 4-Bromofluorobenzene	95	9.197	9.194	(1.123)	609343	51.9677	51.96
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	667906	50.0000	
	71 1,2,3-Trichloropropane	75	9.362	9.366	(0.920)	222548	19.4184	19.41
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	893775	24.8411	24.84
	74 Bromobenzene	156	9.321	9.317	(0.916)	233884	22.0980	22.09
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	655451	24.6066	24.60
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	596074	23.5548	23.55
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	654542	23.1285	23.12
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	584319	25.0175	25.01
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	671728	23.9819	23.98
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	742923	23.9221	23.92
	82 p-Isopropyltoluene	119	10.149	10.150	(0.998)	627555	24.5513	24.55
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	402557	22.1926	22.19
	84 1,4-Dichlorobenzene	146	10.194	10.195	(1.002)	414406	20.7586	20.75
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	520726	24.1078	24.10
	88 1,2-Dichlorobenzene	146	10.509	10.506	(1.033)	403582	21.0230	21.02
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	32330	17.8527	17.85

90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	223775	21.3129	21.31
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	101551	25.6172	25.61

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	92 Naphthalene	128	12.069	12.069	(1.186)	571205	21.8016	21.80
	93 1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	226734	21.7808	21.78
M	94 1,2-Dichloroethylene (total)	96				396275	38.0150	38.01
M	95 Xylenes (total)	106				1010046	69.8294	69.82
	135 1,4-Dioxane	88	6.172	6.168	(1.281)	48772	315.612	315.61
	141 Cyclohexane	56	4.785	4.785	(0.993)	261370	30.2921	30.29
	138 Freon TF	101	2.337	2.334	(0.485)	169739	27.4324	27.43
	140 1,3-Butadiene	54	1.408	1.400	(0.292)	151564	19.8484	19.84
	147 Methylcyclohexane	55	5.951	5.947	(1.071)	434668	20.6941	20.69
	146 Methyl Acetate	43	2.720	2.716	(0.564)	117486	14.1108	14.11
	148 Tert-Butyl alcohol	59	2.974	2.967	(0.617)	345231	350.780	350.77
	149 Isopropyl Alcohol	45	2.570	2.562	(0.533)	224326	345.859	345.85
	72 trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	23209	14.6317	14.63
	12 Isobutyl Alcohol	43	5.291	5.288	(1.098)	326697	302.550	302.55
	13 Acetonitrile	39	2.675	2.671	(0.555)	167709	162.206	162.20
	14 Allyl Chloride	41	2.675	2.671	(0.555)	376196	15.8994	15.89
	25 Methacrylonitrile	41	4.504	4.497	(0.935)	108014	17.9536	17.95
	40 Methyl Methacrylate	41	6.161	6.157	(1.278)	151706	16.7672	16.76
	4 Propionitrile	54	4.343	4.343	(0.901)	276254	169.726	169.72(a)
	136 n-Hexane	57	3.346	3.342	(0.694)	157607	26.1030	26.10
	131 Methyl Acrylate	55	4.373	4.369	(0.907)	222087	17.1520	17.15
	200 Dimethyl Disulfide	94	6.749	6.750	(0.824)	84574	14.5849	14.58
	23 Chloroprene	53	2.161	2.157	(0.449)	55857	19.6871	19.68(M)
	49 Ethyl Methacrylate	69	7.293	7.293	(1.312)	286897	20.7149	20.71
	166 1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	682711	23.3346	23.33
	167 Ethanol	45	2.082	2.079	(0.432)	49414	358.283	358.28
	164 Dicyclopentadiene	66	10.202	10.202	(1.003)	518140	17.5375	17.53
	145 alpha-Methylstyrene	118	9.756	9.756	(0.959)	120964	11.2444	11.24
	142 Tetrahydrofuran	42	4.549	4.545	(0.944)	57427	32.2505	32.25
	156 Diisopropyl ether	45	3.627	3.623	(0.753)	502725	15.9807	15.98
	151 4-Methyl-2-pentanol	45	7.222	7.218	(1.299)	484467	336.387	336.38
	150 Allyl alcohol	57	3.346	3.342	(0.694)	157607	521.462	521.46
	86 Benzyl Chloride	91	10.314	10.315	(1.260)	50656	11.4051	11.40
	162 Butyl acrylate	55	8.736	8.736	(1.067)	300253	19.0832	19.08
	139 Diethyl ether	59	2.150	2.146	(0.446)	129909	14.2211	14.22

QC Flag Legend

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

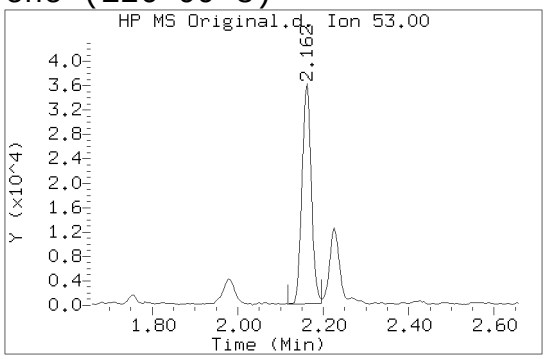

Y (x10^6)
Min
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane
-Ethanol+
-Acrolein
-1,1-Dichloroethene+
-Acetone
-Iodomethane
-Carbon Disulfide+
-Methyl Acetate+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane+
-1,1-Dichloroethane
-Vinyl Acetate+
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane+
-Chloroform+
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane
-1,2-Dichloropropane
-Dibromomethane+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-Dimethyl Disulfide
-4-Methyl-2-Pentanone
-Toluene
Toluene-d8
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-n-Propylbenzene+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
-Benzyl Chloride
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
\\NAHSTWS005\Target\chem\voa9,i\U221111,b\V111131,D
Data File: \\NAHSTWS005\Target\chem\voa9,i\U221111,b\V111131,D
Date : 12-NOV-2022 04:16
Client ID: HS22110281-07MSD
Sample Info: HS22110281-07MSD;HS22110281-07MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA9,i
Operator: PC
Column diameter: 0.18
Page 1

Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111131.D
Inj Date : 12-NOV-2022 04:16
InstruID : VOA9.i
LabSampID : HS22110281-07MSD

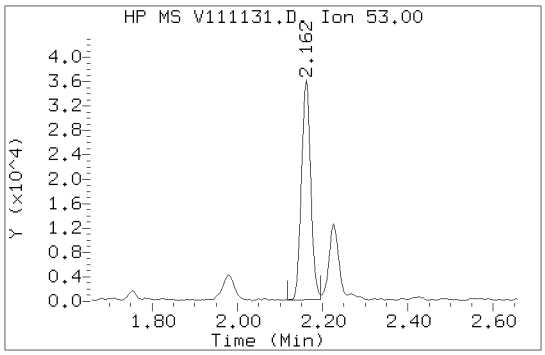
Chloroprene (126-99-8)

Reason Code:

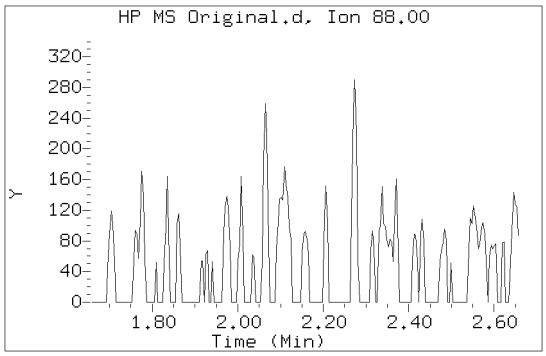
BEFORE
MASS
53
AREA
55857
HEIGHT
36039
16-Nov-2022
10:00
linh
pham



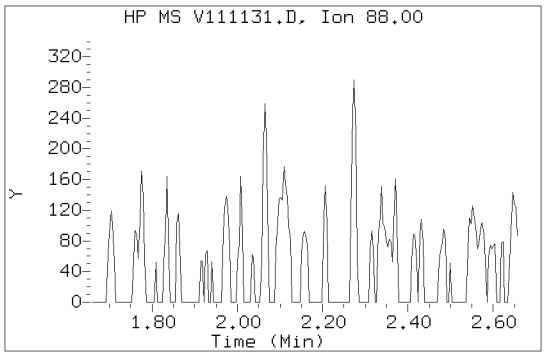
AFTER
MASS
53
AREA
55857
HEIGHT
36039
16-Nov-2022
10:00
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER
MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D Page 1
Report Date: 16-Nov-2022 10:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 12-NOV-2022 04:38
Operator : PC Inst ID: VOA9.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : 180315V9;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\8260C.m
Meth Date : 16-Nov-2022 10:00 VOA9.i Quant Type: ISTD
Cal Date : 11-NOV-2022 14:31 Cal File: U111108.D
Als bottle: 45 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.823	4.823	(1.000)	828688	50.0000	
2	Dichlorodifluoromethane	85	1.168	1.168	(0.242)	394029	50.0000	56.89
3	Chloromethane	50	1.303	1.303	(0.270)	468406	50.0000	51.18
5	Vinyl Chloride	62	1.381	1.381	(0.286)	457975	50.0000	54.18
6	Bromomethane	94	1.625	1.625	(0.337)	286657	50.0000	49.22
7	Chloroethane	64	1.704	1.704	(0.353)	318982	50.0000	51.65
8	Trichlorofluoromethane	101	1.902	1.902	(0.395)	615949	50.0000	56.04
9	Acrolein	56	2.273	2.273	(0.471)	60276	100.000	101.46
10	Acetone	43	2.416	2.416	(0.501)	303122	100.000	88.94
11	1,1-Dichloroethene	96	2.341	2.341	(0.485)	374963	50.0000	53.05
15	Iodomethane	142	2.476	2.476	(0.513)	788227	100.000	98.97
16	Acrylonitrile	53	3.072	3.072	(0.637)	370835	100.000	96.35
17	Methylene Chloride	84	2.798	2.798	(0.580)	495296	50.0000	54.32
18	Methyl tert-butyl ether	73	3.087	3.087	(0.640)	1149662	50.0000	48.27
19	Carbon Disulfide	76	2.525	2.525	(0.524)	2058471	100.000	100.12
20	trans-1,2-Dichloroethene	96	3.068	3.068	(0.636)	405955	50.0000	51.91
21	Vinyl Acetate	43	3.615	3.615	(0.750)	1387652	100.000	67.98
22	1,1-Dichloroethane	63	3.522	3.522	(0.730)	685150	50.0000	49.28
24	2-Butanone	43	4.272	4.272	(0.886)	332270	100.000	99.15
26	2,2-Dichloropropane	77	4.189	4.189	(0.869)	273093	50.0000	36.93

27 cis-1,2-Dichloroethene	96	4.204	4.204 (0.872)	467999	50.0000	50.91
28 Chloroform	83	4.579	4.579 (0.949)	767175	50.0000	51.68

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D Page 2
Report Date: 16-Nov-2022 10:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	29 Bromochloromethane	128	4.478	4.478	(0.928)	239542	50.0000	48.82
$	30 Dibromofluoromethane	113	4.755	4.755	(0.986)	427040	50.0000	51.54
	31 1,1,1-Trichloroethane	97	4.748	4.748	(0.984)	568089	50.0000	56.89
	32 1,1-Dichloropropene	75	4.928	4.928	(0.887)	523213	50.0000	54.04
	33 1,2-Dichloroethane	62	5.182	5.182	(0.933)	617226	50.0000	50.29
	34 Carbon Tetrachloride	117	4.916	4.916	(0.885)	406481	50.0000	58.49
$	35 1,2-Dichloroethane-d4	65	5.104	5.104	(1.058)	488937	50.0000	52.03
*	36 1,4-Difluorobenzene	114	5.557	5.557	(1.000)	1396797	50.0000	
	37 Benzene	78	5.145	5.145	(0.926)	1649485	50.0000	50.13
	38 Trichloroethene	130	5.793	5.793	(1.042)	510152	50.0000	56.66
	39 Bromodichloromethane	83	6.285	6.285	(1.131)	527951	50.0000	52.48
	42 1,2-Dichloropropane	63	6.015	6.015	(1.082)	418776	50.0000	50.04
	44 Dibromomethane	93	6.123	6.123	(1.102)	293501	50.0000	48.66
	45 4-Methyl-2-Pentanone	43	6.858	6.858	(0.837)	806747	100.000	106.53
	46 cis-1,3-Dichloropropene	75	6.697	6.697	(1.205)	569212	50.0000	42.38
*	47 Chlorobenzene-d5	117	8.189	8.189	(1.000)	1288898	50.0000	
$	48 Toluene-d8	98	6.926	6.926	(0.846)	1569472	50.0000	51.18
	50 Toluene	91	6.986	6.986	(0.853)	1824550	50.0000	53.33
	51 trans-1,3-Dichloropropene	75	7.199	7.199	(1.295)	462507	50.0000	41.18
	52 2-Hexanone	43	7.597	7.597	(0.928)	534503	100.000	94.94
	53 1,1,2-Trichloroethane	83	7.357	7.357	(0.898)	360030	50.0000	48.85
	54 1,3-Dichloropropane	76	7.503	7.503	(0.916)	761414	50.0000	50.55
	55 Dibromochloromethane	129	7.694	7.694	(0.940)	449914	50.0000	46.60
	56 Tetrachloroethene	164	7.462	7.462	(0.911)	382848	50.0000	51.49
	57 1,2-Dibromoethane	107	7.788	7.788	(0.951)	480426	50.0000	53.19
	58 1-Chlorohexane	55	8.200	8.200	(1.476)	336488	50.0000	52.66
	59 Chlorobenzene	112	8.211	8.211	(1.003)	1234876	50.0000	50.44
	60 1,1,1,2-Tetrachloroethane	131	8.286	8.286	(1.012)	422620	50.0000	52.77
	61 Ethylbenzene	106	8.309	8.309	(1.015)	607490	50.0000	53.84
	62 m,p-Xylenes	106	8.410	8.410	(1.027)	1527467	100.000	108.63
	63 o-Xylene	106	8.747	8.747	(1.068)	752730	50.0000	54.20
	64 Styrene	104	8.762	8.762	(1.070)	1198910	50.0000	48.79
	66 Bromoform	173	8.920	8.920	(1.089)	287623	50.0000	44.17
	67 Isopropylbenzene	105	9.066	9.066	(1.107)	1849885	50.0000	57.78
	68 1,1,2,2-Tetrachloroethane	83	9.332	9.332	(0.917)	566170	50.0000	43.71
$	69 4-Bromofluorobenzene	95	9.194	9.194	(1.123)	576837	50.0000	50.82
*	70 1,4-Dichlorobenzene-d4	152	10.172	10.172	(1.000)	651380	50.0000	
	71 1,2,3-Trichloropropane	75	9.366	9.366	(0.921)	562335	50.0000	50.31
	73 n-Propylbenzene	91	9.415	9.415	(0.926)	1980317	50.0000	56.43
	74 Bromobenzene	156	9.321	9.321	(0.916)	534079	50.0000	51.74
	75 1,3,5-Trimethylbenzene	105	9.565	9.565	(0.940)	1440834	50.0000	55.46
	76 2-Chlorotoluene	91	9.486	9.486	(0.933)	1302326	50.0000	52.76
	77 4-Chlorotoluene	91	9.580	9.580	(0.942)	1474316	50.0000	53.41
	78 tert-Butylbenzene	119	9.838	9.838	(0.967)	1293058	50.0000	56.76
	79 1,2,4-Trimethylbenzene	105	9.880	9.880	(0.971)	1459871	50.0000	53.44
	81 sec-Butylbenzene	105	10.026	10.026	(0.986)	1667631	50.0000	52.77
	82 p-Isopropyltoluene	119	10.149	10.149	(0.998)	1367434	50.0000	54.85
	83 1,3-Dichlorobenzene	146	10.116	10.116	(0.994)	909521	50.0000	51.41
	84 1,4-Dichlorobenzene	146	10.194	10.194	(1.002)	943256	50.0000	48.44
	87 n-Butylbenzene	91	10.494	10.494	(1.032)	1099201	50.0000	49.58
	88 1,2-Dichlorobenzene	146	10.509	10.509	(1.033)	922839	50.0000	49.29
	89 1,2-Dibromo-3-Chloropropane	155	11.169	11.169	(1.098)	86739	50.0000	45.09

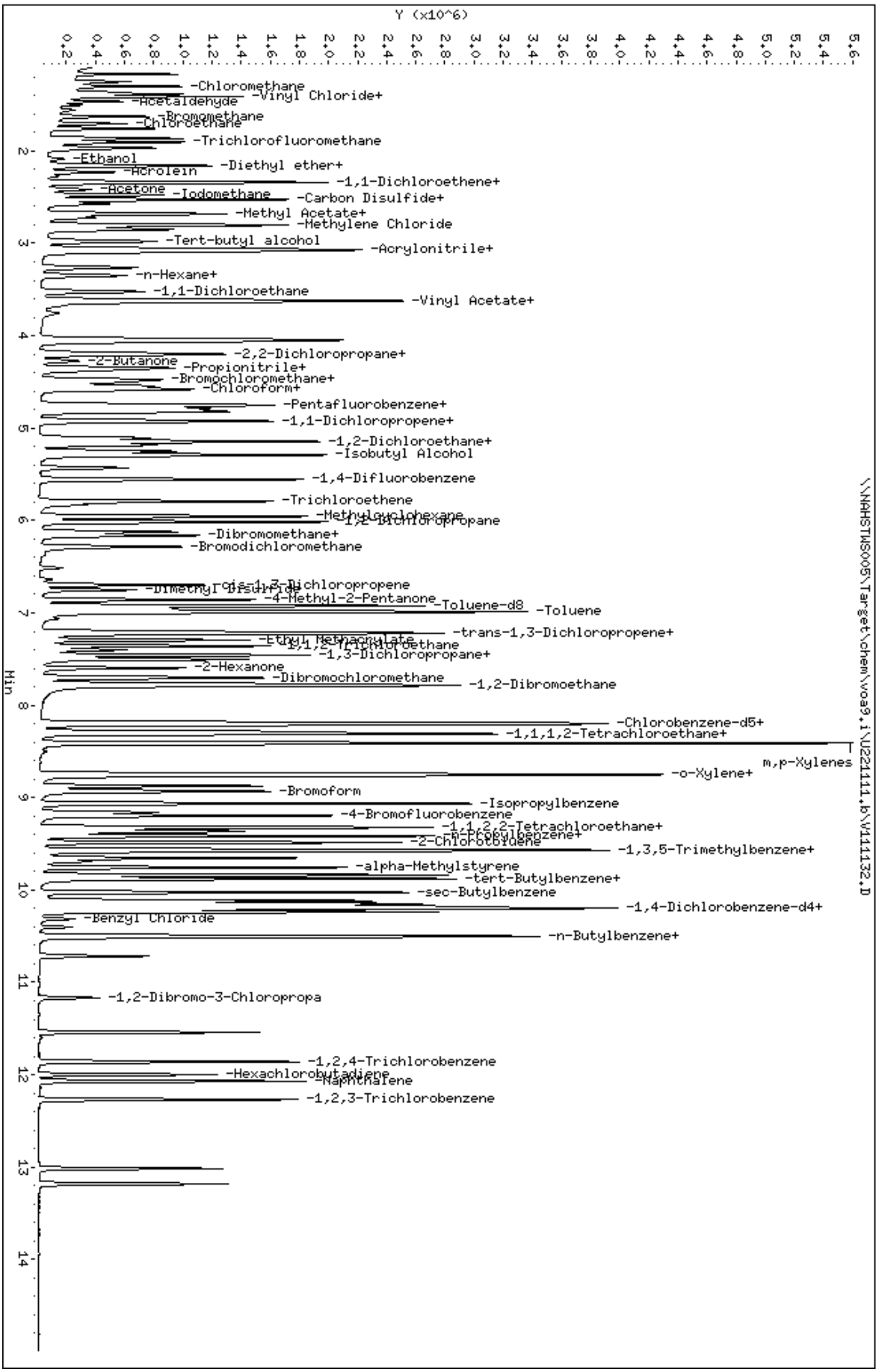
90 1,2,4-Trichlorobenzene	180	11.859	11.859 (1.166)	530232	50.0000	51.78
91 Hexachlorobutadiene	225	12.001	12.001 (1.180)	218450	50.0000	53.17

Data File: \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D Page 3
Report Date: 16-Nov-2022 10:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
92	Naphthalene	128	12.069	12.069	(1.186)	1331568	50.0000	52.11
93	1,2,3-Trichlorobenzene	180	12.271	12.271	(1.206)	521059	50.0000	51.32
M 94	1,2-Dichloroethylene (total)	96				873954	100.000	(a)
135	1,4-Dioxane	88	6.172	6.172	(1.280)	117004	1000.00	929.64
141	Cyclohexane	56	4.789	4.789	(0.993)	514163	50.0000	64.98
138	Freon TF	101	2.341	2.341	(0.485)	339687	50.0000	60.95
140	1,3-Butadiene	54	1.408	1.408	(0.292)	336152	50.0000	51.04
147	Methylcyclohexane	55	5.951	5.951	(1.071)	986495	50.0000	50.08
146	Methyl Acetate	43	2.723	2.723	(0.565)	325482	50.0000	47.99
148	Tert-Butyl alcohol	59	2.978	2.978	(0.618)	790489	1000.00	986.17
149	Isopropyl Alcohol	45	2.570	2.570	(0.533)	508463	1000.00	962.52
72	trans-1,4-Dichloro-2-butene	53	9.381	9.381	(1.146)	74044	50.0000	37.95(M)
12	Isobutyl Alcohol	43	5.291	5.291	(1.097)	925761	1000.00	891.52
13	Acetonitrile	39	2.678	2.678	(0.555)	407753	500.000	484.21
14	Allyl Chloride	41	2.678	2.678	(0.555)	932542	50.0000	48.39
25	Methacrylonitrile	41	4.504	4.504	(0.934)	248782	50.0000	50.77
40	Methyl Methacrylate	41	6.161	6.161	(1.277)	375176	50.0000	50.91
4	Propionitrile	54	4.346	4.346	(0.901)	664206	500.000	501.04
136	n-Hexane	57	3.349	3.349	(0.695)	311298	50.0000	56.96
194	Acetaldehyde	44	1.464	1.464	(0.304)	231430	200.000	214.64(M)
131	Methyl Acrylate	55	4.376	4.376	(0.908)	531548	50.0000	50.40
200	Dimethyl Disulfide	94	6.749	6.749	(0.824)	291649	50.0000	40.60
23	Chloroprene	53	2.165	2.165	(0.449)	155500	50.0000	59.02(M)
49	Ethyl Methacrylate	69	7.293	7.293	(1.312)	665234	50.0000	51.22
166	1,2,3-Trimethylbenzene	105	10.236	10.236	(1.006)	1415943	50.0000	49.62
167	Ethanol	45	2.086	2.086	(0.433)	112682	1000.00	1003.15
164	Dicyclopentadiene	66	10.202	10.202	(1.003)	1490866	50.0000	51.74
145	alpha-Methylstyrene	118	9.756	9.756	(0.959)	595689	50.0000	48.00
142	Tetrahydrofuran	42	4.553	4.553	(0.944)	146766	100.000	101.20
156	Diisopropyl ether	45	3.630	3.630	(0.753)	1214902	50.0000	47.41
151	4-Methyl-2-pentanol	45	7.222	7.222	(1.299)	1355197	1000.00	837.72
150	Allyl alcohol	57	3.349	3.349	(0.695)	311298	1000.00	1139.71
86	Benzyl Chloride	91	10.314	10.314	(1.260)	159016	50.0000	26.44
162	Butyl acrylate	55	8.736	8.736	(1.067)	745660	50.0000	44.99
139	Diethyl ether	59	2.153	2.153	(0.447)	353446	50.0000	47.50

QC Flag Legend

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



Data File: \\NAHSTMS005\Target\chem\voa9.i\U221111.b\V111132.D
Date : 12-NOV-2022 04:38
Client ID: CCV-END
Sample Info: CCV-END,CCV-END,2,,,,
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA9.i
Operator: PC
Column diameter: 0.18

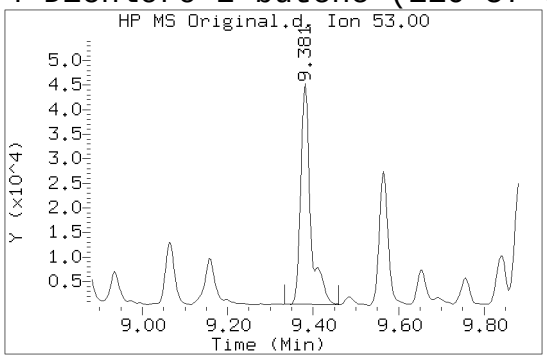
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D
Inj Date : 12-NOV-2022 04:38
InstruID : VOA9.i
LabSampID : CCV-END

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

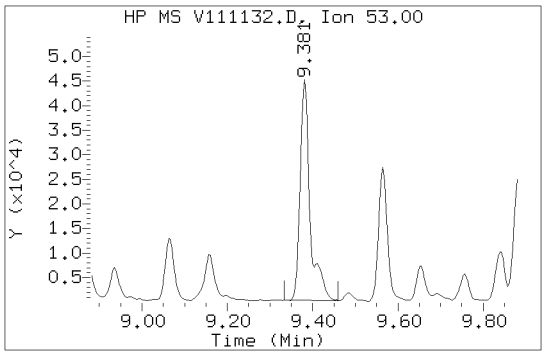
BEFORE

MASS
53
AREA
74044
HEIGHT
44884
16-Nov-2022
10:00
linh
pham



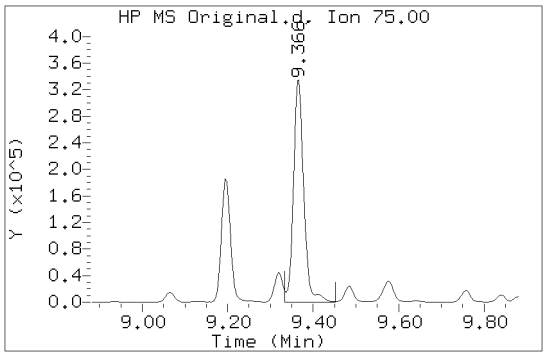
AFTER

MASS
53
AREA
74044
HEIGHT
44884
16-Nov-2022
10:00
linh
pham



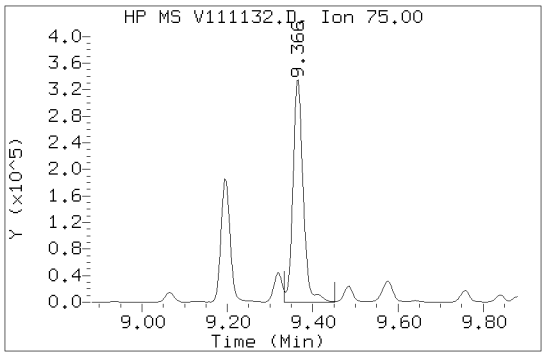
BEFORE

MASS
75
AREA
562335
HEIGHT
334487
16-Nov-2022
10:00
linh
pham



AFTER

MASS
75
AREA
562335
HEIGHT
334487
16-Nov-2022
10:00
linh
pham

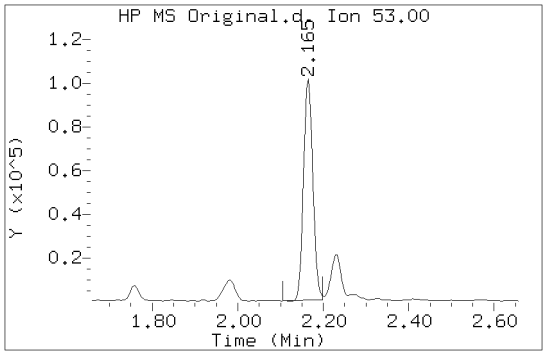


Chloroprene (126-99-8)

Reason Code:

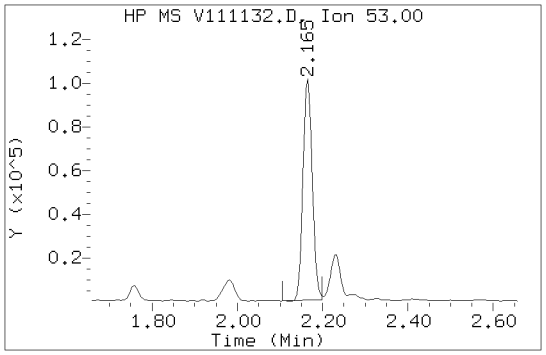
BEFORE

MASS
53
AREA
155500
HEIGHT
101442
16-Nov-2022
10:00
linh
pham



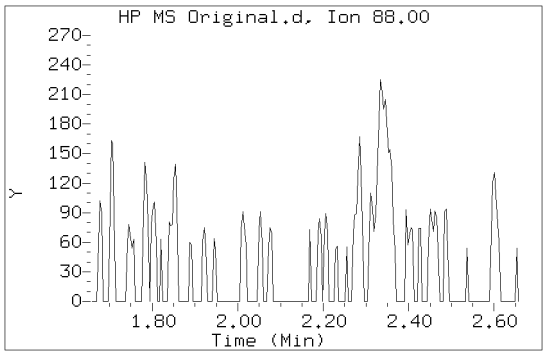
AFTER

MASS
53
AREA
155500
HEIGHT
101442
16-Nov-2022
10:00
linh
pham



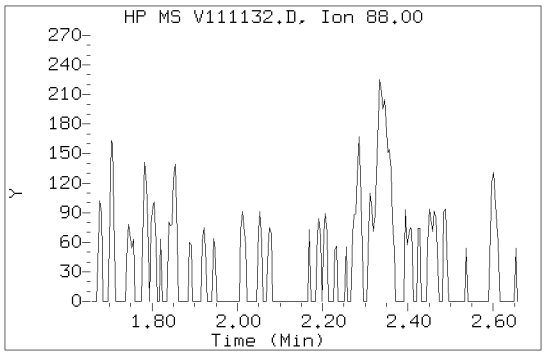
BEFORE

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



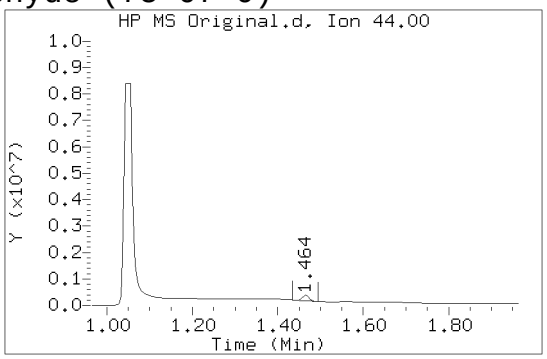
Data File : \\NAHSTWS005\Target\chem\voa9.i\U221111.b\V111132.D
Inj Date : 12-NOV-2022 04:38
InstruID : VOA9.i
LabSampID : CCV-END

Acetaldehyde (75-07-0)

Reason Code:

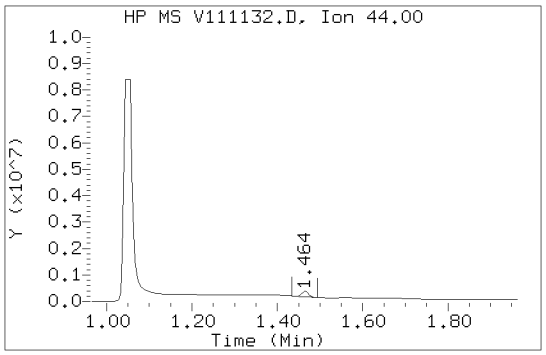
BEFORE

MASS
44
AREA
231430
HEIGHT
206816
16-Nov-2022
10:00
linh
pham



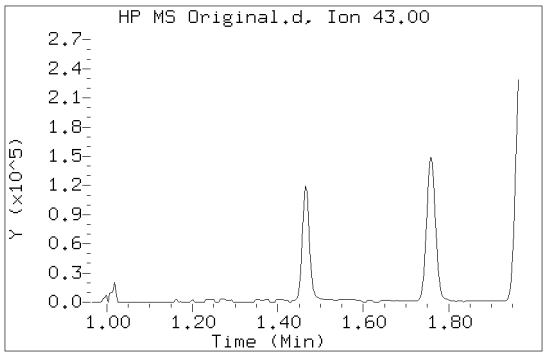
AFTER

MASS
44
AREA
231430
HEIGHT
206816
16-Nov-2022
10:00
linh
pham



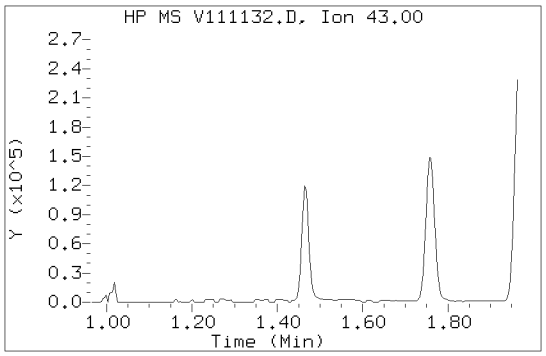
BEFORE

MASS
43
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



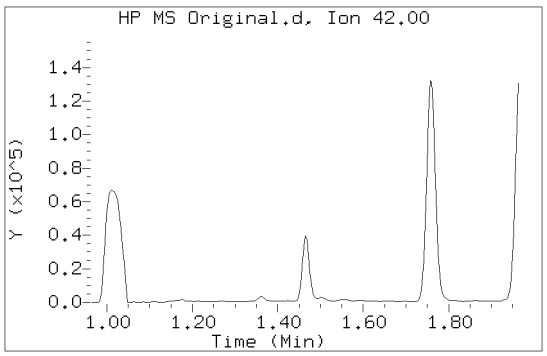
AFTER

MASS
43
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



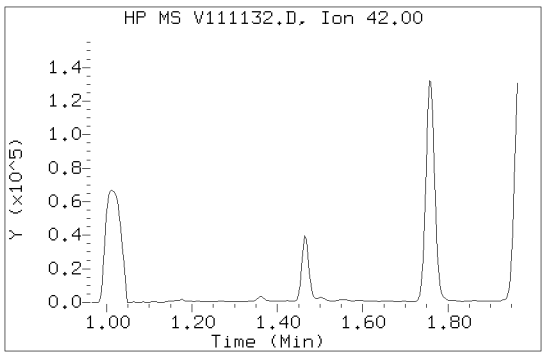
BEFORE

MASS
42
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



AFTER

MASS
42
AREA
0
HEIGHT
0
16-Nov-2022
10:00
linh
pham



HS22110281-GCSEMI-RSK-175

ALS WO# HS22110281

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Semi-Volatiles by RSK-175

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Semi-Volatiles by RSK-175

HS22110281-01				Collected	Received	Matrix	Basis
35BWW04-221103				11/03/22 07:50	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/11/22 12:49	FID-4_421701	017
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/11/22 12:49	FID-4_421701	017
Methane	mg/L	0.00126		0.000107	0.000500	0.000500	1	11/11/22 12:49	FID-4_421701	017

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Semi-Volatiles by RSK-175

HS22110281-02		Collected	Received	Matrix	Basis
35BWW14-221103		11/03/22 08:50	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/11/22 14:40	FID-4_421701	020
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/11/22 14:40	FID-4_421701	020
Methane	mg/L	0.000932		0.000107	0.000500	0.000500	1	11/11/22 14:40	FID-4_421701	020

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Semi-Volatiles by RSK-175

HS22110281-04		Collected	Received	Matrix	Basis
35BWW23-221103		11/03/22 10:15	11/04/22 09:00	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/11/22 14:52	FID-4_421701	021
Ethene	mg/L	0.000925	J	0.000234	0.00100	0.00100	1	11/11/22 14:52	FID-4_421701	021
Methane	mg/L	0.00123		0.000107	0.000500	0.000500	1	11/11/22 14:52	FID-4_421701	021

Form 1 - Organic Analysis Data Sheet

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Semi-Volatiles by RSK-175

MBLK-221111	Collected	Received	Matrix	Basis
MBLK-221111	NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Ethane	mg/L	0.00100	U	0.000144	0.00100	0.00100	1	11/11/22 08:52	FID-4_421701	002
Ethene	mg/L	0.00100	U	0.000234	0.00100	0.00100	1	11/11/22 08:52	FID-4_421701	002
Methane	mg/L	0.000500	U	0.000107	0.000500	0.000500	1	11/11/22 08:52	FID-4_421701	002

right solutions.
right partner.

Form 3A

Matrix Spike/Spike Duplicate Recovery

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder **HS22110281**

35BWW04-221103			HS22110281-01		HS22110281-01MS				HS22110281-01MSD						
Sample Matrix	Aqueous	Run Date	11/11/22		11/11/22				11/11/22						
Units	ug/L	Run Time	12:49		14:15				14:32						
		Data File	017.D		018.D				019.D						
Analyte	%R Limits	DF	Result		MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Ethane	75-125	1	0		24.04	18.04	133	*	24.99	18.04	139	*	30	3.90	
Ethene	75-125	1	0		22.33	16.80	133	*	22.7	16.80	135	*	30	1.60	
Methane	75-125	1	1.261		9.369	9.647	84		9.509	9.647	86		30	1.50	

			HS22110582-05		HS22110582-05MS				HS22110582-05MSD						
Sample Matrix	Aqueous	Run Date	11/11/22		11/11/22				11/11/22						
Units	ug/L	Run Time	16:43		17:06				17:18						
		Data File	025.D		026.D				027.D						
Analyte	%R Limits	DF	Result		MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Ethane	75-125	1	0		21.21	18.04	118		21.55	18.04	119		30	1.60	
Ethene	75-125	1	0		18.72	16.80	111		19.54	16.80	116		30	4.30	
Methane	75-125	1	0		8.861	9.647	92		9.115	9.647	95		30	2.80	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits

right solutions.
right partner.

Form 3B

Laboratory Control Sample Recovery

Semi-Volatiles by RSK-175

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Semi-Volatiles by RSK-175

FID-4_421701		QC ID	LCS-221111			LCS-221111					
QC Matrix Aqueous	Units	Run Date	11/11/22			11/11/22					
	mg/L	Run Time	09:00			09:08					
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	LCSD Result	%R	Q	RPD Limit	RPD	Q
Ethane	75-125	0.01804	0.0201	112		0.0206	114.0		30	2.54	
Ethene	75-125	0.0168	0.0186	111		0.0190	113.0		30	2.1	
Methane	75-125	0.009647	0.00859	89		0.00887	92.0		30	3.23	

- %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

right solutions.
right partner.

Form 4

Method Blank Summary

Semi-Volatiles by RSK-175

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 4 - Method Blank Summary

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

Semi-Volatiles by RSK-175

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	MBLK-221111	002.D	11/11/22 08:52	FID-4_421701
LCS-221111	LCS	LCS-221111	003.D	11/11/22 09:00	FID-4_421701
LCSD-221111	LCSD	LCSD-221111	004.D	11/11/22 09:08	FID-4_421701
35BWW04-221103	SAMP	HS22110281-01	017.D	11/11/22 12:49	FID-4_421701
35BWW04-221103	MS	HS22110281-01MS	018.D	11/11/22 14:15	FID-4_421701
35BWW04-221103	MSD	HS22110281-01MSD	019.D	11/11/22 14:32	FID-4_421701
35BWW14-221103	SAMP	HS22110281-02	020.D	11/11/22 14:40	FID-4_421701
35BWW23-221103	SAMP	HS22110281-04	021.D	11/11/22 14:52	FID-4_421701
BatchQC	MS	HS22110582-05MS	026.D	11/11/22 17:06	FID-4_421701
BatchQC	MSD	HS22110582-05MSD	027.D	11/11/22 17:18	FID-4_421701

right solutions.
right partner.

Form 6

Initial Calibration Data

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Data

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID FID-4_322102

Volatiles Organics by Method 8260C

ICAL Start Date 24-JAN-2017 0906
ICAL End Date 24-JAN-2017 1113

Calibration Files

Calibration File Names

Level 1 ..FID-4.i\170124.b\001.D
Level 2 ..FID-4.i\170124.b\002.D
Level 3 ..FID-4.i\170124.b\003.D
Level 4 ..FID-4.i\170124.b\004.D
Level 5 ..FID-4.i\170124.b\005.D
Level 6 ..FID-4.i\170124.b\006.D
Level 7 ..FID-4.i\170124.b\007.D

Compound	Level 1 10.00 Level 7 1000.0	Level 2 25.00	Level 3 50.00	Level 4 100.00	Level 5 250.00	Level 6 500.00	Curve	b	m1	m2	%RSD or R^2	Q
Methane	969 1082	978	1020	881	961	931	AVRG		974		6.55041	
Ethene	536 829	567	565	516	665	426	AVRG		586		21.93197	
Ethane	602 999	670	659	597	809	818	AVRG		736		19.88517	
Propane	500 96509	1279	2602	4785	18294	38286	QUAD	0.97987	0.00153	-4.583e-00	0.99914	
N-Butane	438 114164	936	2034	3864	18446	42817	QUAD	2.46870	0.00183	-5.537e-00	0.99808	
Pentane	115 488	3945	2080	950	501	412	AVRG		1213		112	*

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

right solutions.
right partner.

Form 6I

Initial Calibration Verification (ICV)

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Verification (ICV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID FID-4_322102

Volatiles Organics by Method 8260C

Compound	Amount Added	Amount Recovered	% Recovered	Limits	Q
Methane	9.647	9.597	99.49	75-125	
Ethene	16.800	19.090	113.63	75-125	
Ethane	18.043	19.657	108.95	75-125	
Propane	26.463	27.238	102.93	75-125	
N-Butane	34.955	36.010	103.02	75-125	

right solutions.
right partner.

Form 7

Continuing Calibration Verification (CCV)

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID FID-4_421701

Volatiles Organics by Method 8260C

Instrument ID FID-4.i Injection Date 11-NOV-2022 0845
Lab File ID 001.D ICAL Date(s) 24-JAN-2017 24-JAN-2017
Analysis Type WATER ICAL Times 0906 1113
Lab Sample ID RSK-CCV Quant Type ESTD

Compound	$\overline{RRF}$ / $\overline{RRF}$ / Amount	RF250	CCV RRF250	Min RRF	%D / %D / %DRIFT	Max %D / %D / %DRIFT	Curve CURVE TYPE	Q
Methane	975	879	879	0.010	9.84239	20.0	Averaged	
Ethene	586	655	655	0.010	-11.89391	20.0	Averaged	
Ethane	719	825	825	0.010	-14.63784	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID FID-4_421701

Volatiles Organics by Method 8260C

Instrument ID FID-4.i Injection Date 11-NOV-2022 1131
Lab File ID 011.D ICAL Date(s) 24-JAN-2017 24-JAN-2017
Analysis Type WATER ICAL Times 0906 1113
Lab Sample ID RSK-CCV Quant Type ESTD

Compound	$\overline{RRF}$ / $\overline{RRF}$ / Amount	RF250	CCV RRF250	Min RRF	%D / %D / %DRIFT	Max %D / %D / %DRIFT	Curve CURVE TYPE	Q
Methane	975	841	841	0.010	13.75489	20.0	Averaged	
Ethene	586	666	666	0.010	-13.75814	20.0	Averaged	
Ethane	719	819	819	0.010	-13.84442	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID FID-4_421701

Volatiles Organics by Method 8260C

Instrument ID FID-4.i Injection Date 11-NOV-2022 1557
Lab File ID 022.D ICAL Date(s) 24-JAN-2017 24-JAN-2017
Analysis Type WATER ICAL Times 0906 1113
Lab Sample ID RSK-CCV Quant Type ESTD

Compound	$\overline{RRF}$ / $\overline{RRF}$ / Amount	RF250	CCV RRF250	Min RRF	%D / %D / %DRIFT	Max %D / %D / %DRIFT	Curve CURVE TYPE	Q
Methane	975	823	823	0.010	15.58356	20.0	Averaged	
Ethene	586	653	653	0.010	-11.47851	20.0	Averaged	
Ethane	719	799	799	0.010	-10.98656	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Aptim Environmental & Infrastucture, Inc.
Project LHAAP 37 November 2022

Workorder HS22110281

RunID FID-4_421701

Volatiles Organics by Method 8260C

Instrument ID FID-4.i Injection Date 11-NOV-2022 1753
Lab File ID 028.D ICAL Date(s) 24-JAN-2017 24-JAN-2017
Analysis Type WATER ICAL Times 0906 1113
Lab Sample ID RSK-CCV Quant Type ESTD

Compound	$\overline{RRF}$ / $\overline{RRF}$ / Amount	RF250	CCV RRF250	Min RRF	%D / %D / %DRIFT	Max %D / %D / %DRIFT	Curve CURVE TYPE	Q
Methane	975	886	886	0.010	9.16196	20.0	Averaged	
Ethene	586	669	669	0.010	-14.27485	20.0	Averaged	
Ethane	719	804	804	0.010	-11.70295	20.0	Averaged	

right solutions.
right partner.

Analysis Run Log

Semi-Volatiles by RSK-175

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

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 13 - Analysis Run Log

Client Aptim Environmental & Infrastucture, Inc.

Project LHAAP 37 November 2022

Workorder
HS22110281

RUNID
FID-4_421701

Semi-Volatiles by RSK-175

Run ID FID-4_421701 **Start Date** 11/11/22 **EndDate** 11/11/22 **Matrix** Aqueous

Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
RSK-CCV	CCV	RSK-CCV	001.D	11/11/22 08:45	1
MBLK-221111	MBLK	MBLK-221111	002.D	11/11/22 08:52	1
LCS-221111	LCS	LCS-221111	003.D	11/11/22 09:00	1
LCSD-221111	LCSD	LCSD-221111	004.D	11/11/22 09:08	1
RSK-CCV	CCV	RSK-CCV	011.D	11/11/22 11:31	1
35BWW04-221103	SAMP	HS22110281-01	017.D	11/11/22 12:49	1
35BWW04-221103	MS	HS22110281-01MS	018.D	11/11/22 14:15	1
35BWW04-221103	MSD	HS22110281-01MSD	019.D	11/11/22 14:32	1
35BWW14-221103	SAMP	HS22110281-02	020.D	11/11/22 14:40	1
35BWW23-221103	SAMP	HS22110281-04	021.D	11/11/22 14:52	1
RSK-CCV	CCV	RSK-CCV	022.D	11/11/22 15:57	1
BatchQC	MS	HS22110582-05MS	026.D	11/11/22 17:06	1
BatchQC	MSD	HS22110582-05MSD	027.D	11/11/22 17:18	1
RSK-CCV	CCV	RSK-CCV	028.D	11/11/22 17:53	1

right solutions.
right partner.

Raw Data FID-4 322102

Semi-Volatiles by RSK-175

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\001.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.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\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.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	1.043	1.043	0.000	374	0.38600	0.383(a)
2 Ethene	1.553	1.553	0.000	361	0.67400	0.615(a)
3 Ethane	1.716	1.716	0.000	435	0.72200	0.590(a)
4 Propane	4.073	4.073	0.000	500	1.05900	1.743
5 N-Butane	7.640	7.640	0.000	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\170124.b\001.D

Date : 24-JAN-2017 09:06

Client ID: ICAL1

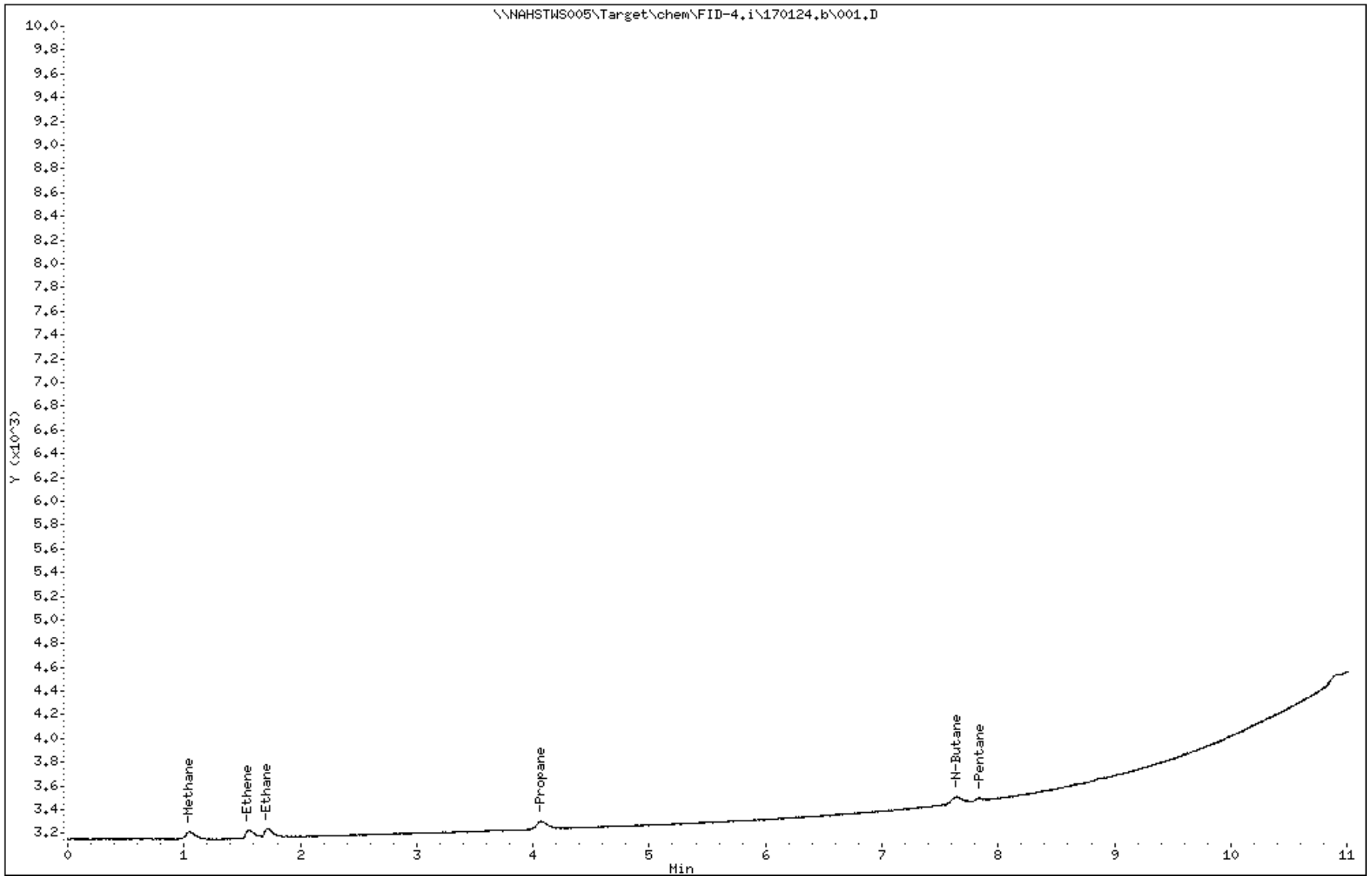
Instrument: FID-4.i

Sample Info: ICAL1;ICAL1;;;

Operator: JA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\001.D
Inj Date : 24-JAN-2017 09:06
InstruID : FID-4.i
LabSampID : ICAL1

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\002.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.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\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.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	1.023	1.023	0.000	944	0.96500	0.968
2 Ethene	1.560	1.560	0.000	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.123	0.000	1279	2.64600	2.927
5 N-Butane	7.716	7.716	0.000	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\002.D

Date : 24-JAN-2017 09:30

Client ID: ICAL2

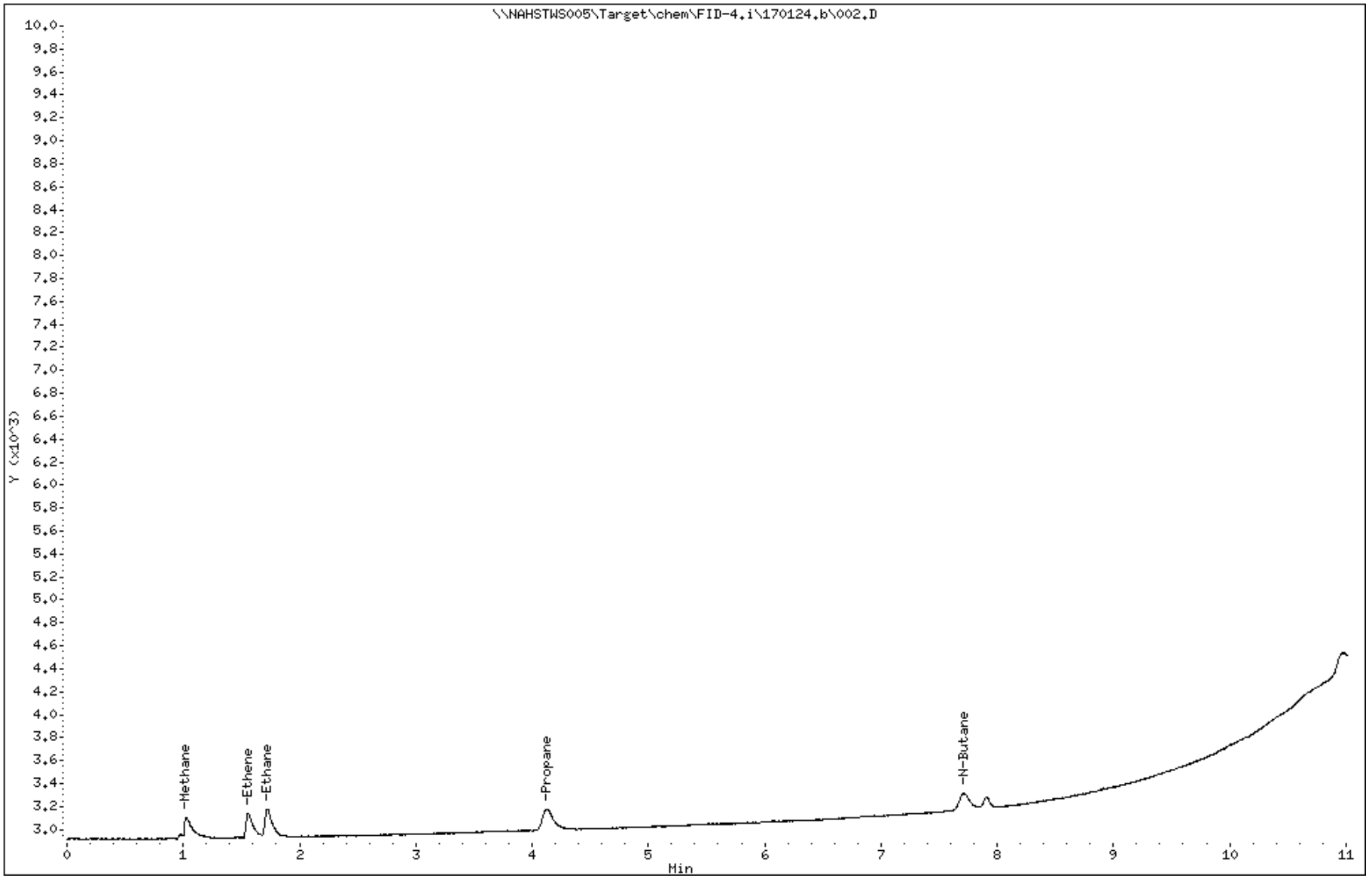
Instrument: FID-4.i

Sample Info: ICAL2;ICAL2;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\002.D
Inj Date : 24-JAN-2017 09:30
InstruID : FID-4.i
LabSampID : ICAL2

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\003.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.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\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.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	1.043	1.043	0.000	1967	1.92900	2.018
2 Ethene	1.570	1.570	0.000	1904	3.37000	3.247
3 Ethane	1.736	1.736	0.000	2378	3.60900	3.229
4 Propane	4.123	4.123	0.000	2602	5.29300	4.926
5 N-Butane	7.703	7.703	0.000	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\003.D

Date : 24-JAN-2017 09:59

Client ID: ICAL3

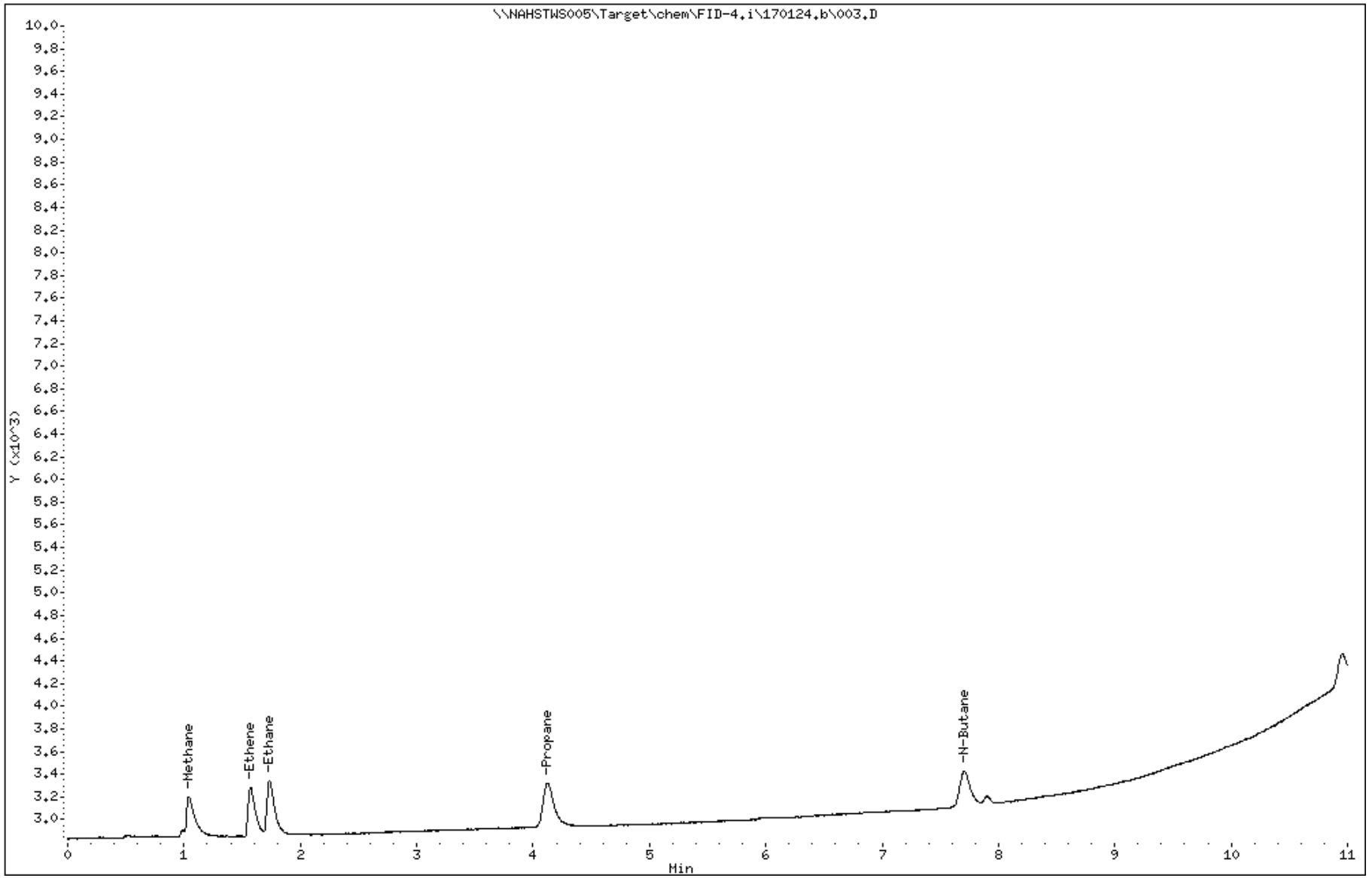
Instrument: FID-4.i

Sample Info: ICAL3;ICAL3;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\003.D
Inj Date : 24-JAN-2017 09:59
InstruID : FID-4.i
LabSampID : ICAL3

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\004.D Page 1
Report Date: 28-Sep-2022 10:02

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.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\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:02 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.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	1.033	1.033	0.000	3399	3.85900	3.488
2 Ethene	1.563	1.563	0.000	3478	6.74000	5.932
3 Ethane	1.726	1.726	0.000	4310	7.21700	5.853
4 Propane	4.120	4.120	0.000	4785	10.5850	8.190
5 N-Butane	7.703	7.703	0.000	3864	13.9820	9.473(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\004.D

Date : 24-JAN-2017 10:15

Client ID: ICAL4

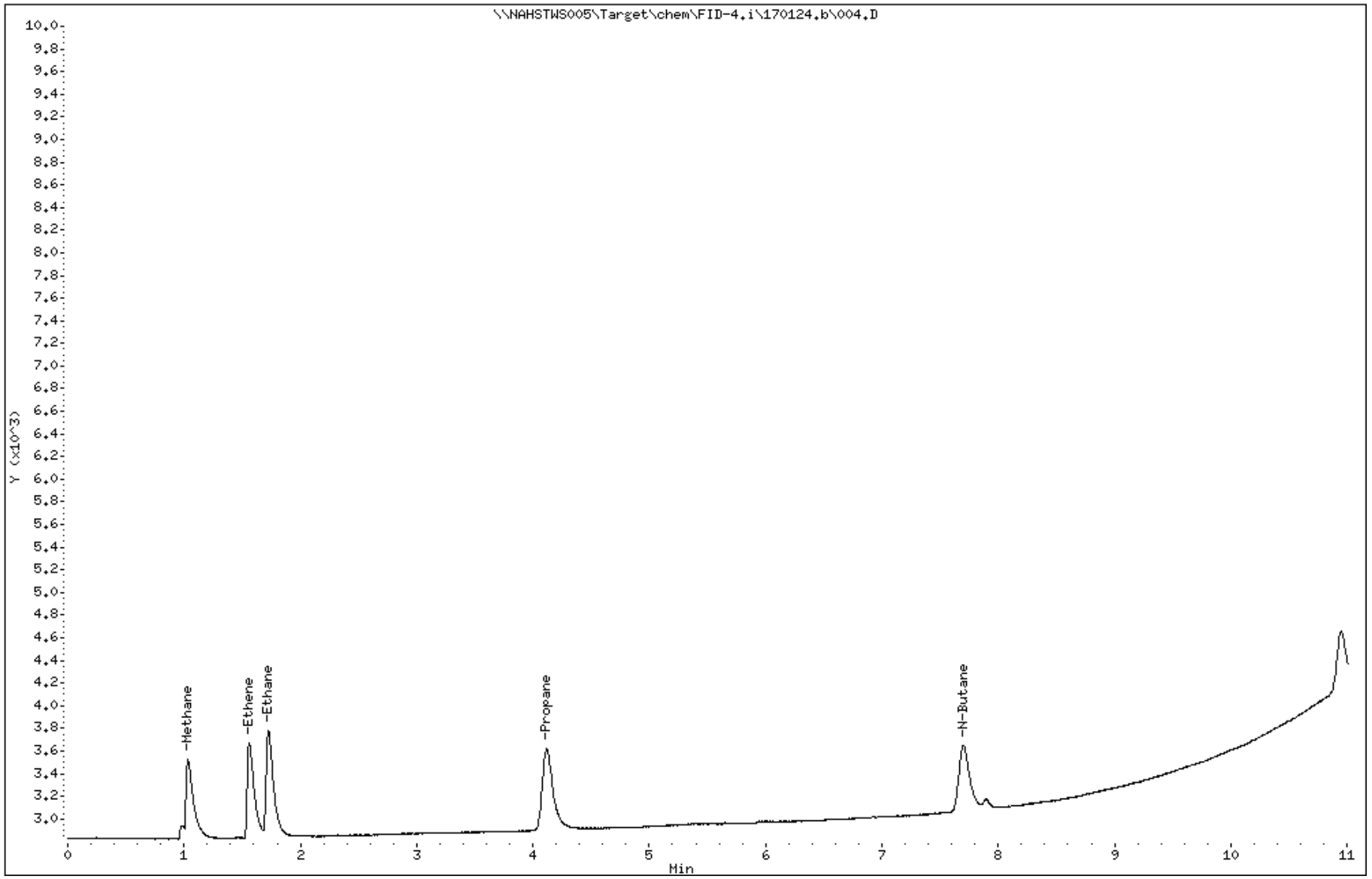
Instrument: FID-4.i

Sample Info: ICAL4;ICAL4;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



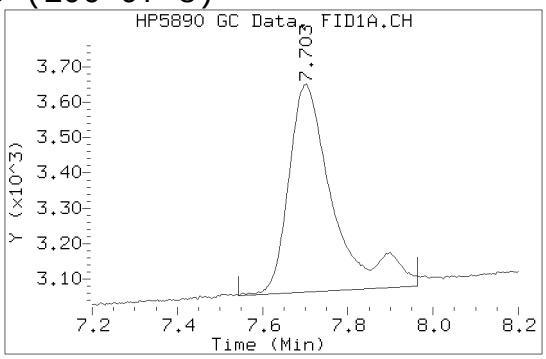
Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\004.D
Inj Date : 24-JAN-2017 10:15
InstruID : FID-4.i
LabSampID : ICAL4

N-Butane (106-97-8)

Reason Code:

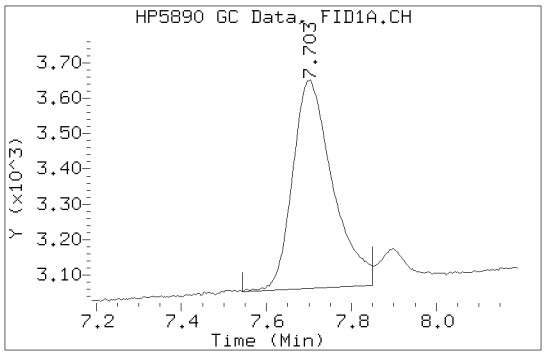
BEFORE

MASS
100
AREA
4292
HEIGHT
591
28-Sep-2022
10:02
linh
pham



AFTER

MASS
100
AREA
3864
HEIGHT
591
28-Sep-2022
10:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\005.D Page 1
Report Date: 28-Sep-2022 10:02

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.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\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:02 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

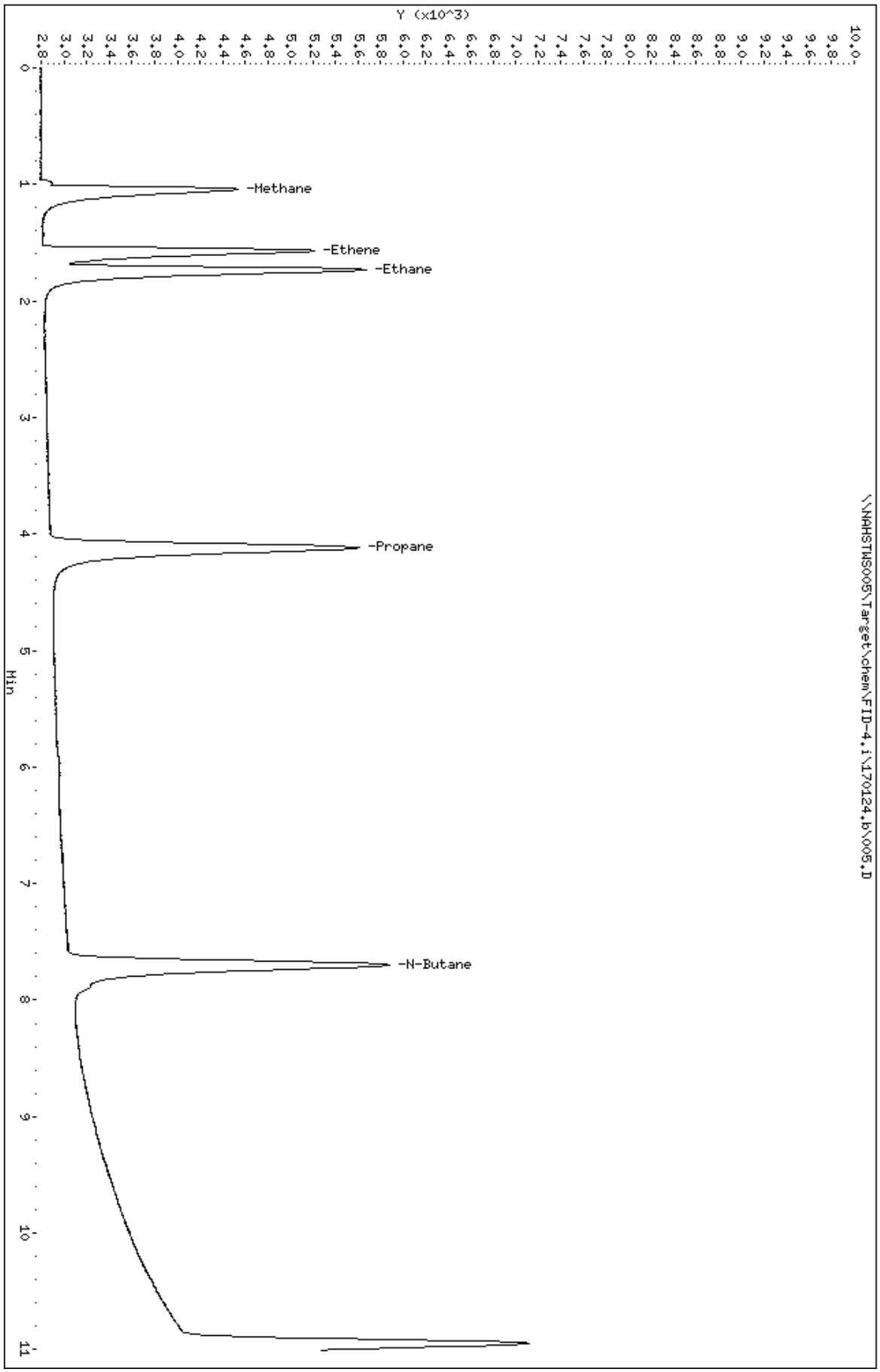
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.043	1.043	0.000	9268	9.64700	9.511
2 Ethene	1.570	1.570	0.000	11210	16.8500	19.121
3 Ethane	1.733	1.733	0.000	14588	18.0430	19.811
4 Propane	4.120	4.120	0.000	18294	26.4630	27.415
5 N-Butane	7.700	7.700	0.000	18446	34.9550	34.419(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.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



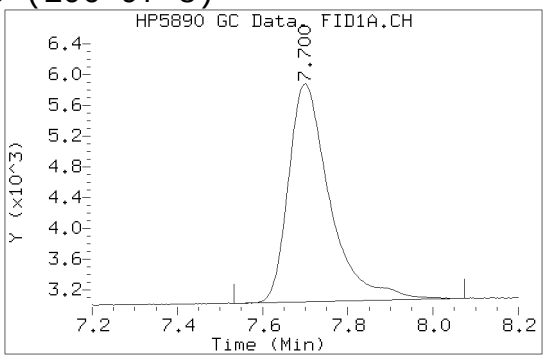
Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\005.D
Inj Date : 24-JAN-2017 10:39
InstruID : FID-4.i
LabSampID : ICAL5

N-Butane (106-97-8)

Reason Code:

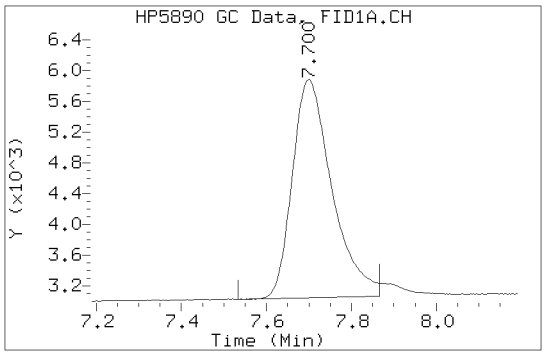
BEFORE

MASS
100
AREA
19142
HEIGHT
2839
28-Sep-2022
10:02
linh
pham



AFTER

MASS
100
AREA
18446
HEIGHT
2838
28-Sep-2022
10:02
linh
pham



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\006.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

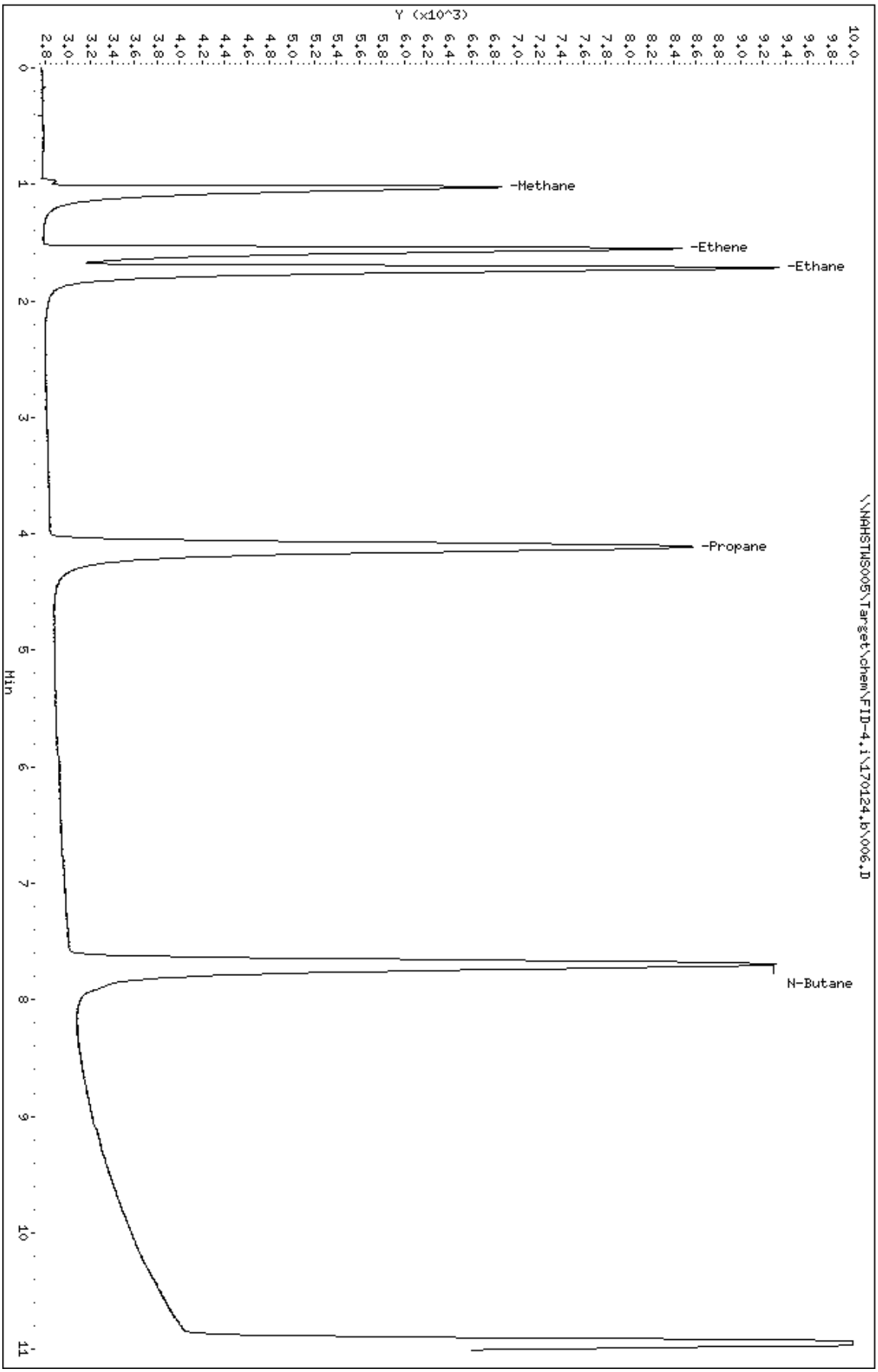
Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i 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
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	1.023	1.023	0.000	17957	19.2940	18.429
2 Ethene	1.550	1.550	0.000	22910	53.8200	39.078
3 Ethane	1.716	1.716	0.000	29505	36.0860	40.070
4 Propane	4.110	4.110	0.000	38286	52.9260	52.796
5 N-Butane	7.696	7.696	0.000	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4,i\170124,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\170124.b\006.D
Inj Date : 24-JAN-2017 10:57
InstruID : FID-4.i
LabSampID : ICAL6

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

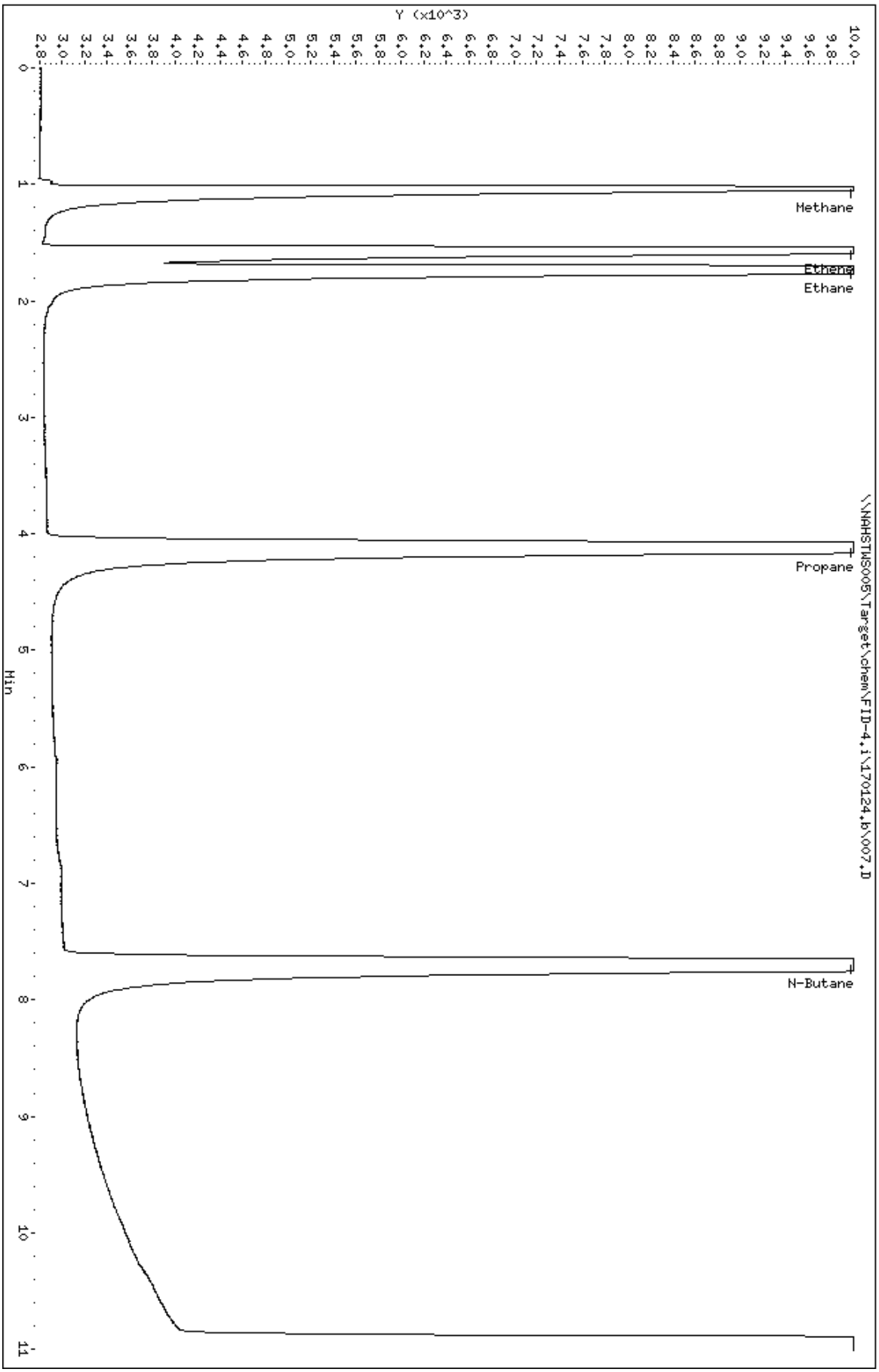
Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i 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
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	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\170124,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
Page 1
Y (x10^3)
Methane
Ethene
Ethane
Propane
N-Butane
\\NAHSTWS005\Target\chem\FID-4,i\170124,b\007,D
Min

Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\007.D
Inj Date : 24-JAN-2017 11:13
InstruID : FID-4.i
LabSampID : ICAL7

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124.b\008.D Page 1
Report Date: 28-Sep-2022 10:00

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124.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\170124.b\RSKNI2.m
Meth Date : 28-Sep-2022 10:00 FID-4.i 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
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	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\170124.b\008.D

Date : 24-JAN-2017 12:05

Client ID: ICV

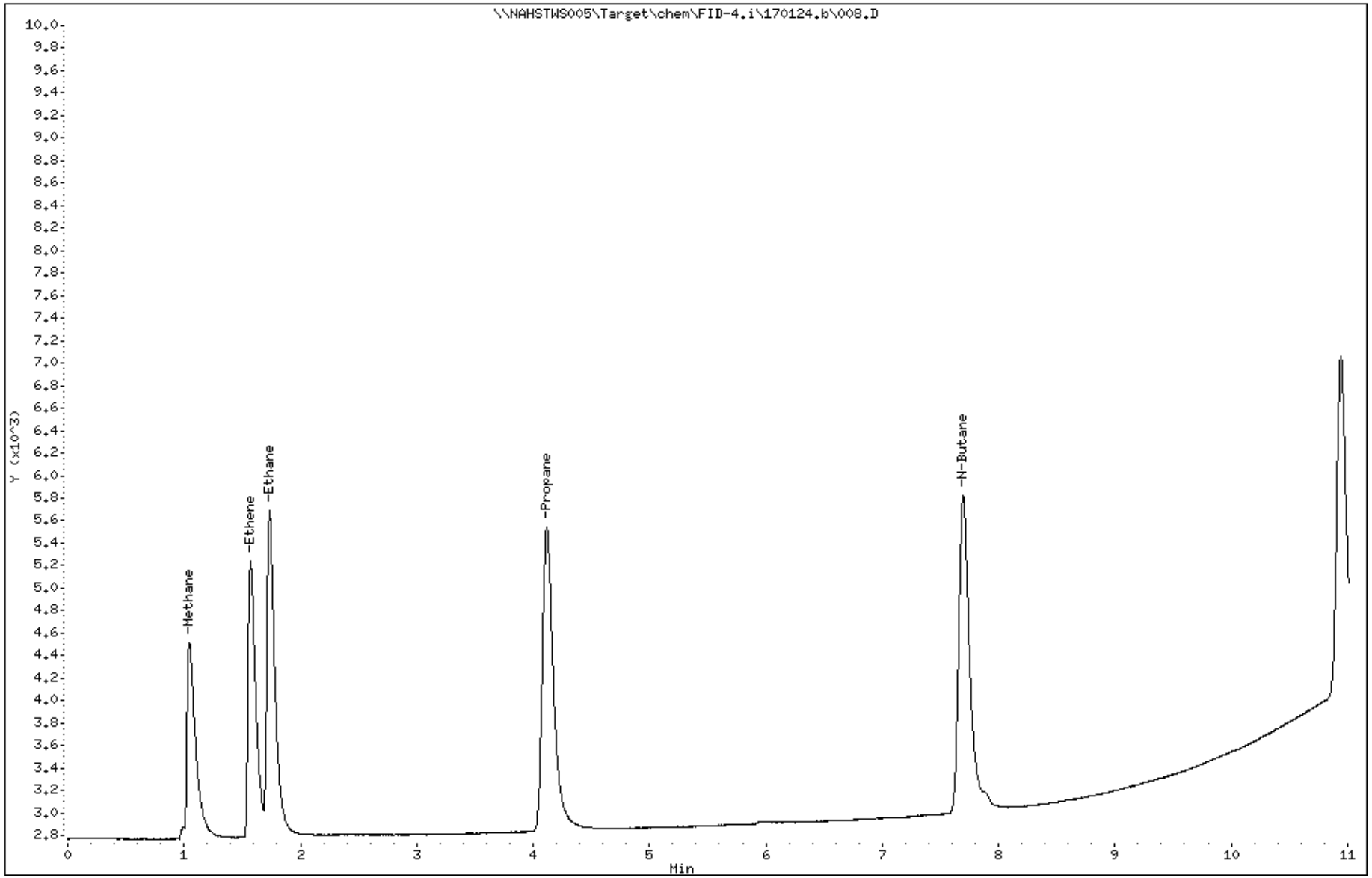
Instrument: FID-4.i

Sample Info: ICV;ICV;;;

Operator: MA

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\170124.b\008.D
Inj Date : 24-JAN-2017 12:05
InstruID : FID-4.i
LabSampID : ICV

NO MANUAL INTEGRATIONS

right solutions.
right partner.

Raw Data FID-4 421701

Semi-Volatiles by RSK-175

Workorder

HS22110281

Client

Aptim Environmental & Infrastucture, Inc.

Project

LHAAP 37 November 2022

11/21/2022

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\001.D Page 1
Report Date: 14-Nov-2022 10:03

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 11-NOV-2022 08:45
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\221111.b\RSKNI3.m
Meth Date : 11-Nov-2022 18:00 samy.mata 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: NAHSTW7022

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	0.443	0.443	0.000	8480	9.64700	8.697
2 Ethene	0.666	0.666	0.000	11044	16.8500	18.854
3 Ethane	0.736	0.736	0.000	14882	18.0430	20.684

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\001.D

Date : 11-NOV-2022 08:45

Client ID: RSK-CCV

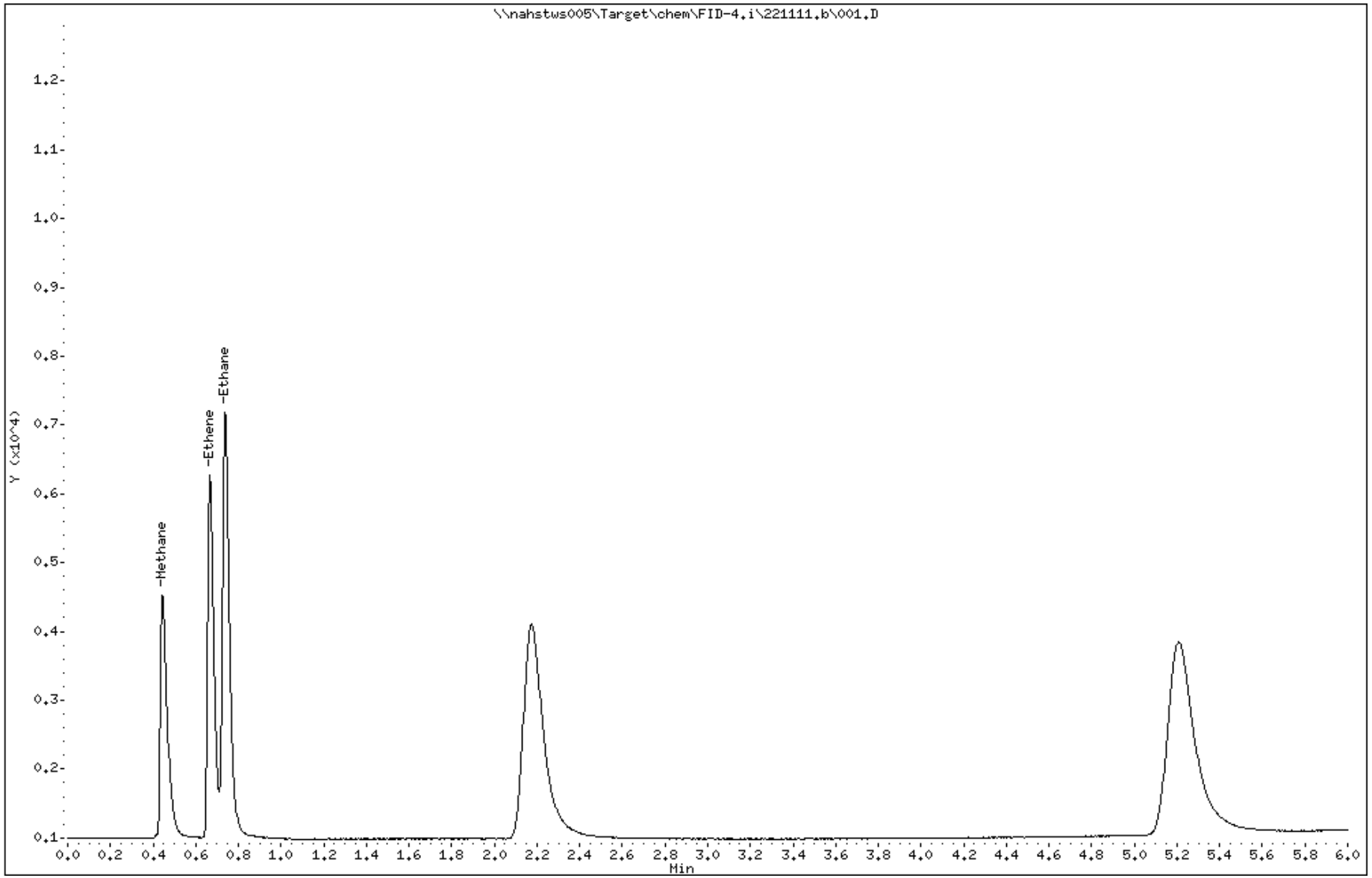
Instrument: FID-4.i

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\221111.b\001.D
Inj Date : 11-NOV-2022 08:45
InstruID : FID-4.i
LabSampID : RSK-CCV

NO MANUAL INTEGRATIONS

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\002.D Page 1
Report Date: 14-Nov-2022 10:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\002.D
Lab Smp Id: MBLK-221111 Client Smp ID: MBLK-221111
Inj Date : 11-NOV-2022 08:52
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-221111;MBLK-221111;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 11-Nov-2022 18:00 samy.mata 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: NAHSTW7022

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\221111.b\002.D

Date : 11-NOV-2022 08:52

Client ID: MBLK-221111

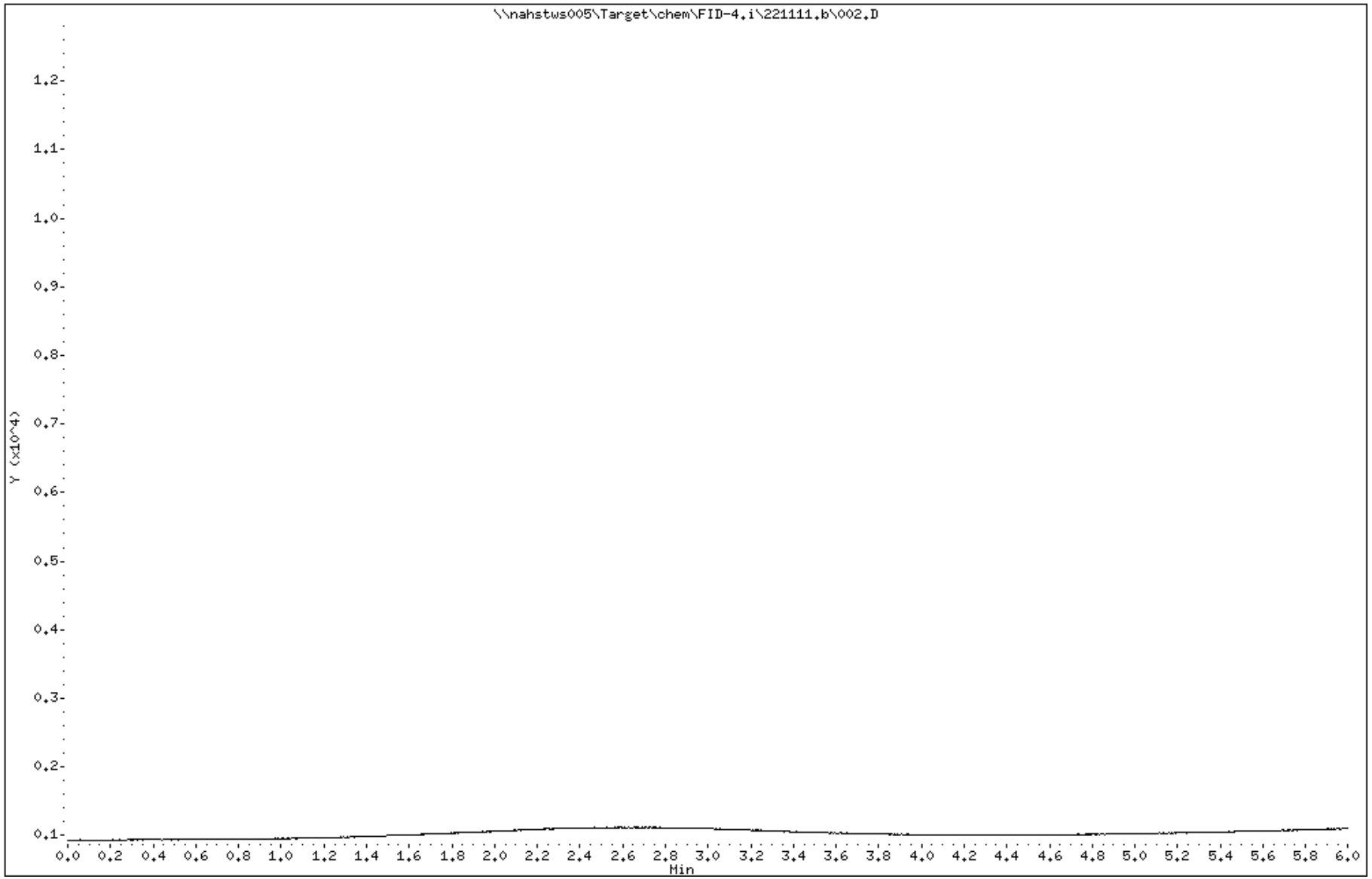
Instrument: FID-4.i

Sample Info: MBLK-221111;MBLK-221111;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\nahstws005\Target\chem\FID-4.i\221111.b\002.D
Inj Date : 11-NOV-2022 08:52
InstruID : FID-4.i
LabSampID : MBLK-221111

NO MANUAL INTEGRATIONS

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\003.D Page 1
Report Date: 14-Nov-2022 10:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\003.D
Lab Smp Id: LCS-221111 Client Smp ID: LCS-221111
Inj Date : 11-NOV-2022 09:00
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-221111;LCS-221111;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 11-Nov-2022 18:00 samy.mata 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: NAHSTW7022

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	0.443	0.443	0.000	8373	8.58776	8.587
2 Ethene	0.670	0.666	0.004	10908	18.6219	18.621
3 Ethane	0.743	0.736	0.007	14476	20.1198	20.119

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\003.D

Date : 11-NOV-2022 09:00

Client ID: LCS-221111

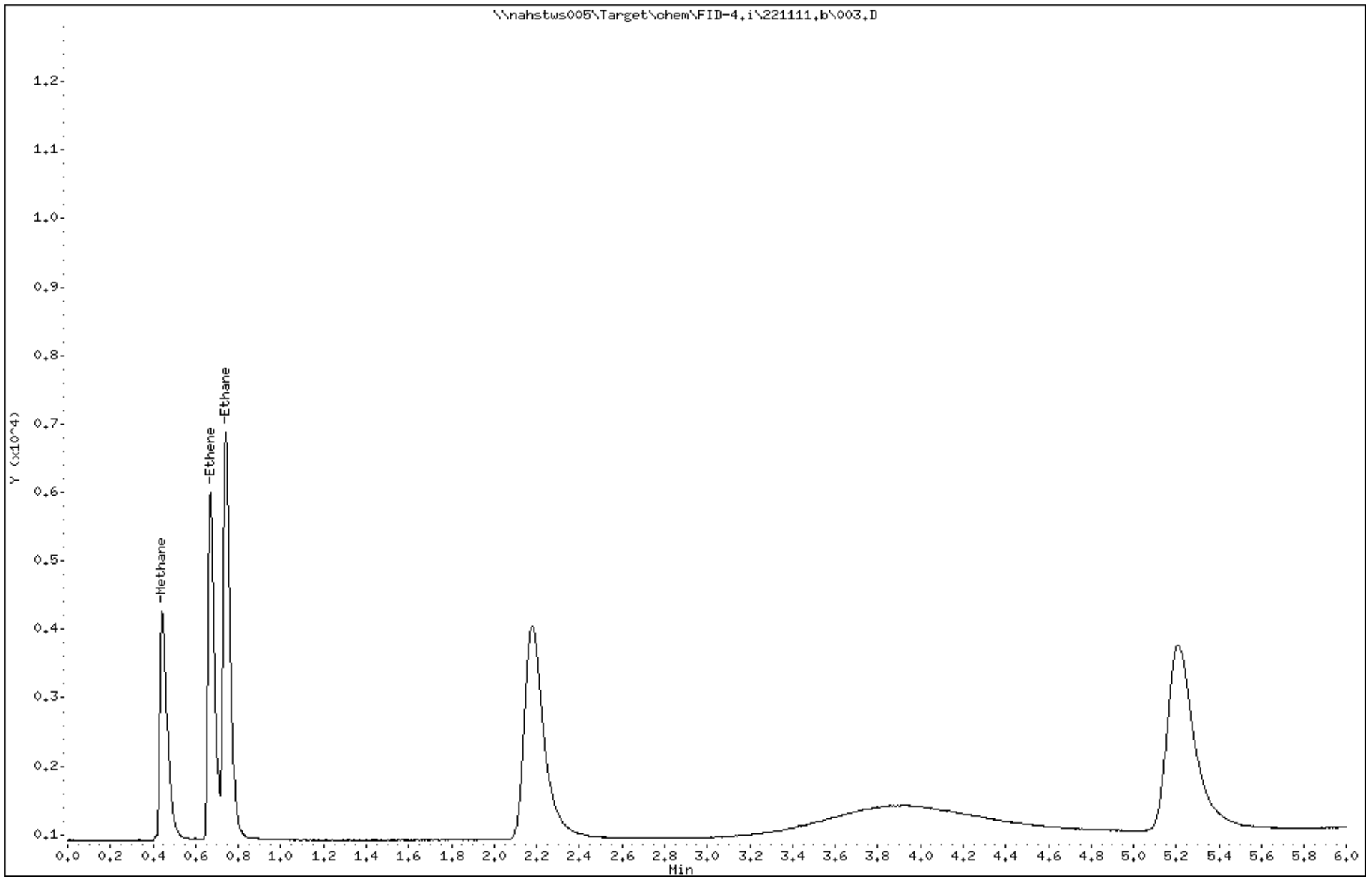
Instrument: FID-4.i

Sample Info: LCS-221111;LCS-221111;3;;LCS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\nahstws005\Target\chem\FID-4.i\221111.b\003.D
Inj Date : 11-NOV-2022 09:00
InstruID : FID-4.i
LabSampID : LCS-221111

NO MANUAL INTEGRATIONS

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\004.D Page 1
Report Date: 11-Nov-2022 10:07

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\004.D
Lab Smp Id: LCSD-221111 Client Smp ID: LCSD-221111
Inj Date : 11-NOV-2022 09:08
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-221111;LCSD-221111;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 11-Nov-2022 10:06 samy.mata 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: NAHSTW7022

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	0.440	0.443	-0.003	8648	8.86981	8.869
2 Ethene	0.666	0.666	0.000	11139	19.0163	19.016
3 Ethane	0.740	0.736	0.004	14849	20.6382	20.638

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\004.D

Date : 11-NOV-2022 09:08

Client ID: LCSD-221111

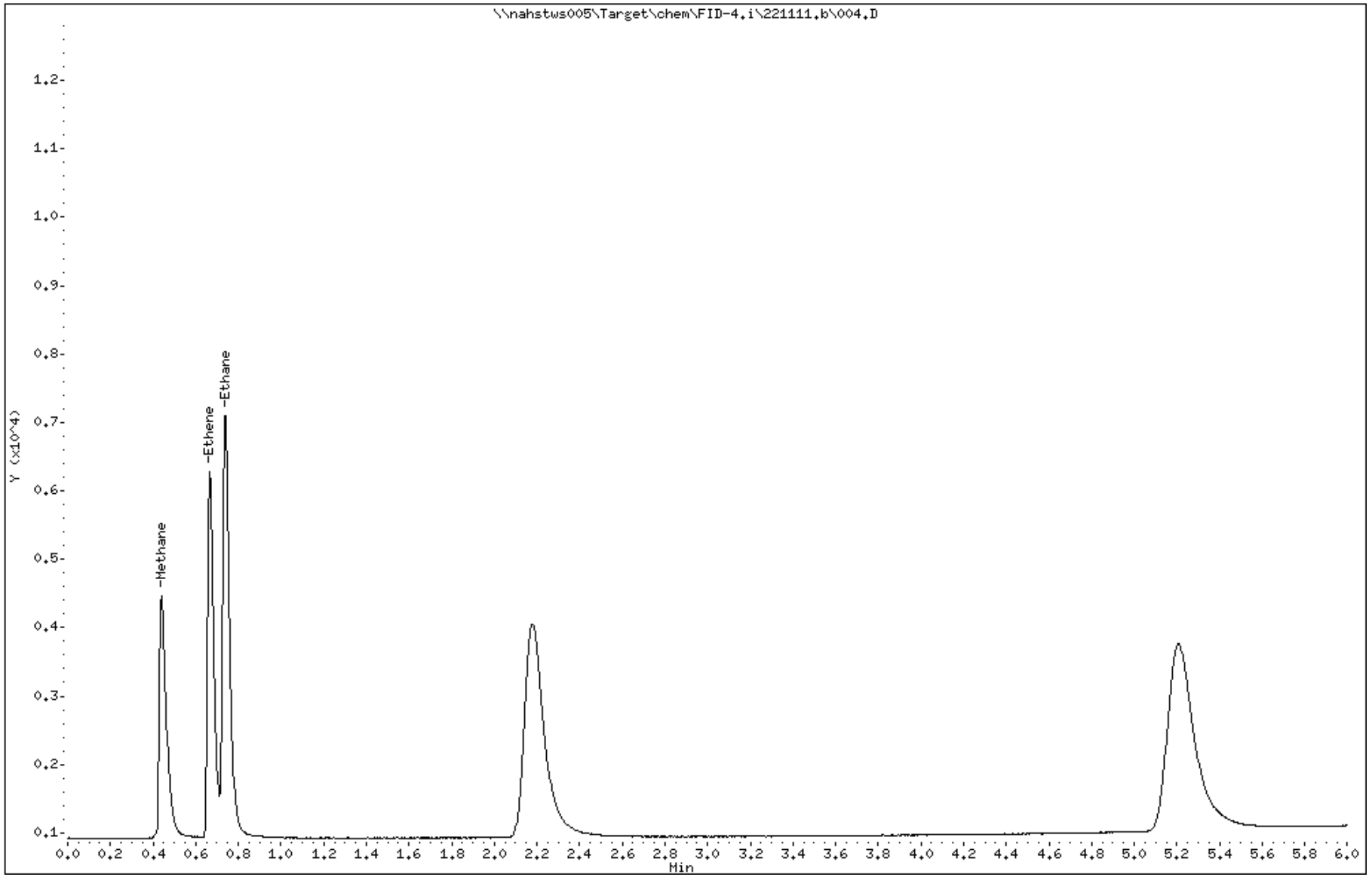
Instrument: FID-4.i

Sample Info: LCSD-221111;LCSD-221111;3;;LCSD

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\nahstws005\Target\chem\FID-4.i\221111.b\004.D
Inj Date : 11-NOV-2022 09:08
InstruID : FID-4.i
LabSampID : LCSD-221111

NO MANUAL INTEGRATIONS

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\011.D Page 1
Report Date: 11-Nov-2022 11:41

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 11-NOV-2022 11:31
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\221111.b\RSKNI3.m
Meth Date : 11-Nov-2022 11:41 samy.mata 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: NAHSTW7022

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	0.436	0.436	0.000	8112	9.64700	8.320
2 Ethene	0.656	0.656	0.000	11228	16.8500	19.168
3 Ethane	0.730	0.730	0.000	14779	18.0430	20.540

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\011.D

Date : 11-NOV-2022 11:31

Client ID: RSK-CCV

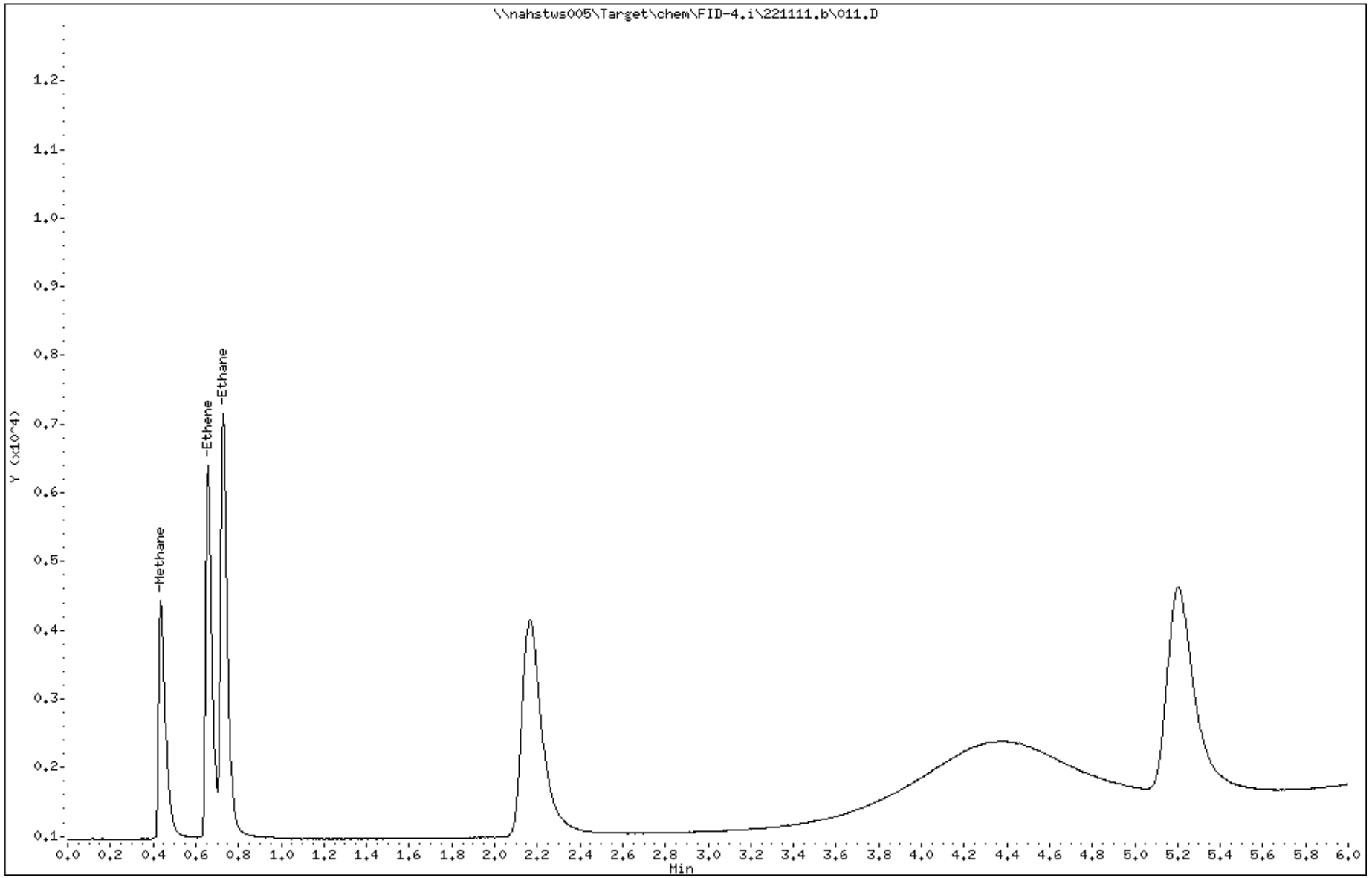
Instrument: FID-4.i

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\221111.b\011.D
Inj Date : 11-NOV-2022 11:31
InstruID : FID-4.i
LabSampID : RSK-CCV

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221111.b\017.D Page 1
Report Date: 21-Nov-2022 12:26

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\017.D
Lab Smp Id: HS22110281-01 Client Smp ID: HS22110281-01
Inj Date : 11-NOV-2022 12:49
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110281-01;HS22110281-01
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 14-Nov-2022 10:17 samy.mata 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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.436	0.030	1229	1.26052	1.260(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221111.b\017.D

Date : 11-NOV-2022 12:49

Client ID: HS22110281-01

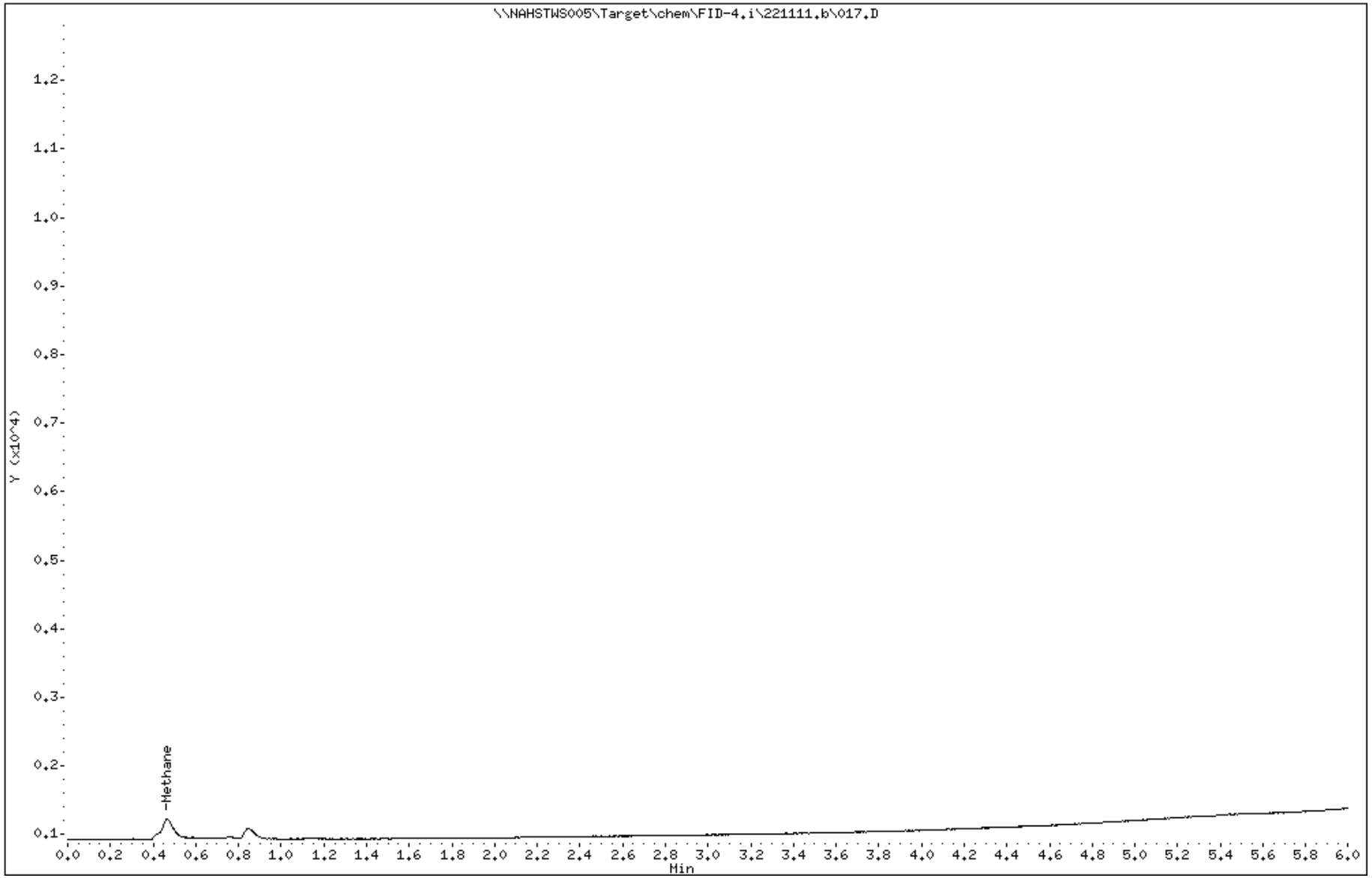
Instrument: FID-4.i

Sample Info: HS22110281-01;HS22110281-01

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



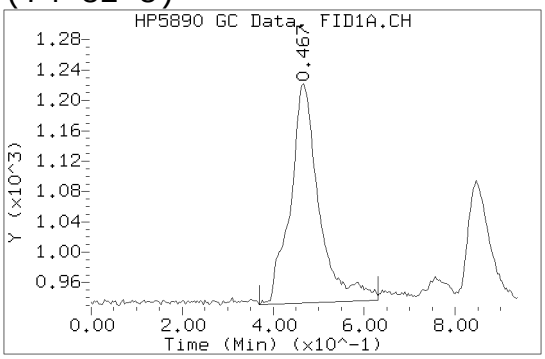
Data File : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\017.D
Inj Date : 11-NOV-2022 12:49
InstruID : FID-4.i
LabSampID : HS22110281-01

Methane (74-82-8)

Reason Code:

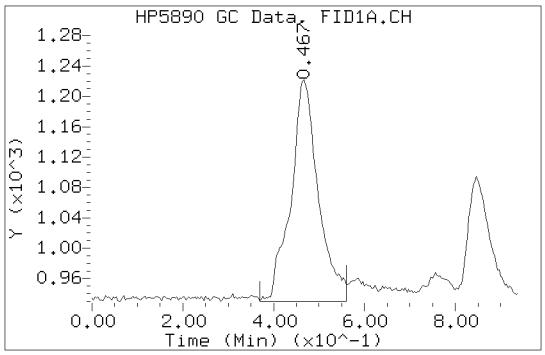
BEFORE

MASS
100
AREA
0
HEIGHT
0
11-Nov-2022
12:56
ALSHS
Server



AFTER

MASS
100
AREA
1229
HEIGHT
292
21-Nov-2022
12:26
ALSHS
Ser



Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\018.D Page 1
Report Date: 14-Nov-2022 10:16

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\018.D
Lab Smp Id: HS22110281-01MS Client Smp ID: HS22110281-01MS
Inj Date : 11-NOV-2022 14:15
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110281-01MS;HS22110281-01MS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 11-Nov-2022 18:00 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

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	0.440	0.443	-0.003	9135	9.36930	9.369(M)
2 Ethene	0.660	0.666	-0.006	13081	22.3317	22.331
3 Ethane	0.730	0.736	-0.006	17293	24.0351	24.035

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\018.D

Date : 11-NOV-2022 14:15

Client ID: HS22110281-01MS

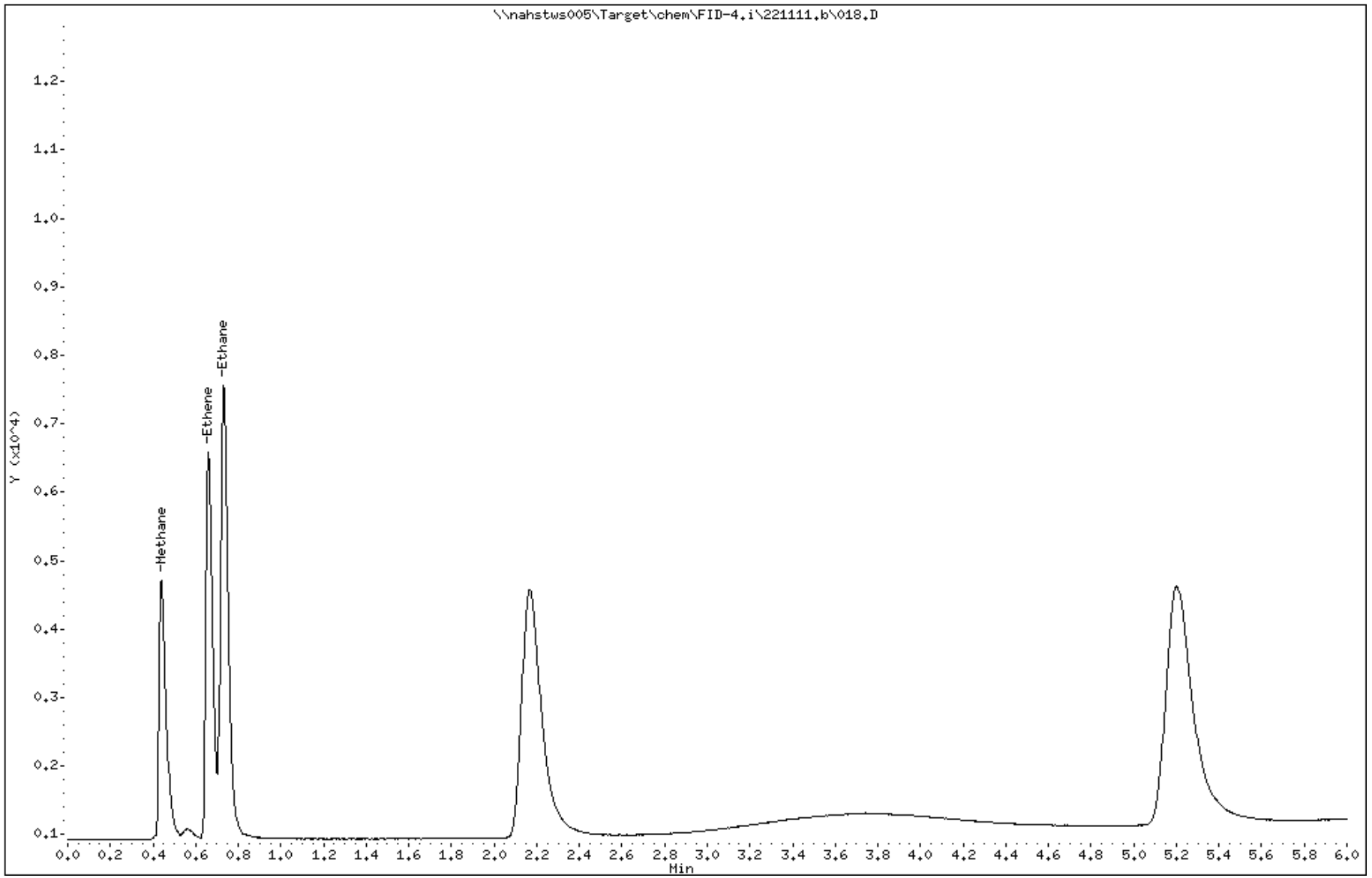
Instrument: FID-4.i

Sample Info: HS22110281-01MS;HS22110281-01MS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



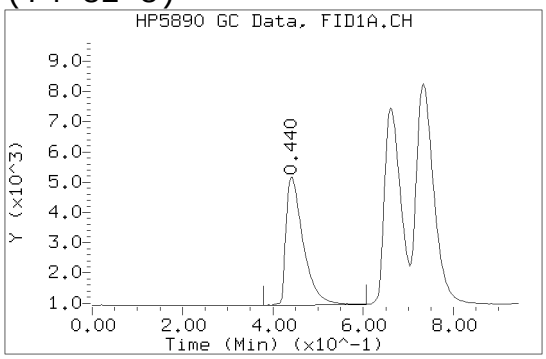
Data File : \\nahstws005\Target\chem\FID-4.i\221111.b\018.D
Inj Date : 11-NOV-2022 14:15
InstruID : FID-4.i
LabSampID : HS22110281-01MS

Methane (74-82-8)

Reason Code:

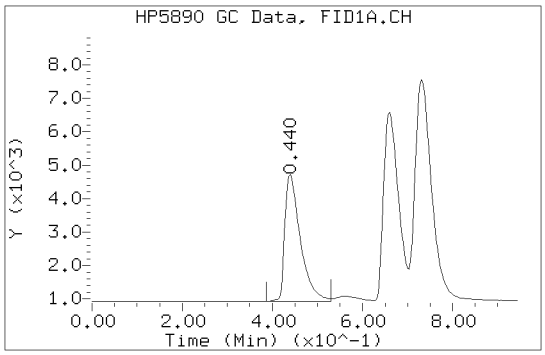
BEFORE

MASS
100
AREA
0
HEIGHT
0
11-Nov-2022
13:11
ALSHS
Server



AFTER

MASS
100
AREA
9135
HEIGHT
3787
14-Nov-2022
10:16
ALSHS
Ser



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\019.D
Lab Smp Id: HS22110281-01MSD Client Smp ID: HS22110281-01MSD
Inj Date : 11-NOV-2022 14:32
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110281-01MSD;HS22110281-01MSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 11-Nov-2022 18:00 samy.mata 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: NAHSTW7022

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	0.436	0.443	-0.007	9271	9.50879	9.508
2 Ethene	0.656	0.666	-0.010	13295	22.6970	22.696
3 Ethane	0.730	0.736	-0.006	17982	24.9927	24.992

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\019.D

Date : 11-NOV-2022 14:32

Client ID: HS22110281-01MSD

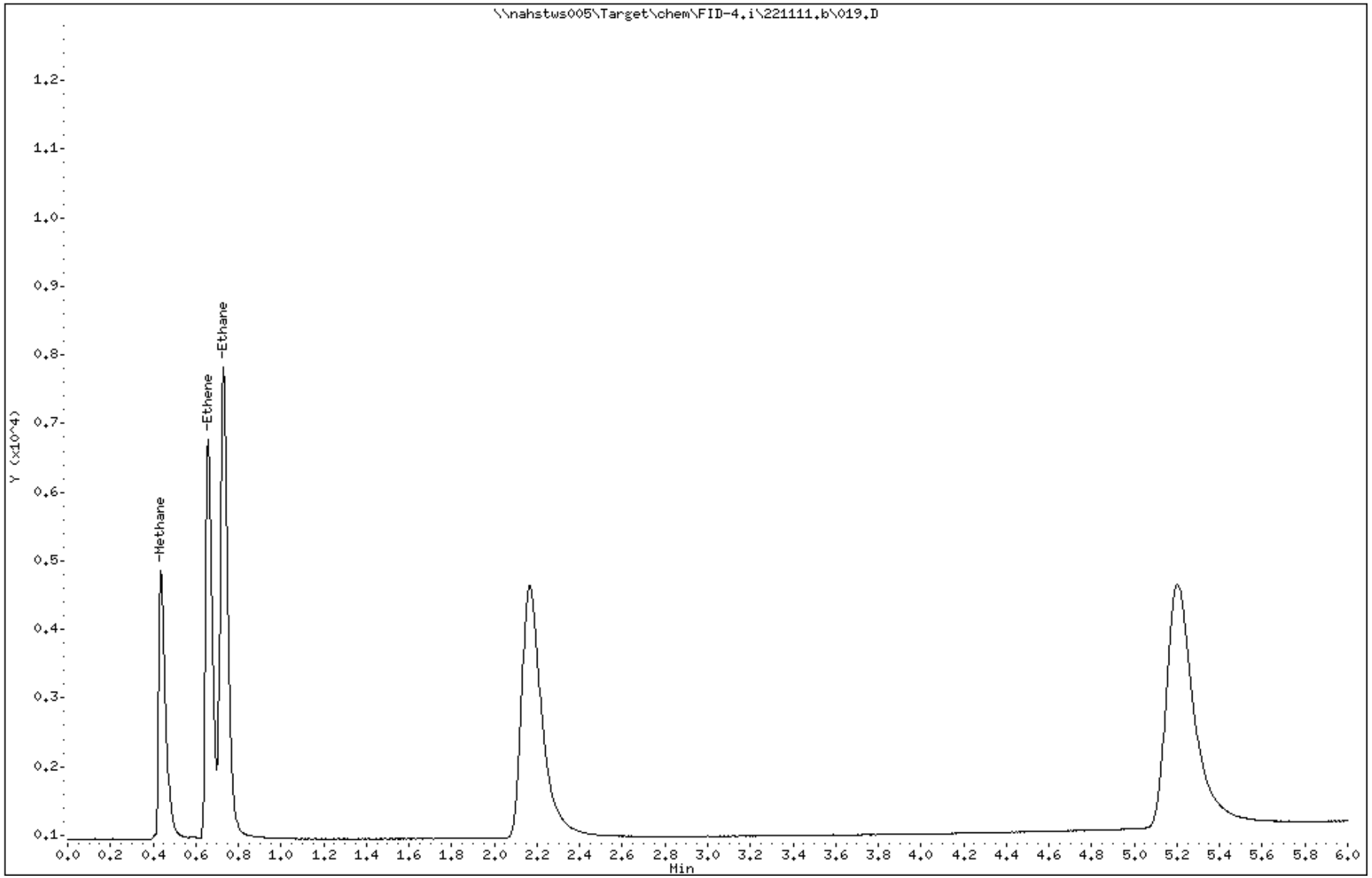
Instrument: FID-4.i

Sample Info: HS22110281-01MSD;HS22110281-01MSD

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\nahstws005\Target\chem\FID-4.i\221111.b\019.D
Inj Date : 11-NOV-2022 14:32
InstruID : FID-4.i
LabSampID : HS22110281-01MSD

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\020.D
Lab Smp Id: HS22110320-02 Client Smp ID: HS22110320-02
Inj Date : 11-NOV-2022 14:40
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110320-02;HS22110320-02
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 14-Nov-2022 10:17 samy.mata 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: NAHSTW7022

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.436	0.030	909	0.93232	0.932

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221111.b\020.D

Page 1

Date : 11-NOV-2022 14:40

Client ID: HS22110320-02

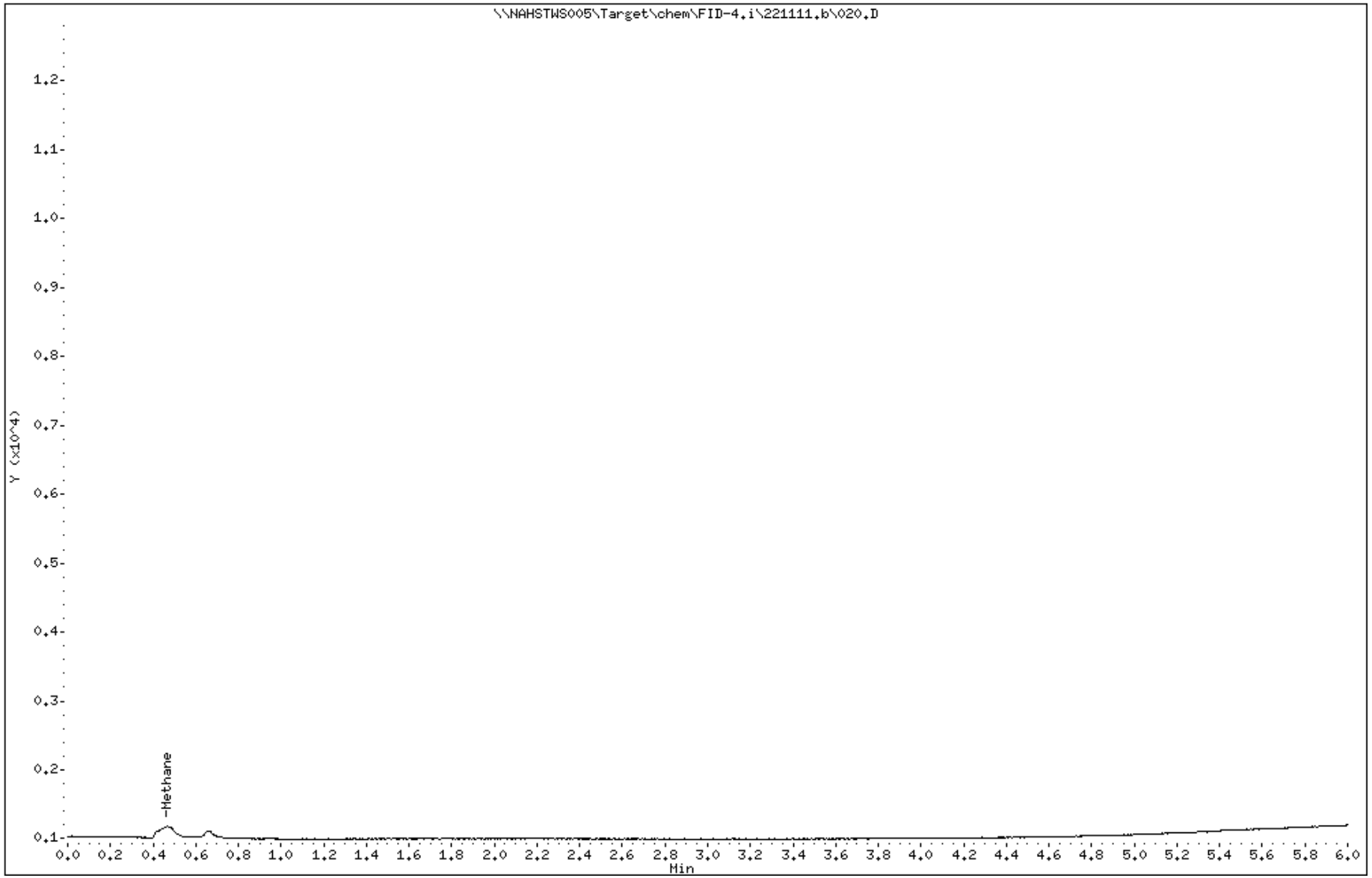
Instrument: FID-4.i

Sample Info: HS22110320-02;HS22110320-02

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\020.D
Inj Date : 11-NOV-2022 14:40
InstruID : FID-4.i
LabSampID : HS22110320-02

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221111.b\021.D Page 1
Report Date: 14-Nov-2022 10:34

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\021.D
Lab Smp Id: HS22110320-04 Client Smp ID: HS22110320-04
Inj Date : 11-NOV-2022 14:52
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110320-04;HS22110320-04
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 14-Nov-2022 10:17 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.436	0.030	1201	1.23180	1.231
2 Ethene	0.650	0.660	-0.010	542	0.92529	0.925

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221111.b\021.D

Date : 11-NOV-2022 14:52

Client ID: HS22110320-04

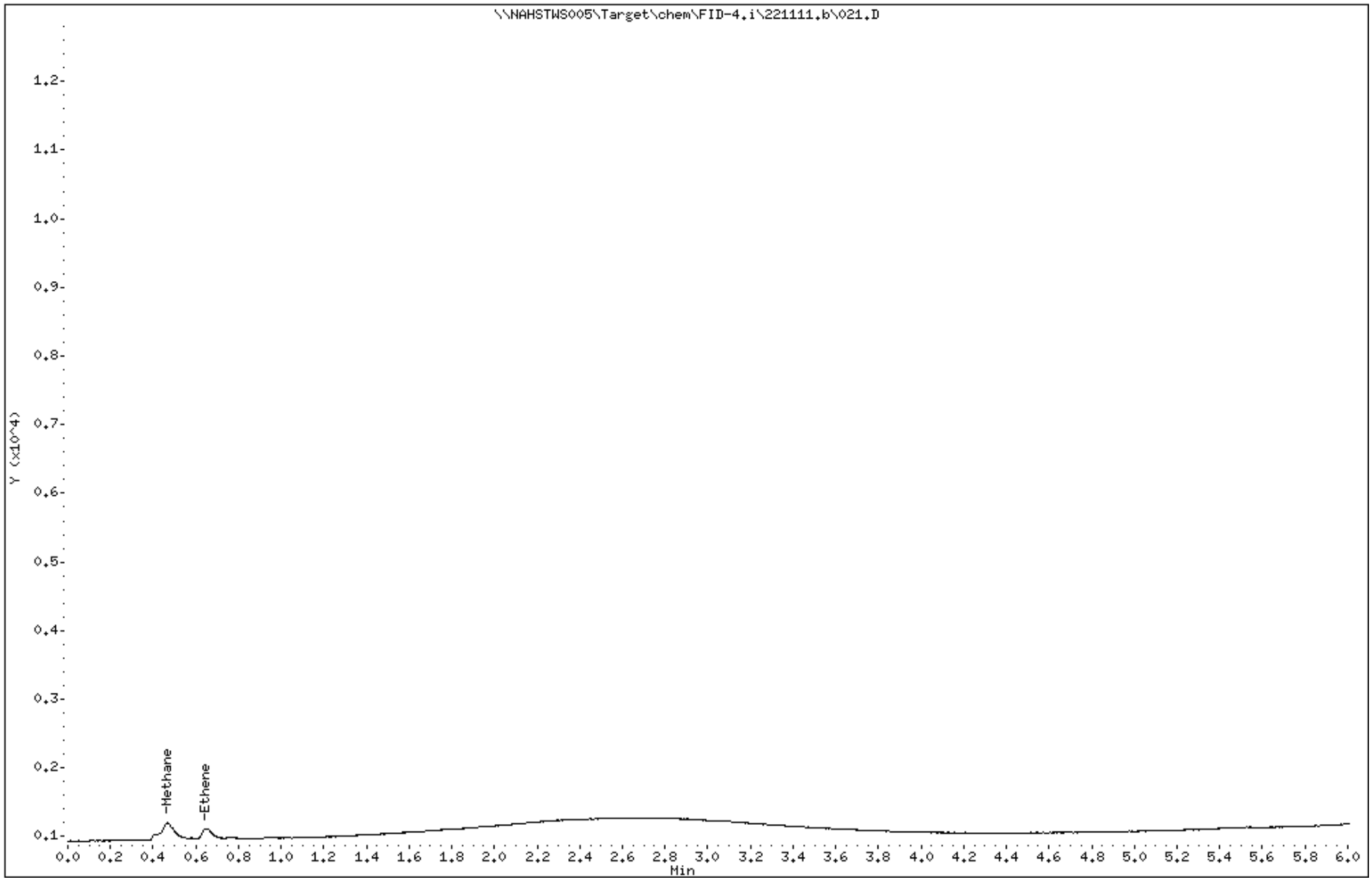
Instrument: FID-4.i

Sample Info: HS22110320-04;HS22110320-04

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\021.D
Inj Date : 11-NOV-2022 14:52
InstruID : FID-4.i
LabSampID : HS22110320-04

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 11-NOV-2022 15:57
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\221111.b\RSKNI3.m
Meth Date : 14-Nov-2022 10:17 samy.mata 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: NAHSTW7022

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	0.433	0.433	0.000	7940	9.64700	8.143
2 Ethene	0.656	0.656	0.000	11003	16.8500	18.784
3 Ethane	0.726	0.726	0.000	14408	18.0430	20.025

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\022.D

Date : 11-NOV-2022 15:57

Client ID: RSK-CCV

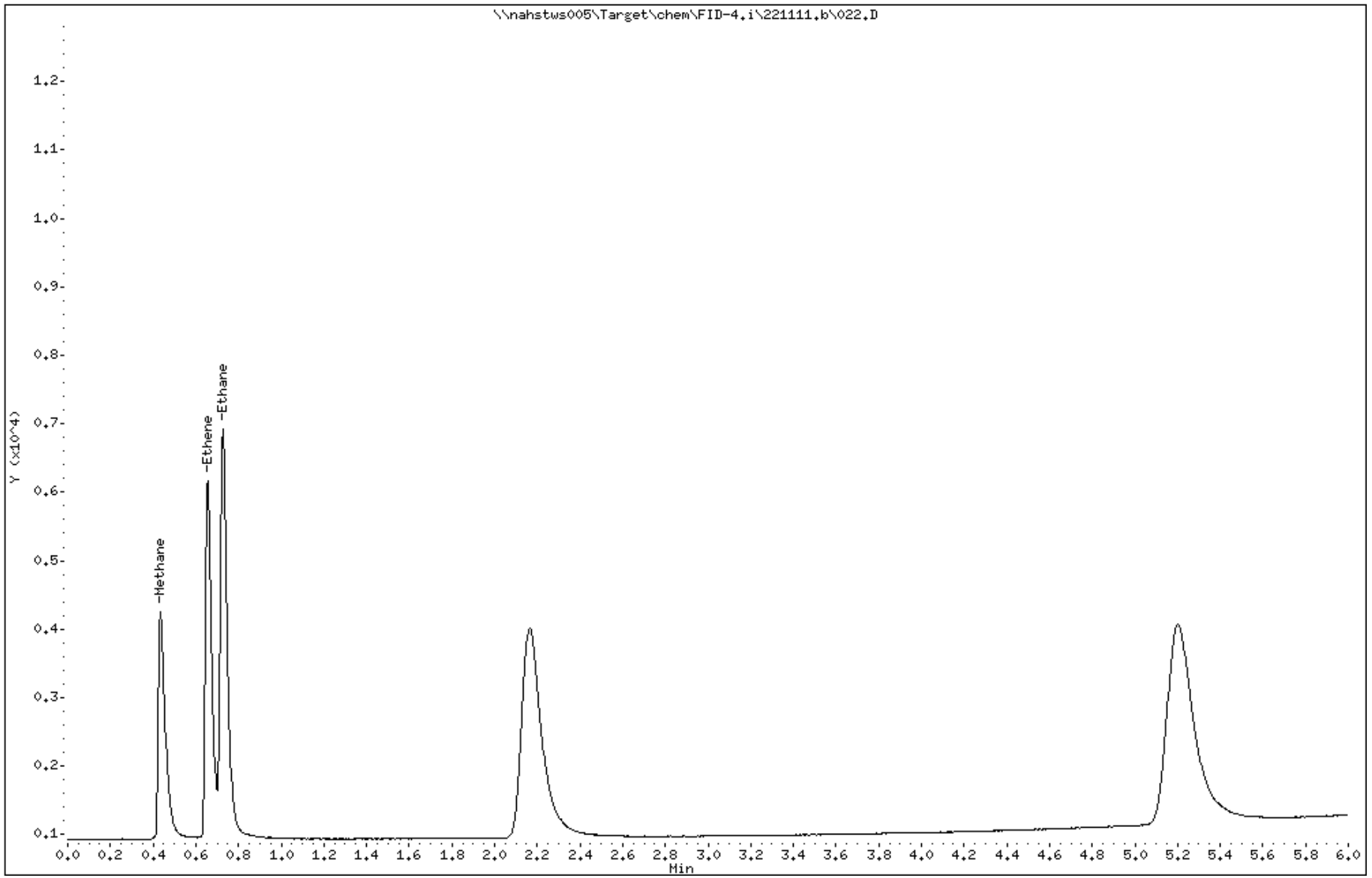
Instrument: FID-4.i

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\221111.b\022.D
Inj Date : 11-NOV-2022 15:57
InstruID : FID-4.i
LabSampID : RSK-CCV

NO MANUAL INTEGRATIONS

ALS Laboratory Group

Dissolved Gases Analysis

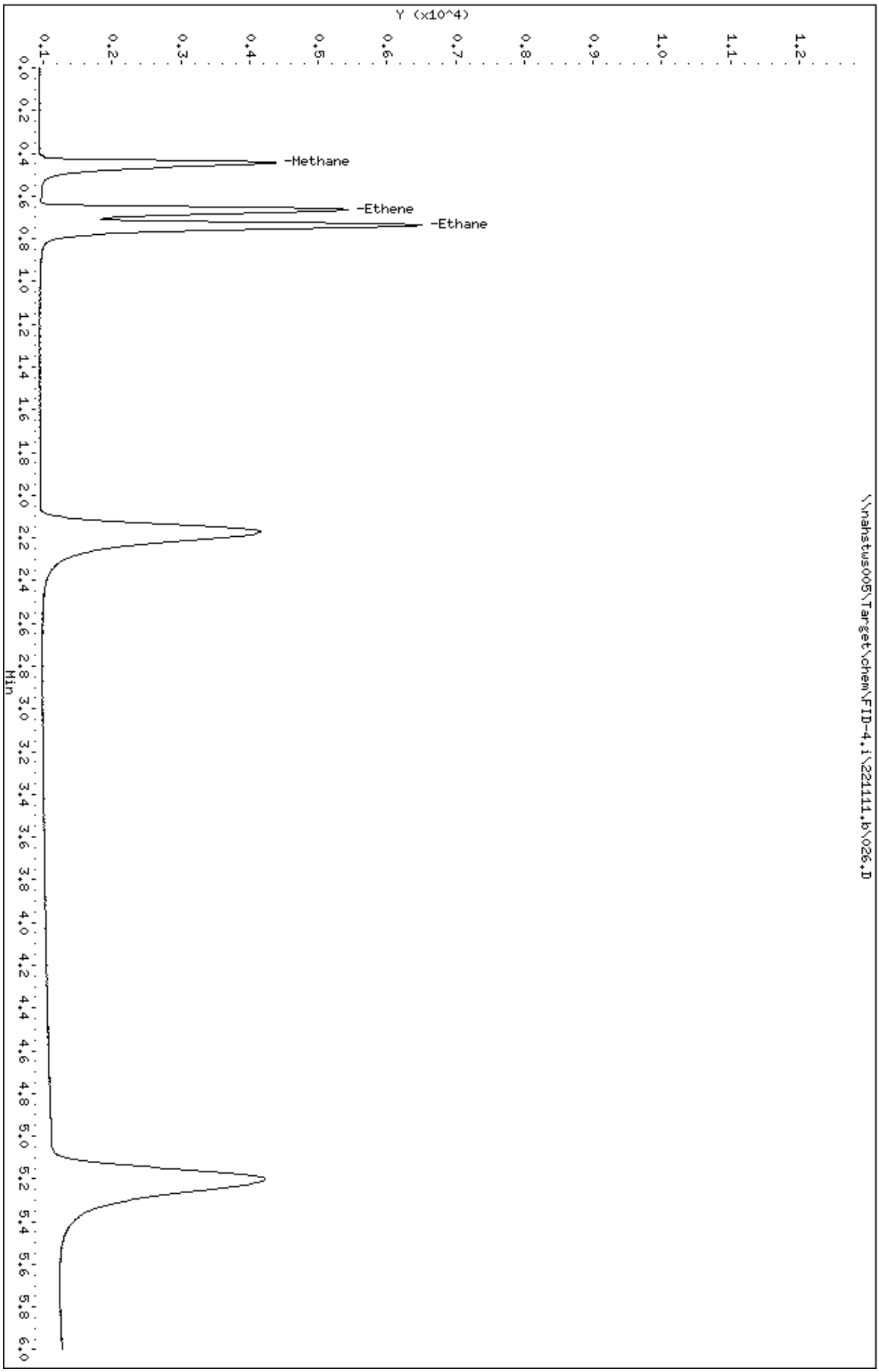
Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\026.D
Lab Smp Id: HS22110582-05MS Client Smp ID: HS22110582-05MS
Inj Date : 11-NOV-2022 17:06
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110582-05MS;HS22110582-05MS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 14-Nov-2022 10:17 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7022

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	0.443	0.436	0.007	8639	8.86058	8.860
2 Ethene	0.663	0.660	0.003	10963	18.7158	18.715
3 Ethane	0.736	0.726	0.010	15259	21.2081	21.208

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\026.D
Date : 11-NOV-2022 17:06
Client ID: HS22110582-05HS
Sample Info: HS22110582-05HS;HS22110582-05HS
Column phase: Rtx-PLOT

Instrument: FID-4.i
Operator: PL
Column diameter: 0.53



Data File : \\nahstws005\Target\chem\FID-4.i\221111.b\026.D
Inj Date : 11-NOV-2022 17:06
InstruID : FID-4.i
LabSampID : HS22110582-05MS

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221111.b\027.D Page 1
Report Date: 21-Nov-2022 12:26

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\027.D
Lab Smp Id: HS22110582-05MSD Client Smp ID: HS22110582-05MSD
Inj Date : 11-NOV-2022 17:18
Operator : PL Inst ID: FID-4.i
Smp Info : HS22110582-05MSD;HS22110582-05MSD
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\RSKNI3.m
Meth Date : 14-Nov-2022 10:17 samy.mata Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27 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)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.446	0.436	0.010	8887	9.11494	9.114(M)
2 Ethene	0.666	0.660	0.006	11445	19.5387	19.538(M)
3 Ethane	0.740	0.730	0.010	15506	21.5514	21.551(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\221111.b\027.D

Date : 11-NOV-2022 17:18

Client ID: HS22110582-05MSD

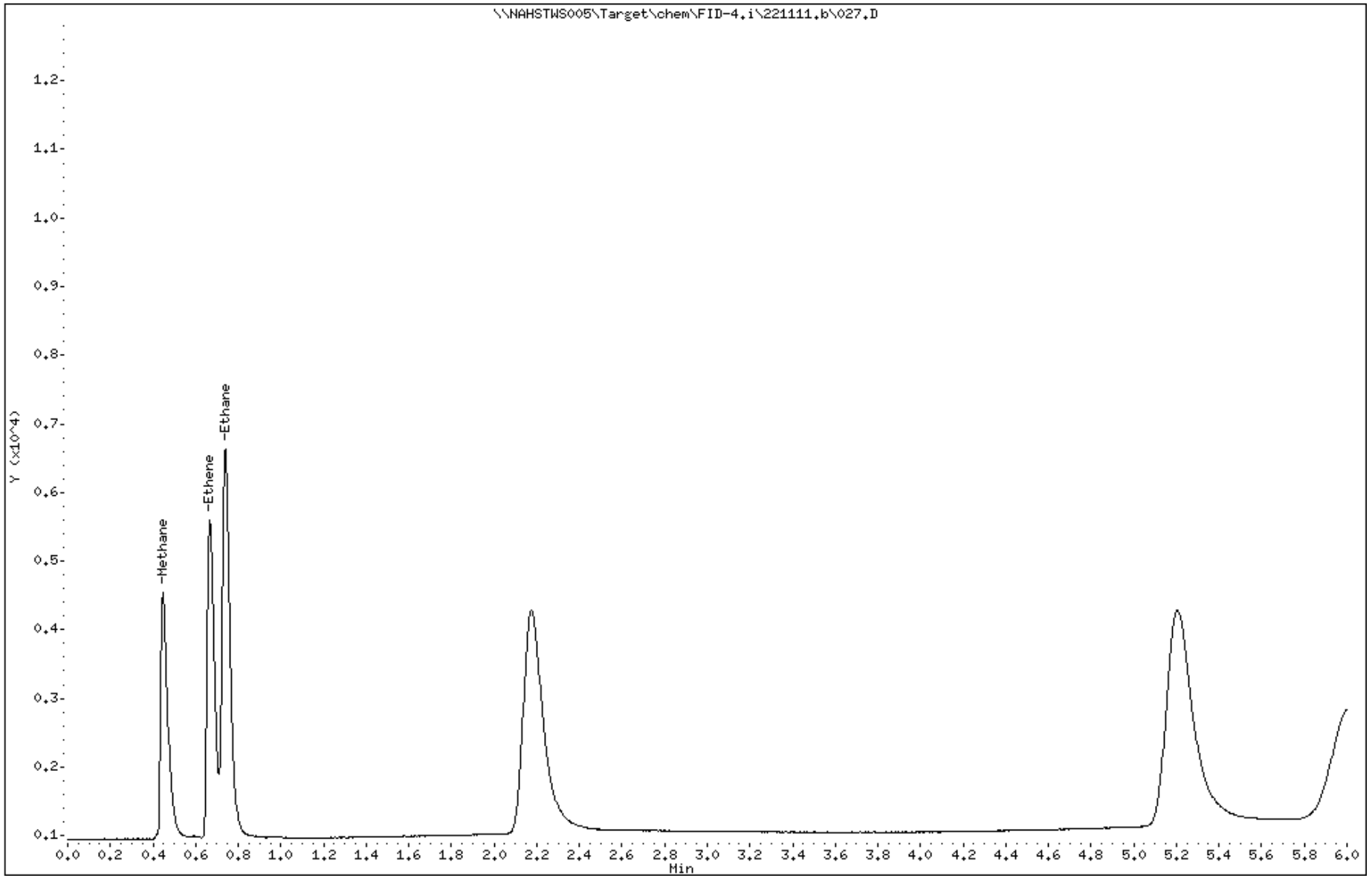
Instrument: FID-4.i

Sample Info: HS22110582-05MSD;HS22110582-05MSD

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53

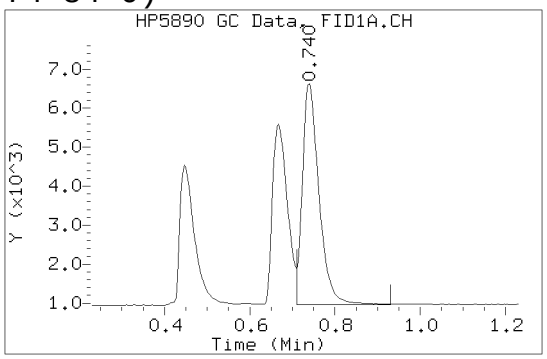


Data File : \\NAHSTWS005\Target\chem\FID-4.i\221111.b\027.D
Inj Date : 11-NOV-2022 17:18
InstruID : FID-4.i
LabSampID : HS22110582-05MSD

Ethane (74-84-0)

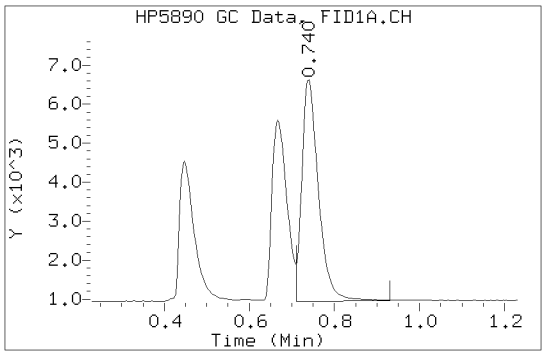
BEFORE

MASS
44
AREA
15293
HEIGHT
5666
11-Nov-2022
17:25
ALSHS
Server



AFTER

MASS
44
AREA
15506
HEIGHT
5677
21-Nov-2022
12:26
ALSHS
Ser

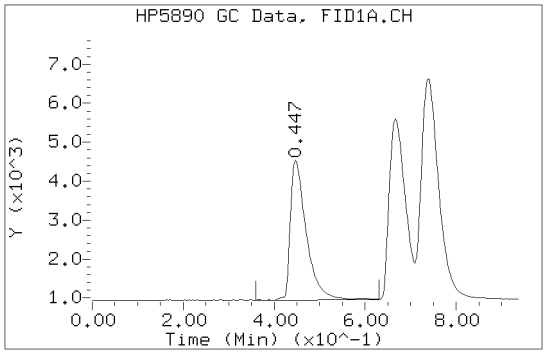


Reason Code:

Methane (74-82-8)

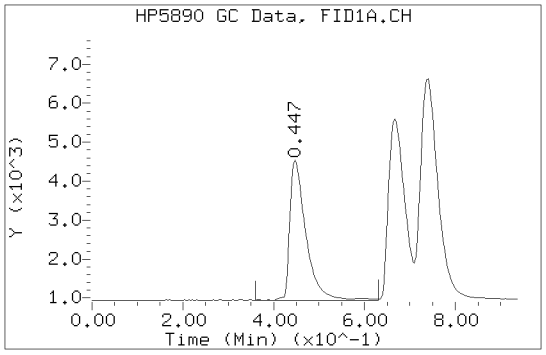
BEFORE

MASS
100
AREA
0
HEIGHT
0
11-Nov-2022
17:25
ALSHS
Server



AFTER

MASS
100
AREA
8887
HEIGHT
3601
21-Nov-2022
12:26
ALSHS
Ser

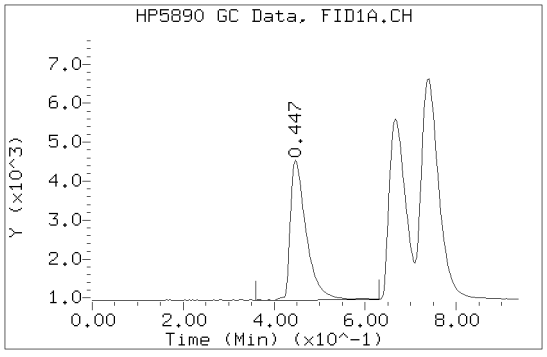


Reason Code:

Ethene (74-85-1)

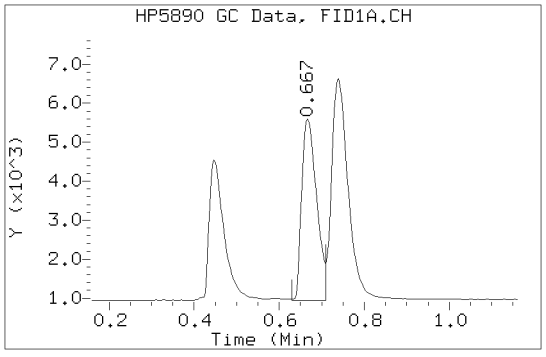
BEFORE

MASS
100
AREA
0
HEIGHT
0
11-Nov-2022
17:25
ALSHS
Server



AFTER

MASS
100
AREA
11445
HEIGHT
4647
21-Nov-2022
12:26
ALSHS
Ser



Reason Code:

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\028.D Page 1
Report Date: 14-Nov-2022 10:20

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\221111.b\028.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 11-NOV-2022 17:53
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\221111.b\RSKNI3.m
Meth Date : 14-Nov-2022 10:17 samy.mata 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: NAHSTW7022

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	0.436	0.436	0.000	8544	9.64700	8.763
2 Ethene	0.660	0.660	0.000	11279	16.8500	19.255(M)
3 Ethane	0.730	0.730	0.000	14501	18.0430	20.154(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\221111.b\028.D

Date : 11-NOV-2022 17:53

Client ID: RSK-CCV

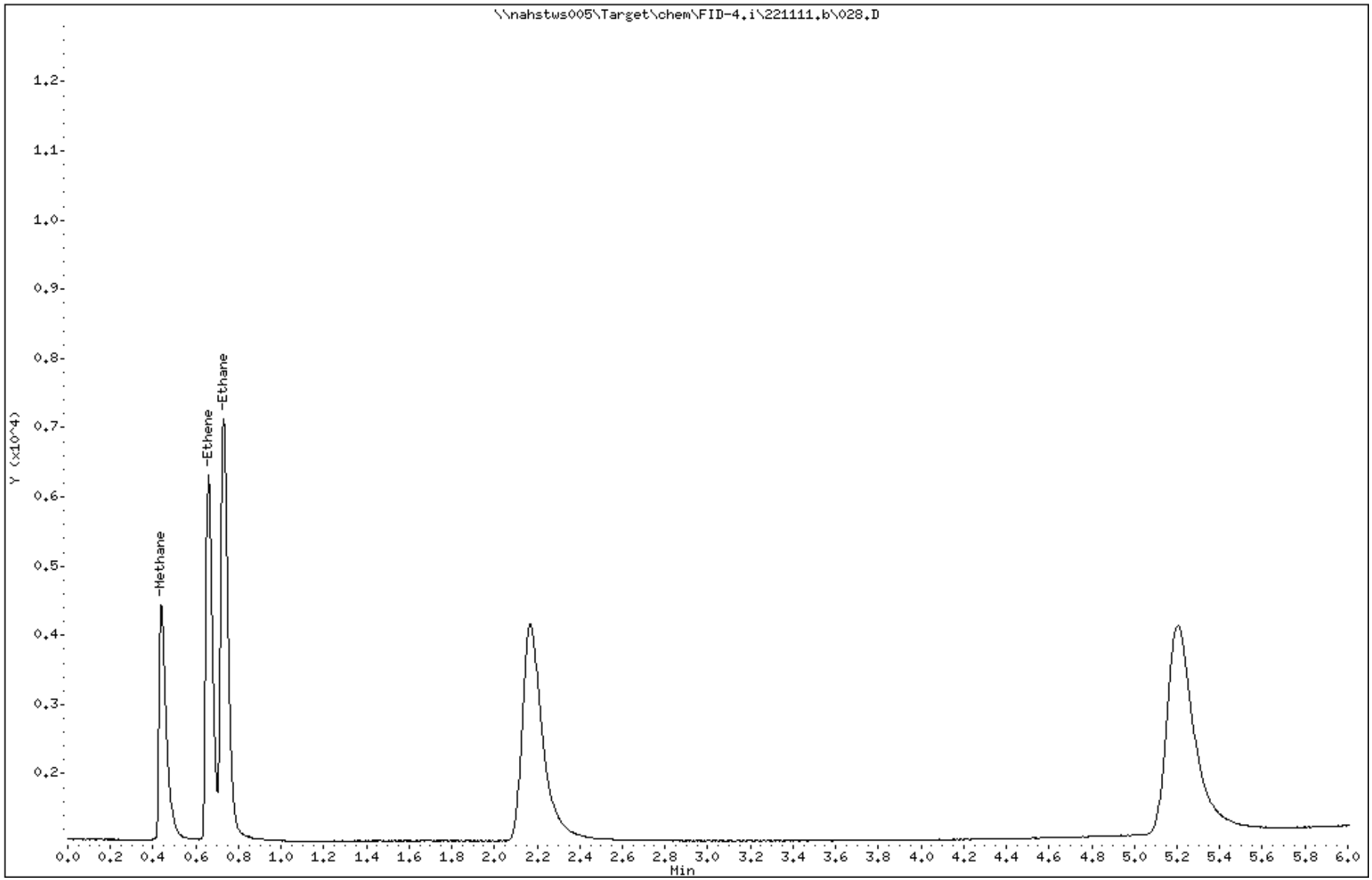
Instrument: FID-4.i

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

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



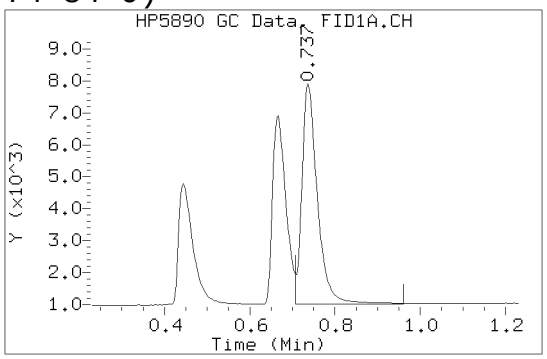
Data File : \\nahstws005\Target\chem\FID-4.i\221111.b\028.D
Inj Date : 11-NOV-2022 17:53
InstruID : FID-4.i
LabSampID : RSK-CCV

Ethane (74-84-0)

Reason Code:

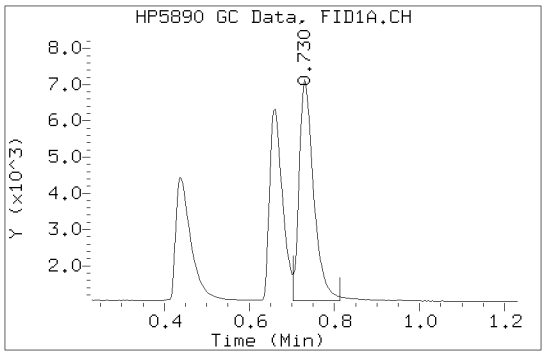
BEFORE

MASS
44
AREA
17567
HEIGHT
6898
11-Nov-2022
17:36
ALSHS
Server



AFTER

MASS
44
AREA
14501
HEIGHT
6101
14-Nov-2022
10:20
ALSHS
Ser

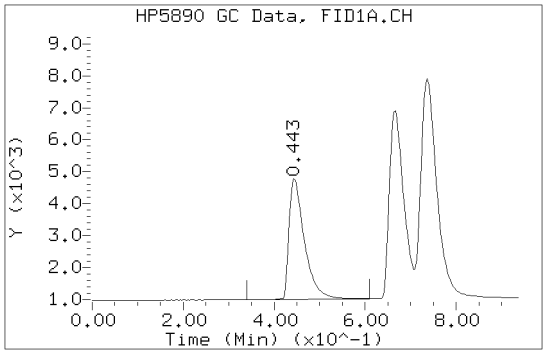


Ethene (74-85-1)

Reason Code:

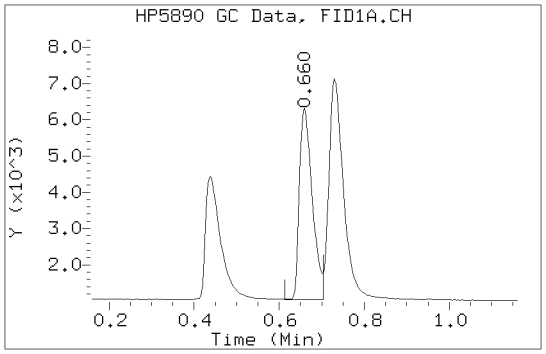
BEFORE

MASS
100
AREA
0
HEIGHT
0
11-Nov-2022
17:36
ALSHS
Server



AFTER

MASS
100
AREA
11279
HEIGHT
5284
14-Nov-2022
10:20
ALSHS
Ser



HS22110281 Wet Chemistry

ALS WO# HS22110281

C:\TOC-L\Data\2022_09_12_002.CAL.tlx

HS2211028I

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Standard	NPOC	CAL	3100606211	09.12.2022.	1.000		
2	Unknown	NPOC	ICV	3100606203	09.12.2022.	1.000	NPOC:10.12mg/	
3	Unknown	NPOC	ICB		09.12.2022.	1.000	NPOC:0.2565m	

	Status	Date / Time	Vial
1	Completed	9/12/2022 3:	1, 2, 3, 4, 5,
2	Completed	9/12/2022 3:	8
3	Completed	9/12/2022 4:	1

TOC-Control L Report

2022_09_12_002.CAL.tlx

Instr.Information

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

Cal. Curve

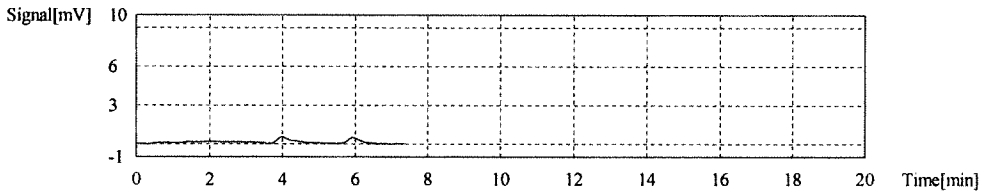
Sample Name:	CAL
Sample ID:	3100606211
Cal. Curve:	09.12.2022.2022_09_12_13_48_09.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.724	50uL	1.000	*******		9/12/2022 1:58:20 PM
2	1.656	50uL	1.000	*******		9/12/2022 2:00:30 PM
3	1.075	50uL	1.000	*******		9/12/2022 2:02:37 PM

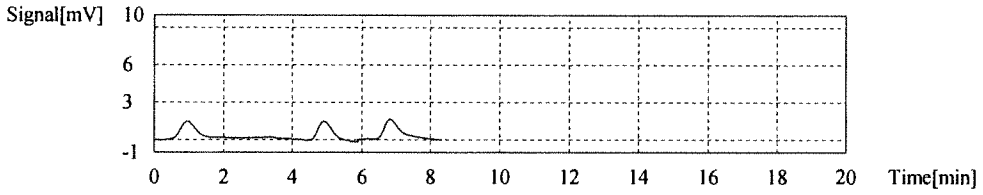
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	1.485



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.172	50uL	1.000	*******		9/12/2022 2:13:20 PM
2	4.566	50uL	1.000	*******		9/12/2022 2:15:31 PM
3	5.372	50uL	1.000	*******		9/12/2022 2:18:11 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	5.370



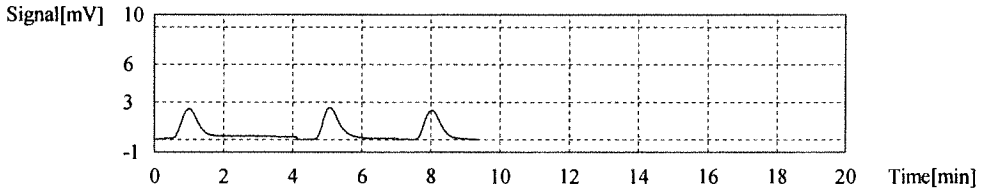
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	9.434	50uL	1.000	*******		9/12/2022 2:29:04 PM
2	8.527	50uL	1.000	*******		9/12/2022 2:32:14 PM
3	7.960	50uL	1.000	*******		9/12/2022 2:34:50 PM

TOC-Control L Report

2022_09_12_002.CAL.tlx

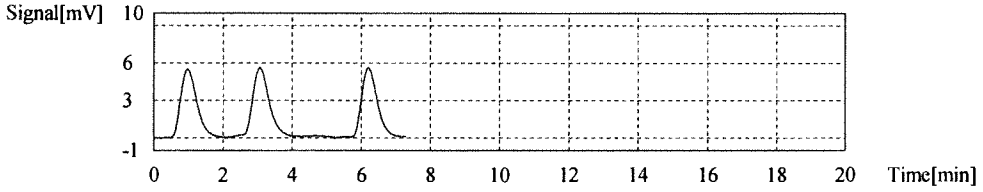
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 8.640



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	17.74	50uL	1.000	*******		9/12/2022 2:43:40 PM
2	19.48	50uL	1.000	*******		9/12/2022 2:47:03 PM
3	17.29	50uL	1.000	*******		9/12/2022 2:49:20 PM

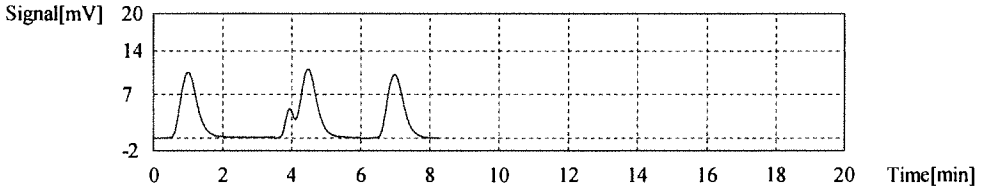
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 18.17



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.42	50uL	1.000	*******		9/12/2022 2:59:35 PM
2	44.64	50uL	1.000	*******		9/12/2022 3:02:21 PM
3	34.88	50uL	1.000	*******		9/12/2022 3:04:52 PM

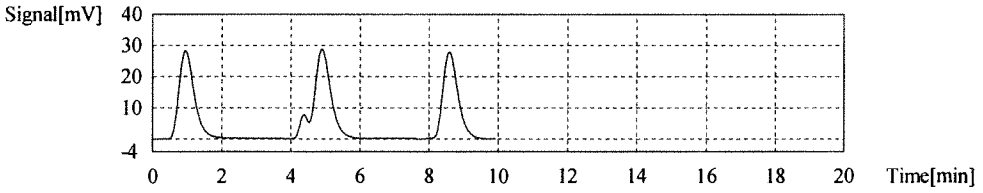
Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 38.31



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	89.89	50uL	1.000	*******		9/12/2022 3:15:34 PM
2	104.9	50uL	1.000	*******		9/12/2022 3:19:31 PM
3	86.51	50uL	1.000	*******		9/12/2022 3:22:02 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 93.77



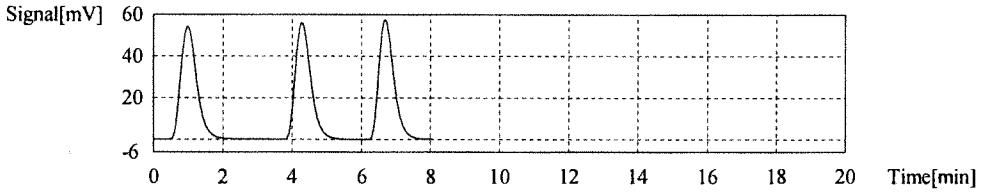
Conc: 50.00mg/L

TOC-Control L Report

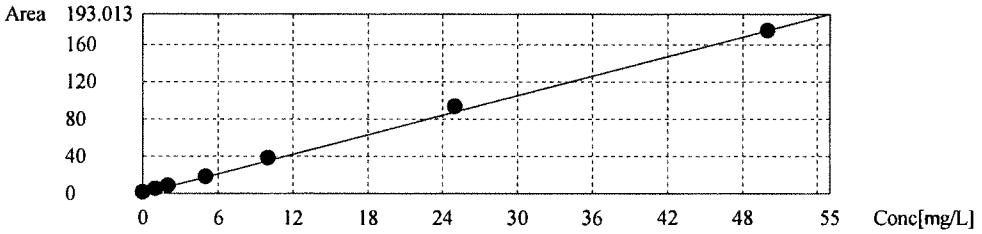
2022_09_12_002.CAL.tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	176.2	50uL	1.000	*******		9/12/2022 3:32:07 PM
2	175.5	50uL	1.000	*******		9/12/2022 3:34:47 PM
3	174.7	50uL	1.000	*******		9/12/2022 3:37:18 PM

Acid Add 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 175.5



Slope: 3.506
Intercept 0.000
r^2 0.9990
r 0.9995
RSE(%) N/A
Zero Shift Yes



Sample

Sample Name: ICV
Sample ID: 3100606203
Origin: 09.12.2022.cal
Status Completed
Chk. Result

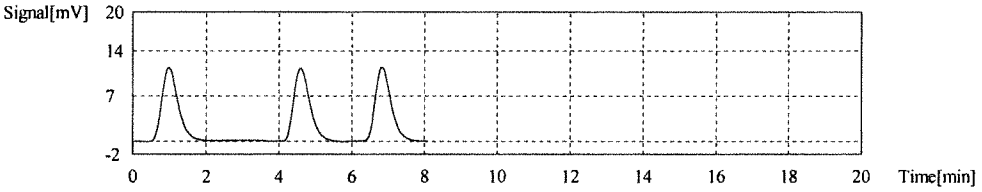
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.12mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.32	10.36mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:47:42 PM
2	35.22	10.04mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:50:09 PM
3	34.91	9.956mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 3:52:36 PM

Mean Area 35.48
Mean Conc. 10.12mg/L



Sample

TOC-Control L Report

2022_09_12_002.CAL.tlx

Sample Name: ICB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

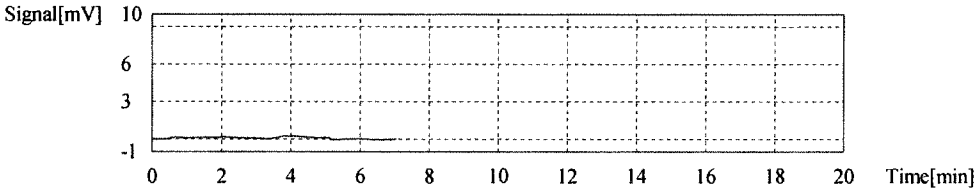
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2565mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.534	0.4375mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:02:48 PM
2	0.9051	0.2581mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:04:58 PM
3	0.2590	0.07387mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	9/12/2022 4:07:06 PM

Mean Area 0.8994
Mean Conc. 0.2565mg/L



C:\TOC-L\Data\2022_11_17_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.60mg/	
2	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.03059m	
3	Unknown	NPOC	MBLK-11172022		09.12.2022.	1.000	NPOC:0.01039m	
4	Unknown	NPOC	LCS-11172022	3100606203	09.12.2022.	1.000	NPOC:9.640mg/	
5	Unknown	NPOC	LCSD-11172022		09.12.2022.	1.000	NPOC:9.954mg/	
6	Unknown	NPOC	HS22110747-03		09.12.2022.	1.000	NPOC:0.6885mg	
7	Unknown	NPOC	HS22110747-03MS		09.12.2022.	1.000	NPOC:11.49mg/	
8	Unknown	NPOC	HS22110747-04		09.12.2022.	1.000	NPOC:0.5509mg	
9	Unknown	NPOC	HS22110747-05		09.12.2022.	1.000	NPOC:1.045mg/	
10	Unknown	NPOC	HS22110747-06		09.12.2022.	1.000	NPOC:0.5466mg	
11	Unknown	NPOC	HS22110747-07		09.12.2022.	1.000	NPOC:1.379mg/	
12	Unknown	NPOC	HS22110772-03DF10		09.12.2022.	1.000	NPOC:1.940mg/	
13	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.30mg/	
14	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.02447m	
15	Unknown	NPOC	HS22110772-04DF10		09.12.2022.	1.000	NPOC:2.094mg/	
16	Unknown	NPOC	HS22110958-01DF10		09.12.2022.	1.000	NPOC:10.97mg/	
17	Unknown	NPOC	HS22110958-02DF10		09.12.2022.	1.000	NPOC:0.09377m	
18	Unknown	NPOC	HS22110960-01DF10		09.12.2022.	1.000	NPOC:0.1345mg	
19	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.54mg/	
20	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.04132m	
21	Unknown	NPOC	MBLK-11172022		09.12.2022.	1.000	NPOC:0.000mg/	
22	Unknown	NPOC	LCS-11172022	3100606203	09.12.2022.	1.000	NPOC:9.676mg/	
23	Unknown	NPOC	LCSD-11172022		09.12.2022.	1.000	NPOC:9.889mg/	
24	Unknown	NPOC	HS22110772-01DF10		09.12.2022.	1.000	NPOC:0.8108mg	
25	Unknown	NPOC	HS22110772-02DF10		09.12.2022.	1.000	NPOC:3.721mg/	
26	Unknown	NPOC	HS22110658-01DF10		09.12.2022.	1.000	NPOC:0.6524mg	
27	Unknown	NPOC	HS22110658-02DF10		09.12.2022.	1.000	NPOC:4.778mg/	
28	Unknown	NPOC	HS22110658-03DF10		09.12.2022.	1.000	NPOC:8.479mg/	
29	Unknown	NPOC	HS22110658-04DF10		09.12.2022.	1.000	NPOC:21.81mg/	
30	Unknown	NPOC	HS22110658-05DF10		09.12.2022.	1.000	NPOC:7.725mg/	
31	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.46mg/	
32	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.04292m	
33	Unknown	NPOC	HS22110658-06DF10		09.12.2022.	1.000	NPOC:4.560mg/	
34	Unknown	NPOC	HS22110658-07DF10		09.12.2022.	1.000	NPOC:28.28mg/	
35	Unknown	NPOC	HS22110281-01		09.12.2022.	1.000	NPOC:1.049mg/	
36	Unknown	NPOC	HS22110281-01MS		09.12.2022.	1.000	NPOC:10.67mg/	
37	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.37mg/	
38	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.01877m	
39	Unknown	NPOC	MBLK-11172022		09.12.2022.	1.000	NPOC:0.03970m	
40	Unknown	NPOC	LCS-11172022	3100606203	09.12.2022.	1.000	NPOC:9.554mg/	
41	Unknown	NPOC	LCSD-11172022		09.12.2022.	1.000	NPOC:9.789mg/	
42	Unknown	NPOC	HS22110281-02		09.12.2022.	1.000	NPOC:0.7717mg	
43	Unknown	NPOC	HS22110281-02MS		09.12.2022.	1.000	NPOC:10.70mg/	
44	Unknown	NPOC	HS22110281-04		09.12.2022.	1.000	NPOC:0.5784mg	
45	Unknown	NPOC	HS22110284-01DF10		09.12.2022.	1.000	NPOC:0.6026mg	
46	Unknown	NPOC	HS22110284-02DF10		09.12.2022.	1.000	NPOC:0.5560mg	
47	Unknown	NPOC	HS22110284-03DF10		09.12.2022.	1.000	NPOC:0.8035mg	
48	Unknown	NPOC	HS22110698-01		09.12.2022.	1.000	NPOC:11.35mg/	
49	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.47mg/	
50	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.1073mg	
51	Unknown	NPOC	HS22110772-03DF10		09.12.2022.	1.000	NPOC:2.660mg/	

C:\TOC-L\Data\2022_11_17_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
52	Unknown	NPOC	HS22110772-04DF10		09.12.2022.	1.000	NPOC:2.482mg/	
53	Unknown	NPOC	HS22110871-01		09.12.2022.	1.000	NPOC:0.05572m	
54	Unknown	NPOC	HS22110871-04		09.12.2022.	1.000	NPOC:0.08436m	
55	Unknown	NPOC	CCV	320075608	09.12.2022.	1.000	NPOC:24.15mg/	
56	Unknown	NPOC	CCB		09.12.2022.	1.000	NPOC:0.3790mg	

	Status	Date / Time	Vial
1	Completed	11/17/2022 10:12:	1
2	Completed	11/17/2022 10:25:	2
3	Completed	11/17/2022 10:38:	3
4	Completed	11/17/2022 10:52:	4
5	Completed	11/17/2022 11:06:	5
6	Completed	11/17/2022 11:19:	6
7	Completed	11/17/2022 11:33:	7
8	Completed	11/17/2022 11:46:	8
9	Completed	11/17/2022 11:59:	9
10	Completed	11/18/2022 12:12:	10
11	Completed	11/18/2022 12:25:	11
12	Completed	11/18/2022 12:41:	12
13	Completed	11/18/2022 12:56:	1
14	Completed	11/18/2022 1:09:5	2
15	Completed	11/18/2022 1:23:2	13
16	Completed	11/18/2022 1:37:3	14
17	Completed	11/18/2022 1:50:3	15
18	Completed	11/18/2022 2:03:3	16
19	Completed	11/18/2022 2:18:3	1
20	Completed	11/18/2022 2:31:3	2
21	Completed	11/18/2022 2:44:3	3
22	Completed	11/18/2022 2:58:2	4
23	Completed	11/18/2022 3:12:2	5
24	Completed	11/18/2022 3:28:3	17
25	Completed	11/18/2022 3:45:0	18
26	Completed	11/18/2022 3:57:5	19
27	Completed	11/18/2022 4:11:3	20
28	Completed	11/18/2022 4:26:0	21
29	Completed	11/18/2022 4:40:5	22
30	Completed	11/18/2022 4:54:5	23
31	Completed	11/18/2022 5:09:3	24
32	Completed	11/18/2022 5:22:2	25
33	Completed	11/18/2022 5:36:0	26
34	Completed	11/18/2022 5:50:5	27
35	Completed	11/18/2022 6:03:4	28
36	Completed	11/18/2022 6:18:0	29
37	Completed	11/18/2022 6:33:1	24
38	Completed	11/18/2022 6:46:1	25
39	Completed	11/18/2022 6:59:1	3
40	Completed	11/18/2022 7:13:1	4
41	Completed	11/18/2022 7:27:0	5
42	Completed	11/18/2022 7:40:1	30
43	Completed	11/18/2022 7:54:2	31
44	Completed	11/18/2022 8:07:2	32
45	Completed	11/18/2022 8:21:0	33
46	Completed	11/18/2022 8:34:0	34
47	Completed	11/18/2022 8:47:0	35
48	Completed	11/18/2022 9:01:1	36
49	Completed	11/18/2022 9:16:1	24
50	Completed	11/18/2022 9:29:1	25
51	Completed	11/18/2022 9:42:2	37

	Status	Date / Time	Vial
52	Completed	11/18/2022 9:55:3	38
53	Completed	11/18/2022 10:08:	39
54	Completed	11/18/2022 10:21:	40
55	Completed	11/18/2022 10:36:	24
56	Completed	11/18/2022 10:49:	25

TOC-Control L Report

2022_11_17_002.tlx

Instr.Information

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

Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status: Completed
Chk. Result

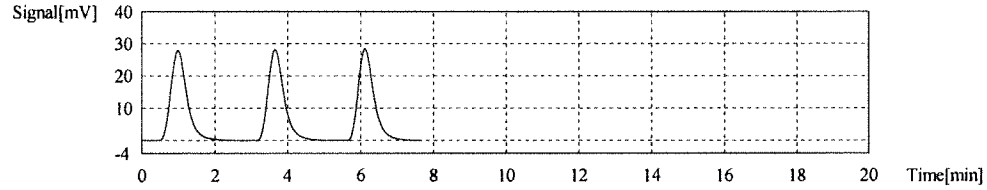
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.54mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	86.13	24.56mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:13:10 AM
2	86.30	24.61mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:15:52 AM
3	85.69	24.44mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:18:35 AM

Mean Area: 86.04
Mean Conc.: 24.54mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.04132mg/L

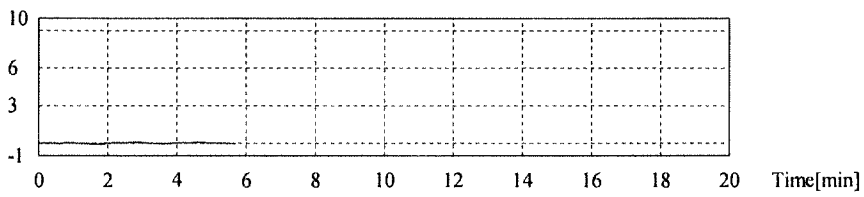
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:27:15 AM
2	0.3552	0.1013mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:29:25 AM
3	0.07950	0.02267mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:31:33 AM

TOC-Control L Report

Mean Area 0.1449
Mean Conc. 0.04132mg/L



Sample

Sample Name: MBLK-11172022
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

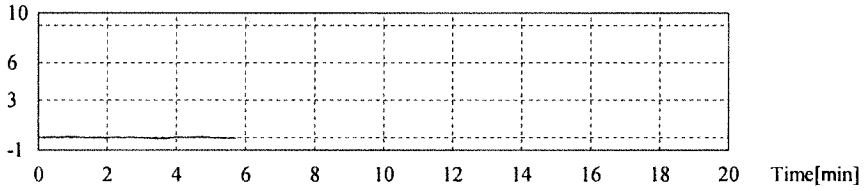
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.000mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:40:13 AM
2	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:42:21 AM
3	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:44:30 AM

Mean Area 0.000
Mean Conc. 0.000mg/L



Sample

Sample Name: LCS-11172022
Sample ID: 3100606203
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.676mg/L

1. Det

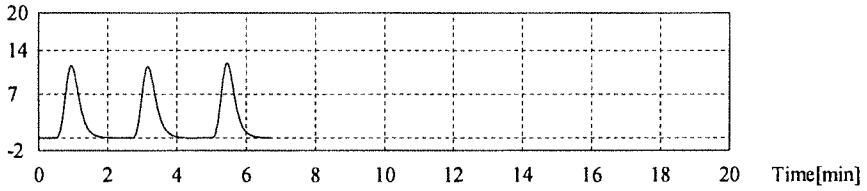
Anal.: NPOC

TOC-Control L Report

2022_11_17_002.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.83	9.648mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:53:30 AM
2	33.81	9.642mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:56:00 AM
3	34.14	9.737mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 2:58:28 AM

Mean Area 33.93
Mean Conc. 9.676mg/L



Sample

Sample Name: LCSD-11172022
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

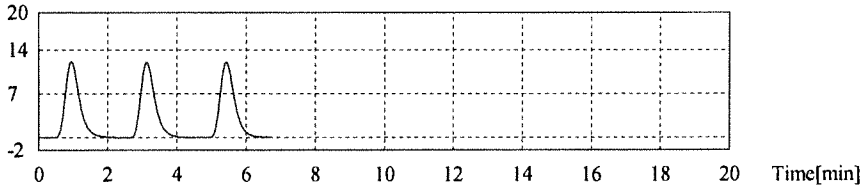
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.889mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.62	9.873mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 3:07:25 AM
2	34.64	9.879mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 3:09:57 AM
3	34.76	9.913mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 3:12:26 AM

Mean Area 34.67
Mean Conc. 9.889mg/L



Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.46mg/L

1. Det

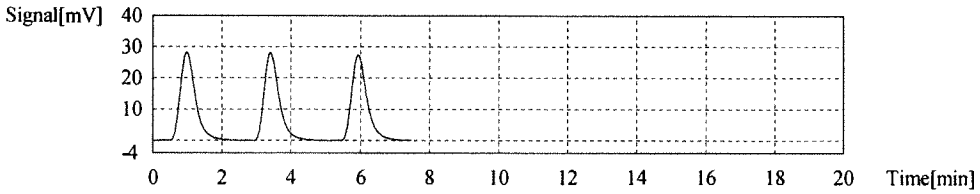
TOC-Control L Report

2022_11_17_002.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	86.14	24.57mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 5:04:02 AM
2	85.65	24.43mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 5:06:49 AM
3	85.56	24.40mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 5:09:33 AM

Mean Area 85.78
Mean Conc. 24.46mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

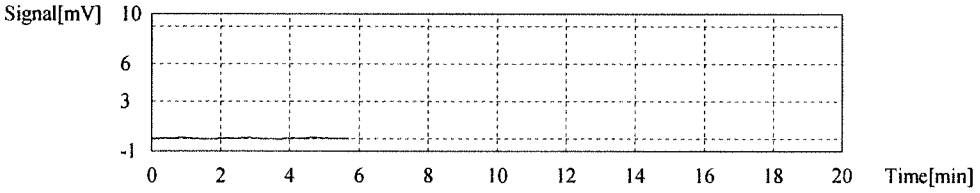
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.04292mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1320	0.03765mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 5:18:12 AM
2	0.1967	0.05610mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 5:20:20 AM
3	0.1228	0.03502mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 5:22:27 AM

Mean Area 0.1505
Mean Conc. 0.04292mg/L



Sample

Sample Name: HS22110281-01
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.049mg/L

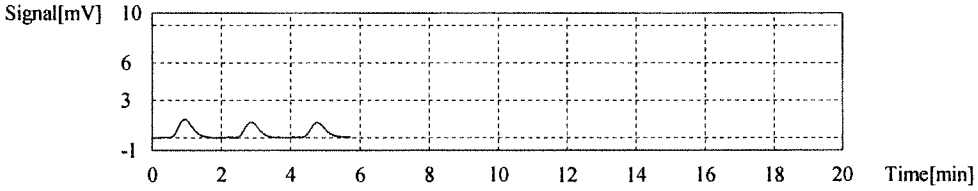
TOC-Control L Report

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.044	1.153mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 5:59:30 AM
2	3.545	1.011mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:01:37 AM
3	3.446	0.9828mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:03:45 AM

Mean Area 3.678
Mean Conc. 1.049mg/L



Sample

Sample Name: HS22110281-01MS
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

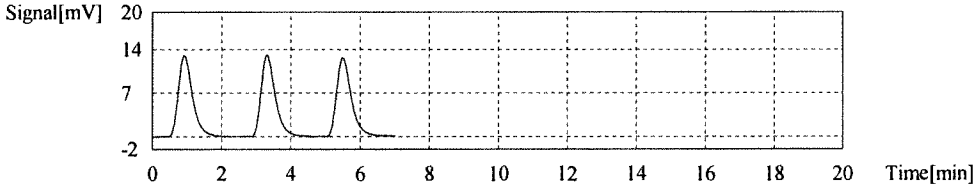
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.67mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	37.48	10.69mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:12:55 AM
2	37.42	10.67mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:15:20 AM
3	37.29	10.63mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:18:02 AM

Mean Area 37.40
Mean Conc. 10.67mg/L



Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status Completed
Chk. Result

TOC-Control L Report

2022_11_17_002.tlx

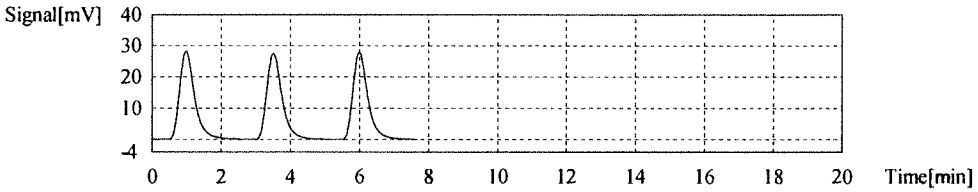
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.37mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	86.08	24.55mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:27:32 AM
2	85.38	24.35mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:30:23 AM
3	84.92	24.22mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:33:17 AM

Mean Area 85.46
Mean Conc. 24.37mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

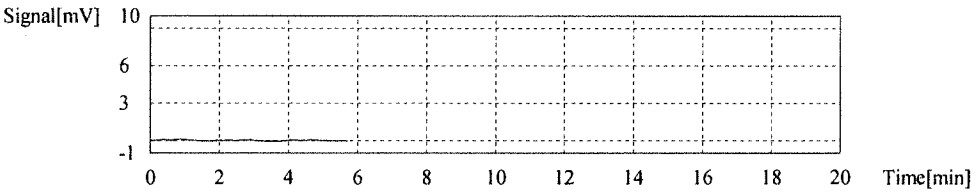
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.01877mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.08080	0.02304mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:41:56 AM
2	0.1166	0.03325mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:44:04 AM
3	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:46:12 AM

Mean Area 0.06580
Mean Conc. 0.01877mg/L



Sample

TOC-Control L Report

2022_11_17_002.tlx

Sample Name: MBLK-11172022
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

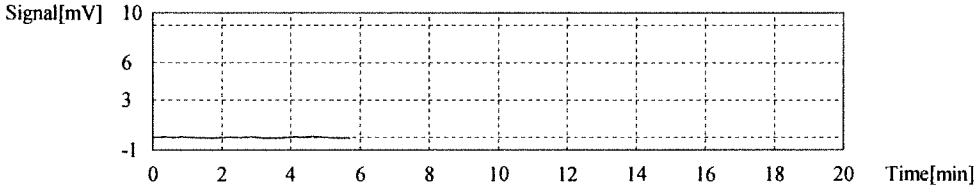
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.03970mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.000	0.000mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:54:53 AM
2	0.1887	0.05382mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:57:02 AM
3	0.2289	0.06528mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 6:59:11 AM

Mean Area 0.1392
Mean Conc. 0.03970mg/L



Sample

Sample Name: LCS-11172022
Sample ID: 3100606203
Origin: 09.12.2022.cal
Status Completed
Chk. Result

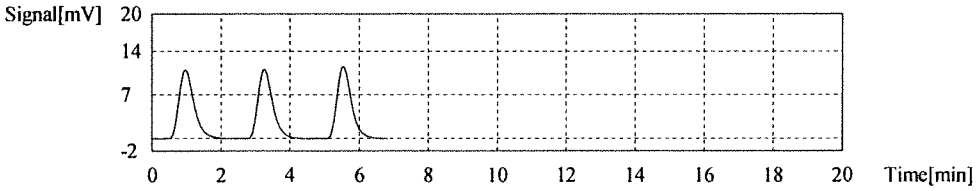
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.554mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.60	9.583mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:08:14 AM
2	33.28	9.491mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:10:44 AM
3	33.62	9.588mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:13:12 AM

Mean Area 33.50
Mean Conc. 9.554mg/L



TOC-Control L Report

2022_11_17_002.tlx

Sample

Sample Name: LCSD-11172022
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

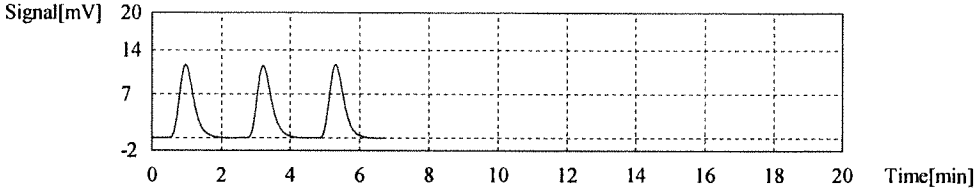
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.789mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	34.58	9.862mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:22:13 AM
2	34.25	9.768mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:24:32 AM
3	34.14	9.737mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:27:02 AM

Mean Area 34.32
Mean Conc. 9.789mg/L



Sample

Sample Name: HS22110281-02
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

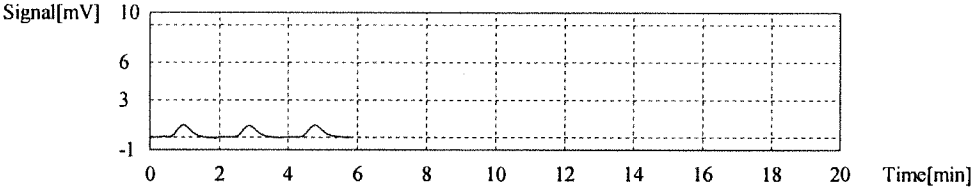
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7717mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.714	0.7740mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:35:58 AM
2	2.689	0.7669mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:38:07 AM
3	2.715	0.7743mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:40:19 AM

Mean Area 2.706
Mean Conc. 0.7717mg/L



TOC-Control L Report

Sample

Sample Name: HS22110281-02MS
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

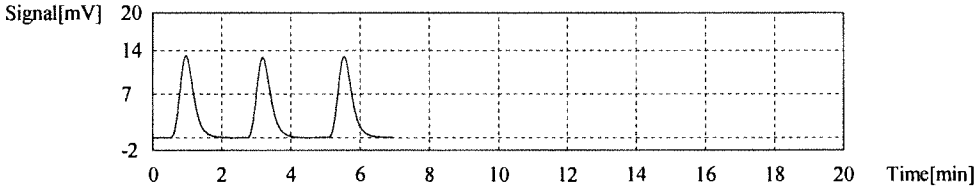
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.70mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	37.57	10.71mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:49:19 AM
2	37.47	10.69mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:51:53 AM
3	37.49	10.69mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 7:54:28 AM

Mean Area 37.51
Mean Conc. 10.70mg/L



Sample

Sample Name: HS22110281-04
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

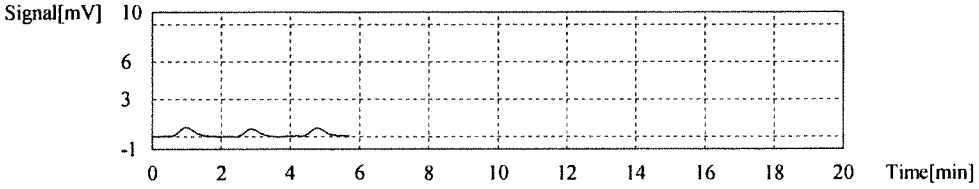
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5784mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.324	0.6628mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 8:03:08 AM
2	1.976	0.5635mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 8:05:15 AM
3	1.784	0.5088mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 8:07:22 AM

Mean Area 2.028
Mean Conc. 0.5784mg/L



TOC-Control L Report

2022_11_17_002.tlx

Sample

Sample Name: CCV
Sample ID: 320075608
Origin: 09.12.2022.cal
Status Completed
Chk. Result

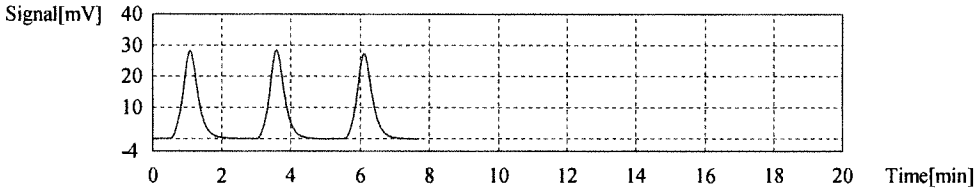
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.47mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	86.41	24.64mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 9:10:34 AM
2	85.66	24.43mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 9:13:20 AM
3	85.34	24.34mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 9:16:15 AM

Mean Area 85.80
Mean Conc. 24.47mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 09.12.2022.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1073mg/L

1. Det

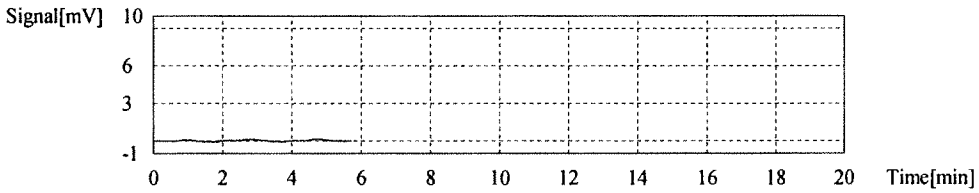
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2681	0.07646mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 9:24:54 AM
2	0.5205	0.1484mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 9:27:03 AM
3	0.3404	0.09708mg/L	50uL	1.000		09.12.2022.2022_09_12_13_48_09.cal	11/18/2022 9:29:12 AM

TOC-Control L Report

2022_11_17_002.tlx

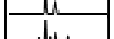
Mean Area	0.3763
Mean Conc.	0.1073mg/L



HS22110281 9056_W IC

ALS WO# HS22110281

Sequence: 110422
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibratio	RA1	1.00	1	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD2		Calibratio	RA2	1.00	2	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD3		Calibratio	RA3	1.00	3	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD4		Calibratio	RA4	1.00	4	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD5		Calibratio	RA5	1.00	5	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	STD6		Calibratio	RA6	1.00	6	Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICV		Unknown	RA7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	ICB		Unknown	RA8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	MBLK	9056-W-SH	Unknown	R5	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	LCS		Unknown	R2	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110281-01		Unknown	GB4	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110281-01MS		Unknown	GB5	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110281-01MSD		Unknown	GB6	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110281-02		Unknown	GB7	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110281-04		Unknown	GB8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	HS22110277-05DF10		Unknown	GD2	10.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R6	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program IS	Anions Processing Method ISO	5.0	Finished

Sequence: 110422
Last Update Operator: alshs.nouser

Inject Time
10/31/2022 10:38:34 PM -05:00
10/31/2022 10:43:52 PM -05:00
10/31/2022 10:49:10 PM -05:00
10/31/2022 10:54:27 PM -05:00
10/31/2022 10:59:45 PM -05:00
10/31/2022 11:05:03 PM -05:00
10/31/2022 11:10:21 PM -05:00
10/31/2022 11:36:50 PM -05:00
11/4/2022 1:06:07 PM -05:00
11/4/2022 1:11:24 PM -05:00
11/4/2022 1:22:00 PM -05:00
11/4/2022 1:27:17 PM -05:00
11/4/2022 2:30:48 PM -05:00
11/4/2022 2:36:05 PM -05:00
11/4/2022 3:02:33 PM -05:00
11/4/2022 3:07:50 PM -05:00
11/4/2022 3:13:08 PM -05:00
11/4/2022 3:18:25 PM -05:00
11/4/2022 3:23:43 PM -05:00
11/4/2022 3:29:01 PM -05:00
11/4/2022 3:44:53 PM -05:00
11/4/2022 3:55:28 PM -05:00
11/4/2022 5:04:16 PM -05:00
11/4/2022 5:14:51 PM -05:00
11/4/2022 6:18:21 PM -05:00
11/4/2022 6:34:14 PM -05:00

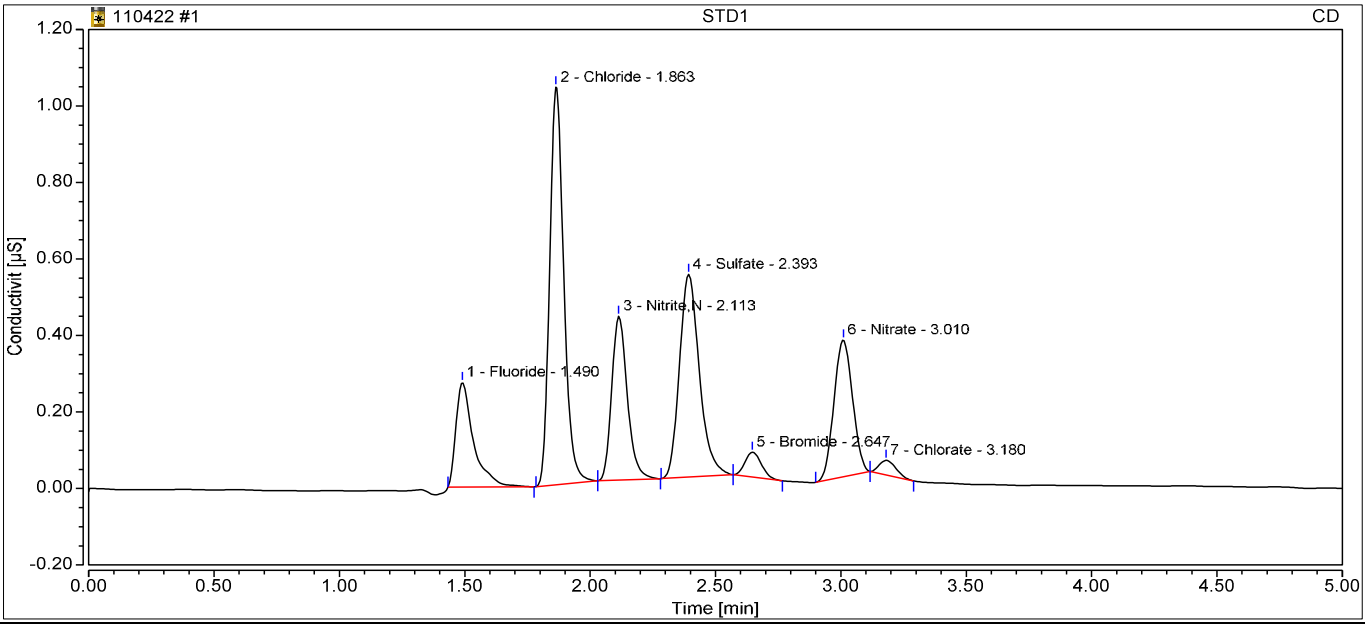
Sequence: 110122
Injection #6: STD6

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	15.1684	0.99864	0.0053	0.1996	0.0000
2	Chloride	Lin, WithOffset, 1/	Area	6	2.5972	0.99997	-0.0048	0.1409	0.0000
3	Nitrite,N	Quad, WithOffset,	Area	6	6.3578	0.99980	0.0009	0.3091	-0.0036
4	Sulfate	Lin, WithOffset, 1/	Area	6	5.9781	0.99982	-0.0029	0.0970	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	20.3836	0.99800	-0.0011	0.0524	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	4.2139	0.99991	-0.0029	0.3237	0.0000
7	Chlorate	Quad, WithOffset,	Area	6	4.2286	0.99992	-0.0004	0.0328	-0.0003
8	Phosphate	Lin, WithOffset, 1/	Area	4	12.3125	0.99623	-0.1332	0.1053	0.0000
Maximum					**20.3836**	0.99997			
Minimum					2.5972	**0.99623**			

1 STD1			
Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**RA1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:38**	*Sample Weight:*	**1.0000**

Run Time:



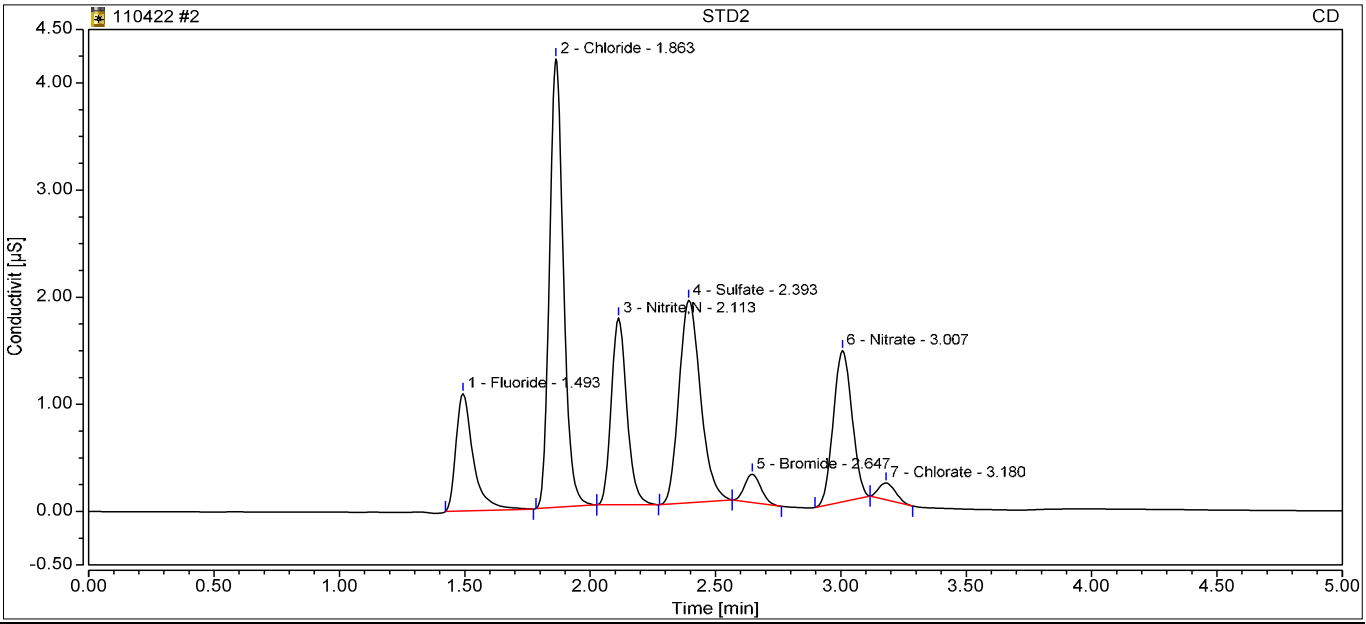
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.022	0.0852	0.0852	1.0000
2	1.86	Chloride	BMB	0.068	0.5148	0.5148	1.0000
3	2.11	Nitrite,N	BMB	0.031	0.0970	0.0970	1.0000
4	2.39	Sulfate	BMB	0.049	0.5311	0.5311	1.0000
5	2.65	Bromide	BMB	0.005	0.1150	0.1150	1.0000
6	3.01	Nitrate	BMB	0.031	0.1040	0.1040	1.0000
7	3.18	Chlorate	BMB	0.003	0.1042	0.1042	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.208**		**1.55**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:43**	*Sample Weight:*	**1.0000**

Run Time:

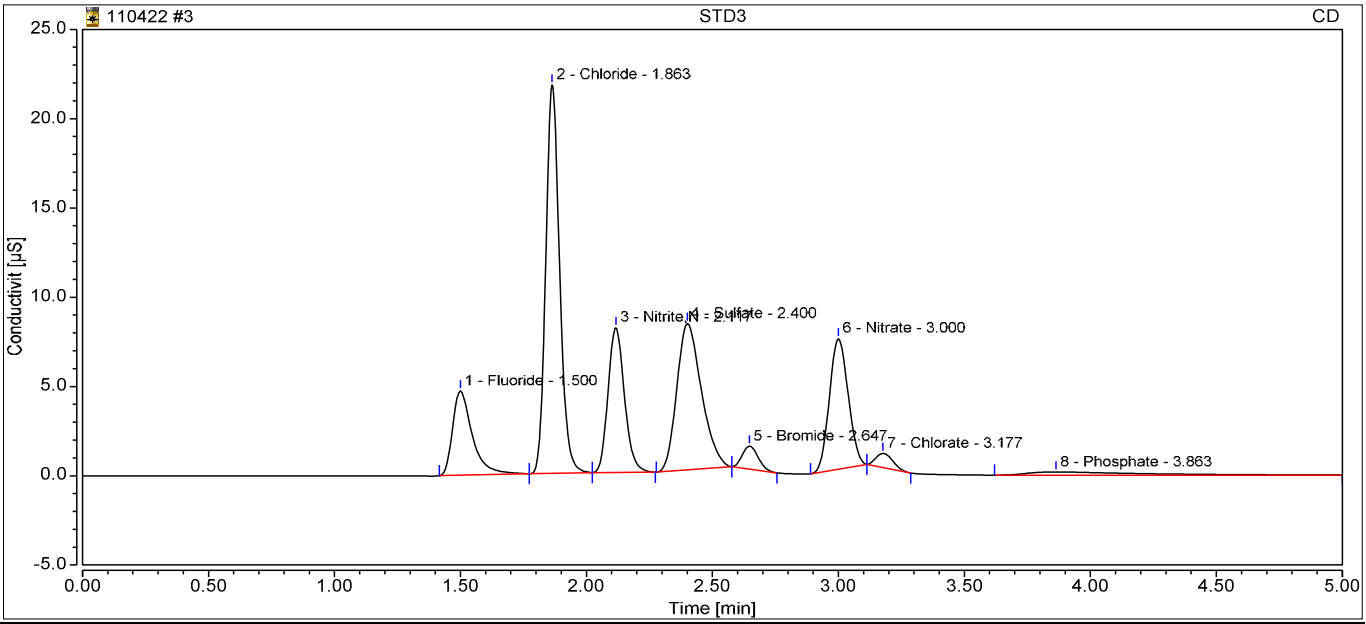


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.49	Fluoride	BMB	0.088	0.4122	0.4122	1.0000
2	1.86	Chloride	BMB	0.270	1.9496	1.9496	1.0000
3	2.11	Nitrite,N	BMB	0.125	0.4047	0.4047	1.0000
4	2.39	Sulfate	BMB	0.188	1.9673	1.9673	1.0000
5	2.65	Bromide	BMB	0.020	0.3994	0.3994	1.0000
6	3.01	Nitrate	BMB	0.122	0.3853	0.3853	1.0000
7	3.18	Chlorate	BMB	0.012	0.3874	0.3874	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.825**		**5.91**	

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:49**	*Sample Weight:*	**1.0000**

Run Time:



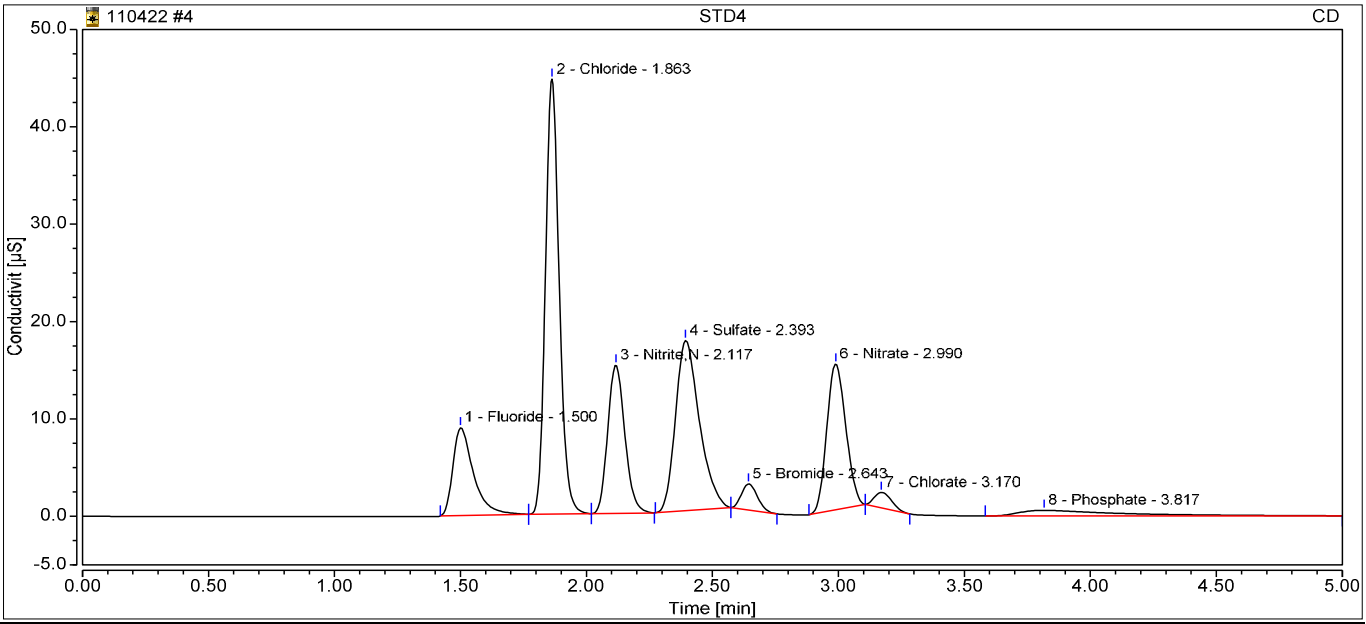
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.429	2.1217	2.1217	1.0000
2	1.86	Chloride	BMB	1.386	9.8732	9.8732	1.0000
3	2.12	Nitrite,N	BMB	0.613	2.0277	2.0277	1.0000
4	2.40	Sulfate	BMB	0.929	9.6042	9.6042	1.0000
5	2.65	Bromide	BMB	0.094	1.8176	1.8176	1.0000
6	3.00	Nitrate	BMB	0.631	1.9587	1.9587	1.0000
7	3.18	Chlorate	BMB	0.063	1.9542	1.9542	1.0000
8	3.86	Phosphate	BMB	0.093	2.1481	2.1481	1.0000
Total:			**0.000**	**4.237**		**31.51**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:54**	*Sample Weight:*	**1.0000**

Run Time:



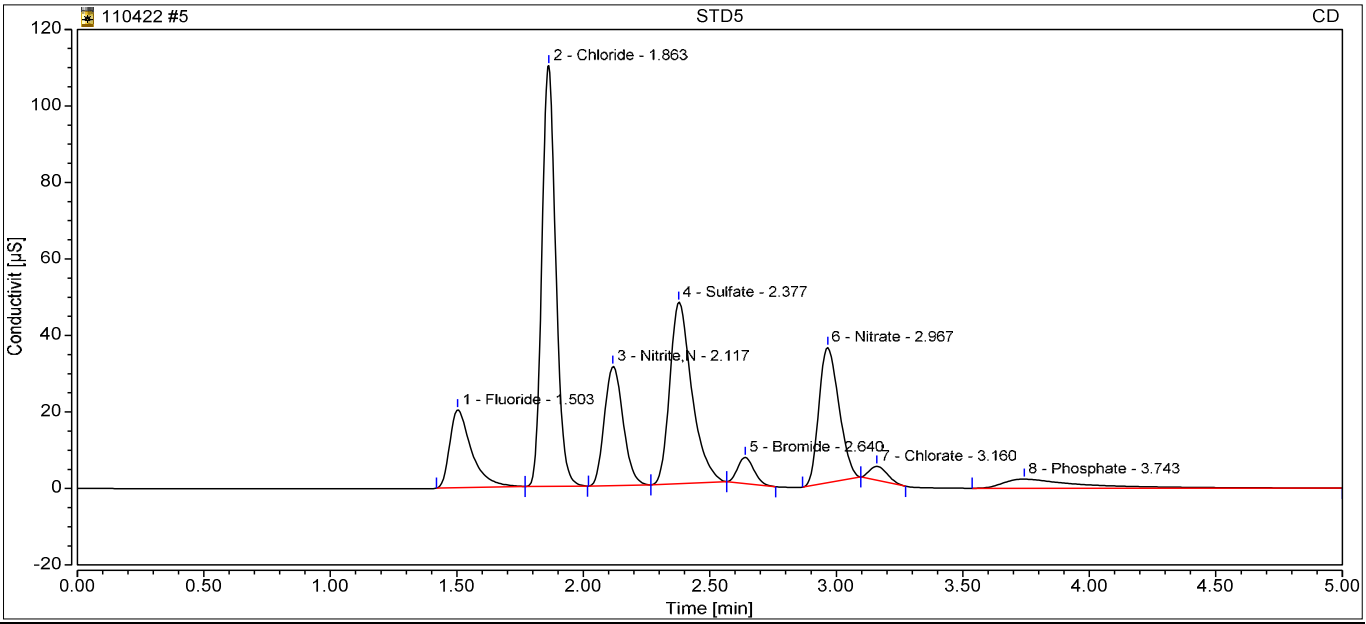
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.857	4.2694	4.2694	1.0000
2	1.86	Chloride	BMB	2.841	20.2023	20.2023	1.0000
3	2.12	Nitrite,N	BMB	1.202	4.0794	4.0794	1.0000
4	2.39	Sulfate	BMB	1.922	19.8403	19.8403	1.0000
5	2.64	Bromide	BMB	0.195	3.7434	3.7434	1.0000
6	2.99	Nitrate	BMB	1.310	4.0569	4.0569	1.0000
7	3.17	Chlorate	BMB	0.128	4.0374	4.0374	1.0000
8	3.82	Phosphate	BMB	0.268	3.8049	3.8049	1.0000
Total:			**0.000**	**8.723**		**64.03**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**RA5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 22:59**	*Sample Weight:*	**1.0000**

Run Time:



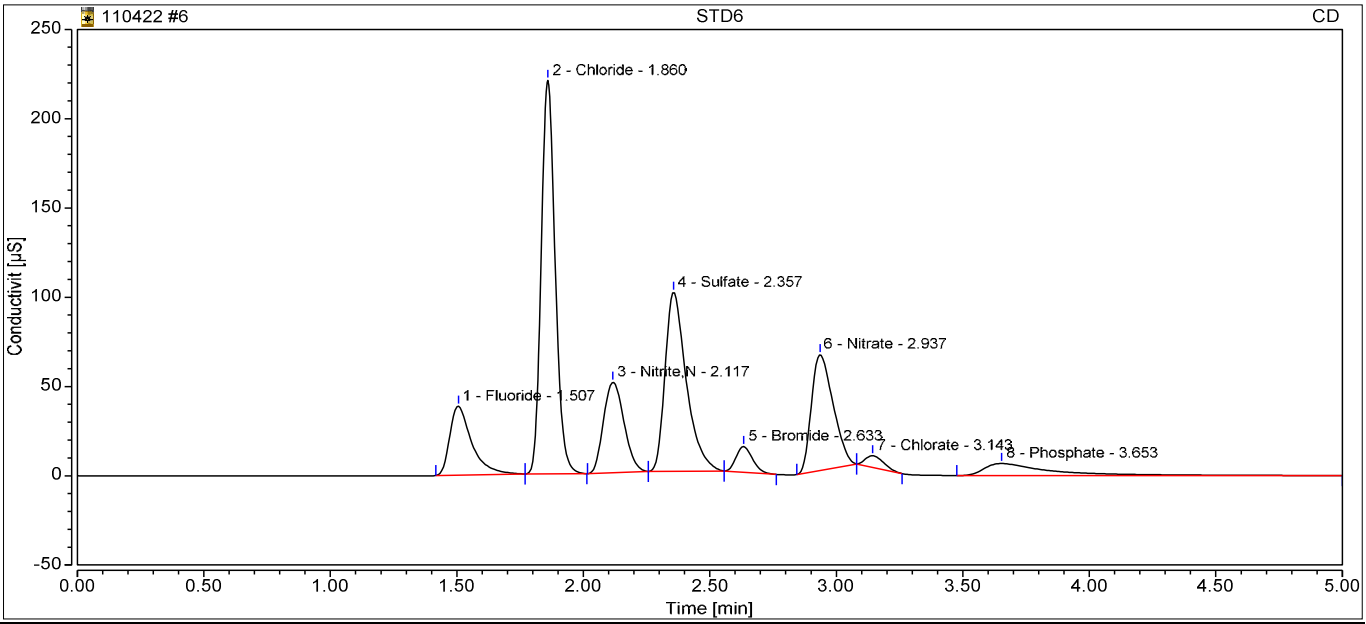
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.034	10.1657	10.1657	1.0000
2	1.86	Chloride	BMB	7.018	49.8590	49.8590	1.0000
3	2.12	Nitrite,N	BMB	2.680	9.7843	9.7843	1.0000
4	2.38	Sulfate	BMB	4.810	49.6174	49.6174	1.0000
5	2.64	Bromide	BMB	0.509	9.7228	9.7228	1.0000
6	2.97	Nitrate	BMB	3.255	10.0664	10.0664	1.0000
7	3.16	Chlorate	BMB	0.302	10.0479	10.0479	1.0000
8	3.74	Phosphate	BMB	0.862	9.4475	9.4475	1.0000
Total:			**0.000**	**21.471**		**158.71**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**RA6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 23:05**	*Sample Weight:*	**1.0000**

Run Time:



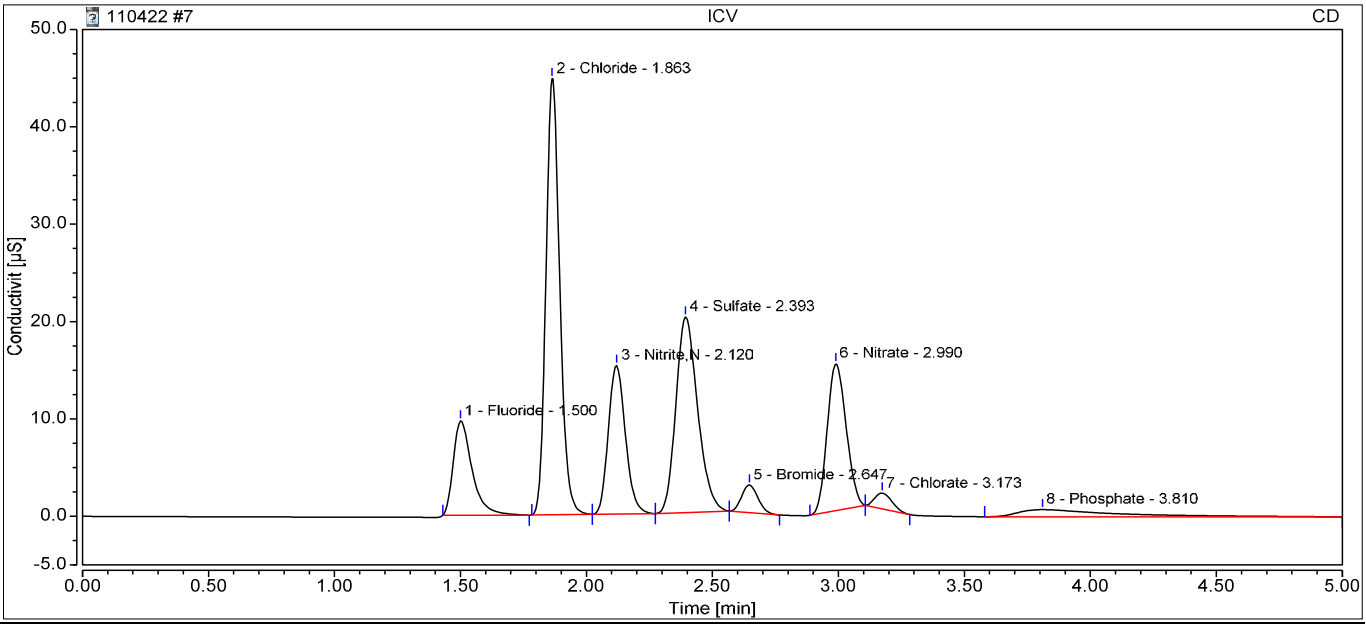
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	3.887	19.4458	19.4458	1.0000
2	1.86	Chloride	BMB	14.095	100.1011	100.1011	1.0000
3	2.12	Nitrite,N	BMB	4.761	20.1238	20.1238	1.0000
4	2.36	Sulfate	BMB	9.788	100.9397	100.9397	1.0000
5	2.63	Bromide	BMB	1.085	20.7019	20.7019	1.0000
6	2.94	Nitrate	BMB	6.448	19.9287	19.9287	1.0000
7	3.14	Chlorate	BMB	0.548	19.9668	19.9668	1.0000
8	3.65	Phosphate	BMB	2.037	20.5994	20.5994	1.0000
Total:			**0.000**	**42.648**		**321.81**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**RA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 23:10**	*Sample Weight:*	**1.0000**

Run Time:



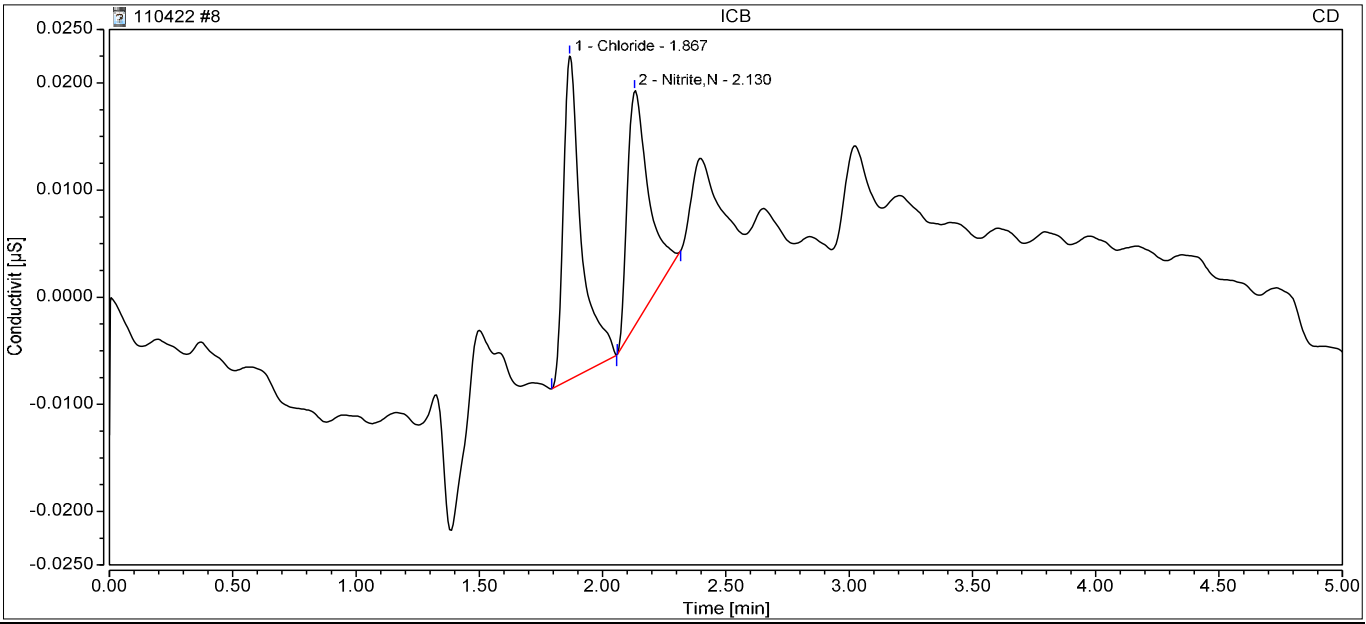
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.841	4.1870	4.1870	1.0000
2	1.86	Chloride	BMB	2.842	20.2080	20.2080	1.0000
3	2.12	Nitrite,N	BMB	1.200	4.0730	4.0730	1.0000
4	2.39	Sulfate	BMB	2.008	20.7307	20.7307	1.0000
5	2.65	Bromide	BMB	0.213	4.0840	4.0840	1.0000
6	2.99	Nitrate	BMB	1.316	4.0734	4.0734	1.0000
7	3.17	Chlorate	BMB	0.129	4.0720	4.0720	1.0000
8	3.81	Phosphate	BMB	0.327	4.3679	4.3679	1.0000
Total:			**0.000**	**8.875**		**65.80**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**RA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/31/2022 23:36**	*Sample Weight:*	**1.0000**

Run Time:



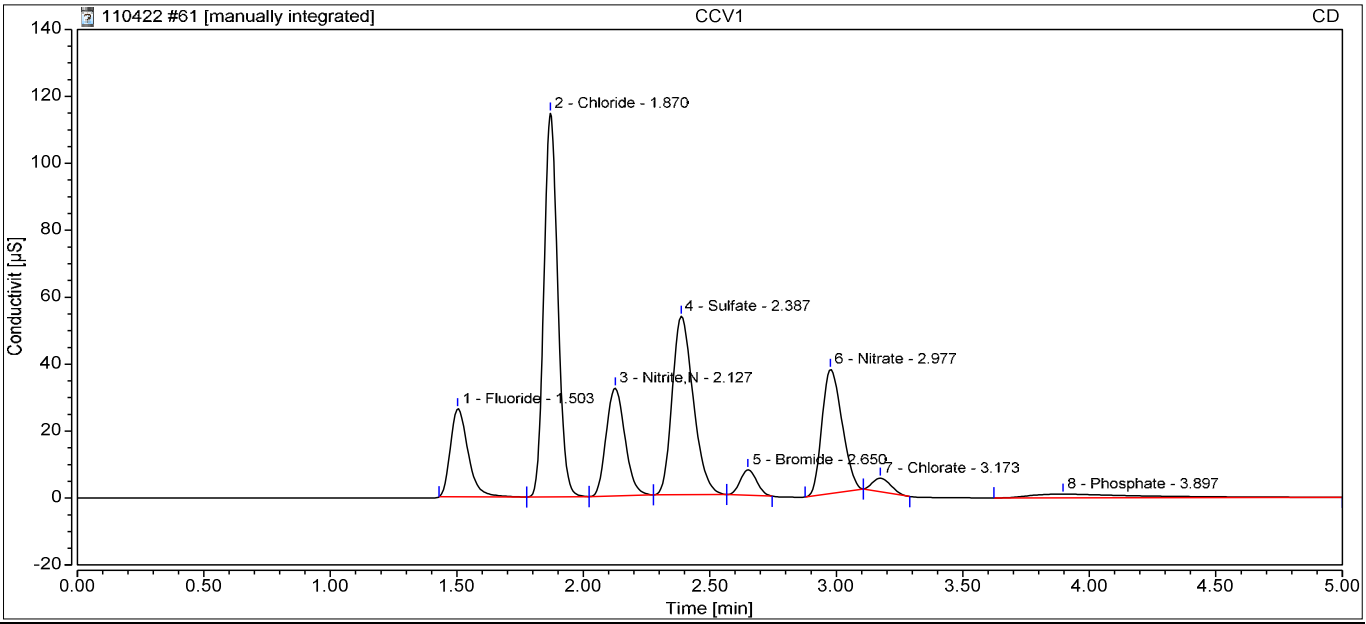
Integration Results

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	1.87	Chloride	BMB	0.003	0.0521	0.0521	1.0000
2	2.13	Nitrite,N	BMB	0.002	0.0041	0.0041	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.	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**		**0.06**	

61 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 13:06**	*Sample Weight:*	**1.0000**

Run Time:



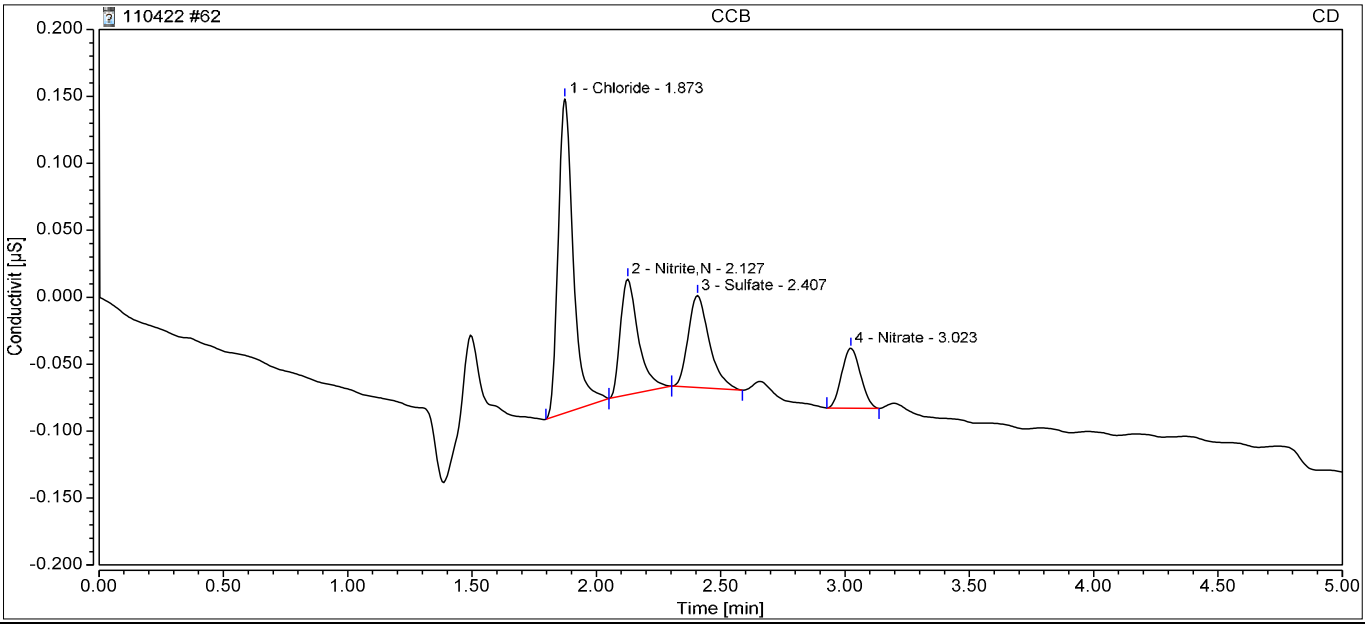
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB*	2.139	10.6882	10.6882	1.0000
2	1.87	Chloride	BMB	7.278	51.7032	51.7032	1.0000
3	2.13	Nitrite,N	BMB	2.760	10.1218	10.1218	1.0000
4	2.39	Sulfate	BMb*	5.151	53.1311	53.1311	1.0000
5	2.65	Bromide	bMB*	0.574	10.9701	10.9701	1.0000
6	2.98	Nitrate	BMB	3.422	10.5803	10.5803	1.0000
7	3.17	Chlorate	BMB	0.340	11.4607	11.4607	1.0000
8	3.90	Phosphate	BMB	0.577	6.7407	6.7407	1.0000
Total:			**0.000**	**22.241**		**165.40**	

62 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 13:11**	*Sample Weight:*	**1.0000**

Run Time:



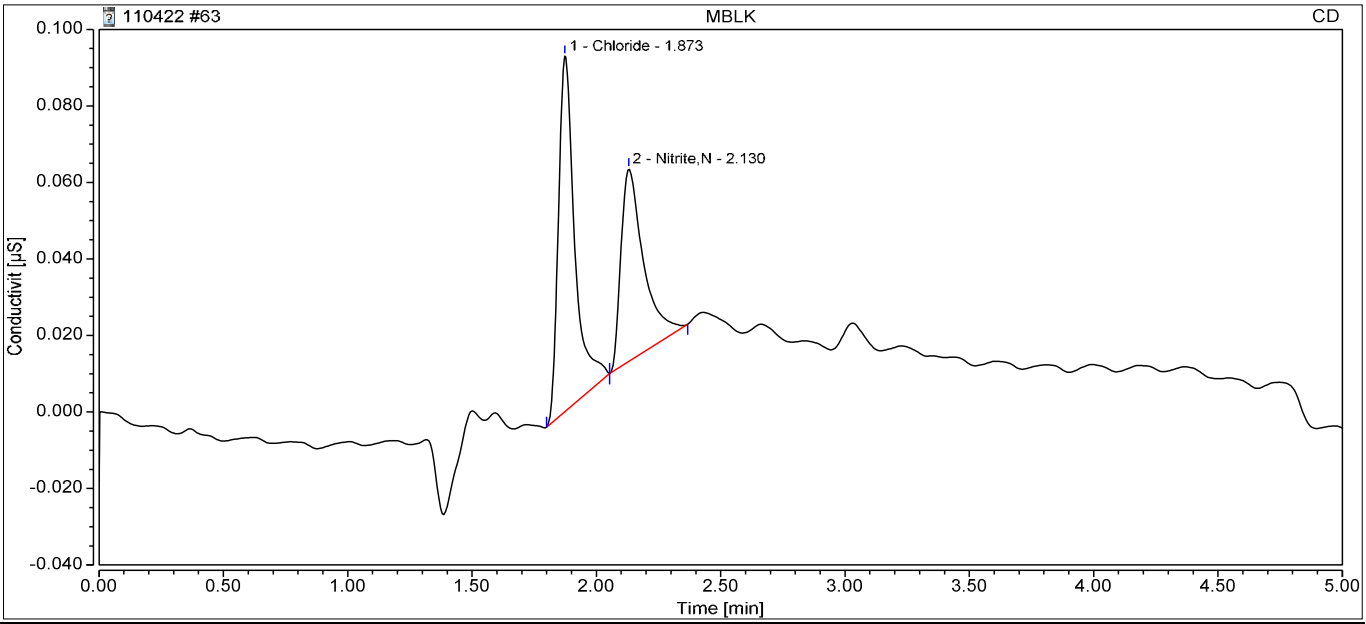
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.87	Chloride	BMB	0.017	0.1510	0.1510	1.0000
2	2.13	Nitrite,N	BMB	0.007	0.0205	0.0205	1.0000
3	2.41	Sulfate	BMB	0.007	0.0994	0.0994	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	3.02	Nitrate	BMB	0.004	0.0210	0.0210	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.035**		**0.29**	

63 MBLK

Sample Name:	**MBLK**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 13:22**	*Sample Weight:*	**1.0000**

Run Time:



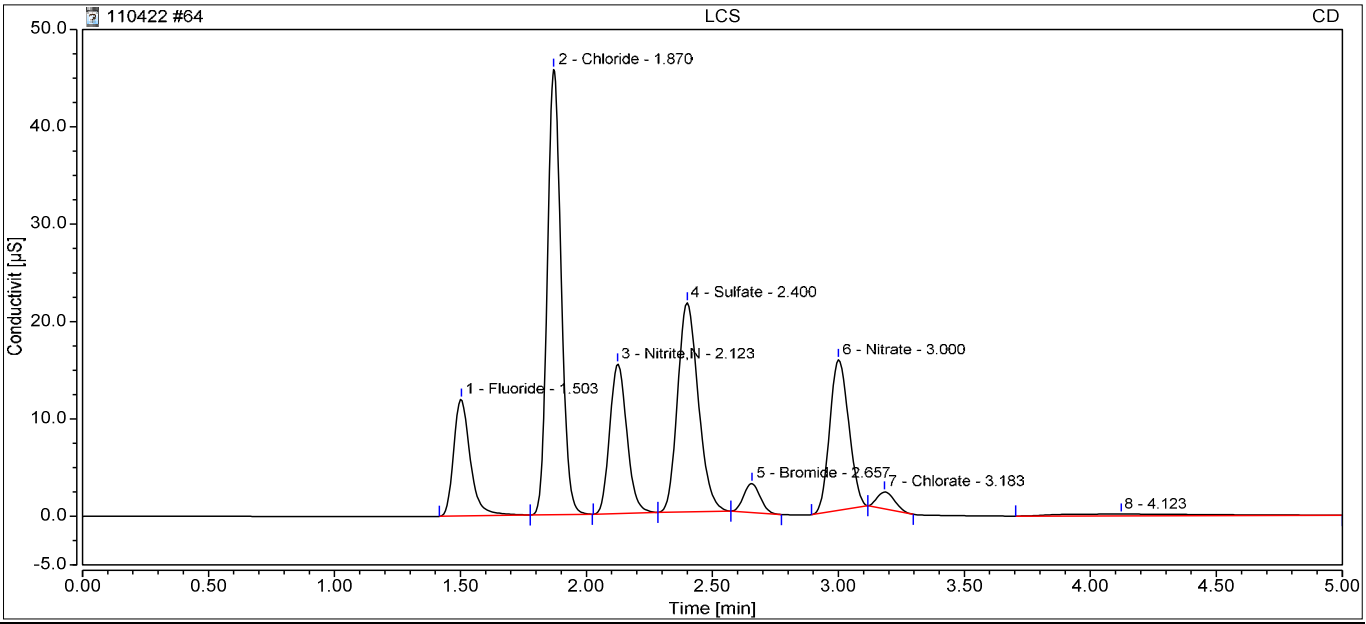
Integration Results

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	1.87	Chloride	BMB	0.007	0.0843	0.0843	1.0000
2	2.13	Nitrite,N	BMB	0.005	0.0141	0.0141	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.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.012**		**0.10**	

64 LCS

Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 13:27**	*Sample Weight:*	**1.0000**

Run Time:



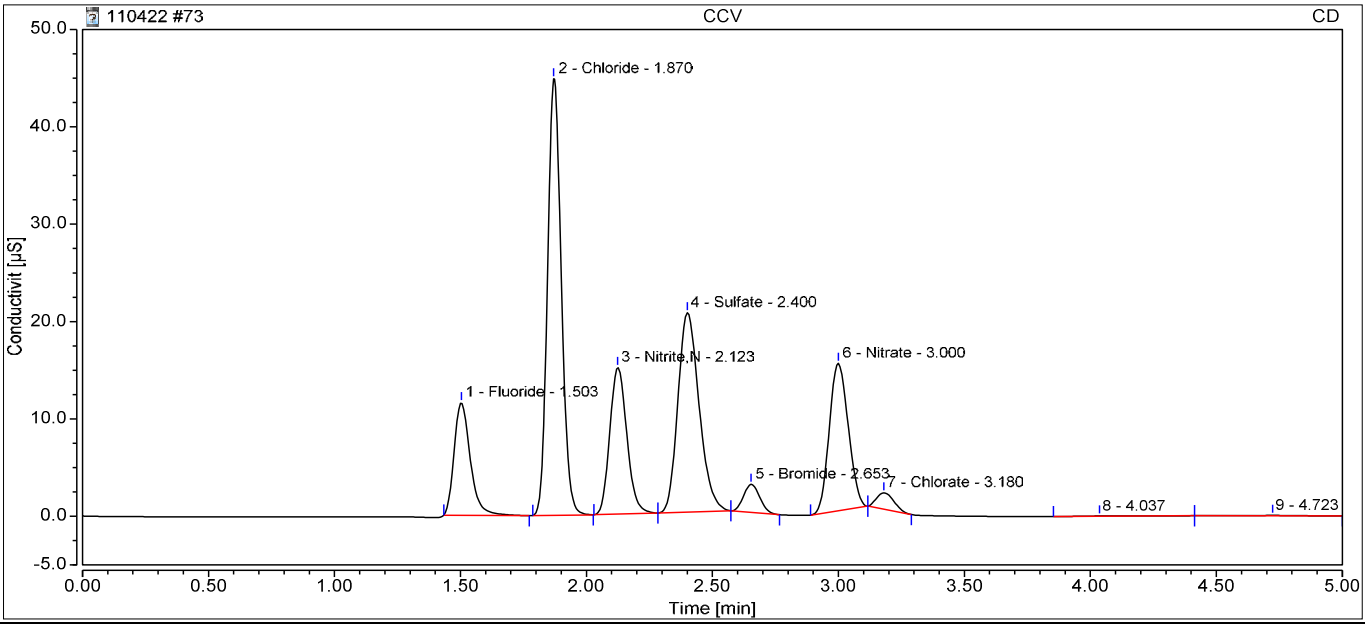
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.920	4.5805	4.5805	1.0000
2	1.87	Chloride	BMB	2.897	20.5978	20.5978	1.0000
3	2.12	Nitrite,N	BMB	1.213	4.1178	4.1178	1.0000
4	2.40	Sulfate	BMB	2.047	21.1363	21.1363	1.0000
5	2.66	Bromide	BMB	0.226	4.3303	4.3303	1.0000
6	3.00	Nitrate	BMB	1.357	4.2007	4.2007	1.0000
7	3.18	Chlorate	BMB	0.141	4.4812	4.4812	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.800**		**63.44**	

73 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 14:30**	*Sample Weight:*	**1.0000**

Run Time:



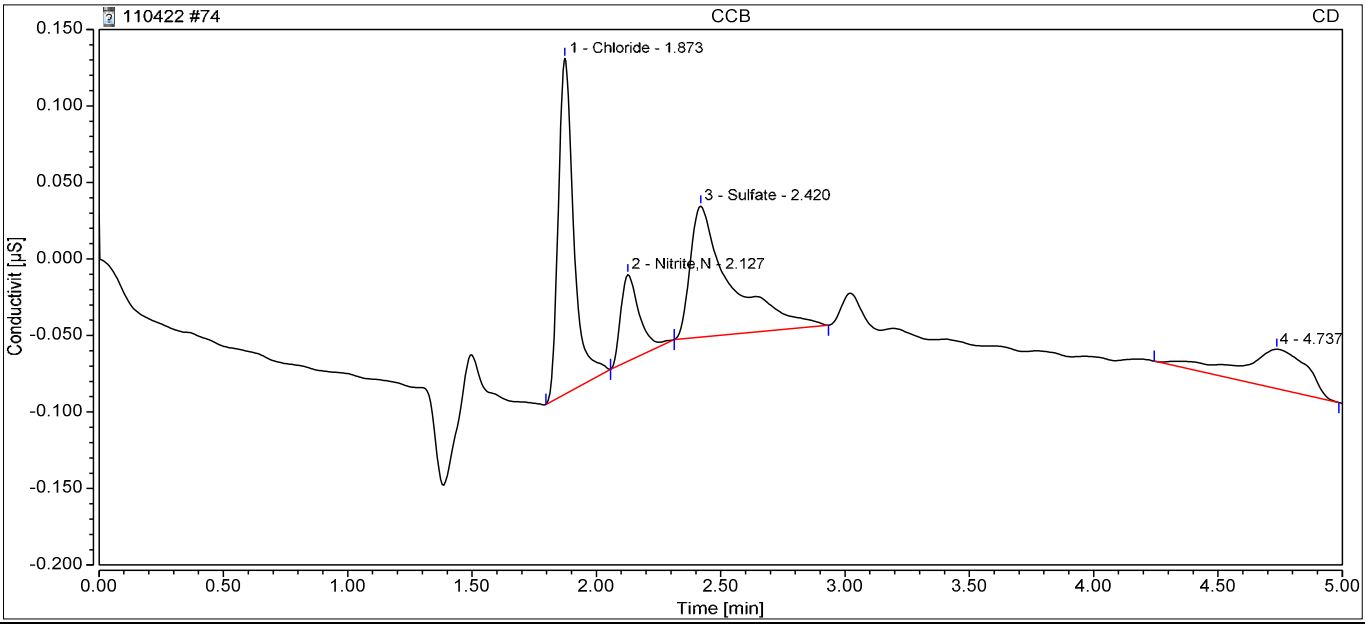
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.864	4.3010	4.3010	1.0000
2	1.87	Chloride	BMB	2.836	20.1677	20.1677	1.0000
3	2.12	Nitrite,N	BMB	1.181	4.0049	4.0049	1.0000
4	2.40	Sulfate	BMB	1.996	20.6021	20.6021	1.0000
5	2.65	Bromide	BMB	0.216	4.1370	4.1370	1.0000
6	3.00	Nitrate	BMB	1.323	4.0965	4.0965	1.0000
7	3.18	Chlorate	BMB	0.136	4.3050	4.3050	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.551**		**61.61**	

74 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 14:36**	*Sample Weight:*	**1.0000**

Run Time:

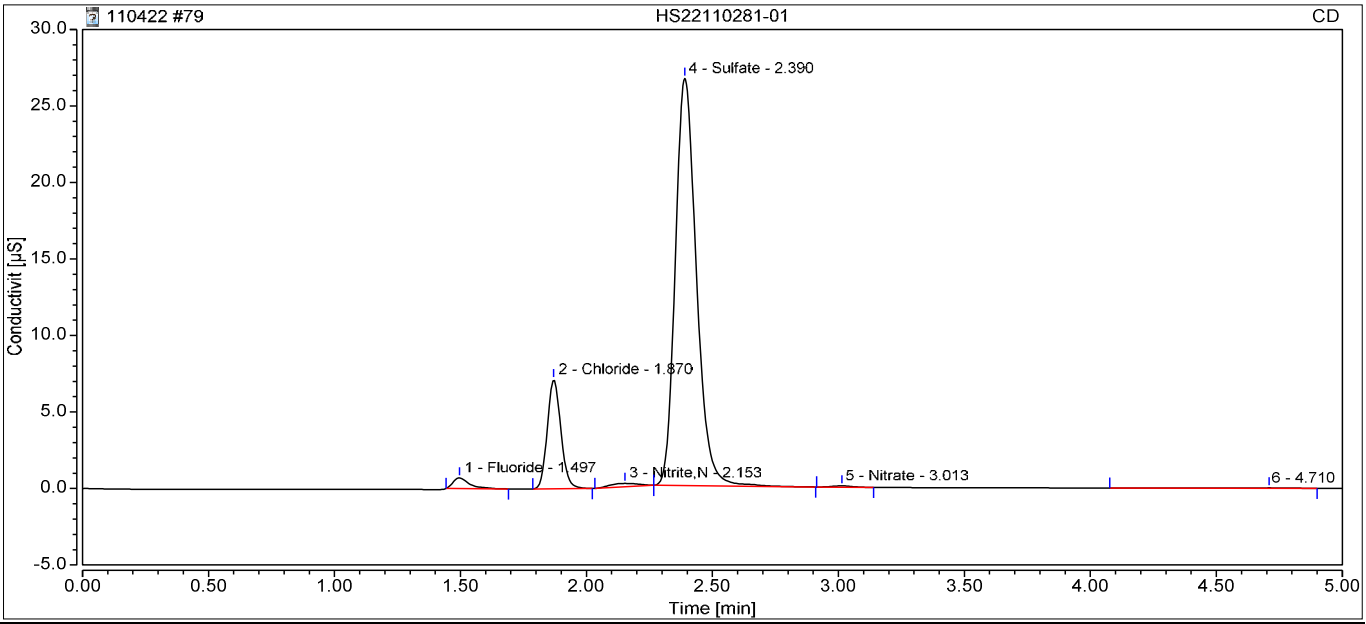


Integration Results

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	1.87	Chloride	BMB	0.016	0.1467	0.1467	1.0000
2	2.13	Nitrite,N	BMB	0.005	0.0128	0.0128	1.0000
3	2.42	Sulfate	BMB	0.016	0.1965	0.1965	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.	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**	**0.037**		**0.36**	

79	*HS22110281-01*		
Sample Name:	**HS22110281-01**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 15:02**	*Sample Weight:*	**1.0000**

Run Time:



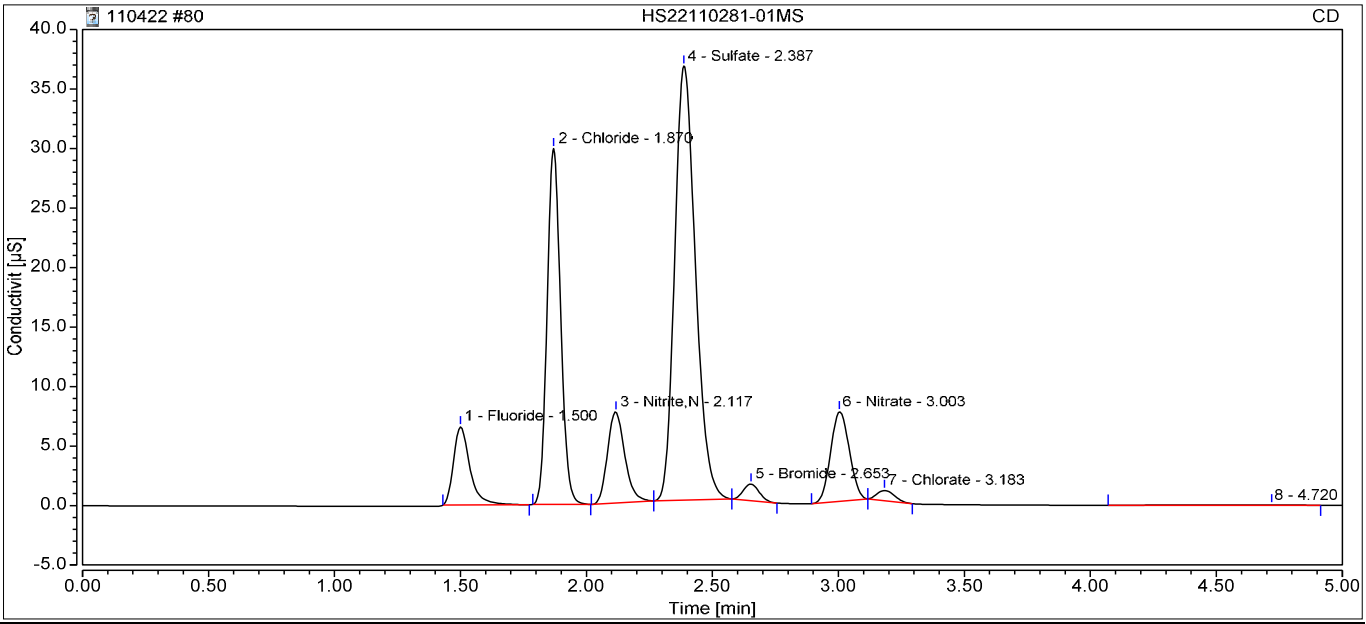
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.052	0.2350	0.2350	1.0000
2	1.87	Chloride	BMB	0.447	3.2075	3.2075	1.0000
3	2.15	Nitrite,N	BMB	0.029	0.0919	0.0919	1.0000
4	2.39	Sulfate	BMB	2.582	26.6501	26.6501	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.01	Nitrate	BMB	0.008	0.0327	0.0327	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**	**3.118**		**30.22**	

80 HS22110281-01MS

Sample Name:	**HS22110281-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 15:07**	*Sample Weight:*	**1.0000**

Run Time:



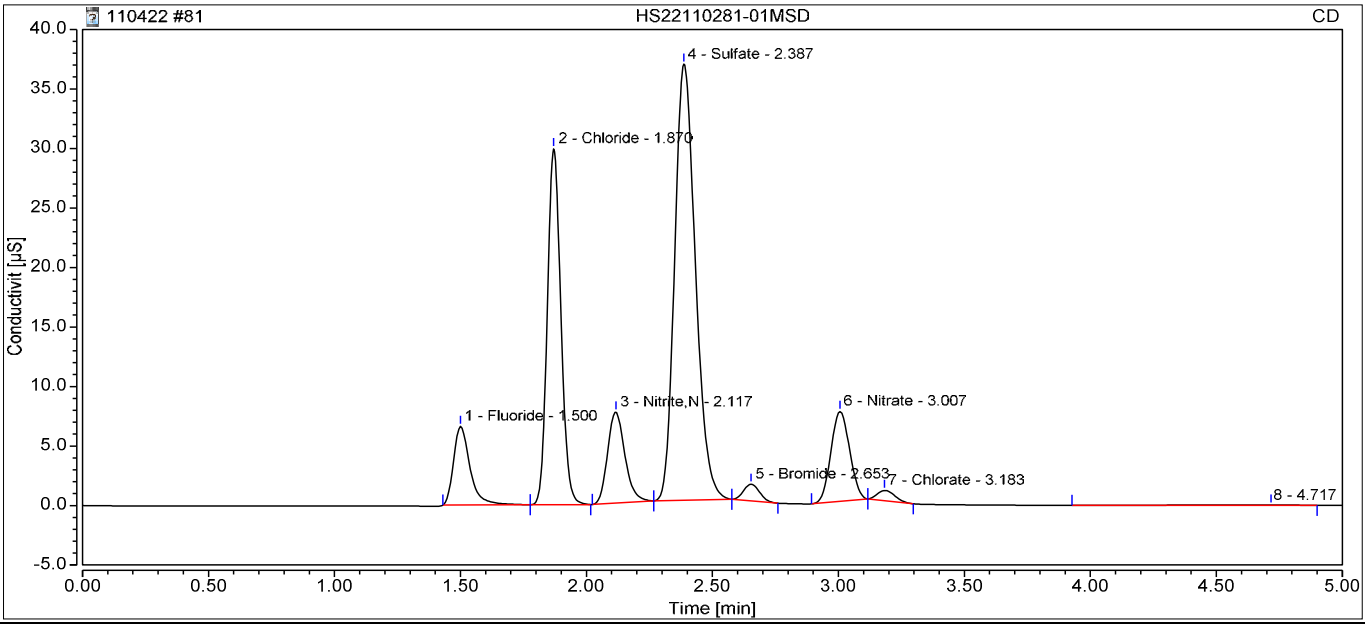
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.500	2.4771	2.4771	1.0000
2	1.87	Chloride	BMB	1.861	13.2486	13.2486	1.0000
3	2.12	Nitrite,N	BMB	0.610	2.0177	2.0177	1.0000
4	2.39	Sulfate	BMB	3.490	36.0051	36.0051	1.0000
5	2.65	Bromide	BMB	0.102	1.9670	1.9670	1.0000
6	3.00	Nitrate	BMB	0.647	2.0065	2.0065	1.0000
7	3.18	Chlorate	BMB	0.069	2.1542	2.1542	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**7.278**		**59.88**	

81 HS22110281-01MSD

Sample Name:	**HS22110281-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 15:13**	*Sample Weight:*	**1.0000**

Run Time:

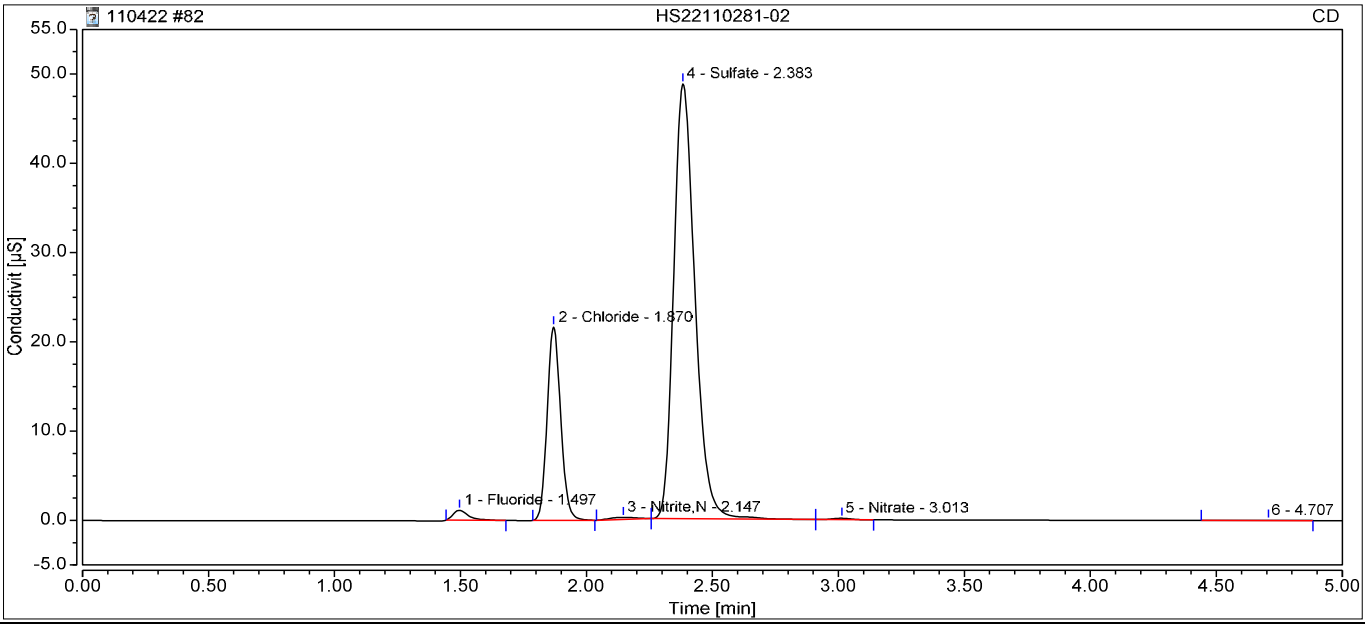


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.502	2.4880	2.4880	1.0000
2	1.87	Chloride	BMB	1.862	13.2547	13.2547	1.0000
3	2.12	Nitrite,N	BMB	0.610	2.0164	2.0164	1.0000
4	2.39	Sulfate	BMB	3.496	36.0669	36.0669	1.0000
5	2.65	Bromide	BMB	0.103	1.9845	1.9845	1.0000
6	3.01	Nitrate	BMB	0.649	2.0125	2.0125	1.0000
7	3.18	Chlorate	BMB	0.069	2.1703	2.1703	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**7.290**		**59.99**	

82	*HS22110281-02*		
Sample Name:	**HS22110281-02**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 15:18**	*Sample Weight:*	**1.0000**

Run Time:



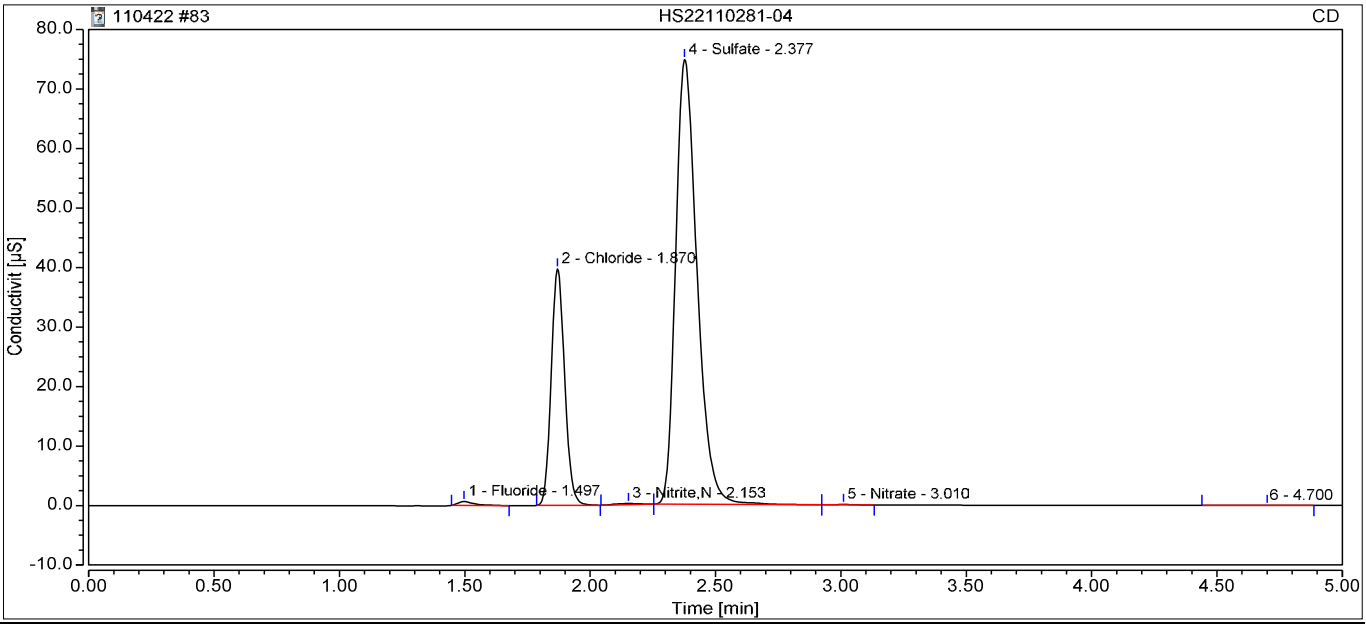
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.078	0.3630	0.3630	1.0000
2	1.87	Chloride	BMB	1.347	9.5992	9.5992	1.0000
3	2.15	Nitrite,N	BMB	0.027	0.0860	0.0860	1.0000
4	2.38	Sulfate	BMB	4.759	49.0868	49.0868	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.01	Nitrate	BMB	0.014	0.0507	0.0507	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**	**6.225**		**59.19**	

83 HS22110281-04

Sample Name:	**HS22110281-04**	*Injection Volume:*	**5.00**
Vial Number:	**GB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 15:23**	*Sample Weight:*	**1.0000**

Run Time:



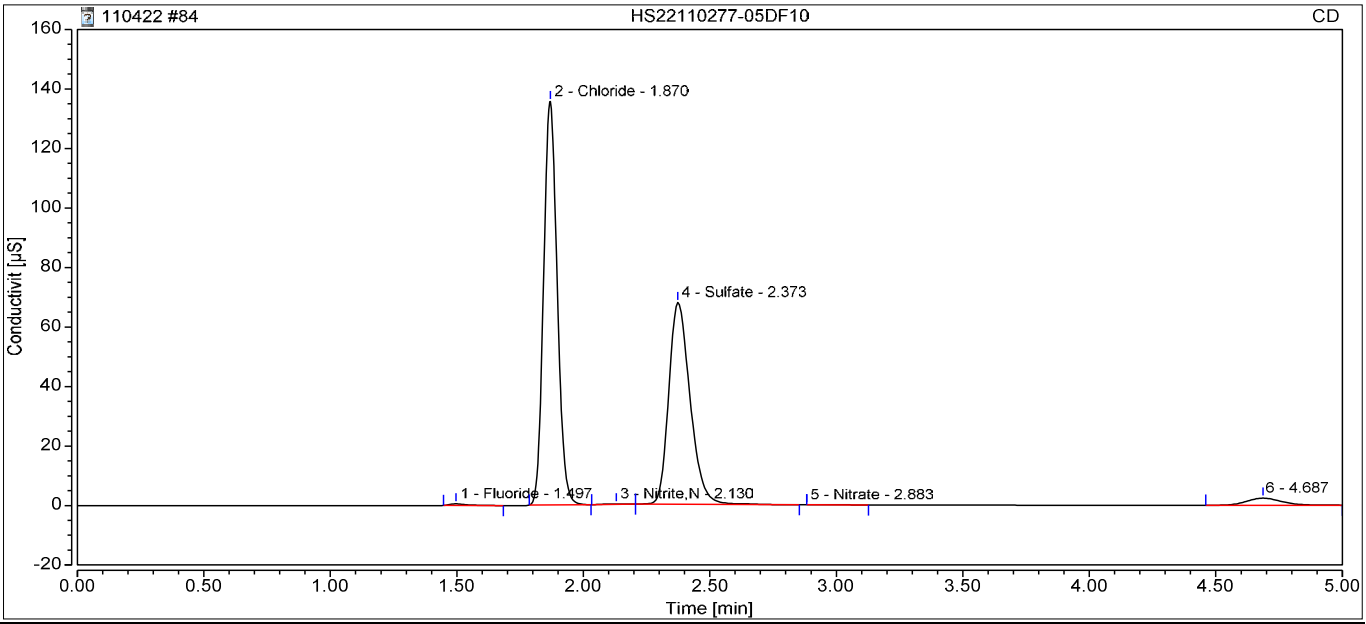
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.049	0.2210	0.2210	1.0000
2	1.87	Chloride	BMB	2.470	17.5705	17.5705	1.0000
3	2.15	Nitrite,N	BMB	0.023	0.0711	0.0711	1.0000
4	2.38	Sulfate	BMB	7.421	76.5374	76.5374	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.01	Nitrate	BMB	0.005	0.0256	0.0256	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**	**9.969**		**94.43**	

84 HS22110277-05DF10

Sample Name:	**HS22110277-05DF10**	*Injection Volume:*	**5.00**
Vial Number:	**GD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**10.0000**
Recording Time:	**11/04/2022 15:29**	*Sample Weight:*	**1.0000**

Run Time:



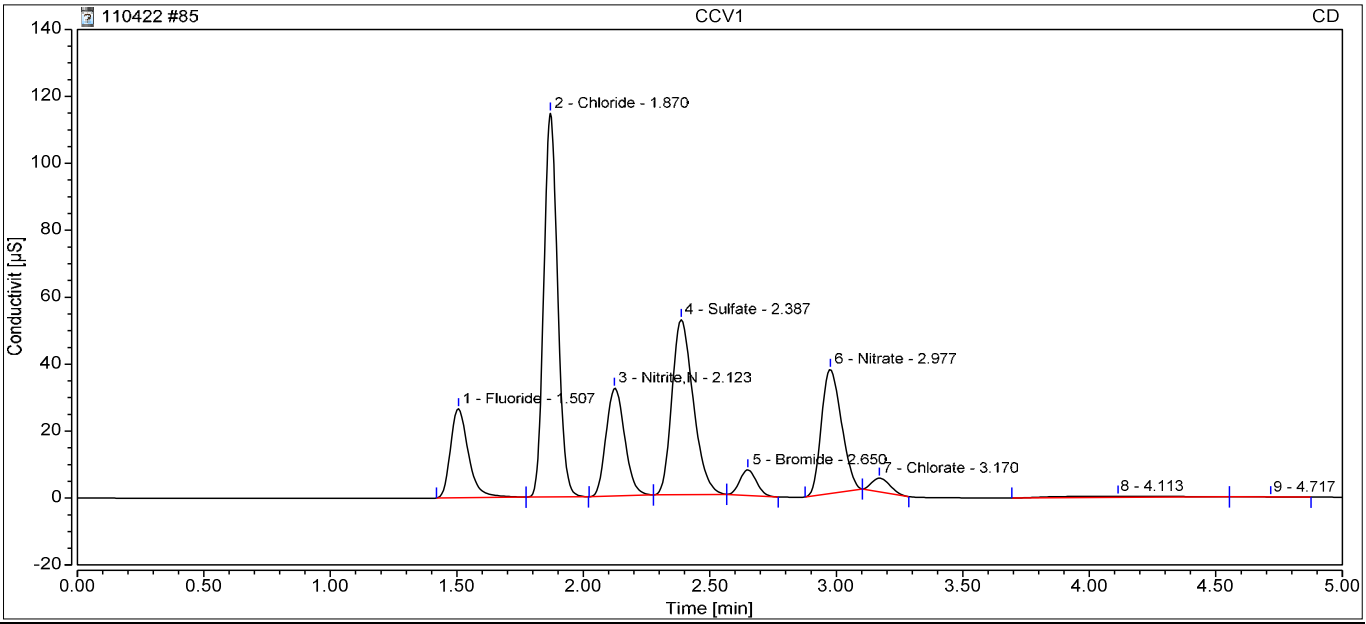
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.043	0.1916	1.9157	10.0000
2	1.87	Chloride	BMB	8.463	60.1169	601.1688	10.0000
3	2.13	Nitrite,N	BMB	0.015	0.0456	0.4558	10.0000
4	2.37	Sulfate	BMB	6.637	68.4555	684.5546	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
5	2.88	Nitrate	BMB	0.003	0.0179	0.1791	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**	**15.162**		**1288.27**	

85 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 15:44**	*Sample Weight:*	**1.0000**

Run Time:



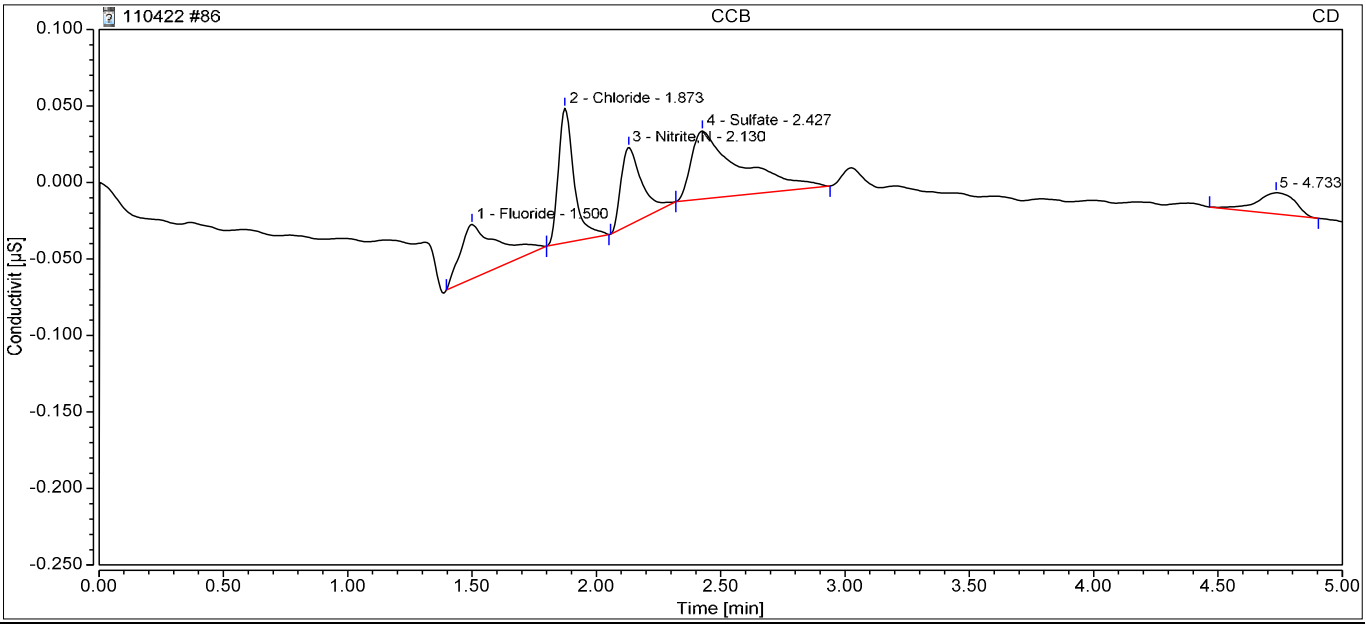
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	2.186	10.9265	10.9265	1.0000
2	1.87	Chloride	BMB	7.269	51.6381	51.6381	1.0000
3	2.12	Nitrite,N	BMB	2.749	10.0753	10.0753	1.0000
4	2.39	Sulfate	BMB	5.130	52.9206	52.9206	1.0000
5	2.65	Bromide	BMB	0.579	11.0615	11.0615	1.0000
6	2.98	Nitrate	BMB	3.412	10.5502	10.5502	1.0000
7	3.17	Chlorate	BMB	0.341	11.5079	11.5079	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**21.667**		**158.68**	

86 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 15:55**	*Sample Weight:*	**1.0000**

Run Time:



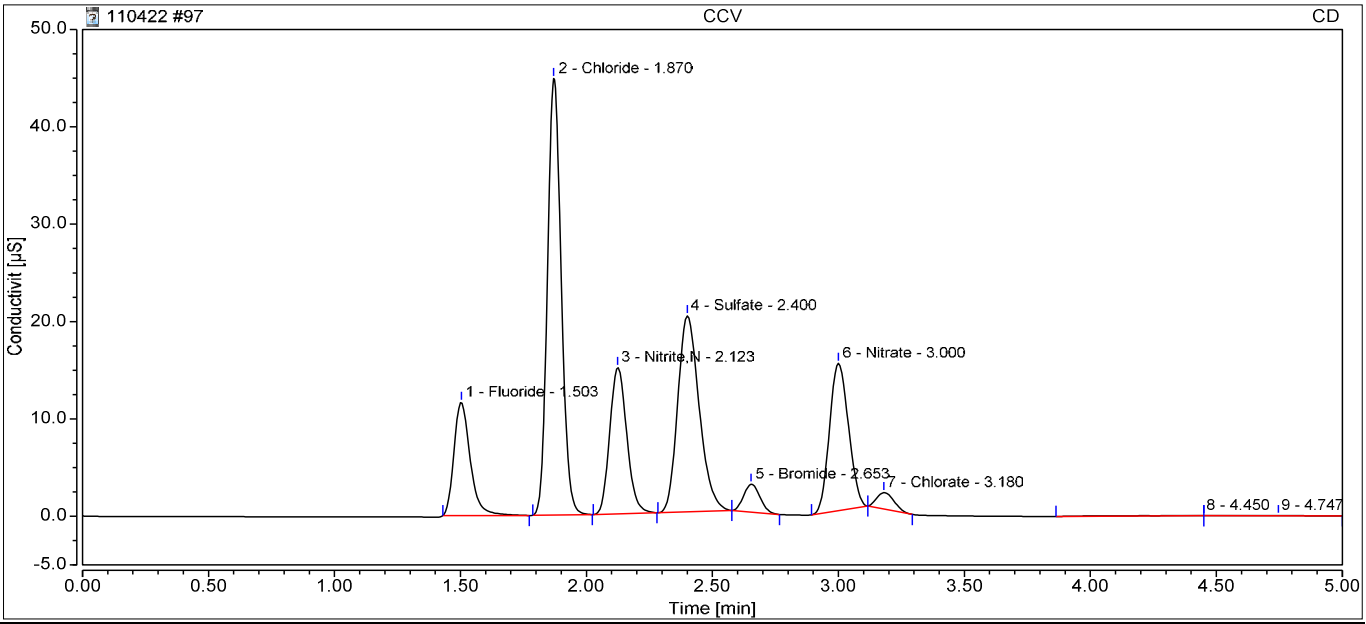
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.006	0.0045	0.0045	1.0000
2	1.87	Chloride	BMB	0.006	0.0798	0.0798	1.0000
3	2.13	Nitrite,N	BMB	0.005	0.0128	0.0128	1.0000
4	2.43	Sulfate	BMB	0.010	0.1336	0.1336	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.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.028**		**0.23**	

97 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 17:04**	*Sample Weight:*	**1.0000**

Run Time:



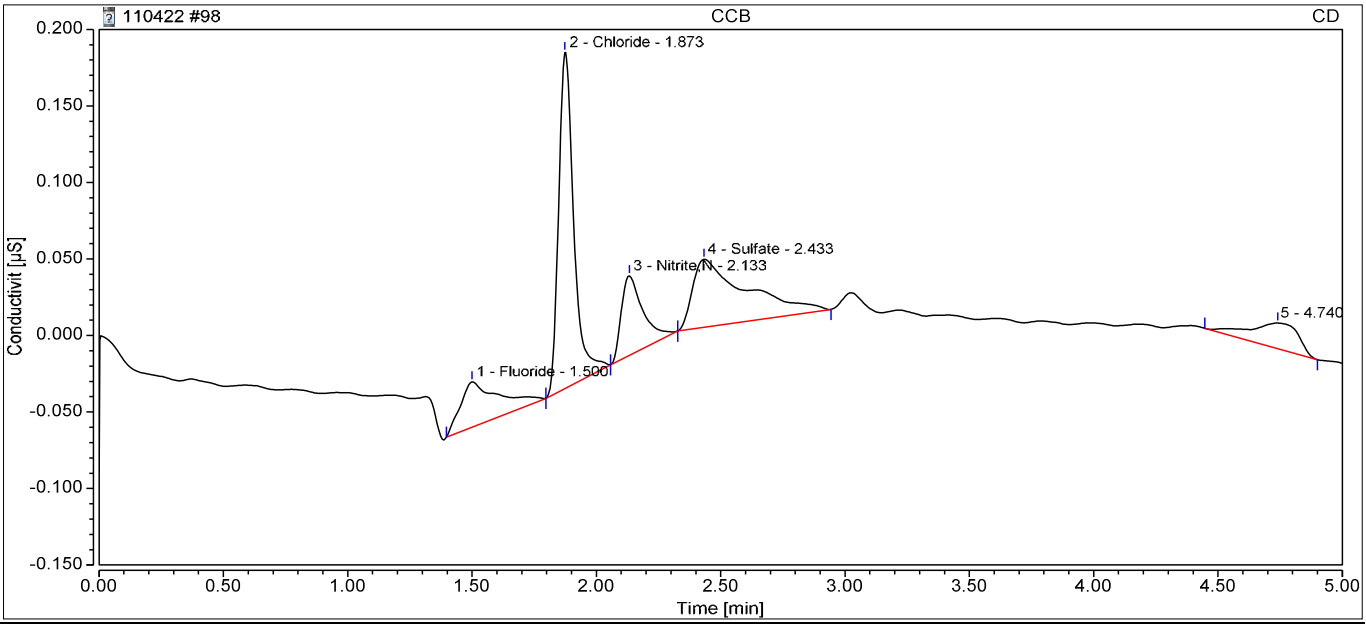
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.875	4.3579	4.3579	1.0000
2	1.87	Chloride	BMB	2.839	20.1865	20.1865	1.0000
3	2.12	Nitrite,N	BMB	1.180	4.0018	4.0018	1.0000
4	2.40	Sulfate	BMB	1.987	20.5118	20.5118	1.0000
5	2.65	Bromide	BMB	0.215	4.1166	4.1166	1.0000
6	3.00	Nitrate	BMB	1.322	4.0927	4.0927	1.0000
7	3.18	Chlorate	BMB	0.136	4.3036	4.3036	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**8.553**		**61.57**	

98 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 17:14**	*Sample Weight:*	**1.0000**

Run Time:



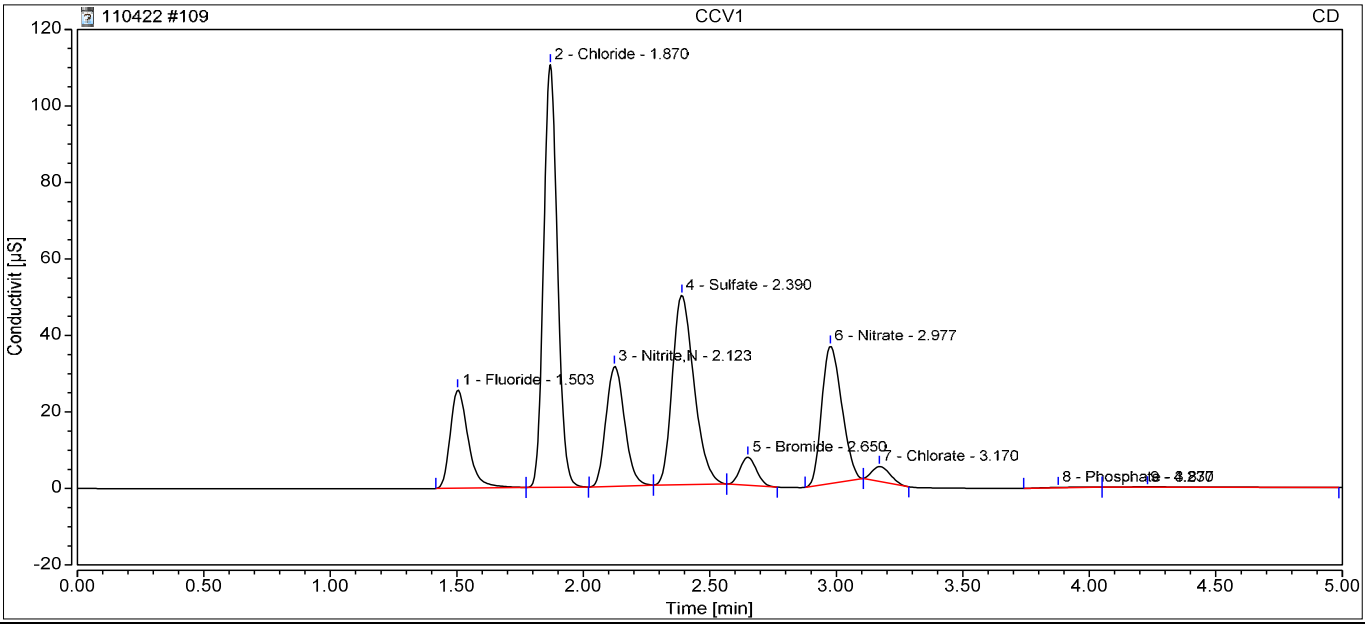
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.005	n.a.	n.a.	1.0000
2	1.87	Chloride	BMB	0.015	0.1436	0.1436	1.0000
3	2.13	Nitrite,N	BMB	0.005	0.0138	0.0138	1.0000
4	2.43	Sulfate	BMB	0.011	0.1428	0.1428	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.	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**	**0.037**		**0.30**	

109 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 18:18**	*Sample Weight:*	**1.0000**

Run Time:



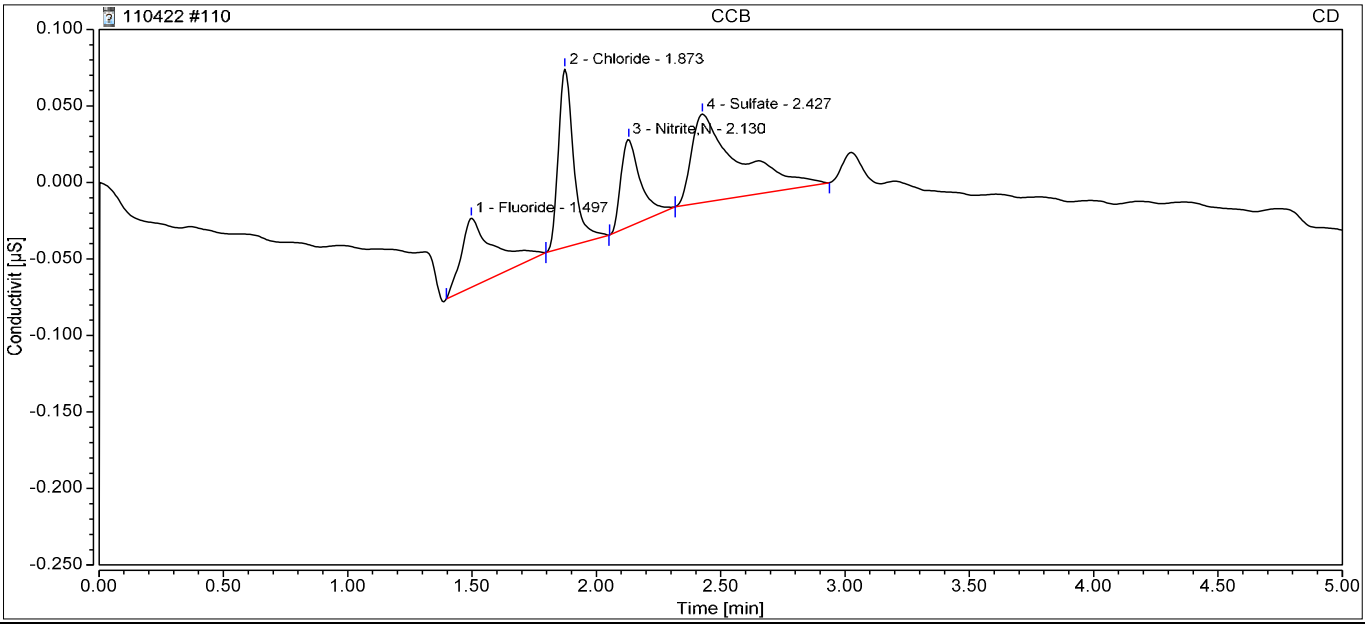
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	2.116	10.5730	10.5730	1.0000
2	1.87	Chloride	BMB	7.009	49.7904	49.7904	1.0000
3	2.12	Nitrite,N	BMB	2.667	9.7291	9.7291	1.0000
4	2.39	Sulfate	BMB	4.920	50.7517	50.7517	1.0000
5	2.65	Bromide	BMB	0.553	10.5738	10.5738	1.0000
6	2.98	Nitrate	BMB	3.293	10.1822	10.1822	1.0000
7	3.17	Chlorate	BMB	0.327	10.9705	10.9705	1.0000
8	3.88	Phosphate	BMB	0.019	1.4467	1.4467	1.0000
Total:			**0.000**	**20.904**		**154.02**	

110 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Program ISO37mM 150mm short 0.4 Constant current**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2022 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	1.50	Fluoride	BMB	0.007	0.0080	0.0080	1.0000
2	1.87	Chloride	BMB	0.008	0.0931	0.0931	1.0000
3	2.13	Nitrite,N	BMB	0.005	0.0139	0.0139	1.0000
4	2.43	Sulfate	BMB	0.013	0.1592	0.1592	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.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.033**		**0.27**	

HS22110281 Eurofin Lab Report J104775-1 Std_Tal_L4 Final Report

ALS WO# HS22110281

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Dane Wacasey
ALS Group USA, Corp
10450 Stancliff Rd.
Suite 210
Houston TX 77099

JOB DESCRIPTION

HS22110281

JOB NUMBER

410-104775-1

Table of Contents

Cover Page 1
Data Summaries 3
Definitions 3
Case Narrative 4
Detection Summary 5
Client Sample Results 6
Default Detection Limits 7
QC Sample Results 8
QC Association 9
Chronicle 10
Certification Summary 11
Method Summary 12
Sample Summary 13
Manual Integration Summary 14
Reagent Traceability 16
Organic Sample Data 17
GC VOA 17
Method RSK-175 CO2 DOD 17
Method RSK-175 CO2 DOD QC Summary 18
Method RSK-175 CO2 DOD Sample Data 20
Standards Data 29
Method RSK-175 CO2 DOD ICAL Data 29
Method RSK-175 CO2 DOD CCAL Data 46
Raw QC Data 62
Method RSK-175 CO2 DOD Blank Data 62
Method RSK-175 CO2 DOD LCS/LCSD Data 66
Method RSK-175 CO2 DOD MS/MSD Data 69
Method RSK-175 CO2 DOD Run Logs 75
Method RSK-175 CO2 DOD Prep Data 77
Shipping and Receiving Documents 79
Client Chain of Custody 80
Sample Receipt Checklist 81
Appendix 82

Definitions/Glossary

Client: ALS Group USA, Corp
Job ID: 410-104775-1
Project/Site: HS22110281

Qualifiers

GC VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
410-104775-1

Receipt
The samples were received on 11/8/2022 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01 — Lab Sample ID: 410-104775-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	67000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110281-02 — Lab Sample ID: 410-104775-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	31000		12000	2600	ug/L	1		RSK-175	Total/NA

Client Sample ID: HS22110281-04 — Lab Sample ID: 410-104775-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon dioxide	55000		12000	2600	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01
Lab Sample ID: 410-104775-1

Date Collected: 11/03/22 07:50
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	67000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:29	1

Client Sample ID: HS22110281-02
Lab Sample ID: 410-104775-2

Date Collected: 11/03/22 08:50
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	31000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:52	1

Client Sample ID: HS22110281-04
Lab Sample ID: 410-104775-3

Date Collected: 11/03/22 10:15
Matrix: Water
Date Received: 11/08/22 10:20

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	55000		12000	2600	ug/L		11/11/22 05:25	11/11/22 08:59	1

Default Detection Limits

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Method: RSK-175 - Dissolved Gases (GC)

Prep: RSK-175

Analyte	LOQ	DL	Units
Carbon dioxide	12000	2600	ug/L

QC Sample Results

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-316465/1-A
Matrix: Water
Analysis Batch: 316466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316465

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	2600	U M	12000	2600	ug/L		11/11/22 05:25	11/11/22 08:13	1

Lab Sample ID: LCS 410-316465/2-A
Matrix: Water
Analysis Batch: 316466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316465

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Carbon dioxide			35800	35300		ug/L		99	80 - 122		

QC Association Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

GC VOA

Prep Batch: 316465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104775-1	HS22110281-01	Total/NA	Water	RSK-175	
410-104775-2	HS22110281-02	Total/NA	Water	RSK-175	
410-104775-3	HS22110281-04	Total/NA	Water	RSK-175	
MB 410-316465/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-316465/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
410-104775-1 MS	HS22110281-01	Total/NA	Water	RSK-175	
410-104775-1 MSD	HS22110281-01	Total/NA	Water	RSK-175	

Analysis Batch: 316466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-104775-1	HS22110281-01	Total/NA	Water	RSK-175	316465
410-104775-2	HS22110281-02	Total/NA	Water	RSK-175	316465
410-104775-3	HS22110281-04	Total/NA	Water	RSK-175	316465
MB 410-316465/1-A	Method Blank	Total/NA	Water	RSK-175	316465
LCS 410-316465/2-A	Lab Control Sample	Total/NA	Water	RSK-175	316465
410-104775-1 MS	HS22110281-01	Total/NA	Water	RSK-175	316465
410-104775-1 MSD	HS22110281-01	Total/NA	Water	RSK-175	316465

Lab Chronicle

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Client Sample ID: HS22110281-01
Date Collected: 11/03/22 07:50
Date Received: 11/08/22 10:20

Lab Sample ID: 410-104775-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:29

Client Sample ID: HS22110281-02
Date Collected: 11/03/22 08:50
Date Received: 11/08/22 10:20

Lab Sample ID: 410-104775-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:52

Client Sample ID: HS22110281-04
Date Collected: 11/03/22 10:15
Date Received: 11/08/22 10:20

Lab Sample ID: 410-104775-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	RSK-175			316465	LXF2	ELLE	11/11/22 05:25
Total/NA	Analysis	RSK-175		1	316466	LXF2	ELLE	11/11/22 08:59

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22

Method Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: ALS Group USA, Corp
Project/Site: HS22110281

Job ID: 410-104775-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-104775-1	HS22110281-01	Water	11/03/22 07:50	11/08/22 10:20
410-104775-2	HS22110281-02	Water	11/03/22 08:50	11/08/22 10:20
410-104775-3	HS22110281-04	Water	11/03/22 10:15	11/08/22 10:20

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-104775-1

SDG No.:

Instrument ID: 19506-B Analysis Batch Number: 301115

Lab Sample ID: IC 410-301115/10 Client Sample ID:

Date Analyzed: 09/29/22 07:33 Lab File ID: 312022_9_29B.0010.d GC Column: HP Plot ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon dioxide	1.90	Peak assignment corrected	LXF2	09/29/22 07:57

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-104775-1

SDG No.:

Instrument ID: 19506-B Analysis Batch Number: 316466

Lab Sample ID: MB 410-316465/1-A Client Sample ID:

Date Analyzed: 11/11/22 08:13 Lab File ID: 312022_11_11B.0016.d GC Column: HP Plot ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon dioxide	1.95	Peak not integrated	LXF2	11/11/22 08:29

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104775-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
EPH_CO2ICV_00002	09/29/23	09/29/22	DI Water, Lot In House	1 mL	EPH_CO2XX_00002	0.0018 g	Carbon dioxide	547000 ppb
.EPH_CO2XX_00002	09/29/23	Air Products, Lot A214157			(Purchased Reagent)		Carbon dioxide	30.3889 %
EPH_CO2MS_00004	07/16/23	07/18/22	DI Water, Lot In House	1 g	EPH_CO2CRV_00002	0.0018 g	Carbon dioxide	1791000 ppb
.EPH_CO2CRV_00002	07/16/23	Praxair, Lot 4-11-18			(Purchased Reagent)		Carbon dioxide	99.5 %

Method RSK-175 CO2 DOD

Dissolved Gases (GC) by Method RSK_175_CO2 DOD

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 312022_11_11B.0017.d

Lab ID: LCS 410-316465/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Carbon dioxide	35800	35300	99	80-122	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Lab File ID: 312022_11_11B.0016.d Lab Sample ID: MB 410-316465/1-A

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: 19506-B Date Analyzed: 11/11/2022 08:13

GC Column: HP Plot ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-316465/2-A	312022_11_11B.0017.d	11/11/2022 08:21
HS22110281-01	410-104775-1	312022_11_11B.0018.d	11/11/2022 08:29
HS22110281-01 MS	410-104775-1 MS	312022_11_11B.0019.d	11/11/2022 08:36
HS22110281-01 MSD	410-104775-1 MSD	312022_11_11B.0020.d	11/11/2022 08:44
HS22110281-02	410-104775-2	312022_11_11B.0021.d	11/11/2022 08:52
HS22110281-04	410-104775-3	312022_11_11B.0022.d	11/11/2022 08:59

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Client Sample ID: HS22110281-01 Lab Sample ID: 410-104775-1

Matrix: Water Lab File ID: 312022_11_11B.0018.d

Analysis Method: RSK-175 Date Collected: 11/03/2022 07:50

Sample wt/vol: 5(mL) Date Analyzed: 11/11/2022 08:29

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 316466 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	67000		12000	2600

Report Date: 11-Nov-2022 10:35:32

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0018.d				
Lims ID:	410-104775-A-1-A				
Client ID:	HS22110281-01				
Sample Type:	Client				
Inject. Date:	11-Nov-2022 08:29:00	ALS Bottle#:	0	Worklist Smp#:	18
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	410-104775-A-1-A				
Misc. Info.:	410-0070920-018				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.943	1.948	-0.005	110124845	67071	H

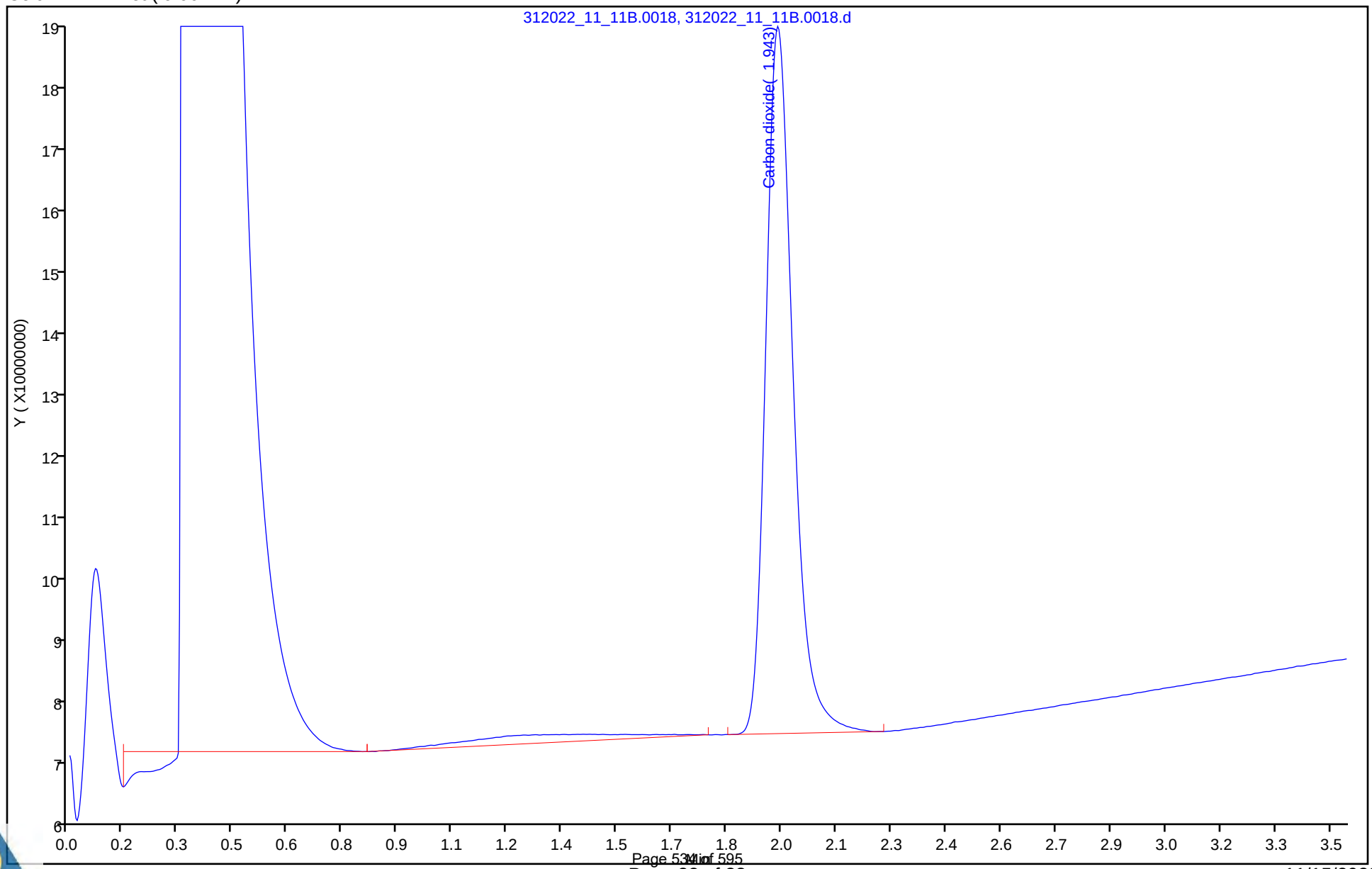
Chrom Revision: 2.3 25-Oct-2022 11:16:06

Report Date: 11-Nov-2022 10:35:32 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0018.d				
Injection Date:	11-Nov-2022 08:29:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104775-A-1-A	Lab Sample ID:	410-104775-1	Worklist Smp#:	18
Client ID:	HS22110281-01				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Client Sample ID: HS22110281-02 Lab Sample ID: 410-104775-2

Matrix: Water Lab File ID: 312022_11_11B.0021.d

Analysis Method: RSK-175 Date Collected: 11/03/2022 08:50

Sample wt/vol: 5(mL) Date Analyzed: 11/11/2022 08:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 316466 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	31000		12000	2600

Report Date: 11-Nov-2022 10:35:33

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0021.d				
Lims ID:	410-104775-A-2-A				
Client ID:	HS22110281-02				
Sample Type:	Client				
Inject. Date:	11-Nov-2022 08:52:00	ALS Bottle#:	0	Worklist Smp#:	21
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	410-104775-A-2-A				
Misc. Info.:	410-0070920-021				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.948	1.948	0.000	51281563H	31233	

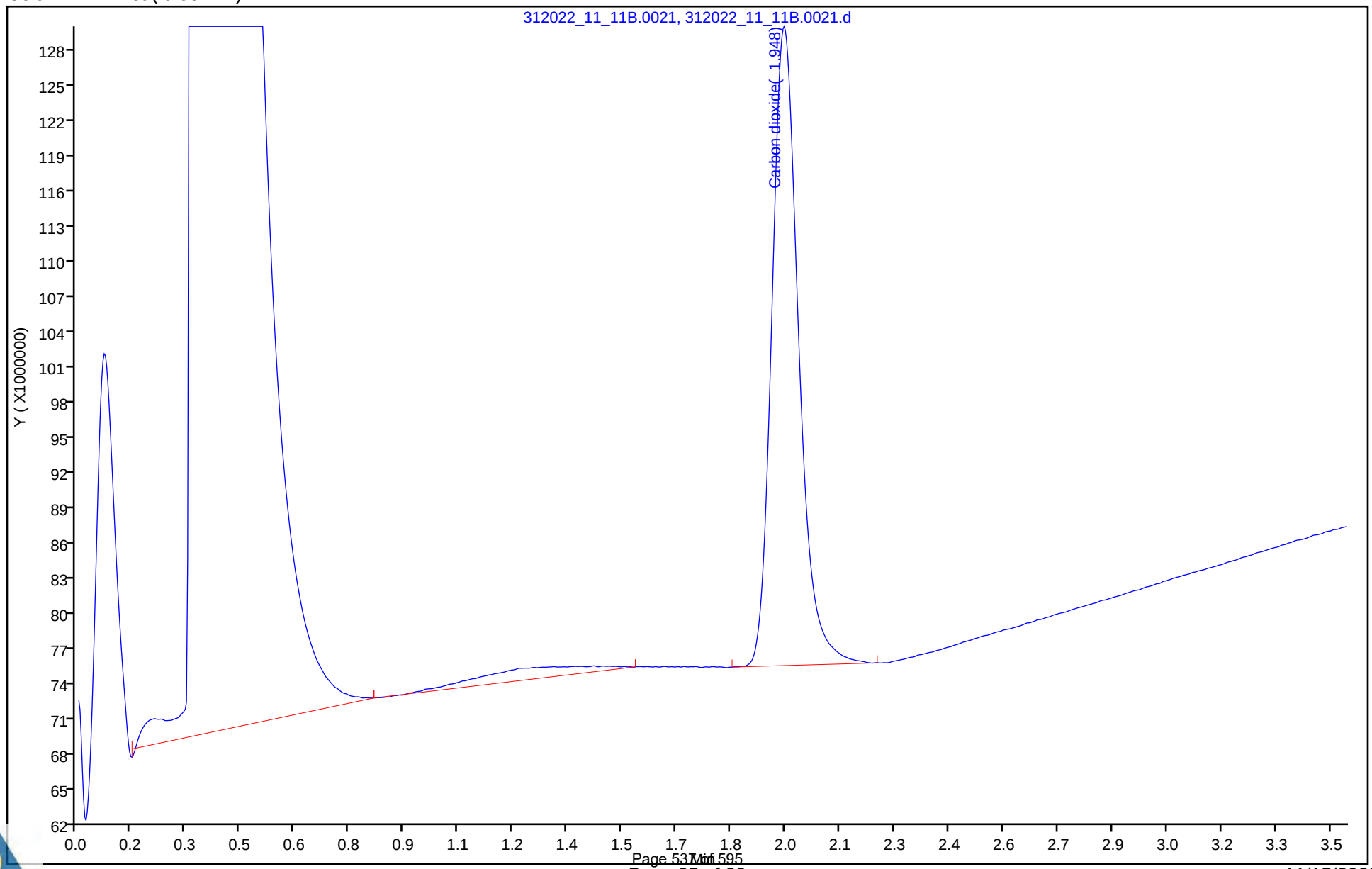
Report Date: 11-Nov-2022 10:35:33 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0021.d

Injection Date:	11-Nov-2022 08:52:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104775-A-2-A	Lab Sample ID:	410-104775-2	Worklist Smp#:	21
Client ID:	HS22110281-02				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Client Sample ID: HS22110281-04 Lab Sample ID: 410-104775-3

Matrix: Water Lab File ID: 312022_11_11B.0022.d

Analysis Method: RSK-175 Date Collected: 11/03/2022 10:15

Sample wt/vol: 5(mL) Date Analyzed: 11/11/2022 08:59

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 316466 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	55000		12000	2600

Report Date: 11-Nov-2022 10:35:33

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0022.d				
Lims ID:	410-104775-A-3-A				
Client ID:	HS22110281-04				
Sample Type:	Client				
Inject. Date:	11-Nov-2022 08:59:00	ALS Bottle#:	0	Worklist Smp#:	22
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	410-104775-A-3-A				
Misc. Info.:	410-0070920-022				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.943	1.948	-0.005	90007360H	54818	

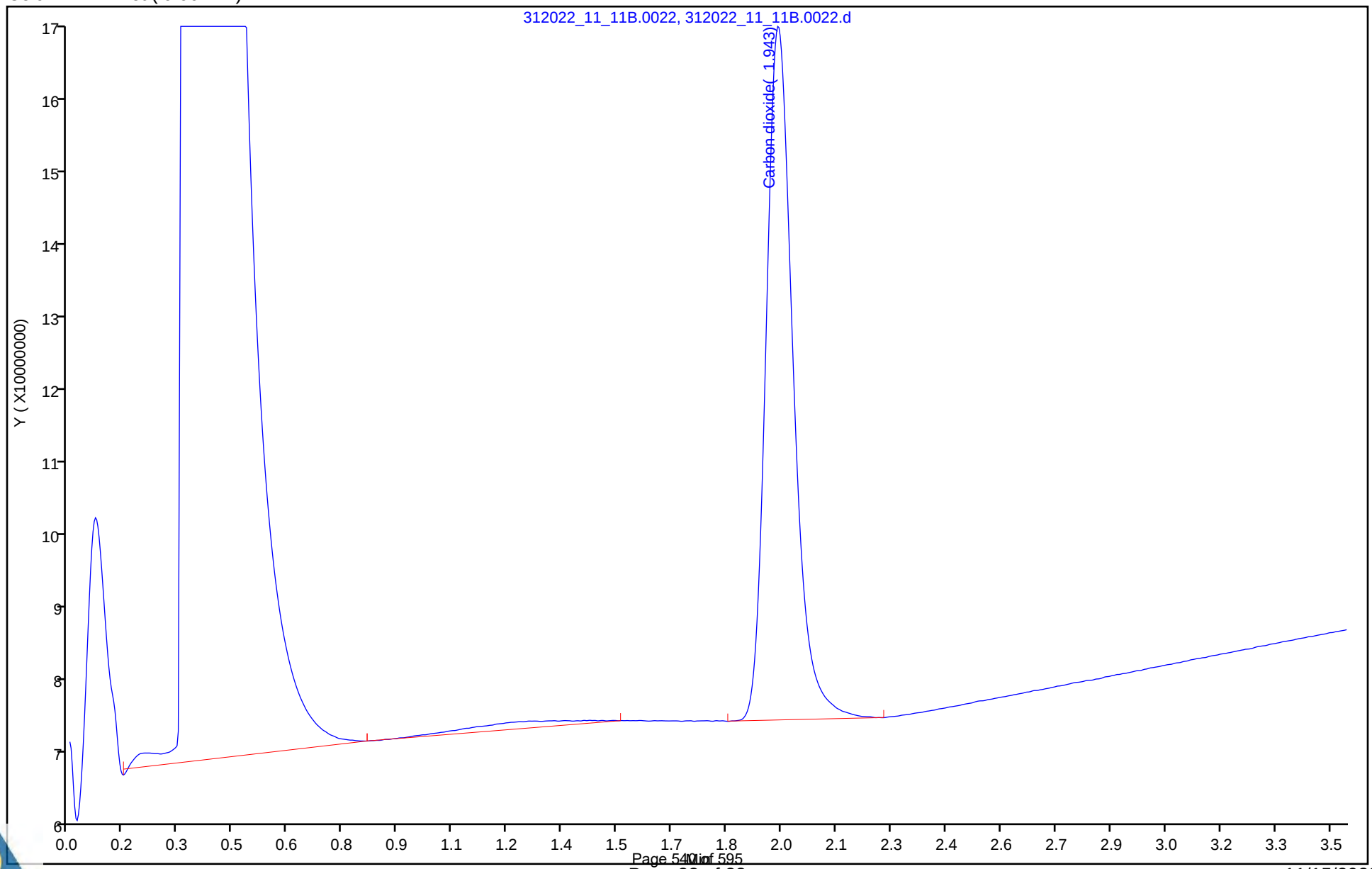
Chrom Revision: 2.3 25-Oct-2022 11:16:06

Report Date: 11-Nov-2022 10:35:33 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0022.d				
Injection Date:	11-Nov-2022 08:59:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104775-A-3-A	Lab Sample ID:	410-104775-3	Worklist Smp#:	22
Client ID:	HS22110281-04				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104775-1 Analy Batch No.: 301115

SDG No.:

Instrument ID: 19506-B GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/29/2022 06:52 Calibration End Date: 09/29/2022 07:33 Calibration ID: 42648

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-301115/5	312022_9_29B.0005.d
Level 2	IC 410-301115/6	312022_9_29B.0006.d
Level 3	ICRT 410-301115/7	312022_9_29B.0007.d
Level 4	IC 410-301115/8	312022_9_29B.0008.d
Level 5	IC 410-301115/9	312022_9_29B.0009.d
Level 6	IC 410-301115/10	312022_9_29B.0010.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Carbon dioxide	1.939	1.938	1.937	1.931	1.918	1.902					1.907 - 1.967	1.928

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104775-1 Analy Batch No.: 301115

SDG No.:

Instrument ID: 19506-B GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/29/2022 06:52 Calibration End Date: 09/29/2022 07:33 Calibration ID: 42648

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-301115/5	312022_9_29B.0005.d
Level 2	IC 410-301115/6	312022_9_29B.0006.d
Level 3	ICRT 410-301115/7	312022_9_29B.0007.d
Level 4	IC 410-301115/8	312022_9_29B.0008.d
Level 5	IC 410-301115/9	312022_9_29B.0009.d
Level 6	IC 410-301115/10	312022_9_29B.0010.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Carbon dioxide	1658.9 1735.0	1655.7 1440.6	1669.8	1691.6	Ave		1641.9211 0				6.3		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-104775-1 Analy Batch No.: 301115

SDG No.:

Instrument ID: 19506-B GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/29/2022 06:52 Calibration End Date: 09/29/2022 07:33 Calibration ID: 42648

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-301115/5	312022_9_29B.0005.d
Level 2	IC 410-301115/6	312022_9_29B.0006.d
Level 3	ICRT 410-301115/7	312022_9_29B.0007.d
Level 4	IC 410-301115/8	312022_9_29B.0008.d
Level 5	IC 410-301115/9	312022_9_29B.0009.d
Level 6	IC 410-301115/10	312022_9_29B.0010.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Carbon dioxide	Ave	17826195 516013706	35585188	59810588	151483728	310734679	10746 358200	21492	35820	89550	179100

Curve Type Legend
Ave = Average by Height

Report Date: 29-Sep-2022 07:58:25

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0005.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Sep-2022 06:52:00	ALS Bottle#:	0	Worklist Smp#:	5
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-005				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:25	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.939	1.937	0.002	17826195	H 10746	10857	

Reagents:

EPH_CO2MS_00004 Amount Added: 30.00 Units: uL

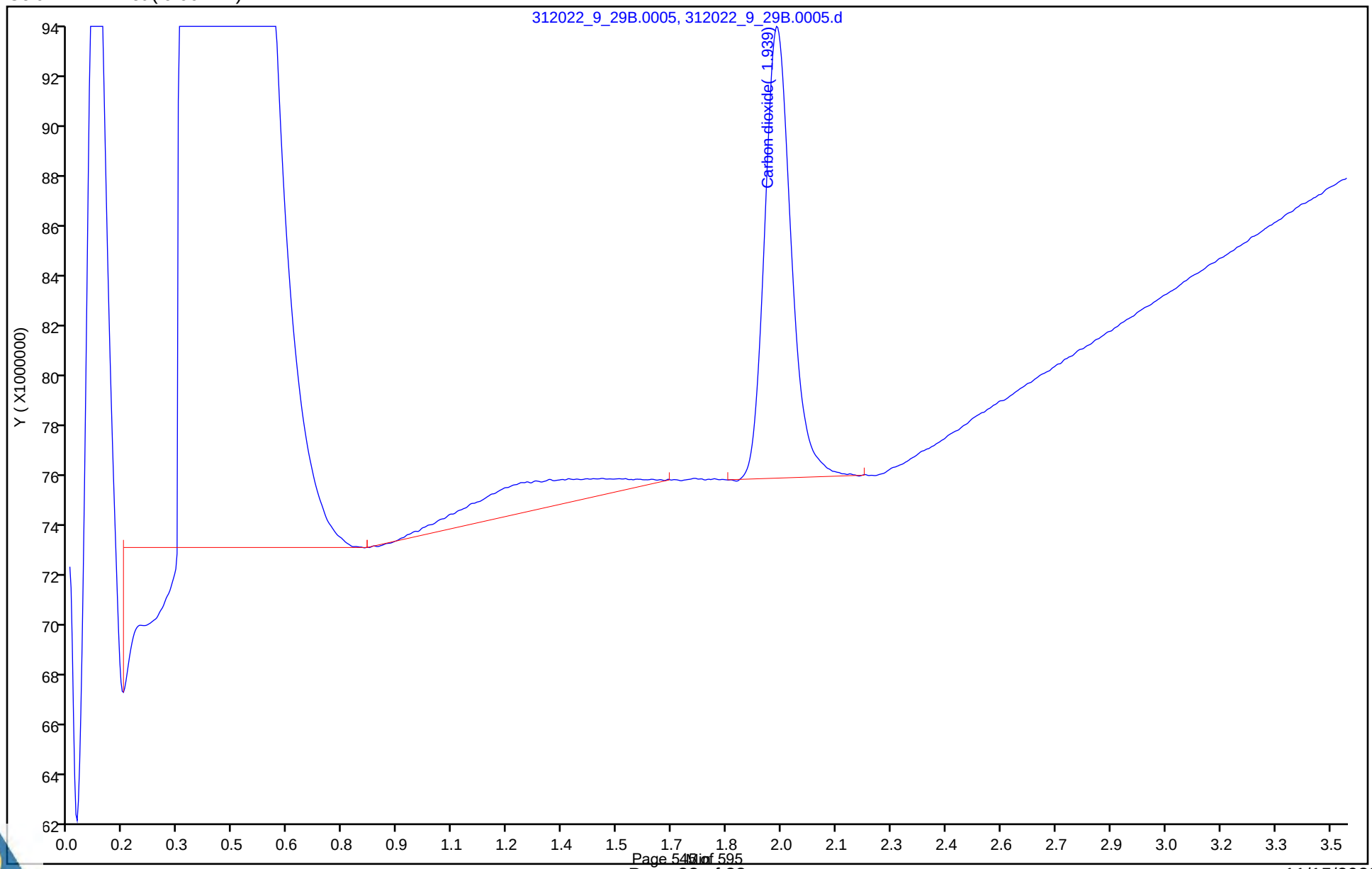
Report Date: 29-Sep-2022 07:58:25 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0005.d

Injection Date:	29-Sep-2022 06:52:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:25

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0006.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	29-Sep-2022 07:00:00	ALS Bottle#:	0	Worklist Smp#:	6
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-006				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:25	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.938	1.937	0.001	35585188	H 21492	21673	

Reagents:

EPH_CO2MS_00004 Amount Added: 60.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

Report Date: 29-Sep-2022 07:58:25 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0006.d

Injection Date: 29-Sep-2022 07:00:00 Instrument ID: 19506-B Operator ID:

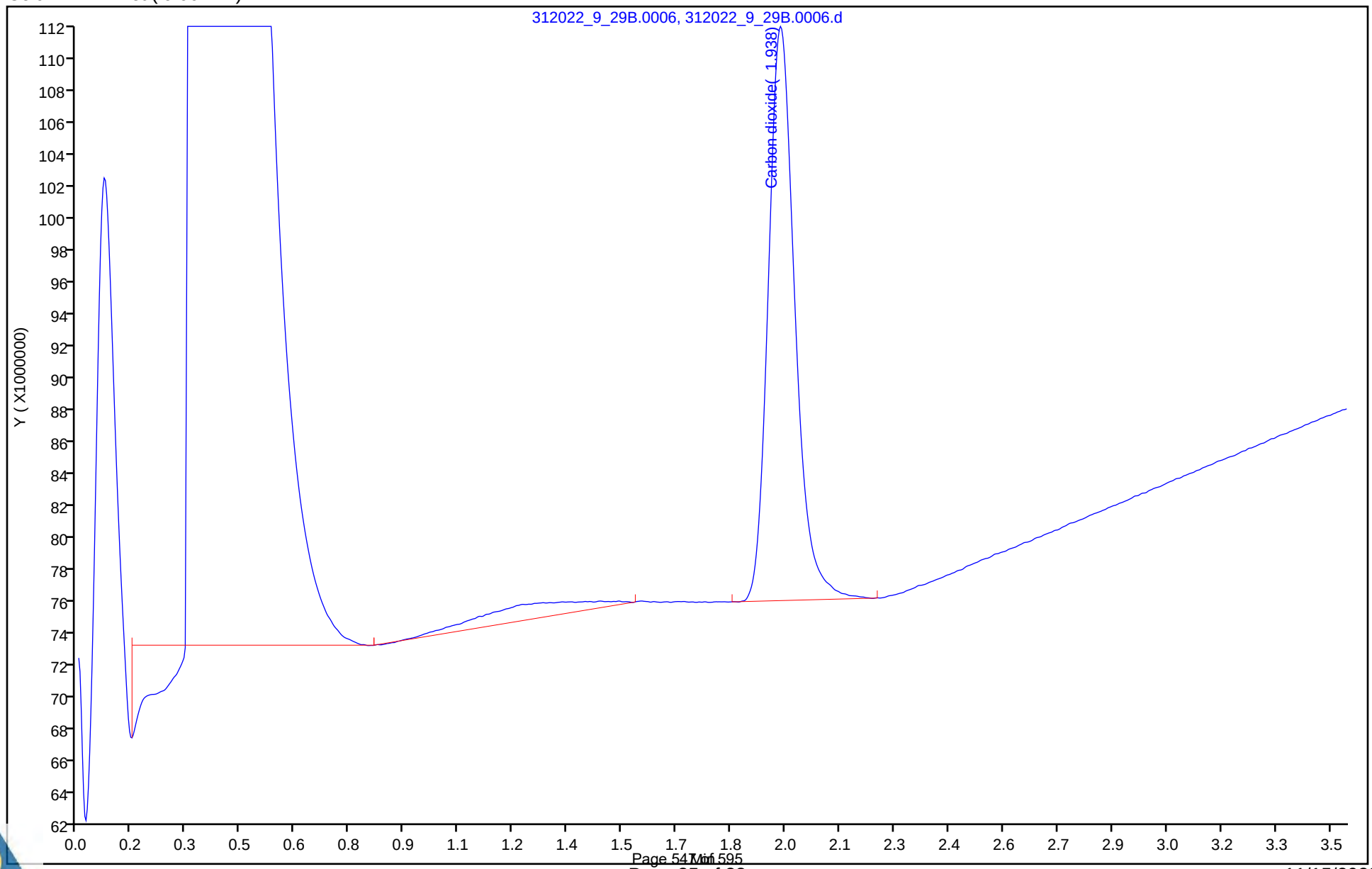
Lims ID: IC Worklist Smp#: 6

Client ID:

Purge Vol: 1.000 mL Dil. Factor: 1.0000 ALS Bottle#: 0

Method: RSK_CO2_19506B Limit Group: GCV - RSK175 CO2

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:26

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0007.d				
Lims ID:	ICRT				
Client ID:					
Sample Type:	ICRT	Calib Level:	3		
Inject. Date:	29-Sep-2022 07:08:00	ALS Bottle#:	0	Worklist Smp#:	7
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ICRT				
Misc. Info.:	410-0067491-007				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.937	1.937	0.000	59810588H	35820	36427	

Reagents:

EPH_CO2MS_00004 Amount Added: 100.00 Units: uL

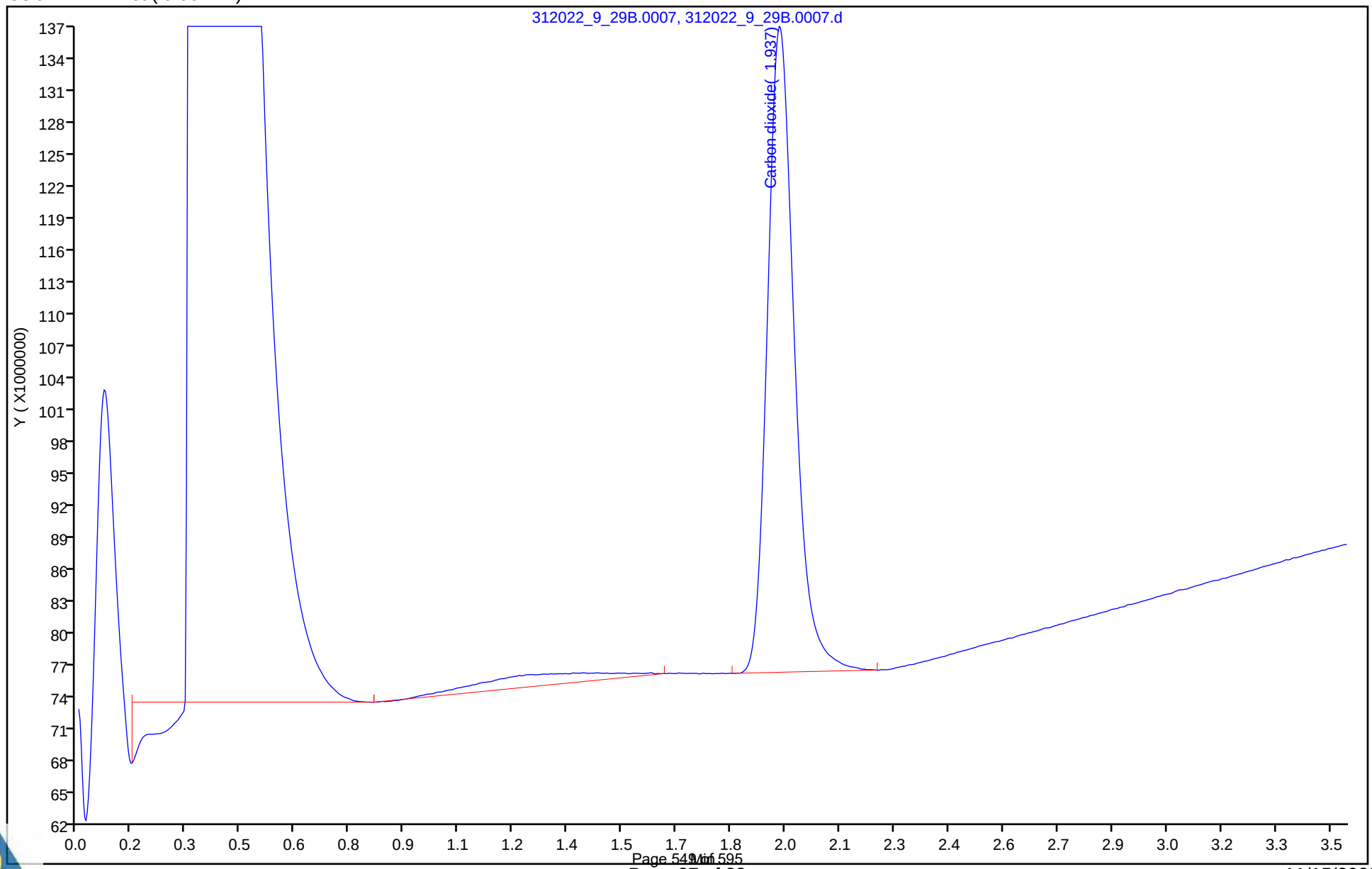
Report Date: 29-Sep-2022 07:58:26 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0007.d

Injection Date:	29-Sep-2022 07:08:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ICRT			Worklist Smp#:	7
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:26

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0008.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	29-Sep-2022 07:16:00	ALS Bottle#:	0	Worklist Smp#:	8
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-008				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:26	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.931	1.937	-0.006	151483728	H 89550	92260	

Reagents:

EPH_CO2MS_00004 Amount Added: 250.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

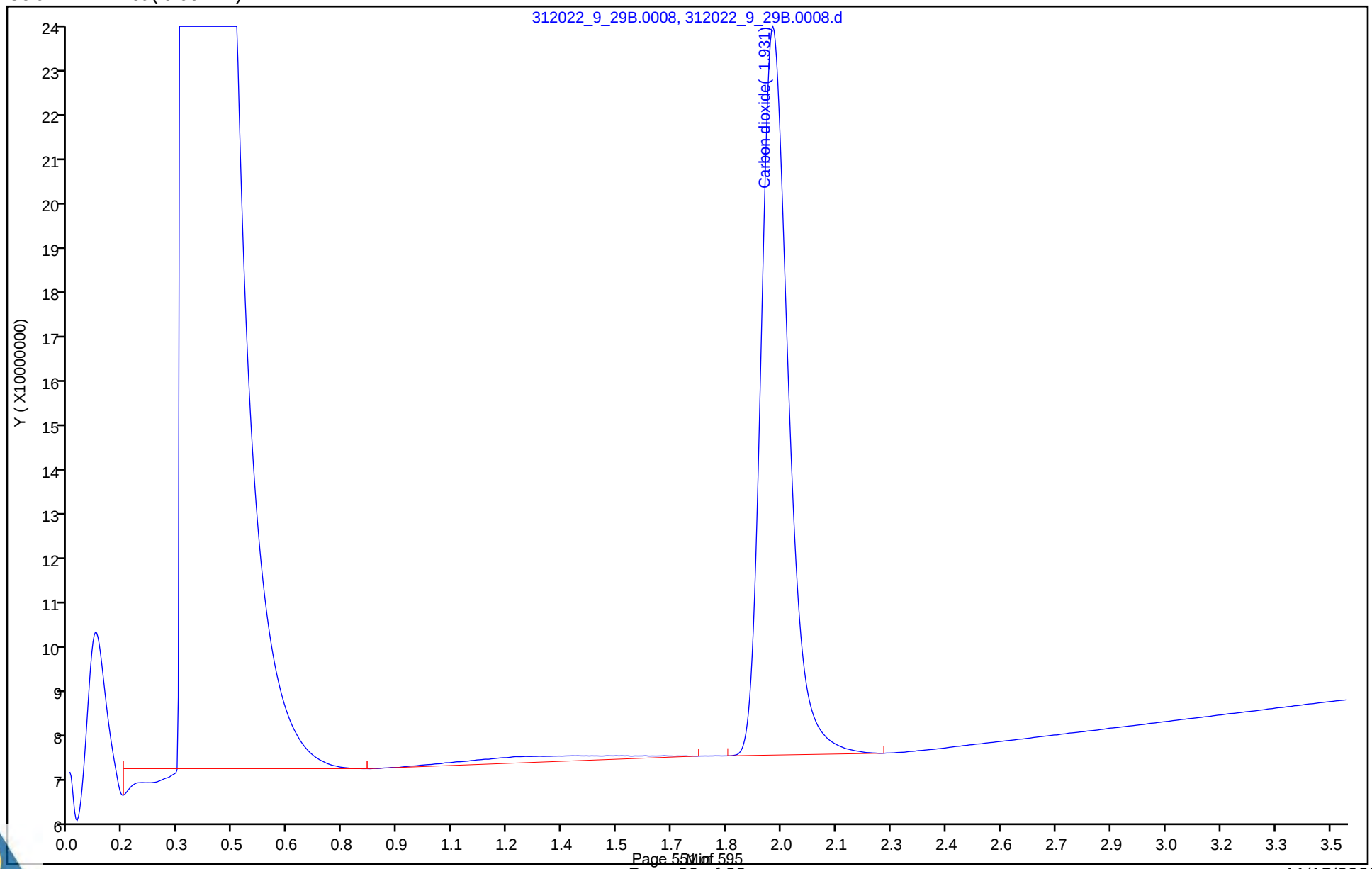
Report Date: 29-Sep-2022 07:58:26 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0008.d

Injection Date:	29-Sep-2022 07:16:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0009.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	29-Sep-2022 07:25:00	ALS Bottle#:	0	Worklist Smp#:	9
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-009				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:27	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.918	1.937	-0.019	310734679H	179100	189251	

Reagents:

EPH_CO2MS_00004 Amount Added: 500.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

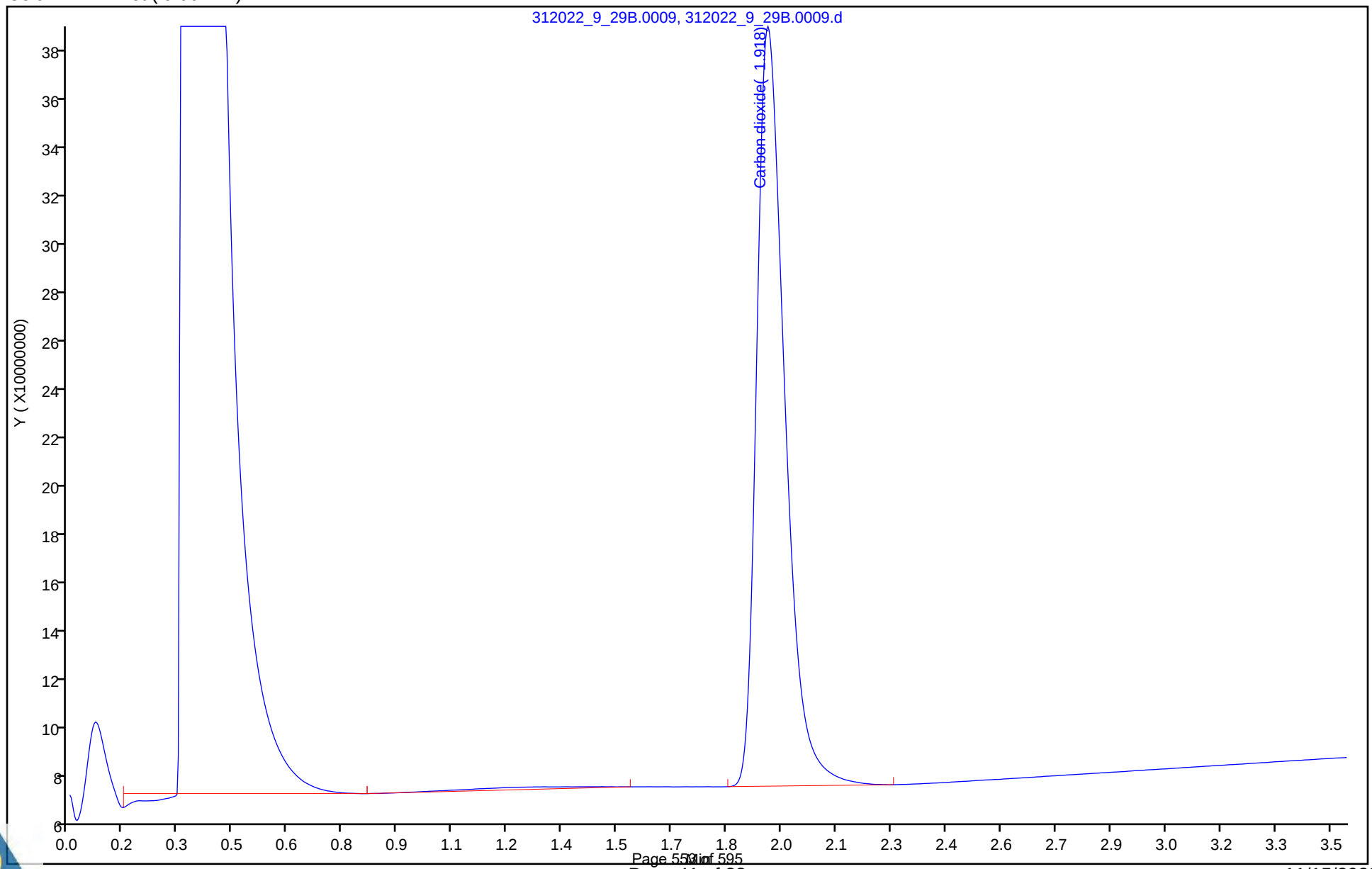
Report Date: 29-Sep-2022 07:58:27 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0009.d

Injection Date:	29-Sep-2022 07:25:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:27

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	29-Sep-2022 07:33:00	ALS Bottle#:	0	Worklist Smp#:	10
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	410-0067491-010				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 07:58:27	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				
First Level Reviewer: LXF2		Date:	29-Sep-2022 07:57:45		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.902	1.937	-0.035	516013706H	358200	314274	a

QC Flag Legend

Processing Flags
H - Response Measured by Height
Review Flags
a - User Assigned ID

Reagents:

EPH_CO2MS_00004 Amount Added: 1000.00 Units: uL

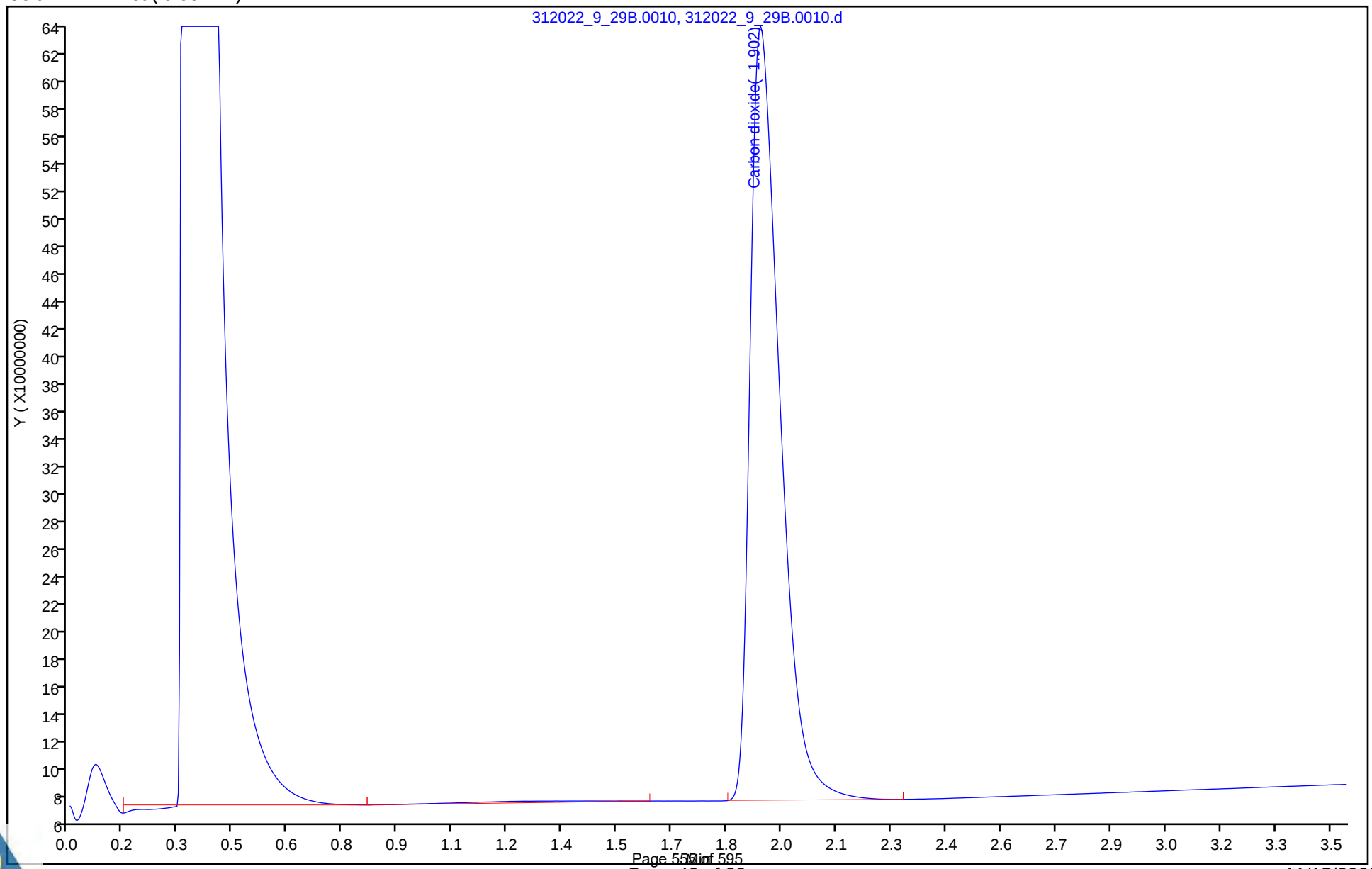
Report Date: 29-Sep-2022 07:58:27 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d

Injection Date:	29-Sep-2022 07:33:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 29-Sep-2022 07:58:27

Chrom Revision: 2.3 22-Sep-2022 21:23:26 Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

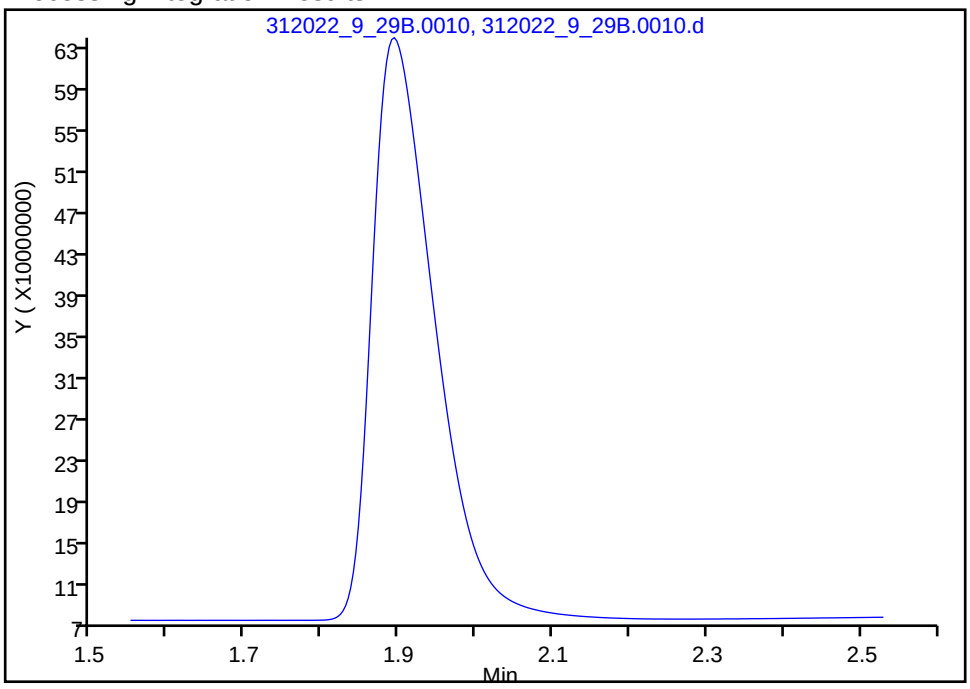
Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d		
Injection Date:	29-Sep-2022 07:33:00	Instrument ID:	19506-B
Lims ID:	IC		
Client ID:			
Operator ID:		ALS Bottle#:	0 Worklist Smp#: 10
Purge Vol:	1.000 mL	Dil. Factor:	1.0000
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2
Column:	HP Plot (0.00 mm)	Detector	0FIDA

1 Carbon dioxide, CAS: 124-38-9

Signal: 1

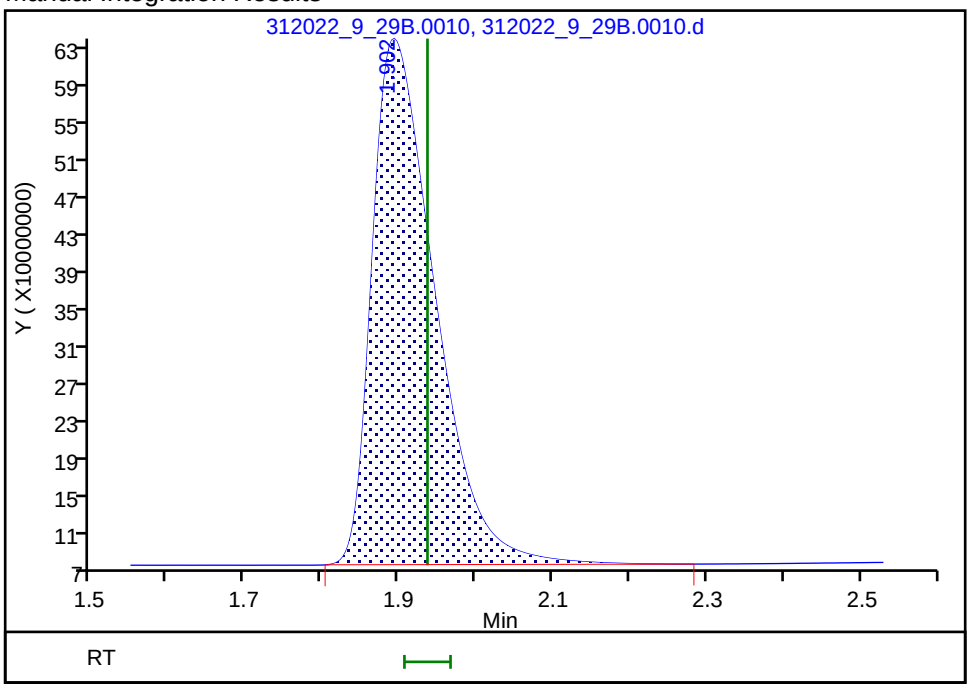
Not Detected
Expected RT: 1.94

Processing Integration Results



Manual Integration Results

RT: 1.90
Height: 516013706
Amount: 314274
Amount Units: ug/l



Reviewer: LXF2, 29-Sep-2022 07:57:34
Audit Action: Assigned Compound ID
Audit Reason: Peak assignment corrected

Calibration

/ Carbon dioxide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	HEIGHT
RF Rounding:	0

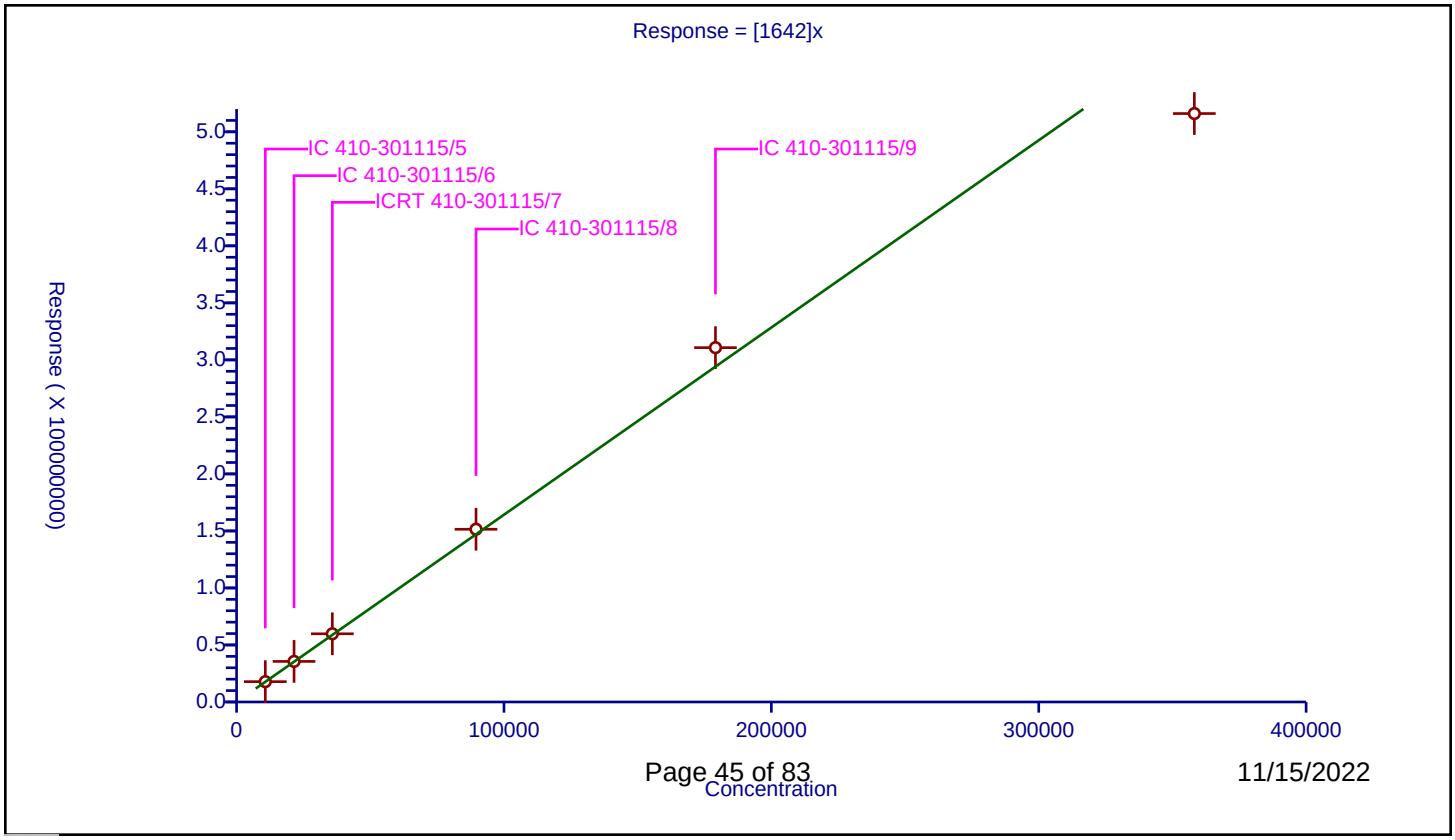
Curve Coefficients

Intercept:	0
Slope:	1642

Error Coefficients

Standard Error:	33200000
Relative Standard Error:	6.3
Correlation Coefficient:	0.990
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 410-301115/5	10746.0	17826195.0			1658.867951	Y
2	IC 410-301115/6	21492.0	35585188.0			1655.741113	Y
3	ICRT 410-301115/7	35820.0	59810588.0			1669.753992	Y
4	IC 410-301115/8	89550.0	151483728.0			1691.610586	Y
5	IC 410-301115/9	179100.0	310734679.0			1734.978666	Y
6	IC 410-301115/10	358200.0	516013706.0			1440.574277	Y



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: ICV 410-301115/13 Calibration Date: 09/29/2022 07:57

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_9_29B.0013.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon dioxide	Ave	1642	1624		34600	35000	-1.1	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: ICV 410-301115/13 Calibration Date: 09/29/2022 07:57

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_9_29B.0013.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Carbon dioxide	1.94	1.91	1.97

Report Date: 29-Sep-2022 08:05:32

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0013.d				
Lims ID:	ICV				
Client ID:					
Sample Type:	ICV				
Inject. Date:	29-Sep-2022 07:57:00	ALS Bottle#:	0	Worklist Smp#:	13
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ICV				
Misc. Info.:	410-0067491-013				
Operator ID:		Instrument ID:	19506-B		
Sublist:					
Method:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	29-Sep-2022 06:05:09	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1678				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.936	1.937	-0.001	56861018	H 35008	34631	

Reagents:

EPH_CO2ICV_00002 Amount Added: 320.00 Units: uL

Chrom Revision: 2.3 22-Sep-2022 21:23:26

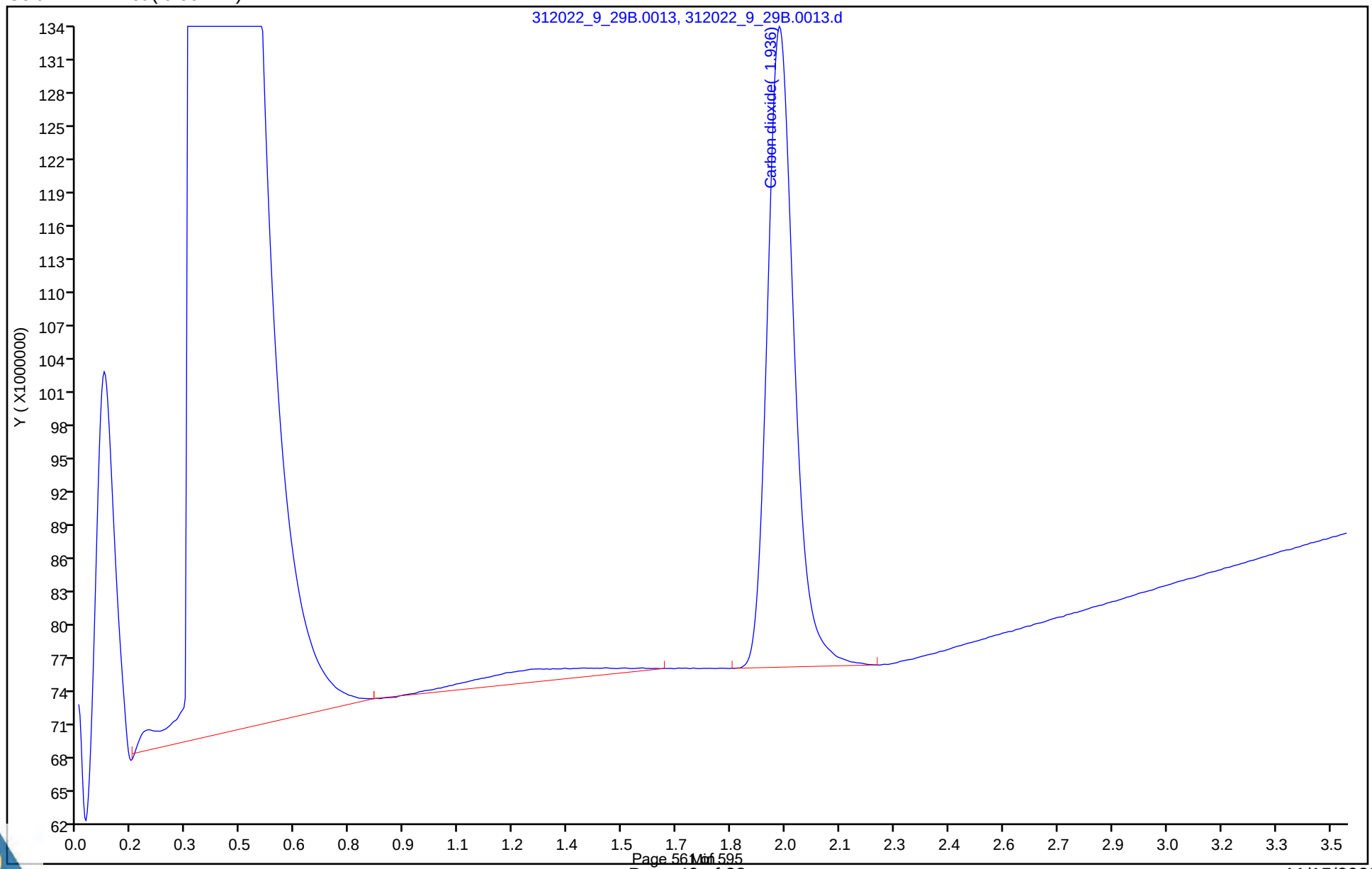
Report Date: 29-Sep-2022 08:05:32 Chrom Revision: 2.3 22-Sep-2022 21:23:26

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0013.d

Injection Date:	29-Sep-2022 07:57:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	13
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: CCVRT 410-316466/4 Calibration Date: 11/11/2022 06:06

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_11B.0004.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon dioxide	Ave	1642	1708		37300	35800	4.0	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: CCVRT 410-316466/4 Calibration Date: 11/11/2022 06:06

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_11B.0004.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Carbon dioxide	1.95	1.92	1.98

Report Date: 11-Nov-2022 10:35:25

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0004.d				
Lims ID:	ccvrt				
Client ID:					
Sample Type:	CCVRT				
Inject. Date:	11-Nov-2022 06:06:00	ALS Bottle#:	0	Worklist Smp#:	4
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ccvrt				
Misc. Info.:	410-0070920-004				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:25	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.948	1.948	0.000	61179295	H 35820	37261	

Reagents:

EPH_CO2MS_00004 Amount Added: 0.10 Units: mL

Chrom Revision: 2.3 25-Oct-2022 11:16:06

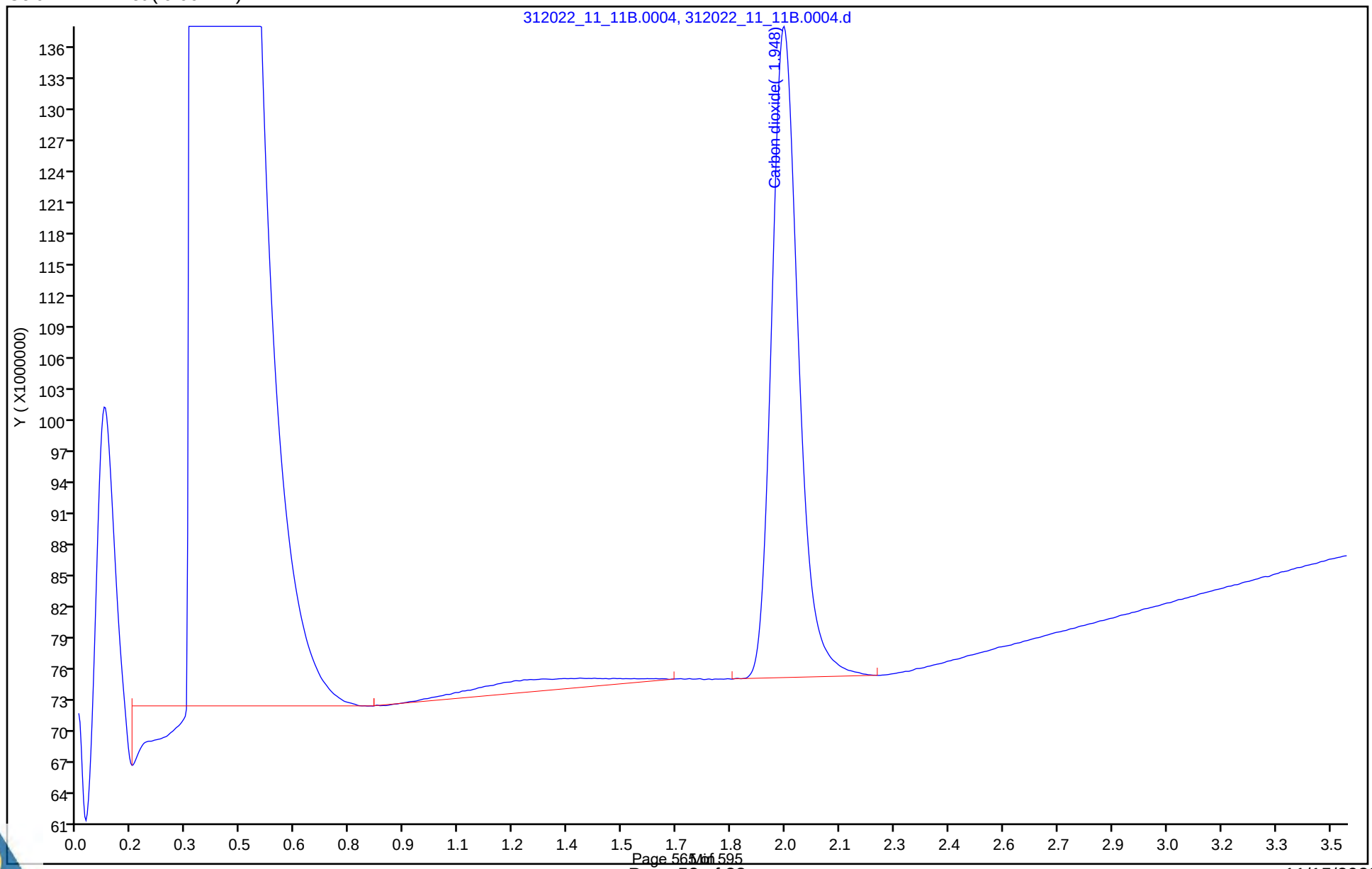
Report Date: 11-Nov-2022 10:35:25 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0004.d

Injection Date:	11-Nov-2022 06:06:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ccvrt			Worklist Smp#:	4
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: CCV 410-316466/15 Calibration Date: 11/11/2022 07:40

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_11B.0015.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon dioxide	Ave	1642	1606		35000	35800	-2.2	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: CCV 410-316466/15 Calibration Date: 11/11/2022 07:40

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_11B.0015.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Carbon dioxide	1.95	1.92	1.98

Report Date: 11-Nov-2022 10:35:30

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0015.d				
Lims ID:	ccv				
Client ID:					
Sample Type:	CCV				
Inject. Date:	11-Nov-2022 07:40:00	ALS Bottle#:	0	Worklist Smp#:	15
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ccv				
Misc. Info.:	410-0070920-015				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.946	1.948	-0.002	57512282H	35820	35027	

Reagents:

EPH_CO2MS_00004 Amount Added: 100.00 Units: uL

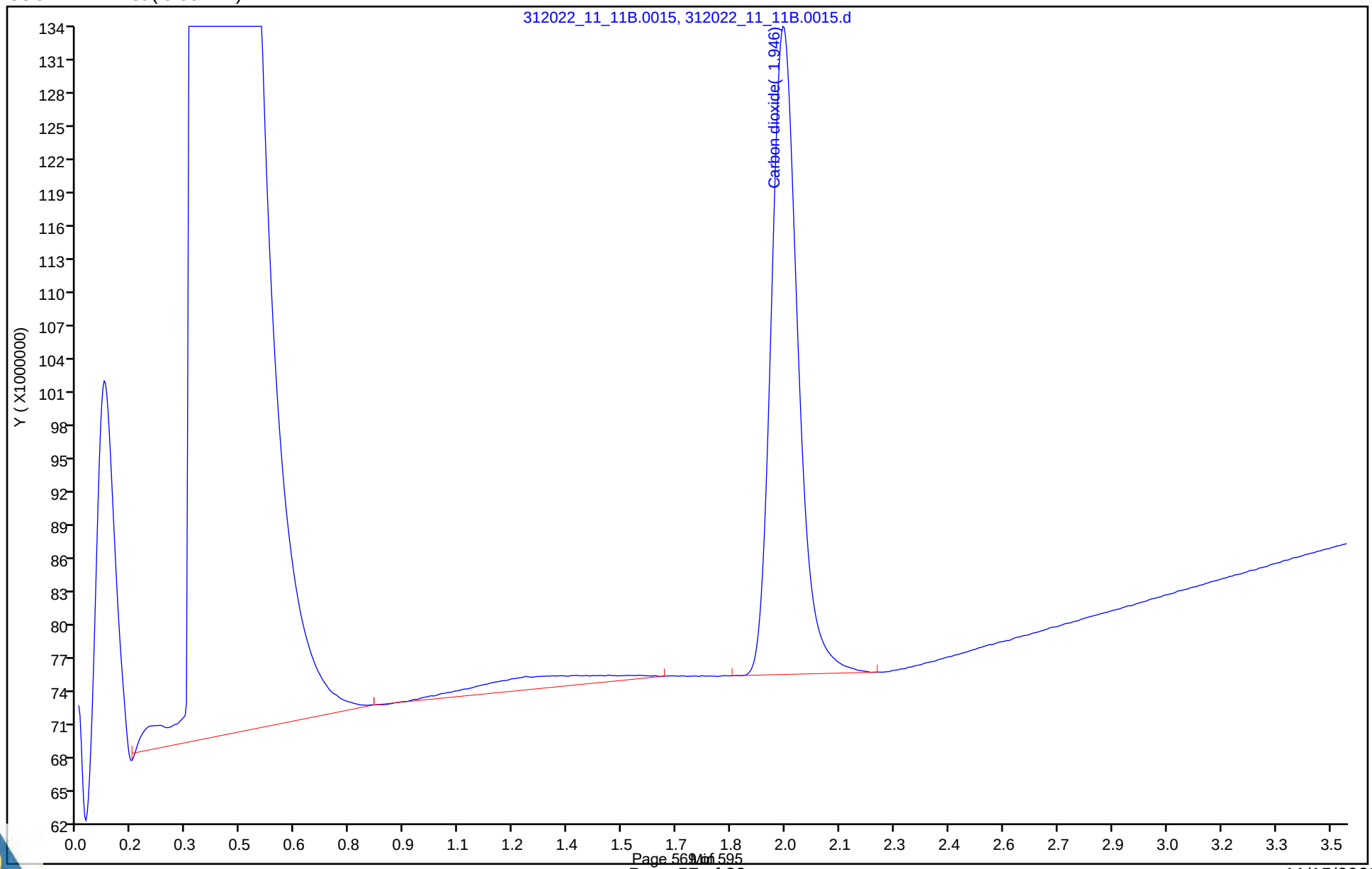
Report Date: 11-Nov-2022 10:35:30 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0015.d

Injection Date:	11-Nov-2022 07:40:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	15
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: CCV 410-316466/26 Calibration Date: 11/11/2022 09:30

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_11B.0026.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon dioxide	Ave	1642	1504		32800	35800	-8.4	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Lab Sample ID: CCV 410-316466/26 Calibration Date: 11/11/2022 09:30

Instrument ID: 19506-B Calib Start Date: 09/29/2022 06:52

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 09/29/2022 07:33

Lab File ID: 312022_11_11B.0026.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Carbon dioxide	1.95	1.92	1.98

Report Date: 11-Nov-2022 10:35:35

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0026.d				
Lims ID:	ccv				
Client ID:					
Sample Type:	CCV				
Inject. Date:	11-Nov-2022 09:30:00	ALS Bottle#:	0	Worklist Smp#:	26
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	ccv				
Misc. Info.:	410-0070920-026				
Operator ID:		Instrument ID:	19506-B		
Sublist:	chrom-RSK_CO2_19506B*sub1				
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:34	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.949	1.948	0.001	53889948	H 35820	32821	

Reagents:

EPH_CO2MS_00004 Amount Added: 100.00 Units: uL

Chrom Revision: 2.3 25-Oct-2022 11:16:06

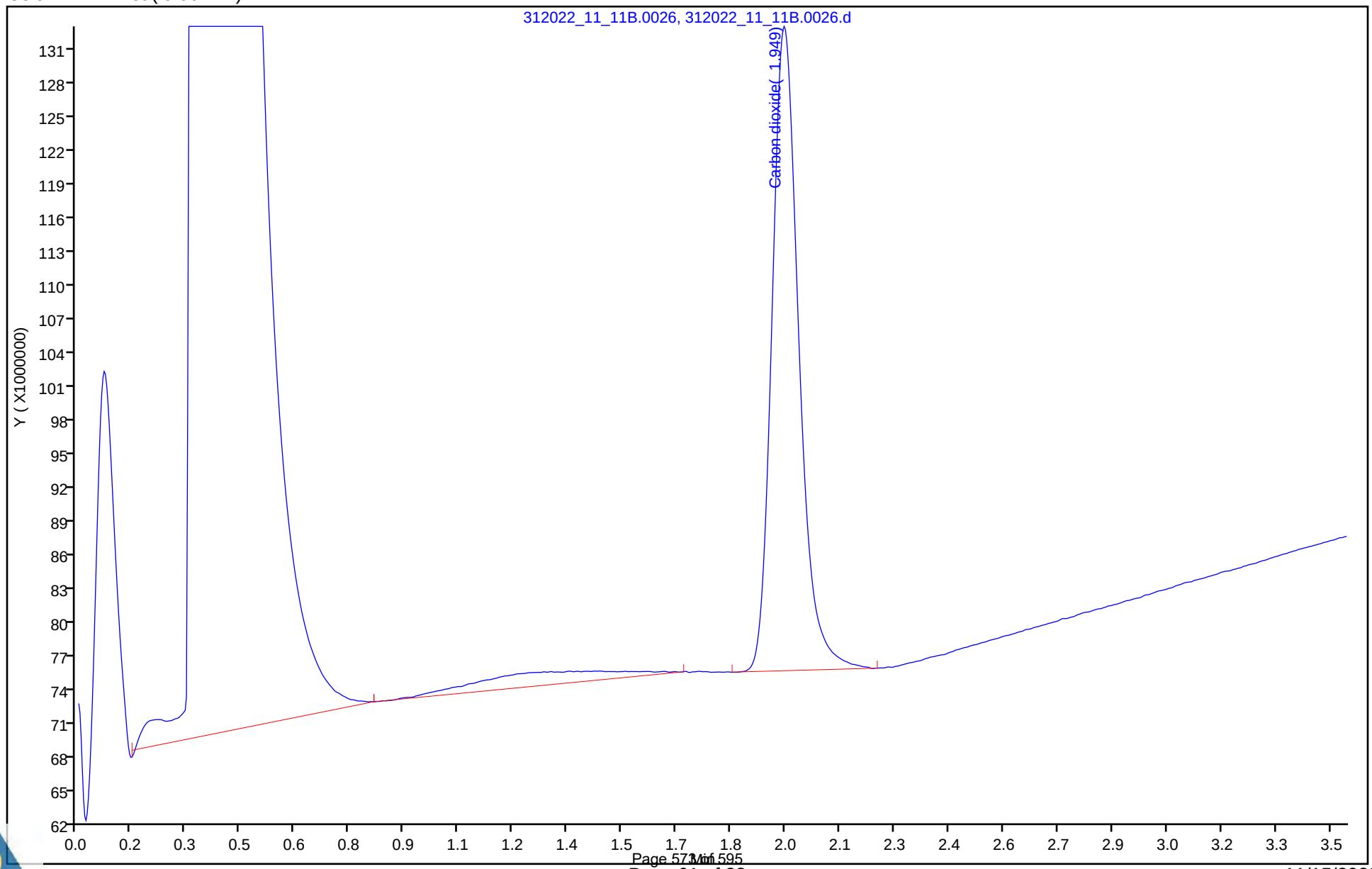
Report Date: 11-Nov-2022 10:35:35 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0026.d

Injection Date:	11-Nov-2022 09:30:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	26
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-316465/1-A

Matrix: Water Lab File ID: 312022_11_11B.0016.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/11/2022 08:13

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH:

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 316466 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	2600	U M	12000	2600

Report Date: 11-Nov-2022 10:35:31

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0016.d				
Lims ID:	MB 410-316465/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	11-Nov-2022 08:13:00	ALS Bottle#:	0	Worklist Smp#:	16
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	MB 410-316465/1-A				
Misc. Info.:	410-0070920-016				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				
First Level Reviewer: LXF2		Date:	11-Nov-2022 08:29:06		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.950	1.948	0.002	1127380H		686.6	Ma

QC Flag Legend

Processing Flags
H - Response Measured by Height
Review Flags
M - Manually Integrated
a - User Assigned ID

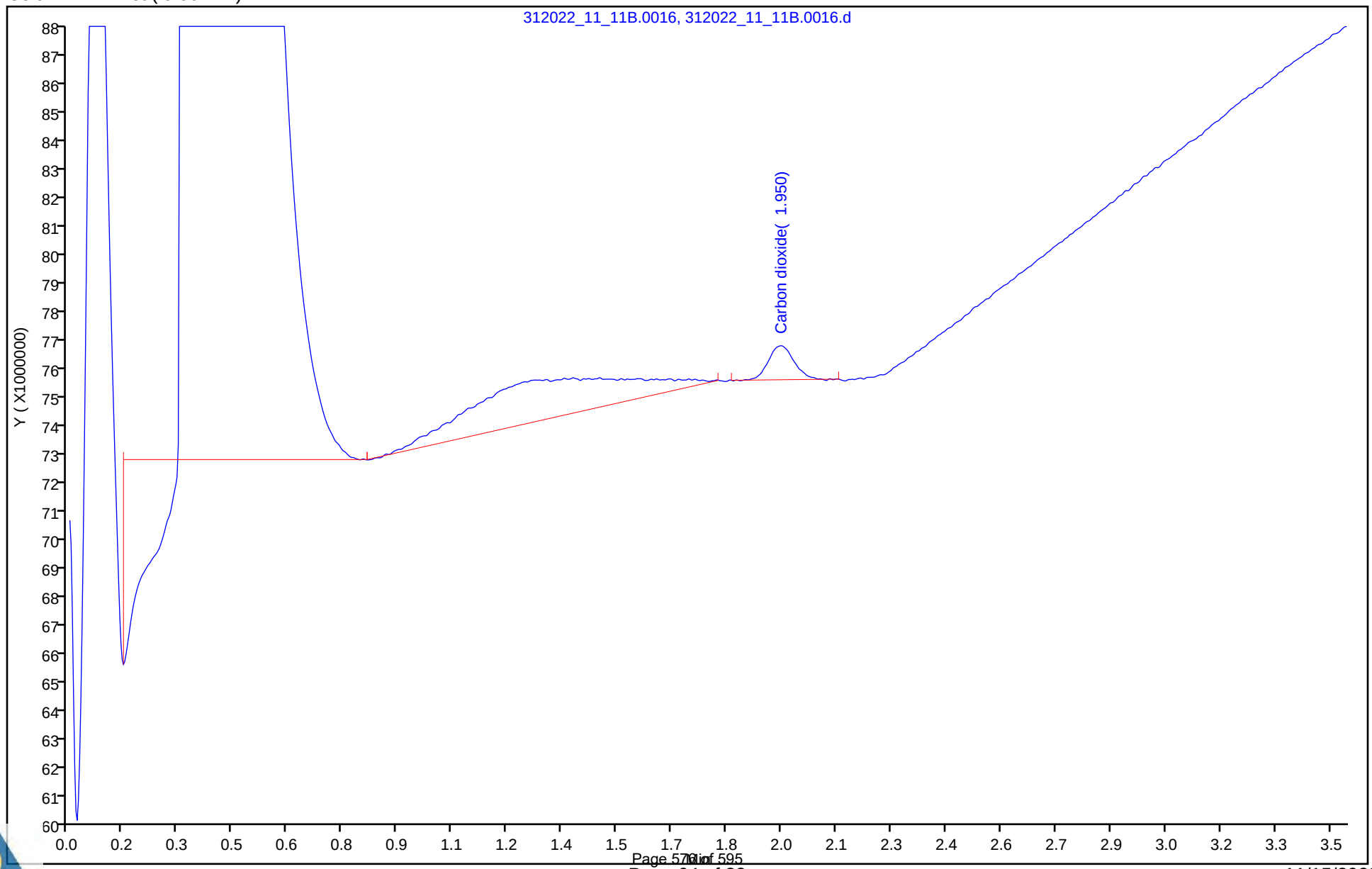
Report Date: 11-Nov-2022 10:35:31 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0016.d

Injection Date:	11-Nov-2022 08:13:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	MB 410-316465/1-A			Worklist Smp#:	16
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Report Date: 11-Nov-2022 10:35:31 Chrom Revision: 2.3 25-Oct-2022 11:16:06 Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Environment Testing, LLC

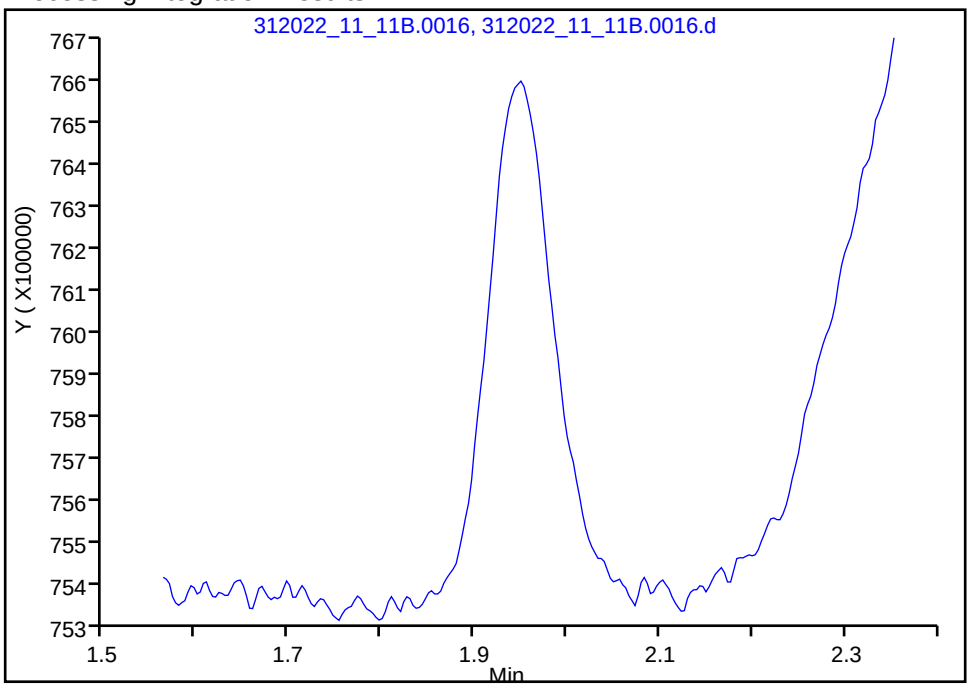
Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0016.d		
Injection Date:	11-Nov-2022 08:13:00	Instrument ID:	19506-B
Lims ID:	MB 410-316465/1-A		
Client ID:			
Operator ID:		ALS Bottle#:	0 Worklist Smp#: 16
Purge Vol:	1.000 mL	Dil. Factor:	1.0000
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2
Column:	HP Plot (0.00 mm)	Detector	0FIDA

1 Carbon dioxide, CAS: 124-38-9

Signal: 1

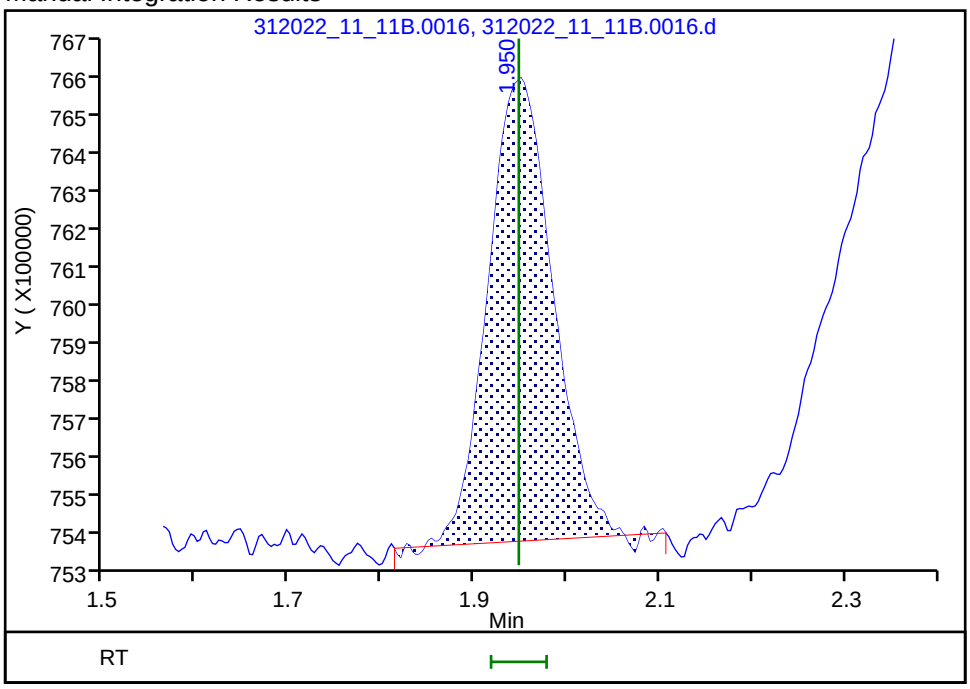
Not Detected
Expected RT: 1.95

Processing Integration Results



Manual Integration Results

RT: 1.95
Height: 1127380
Amount: 686.6225
Amount Units: ug/l



Reviewer: LXF2, 11-Nov-2022 08:29:02
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Peak not integrated

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-316465/2-A

Matrix: Water Lab File ID: 312022_11_11B.0017.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 11/11/2022 08:21

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH:

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 316466 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	35300		12000	2600

Report Date: 11-Nov-2022 10:35:32

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0017.d				
Lims ID:	LCS 410-316465/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	11-Nov-2022 08:21:00	ALS Bottle#:	0	Worklist Smp#:	17
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	LCS 410-316465/2-A				
Misc. Info.:	410-0070920-017				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.950	1.948	0.002	58020908H	35820	35337	

Reagents:

EPH_CO2MS_00004 Amount Added: 0.10 Units: mL

Chrom Revision: 2.3 25-Oct-2022 11:16:06

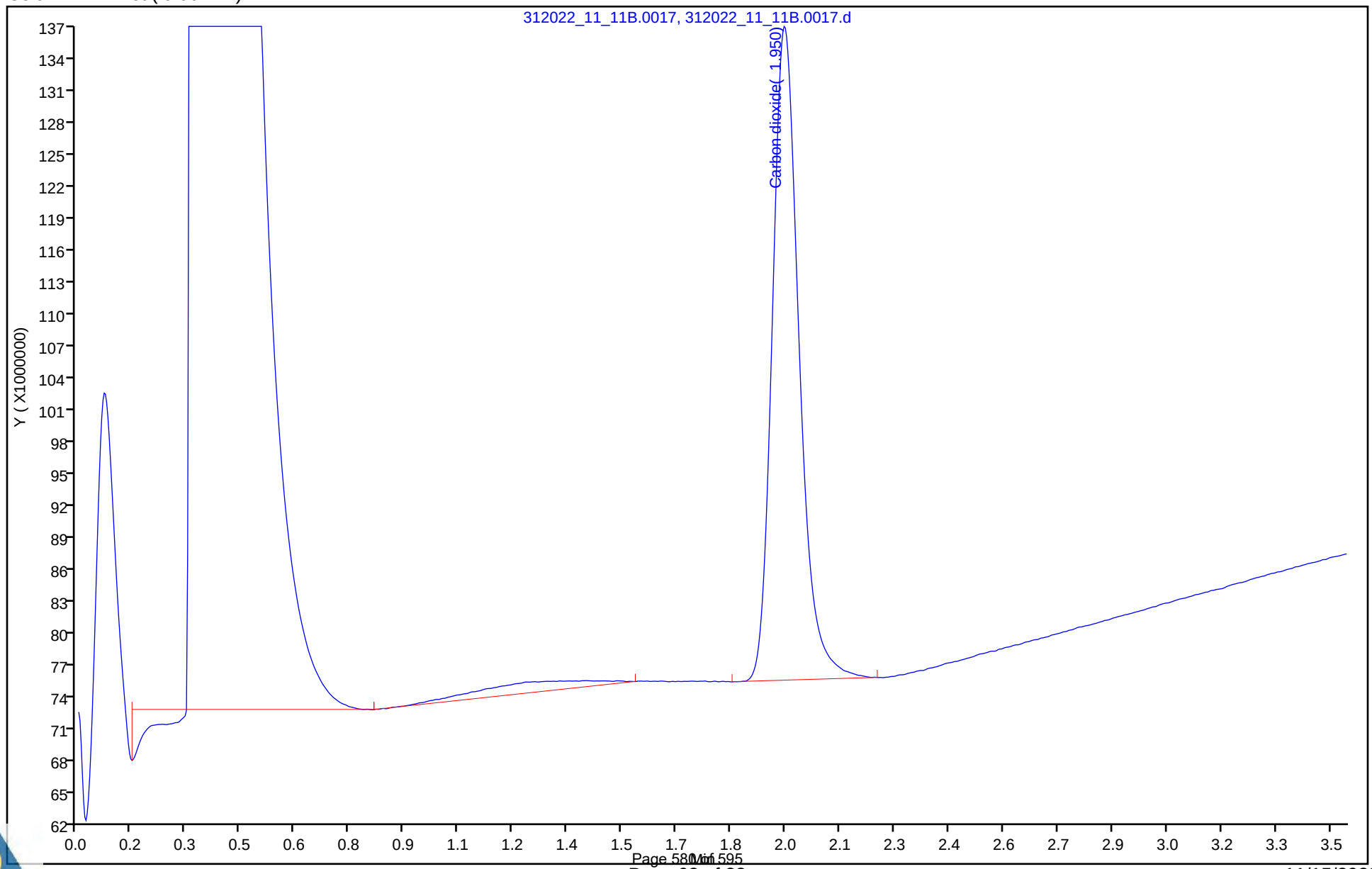
Report Date: 11-Nov-2022 10:35:32 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0017.d

Injection Date:	11-Nov-2022 08:21:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	LCS 410-316465/2-A			Worklist Smp#:	17
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Client Sample ID: HS22110281-01 MS Lab Sample ID: 410-104775-1 MS

Matrix: Water Lab File ID: 312022_11_11B.0019.d

Analysis Method: RSK-175 Date Collected: 11/03/2022 07:50

Sample wt/vol: 5(mL) Date Analyzed: 11/11/2022 08:36

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 316466 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	101000		12000	2600

Report Date: 11-Nov-2022 10:35:32

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0019.d				
Lims ID:	410-104775-A-1-B MS				
Client ID:	HS22110281-01				
Sample Type:	MS				
Inject. Date:	11-Nov-2022 08:36:00	ALS Bottle#:	0	Worklist Smp#:	19
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	410-104775-A-1-B MS				
Misc. Info.:	410-0070920-019				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.941	1.948	-0.007	166273583	H	101268	

Chrom Revision: 2.3 25-Oct-2022 11:16:06

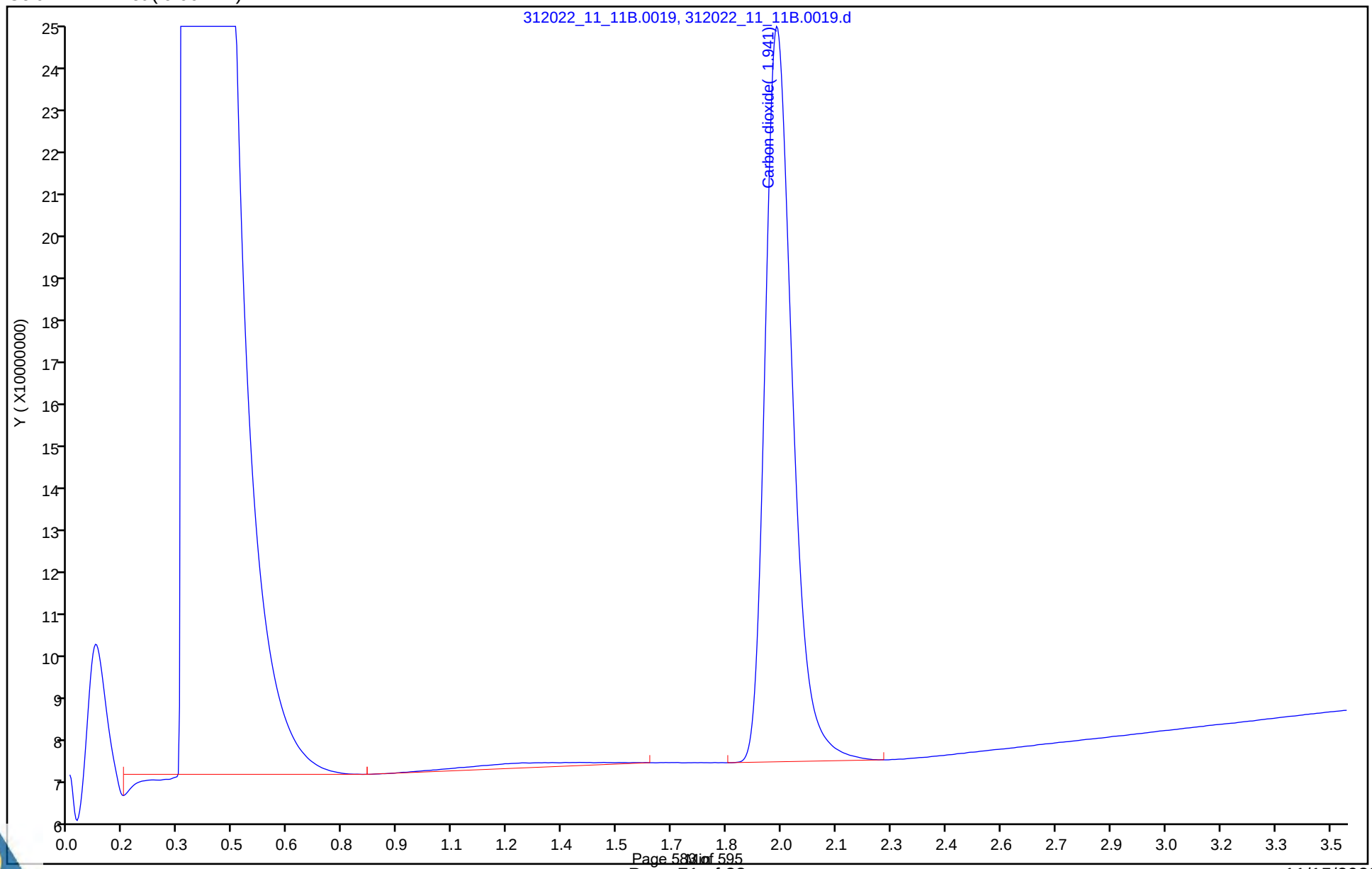
Report Date: 11-Nov-2022 10:35:32 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File: \\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0019.d

Injection Date:	11-Nov-2022 08:36:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104775-A-1-B MS			Worklist Smp#:	19
Client ID:	HS22110281-01				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories Environment Testing, LLC Job No.: 410-104775-1

SDG No.:

Client Sample ID: HS22110281-01 MSD Lab Sample ID: 410-104775-1 MSD

Matrix: Water Lab File ID: 312022_11_11B.0020.d

Analysis Method: RSK-175 Date Collected: 11/03/2022 07:50

Sample wt/vol: 5(mL) Date Analyzed: 11/11/2022 08:44

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

Purge Volume: Heated Purge: (Y/N) N pH: 7.0

% Moisture: % Solids: Level: (low/med) Low

Analysis Batch No.: 316466 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	DL
124-38-9	Carbon dioxide	102000		12000	2600

Report Date: 11-Nov-2022 10:35:33

Eurofins Lancaster Laboratories Environment Testing, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0020.d				
Lims ID:	410-104775-A-1-C MSD				
Client ID:	HS22110281-01				
Sample Type:	MSD				
Inject. Date:	11-Nov-2022 08:44:00	ALS Bottle#:	0	Worklist Smp#:	20
Purge Vol:	1.000 mL	Dil. Factor:	1.0000		
Sample Info:	410-104775-A-1-C MSD				
Misc. Info.:	410-0070920-020				
Operator ID:		Instrument ID:	19506-B		
Method:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\RSK_CO2_19506B.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	11-Nov-2022 10:35:30	Calib Date:	29-Sep-2022 07:33:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19506-B\20220929-67491.b\312022_9_29B.0010.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1601				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.941	1.948	-0.007	168265377	H	102481	

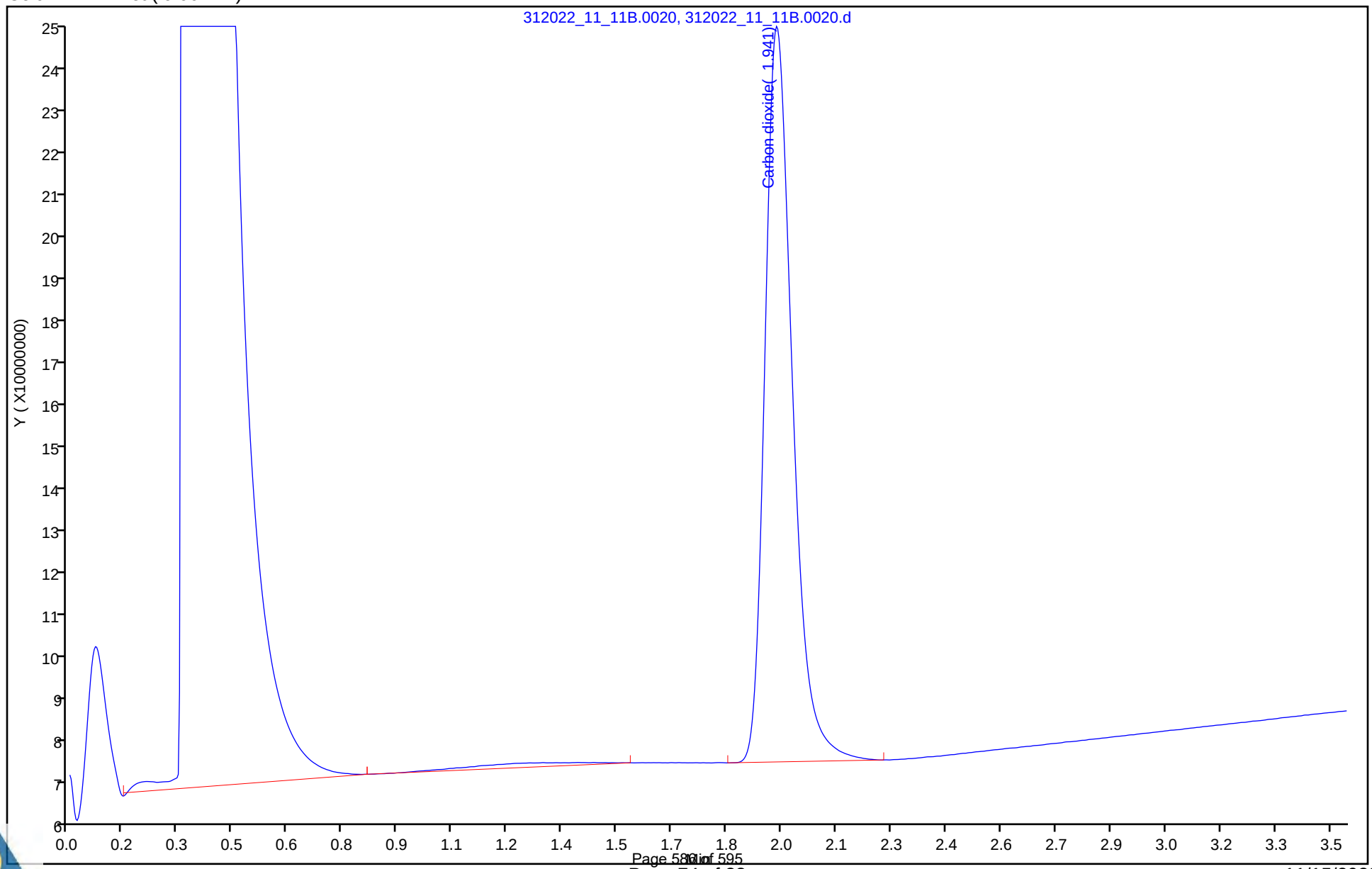
Chrom Revision: 2.3 25-Oct-2022 11:16:06

Report Date: 11-Nov-2022 10:35:33 Chrom Revision: 2.3 25-Oct-2022 11:16:06

Eurofins Lancaster Laboratories Environment Testing, LLC

Data File:	\\chromfs\Lancaster\ChromData\19506-B\20221111-70920.b\312022_11_11B.0020.d				
Injection Date:	11-Nov-2022 08:44:00	Instrument ID:	19506-B	Operator ID:	
Lims ID:	410-104775-A-1-C MSD			Worklist Smp#:	20
Client ID:	HS22110281-01				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CO2_19506B	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Instrument ID: 19506-B Start Date: 09/29/2022 06:44

Analysis Batch Number: 301115 End Date: 09/29/2022 07:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PIBLK 410-301115/4		09/29/2022 06:44	1		HP Plot 0.53(mm)
IC 410-301115/5		09/29/2022 06:52	1	312022_9_29B.0005.d	HP Plot 0.53(mm)
IC 410-301115/6		09/29/2022 07:00	1	312022_9_29B.0006.d	HP Plot 0.53(mm)
ICRT 410-301115/7		09/29/2022 07:08	1	312022_9_29B.0007.d	HP Plot 0.53(mm)
IC 410-301115/8		09/29/2022 07:16	1	312022_9_29B.0008.d	HP Plot 0.53(mm)
IC 410-301115/9		09/29/2022 07:25	1	312022_9_29B.0009.d	HP Plot 0.53(mm)
IC 410-301115/10		09/29/2022 07:33	1	312022_9_29B.0010.d	HP Plot 0.53(mm)
PIBLK 410-301115/11		09/29/2022 07:41	1		HP Plot 0.53(mm)
ICVL 410-301115/12		09/29/2022 07:49	1		HP Plot 0.53(mm)
ICV 410-301115/13		09/29/2022 07:57	1	312022_9_29B.0013.d	HP Plot 0.53(mm)

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Envi Job No.: 410-104775-1

SDG No.:

Instrument ID: 19506-B Start Date: 11/11/2022 06:06

Analysis Batch Number: 316466 End Date: 11/11/2022 10:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-316466/4		11/11/2022 06:06	1	312022_11_11B.0004.d	HP Plot 0.53(mm)
ZZZZZ		11/11/2022 06:14	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 06:22	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 06:30	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 06:46	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 06:54	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 07:02	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 07:09	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 07:17	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 07:25	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 07:32	1		HP Plot 0.53(mm)
CCV 410-316466/15		11/11/2022 07:40	1	312022_11_11B.0015.d	HP Plot 0.53(mm)
MB 410-316465/1-A		11/11/2022 08:13	1	312022_11_11B.0016.d	HP Plot 0.53(mm)
LCS 410-316465/2-A		11/11/2022 08:21	1	312022_11_11B.0017.d	HP Plot 0.53(mm)
410-104775-1	HS22110281-01	11/11/2022 08:29	1	312022_11_11B.0018.d	HP Plot 0.53(mm)
410-104775-1 MS	HS22110281-01 MS	11/11/2022 08:36	1	312022_11_11B.0019.d	HP Plot 0.53(mm)
410-104775-1 MSD	HS22110281-01 MSD	11/11/2022 08:44	1	312022_11_11B.0020.d	HP Plot 0.53(mm)
410-104775-2	HS22110281-02	11/11/2022 08:52	1	312022_11_11B.0021.d	HP Plot 0.53(mm)
410-104775-3	HS22110281-04	11/11/2022 08:59	1	312022_11_11B.0022.d	HP Plot 0.53(mm)
ZZZZZ		11/11/2022 09:07	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 09:15	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 09:22	1		HP Plot 0.53(mm)
CCV 410-316466/26		11/11/2022 09:30	1	312022_11_11B.0026.d	HP Plot 0.53(mm)
ZZZZZ		11/11/2022 09:44	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 09:51	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 09:59	1		HP Plot 0.53(mm)
ZZZZZ		11/11/2022 10:07	1		HP Plot 0.53(mm)
CCV 410-316466/31		11/11/2022 10:14	1		HP Plot 0.53(mm)

GC VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-104775-1

SDG No.:

Batch Number: 301115 Batch Start Date: 09/29/22 06:44 Batch Analyst: Kennedy, Johanna C

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EPH_CO2ICV 00002	EPH_CO2MS 00004		
IC 410-301115/5		RSK-175		5 mL	5 mL		30 uL		
IC 410-301115/6		RSK-175		5 mL	5 mL		60 uL		
ICRT 410-301115/7		RSK-175		5 mL	5 mL		100 uL		
IC 410-301115/8		RSK-175		5 mL	5 mL		250 uL		
IC 410-301115/9		RSK-175		5 mL	5 mL		500 uL		
IC 410-301115/10		RSK-175		5 mL	5 mL		1000 uL		
ICV 410-301115/13		RSK-175		5 mL	5 mL	320 uL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-104775-1

SDG No.:

Batch Number: 316465 Batch Start Date: 11/11/22 05:25 Batch Analyst: Kennedy, Johanna C

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Headspace		
MB 410-316465/1		RSK-175, RSK-175		n/a SU	5 mL	5 mL	n/a		
LCS 410-316465/2		RSK-175, RSK-175		n/a SU	5 mL	5 mL	n/a		
410-104775-A-1	HS22110281-01	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		
410-104775-A-1 MS	HS22110281-01	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		
410-104775-A-1 MSD	HS22110281-01	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		
410-104775-A-2	HS22110281-02	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		
410-104775-A-3	HS22110281-04	RSK-175, RSK-175	T	7 SU	5 mL	5 mL	no		

Batch Notes	
Pipette/Syringe/Dispenser ID	7105
pH Indicator ID	10BDH1521

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

410-104775 Chain of Custody

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:** 20270

SUBCONTRACT TO:

Eurofins Lancaster Laboratories Envt Testing
2425 New Holland Pike
Lancaster, PA 17601 **Phone:** +1 717 656 2300

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Dane J. Wacasey
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Dane.Wacasey@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:	HS22110281
TSR:	Ron Martino

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS22110281-01**	**35BWW04-221103**	**Groundwater**	**03 Nov 2022 07:50**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022
2.	**HS22110281-02**	**35BWW14-221103**	**Groundwater**	**03 Nov 2022 08:50**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022
3.	**HS22110281-04**	**35BWW23-221103**	**Groundwater**	**03 Nov 2022 10:15**
	RSK - CO2; Keesler; Level IV, EQUIS EDD			18 Nov 2022

Comments: HS22110281-01 designate as MS/MSD

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: 11/7/22 1800

Received By: _____ Date/Time: _____

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

11-8-22 1020

4.2

Login Sample Receipt Checklist

Client: ALS Group USA, Corp

Job Number: 410-104775-1

Login Number: 104775
List Number: 1
Creator: Ballard, Megan

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

Eurofins Lancaster Laboratories Environment Testing, LLC

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
11/15/2022 9:45 AM

Authorized for release by
Kelly Bauer, Project Manager
Kelly.Bauer@et.eurofinsus.com
717 556-7262

Eurofins Lancaster Laboratories Environment Testing, LLC

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Kelly Bauer

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2455 REYNOLDS ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

December 5, 2023

SUBJECT: Draft Final Technical Memorandum, Proposed Field Work to Update Conceptual Site Model at LHAAP-16, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, December 2023

Mr. Brian Follin
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270-2002

Dear Mr. Follin,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter, the document, and download instructions for the electronic file have been sent via email. The document includes revisions based upon comments on the draft version received from the Environmental Protection Agency (EPA) comments on the Draft version received on November 8, 2023, and from the Texas Commission on Environmental Quality on October 16, 2023. Tables of responses to the EPA and TCEQ comments on the Draft version are included with this Draft Final document. In accordance with the Federal Facility Agreement, this Draft Final will be considered Final after 30 days without further comment.

The document was prepared by the Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility. I ask that Zack Beck, Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at (726) 999-0505, or by email at lena.j.sierocinski.civ@army.mil.

Sincerely,

Lena Sierocinski

Lena Sierocinski
LHAAP Environmental Support Manager
U.S. Army Environmental Command

Electronic copies furnished:
A. Palmie, TCEQ, Austin, TX
E. Duerkop, USFWS, Caddo Lake NWR, TX (1 hard copy and 1 CD)
C. Montoya USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
K. Russell, BRAC, Huntsville, AL
Z. Beck, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2455 REYNOLDS ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

December 5, 2023

SUBJECT: Draft Final Technical Memorandum, Proposed Field Work to Update Conceptual Site Model at LHAAP-16, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, December 2023

Ms. April Palmie
Texas Commission on Environmental Quality
Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Dear Ms. Palmie,

An electronic copy of the above referenced document has been added to the project portal's "Documents" folder at the following address for your review: (https://docs.cbifederalservices.com/sites/501032/regulators/Shared%20Documents/Forms/AllItems.aspx). An electronic copy of this letter, the document, and download instructions for the electronic file have been sent via email. The document includes revisions based upon comments on the draft version received from the Environmental Protection Agency (EPA) comments on the Draft version received on November 8, 2023, and from the Texas Commission on Environmental Quality on October 16, 2023. Tables of responses to the EPA and TCEQ comments on the Draft version are included with this Draft Final document. In accordance with the Federal Facility Agreement, this Draft Final will be considered Final after 30 days without further comment.

The document was prepared by the Bhate Environmental Associates, Inc., (Bhate) team, on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility. I ask that Zack Beck, Bhate's Project Manager, be copied on any communications related to the project.

The point of contact for this action is the undersigned. I may be contacted at (726) 999-0505, or by email at lena.j.sierocinski.civ@army.mil.

Sincerely,

Lena Sierocinski

Lena Sierocinski
LHAAP Environmental Support Manager
U.S. Army Environmental Command

Electronic copies furnished:
B. Follin, USEPA Region 6, Dallas, TX
E. Duerkop, USFWS, Caddo Lake NWR, TX (1 hard copy and 1 CD)
C. Montoya USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
K. Russell, BRAC, Huntsville, AL
Z. Beck, Bhate, Lakewood, CO
P. Srivastav, APTIM, Houston, TX

Response to Comments on
Draft Technical Memorandum
Proposed Field Work to Update the Conceptual Site Model at LHAAP-16

Document Date: October 4, 2023
Comment Date: November 8, 2023

Reviewers: Brian Follin - USEPA
Respondent: Lena Sierocinski - Army

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X)
2. Commenter Agrees (A) with response, or Does Not Agree (D) with response

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
1	Page 2, Proposed Field Activities Bullet #4	The memo indicates these elevations are to be measured only for 6 months; however, is it possible to continue measuring these elevations for a longer period of time?	C	The six-month period stated in the report is just the length of time that monitoring will be performed to collect data prior to updating the Conceptual Site Model (CSM). Gauging of the wells will continue to be performed as a part of the ongoing Remedial Action-Operation (RAO) monitoring and gauging of the bayou elevation will be incorporated into the RAO activities. If more frequent gauging is deemed appropriate, a recommendation to do so will be made in the CSM Update document.	
2	Page 2, Surveying	It would be beneficial to note/map/ photograph any seeps/seepage faces or springs that are visually identified during the stream survey.	C	The following text will be added to the end of the last paragraph of the "Surveying" section on Page 2: "The surveyors will be requested to note and survey the location of any seeps, seepage faces, or springs noted that are visually identified during the topographic survey."	
3	Page 2, 1st Paragraph and Figure 1	How were the 2 proposed stream gauge locations selected or would they be determined based on the results of the	C	The following text will be added to the 1st paragraph on Page 2 after the second Figure 1 callout to explain the location selections: "The	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
		streambed elevation survey to inform location selection?		surface water gauge locations were selected to be close to wells 16WW57 and 16WW58, as well as to other wells that will be critical for drawing east-west, and north-south oriented cross sections to incorporate the bayou elevation and streambed elevation onto the cross-sections. Locations may be adjusted slightly in the field to allow for access of equipment during installation."	
		Additionally, it might be beneficial to consider additional locations.	C, E	Only two initial locations are included in the current contractual funding. If the results of the CSM Update indicate that additional locations would promote a better understanding of the hydrogeological environment around the bayou, they can be recommended in the CSM Update report and included in future contracts.	

Response to Comments on
Draft Technical Memorandum
Proposed Field Work to Update the Conceptual Site Model at LHAAP-16

Document Date: October 4, 2023
Comment Date: October 16, 2023

Reviewers: April Palmie - TCEQ
Respondent: Lena Sierocinski - Army

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X)
2. Commenter Agrees (A) with response, or Does Not Agree (D) with response

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
1	Page 1, Introduction, 1st paragraph, last sentence	The plume is not delineated and well above action levels. The determination is not "if" additional investigation is required but "where" east of 16WW57 and 16WW58. Please revise sentence.	C	The referenced sentence will be revised to read: "This information will aid in determining where additional investigation to the east of monitoring wells 16WW57 and 16WW58 should be focused and whether extension of the Bayou Biobarrier southward is warranted."	
2	Page 2, Proposed Field Activities	To support site CSM, consider a 3rd stream gauge near 16WW27 and 16WW43, or nearby if that area is not accessible.	C, E	Only two initial locations are included in the current contractual funding. If the results of the CSM Update indicate that additional locations would promote a better understanding of the hydrogeological environment around the bayou, they can be recommended in the CSM Update report and included in future contracts.	
3	Page 2, Surveying	Also reference IWWP SOP A15.	C	A reference to the Surveying SOP will be added to the end of the first paragraph in the "Surveying" section. A references section has been added to the end of the document with the IWWP referenced.	

Comment #	Section/ Page/ Paragraph	Comment	C, D, E, or X[1]	Response	A or D[2]
4	Page 2, Reporting	To support site CSM, please plan to extend cross-sections to the landfill or biobarriers 1 and 2/3.	C	The following sentence will be added to the "Reporting" section to describe the area to be covered by the cross sections: "The cross sections will extend from the landfill and landfill biobarriers 1, 2, and 3 across the site to 16WW57/58 and the full length of the site along the bayou from north to south."	
5	Table 1	To support site CSM, please also gauge 16WW26, 16WW13 and 16WW42, and 16WW35 and 16WW36	C	The requested locations have been added to Figure 1 and Table 1.	

PCIbhate APTIM

TECHNICAL MEMORANDUM

DATE: December 5, 2023

PROJECT NAME: Environmental Restoration at Multiple Sites, Longhorn Army Ammunition Plant, Karnack, Texas (Omaha MEGA SB MATOC, Task Order No. W45XMA31085678)

TO:
Aaron Williams — U.S. Army Corps of Engineers
Lena Sierocinski — U.S. Army Environmental Command

FROM:
Zack Beck — PCI-Bhate JV Project Manager
Praveen Srivastav — APTIM Project Manager

SUBJECT: **Proposed Field Work to Update the Conceptual Site Model at LHAAP-16, Longhorn Army Ammunition Plant, Karnack, Texas**

The U.S. Army Corps of Engineers (USACE), Tulsa District, contracted with the PCI Bhate Joint Venture LLC (PCI Bhate JV) under Omaha Multiple Environmental Government Acquisition National Small Business Multiple Award Task Order Contract, Environmental Remediation Services with Military Munitions Response Program, Task Order Number (No.) W45XMA31085678, to conduct environmental restoration at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP). The PCI Bhate JV Team consists of the PCI Bhate JV as the prime contractor and Aptim Federal Services, LLC (APTIM) as a subcontractor responsible for remedial activities at several sites, including LHAAP-16 (Landfill 16).

INTRODUCTION

The purpose of this memorandum is to present proposed field activities to update the conceptual site model (CSM) at LHAAP-16 with additional data regarding the interaction of groundwater and surface water in Harrison Bayou. The current CSM assumes that shallow groundwater in the mid-plume area and near the Bayou Biobarrier flows east and southeast towards Harrison Bayou and is in contact with the bayou via seeps or direct contact between the bayou and the shallow groundwater zone. The depth to the bottom of the bayou is unknown and there is expected to be some level of connection between the shallow and intermediate groundwater zones throughout most of LHAAP-16. The degree to which the bayou impedes or interacts with the eastward flow of contaminants in the shallow and intermediate groundwater zones is currently unclear. By defining the elevation of the bottom of the bayou and measuring the groundwater elevation at monitoring wells within the shallow and intermediate zones, concurrent with elevation changes in the bayou itself, we intend to clarify the relationship between Harrison Bayou and the shallow and intermediate groundwater zones along the eastern edge of LHAAP-16. This information will aid in determining where additional investigation to the east of monitoring wells 16WW57 and 16WW58 should be focused and whether extension of the Bayou Biobarrier southward is warranted.

The activities to be performed include completing a topographic survey of the LHAAP-16 site on both sides of Harrison Bayou within the Land Use Restriction boundary for LHAAP-16 as shown by the blue shaded area on **Figure 1** and installing and surveying two surface water elevation gauges in Harrison Bayou adjacent to nearby shallow zone and intermediate zone monitoring wells as shown by the red squares on

Figure 1. The surface water gauge locations were selected to be close to wells 16WW57 and 16WW58, as well as to other wells that will be critical for drawing east-west, and north-south oriented cross sections to incorporate the bayou elevation and streambed elevation onto the cross-sections. Locations may be adjusted slightly in the field to allow for access of equipment during installation. Following installation of the surface water elevation gauges, monthly groundwater and surface water elevation gauging will be performed for 6 months at the locations shown on **Table 1**. The data collected will be used to update the conceptual site model (CSM) for LHAAP-16 to include cross sections showing the interaction between Harrison Bayou and the shallow and intermediate zones where the trichloroethene (TCE) and perchlorate plumes from LHAAP-16 reach the bayou.

PROPOSED FIELD ACTIVITIES

As described above, the field activities will consist of four tasks:

1. Install two surface water elevation gauges in Harrison Bayou
2. Survey the elevation of the creek bottom and the top of the surface water elevation gauges
3. Complete a topographic survey of LHAAP-16 on both sides of Harrison Bayou
4. Perform monthly groundwater and surface water elevation gauging for a period of 6 months

Surface Water Elevation Gauge Installation – The surface water elevation gauges will be constructed using 15-20 feet of 2" diameter steel pipe driven approximately 4-5 feet into the bottom of the bayou using a tracked excavator. A fiberglass stream gauge will be attached to each steel post to allow visual observation of the bayou elevation to the nearest inch. The gauges will be installed at the approximate locations shown on **Figure 1**, but each location may be adjusted slightly in the field to allow for access to the bayou bank by the tracked excavator while minimizing impact to the sensitive habitat along the bayou.

Surveying – The location, stream bottom elevation and top of the stream gauge elevation will be surveyed for each newly installed gauge by Collins Surveying, a licensed professional land surveyor in the State of Texas. The horizontal locations will be accurate to within 1 foot and the vertical elevations will be accurate to 0.01 feet. The surveying will be performed in accordance with standard operating procedure A15 in the Final Installation Wide Work Plan (Bhate 2018)

Collins Surveying will also complete a topographic survey with a maximum of a 2-foot contour interval for the area within the LHAAP-16 Land Use Restriction Boundary shaded in light blue on **Figure 1**. The survey will be performed using a Trimble R12i base unit with rovers. In areas where the tree canopy is too dense, the survey will be conducted using a conventional Topcon GPT total station. The surveying crew will also capture the locations of pertinent ground features such as grade breaks, top/toe of slopes, etc. All coordinates will be published in NAD83, Zone 4202, US survey feet, GEOID12. The surveyors will be requested to note and survey the location of any seeps, seepage faces, or springs noted that are visually identified during the topographic survey.

Groundwater and Surface Water Gauging – The surface elevation of the bayou will be observed monthly and recorded for each of the two newly installed stream gauges. The wells shown on **Table 1** will be gauged on the same schedule to provide a dataset that will assist with determining the relationship between groundwater and the bayou under different flow conditions.

REPORTING

Upon completion of the activities described above, the data collected will be used to generate North-South and East-West cross sections depicting the site stratigraphy along with the elevation of the bottom of the bayou. The cross sections will extend from the landfill and landfill biobarriers 1, 2, and 3 across the site to 16WW57/58 and the full length of the site along the bayou from north to south. The cross sections

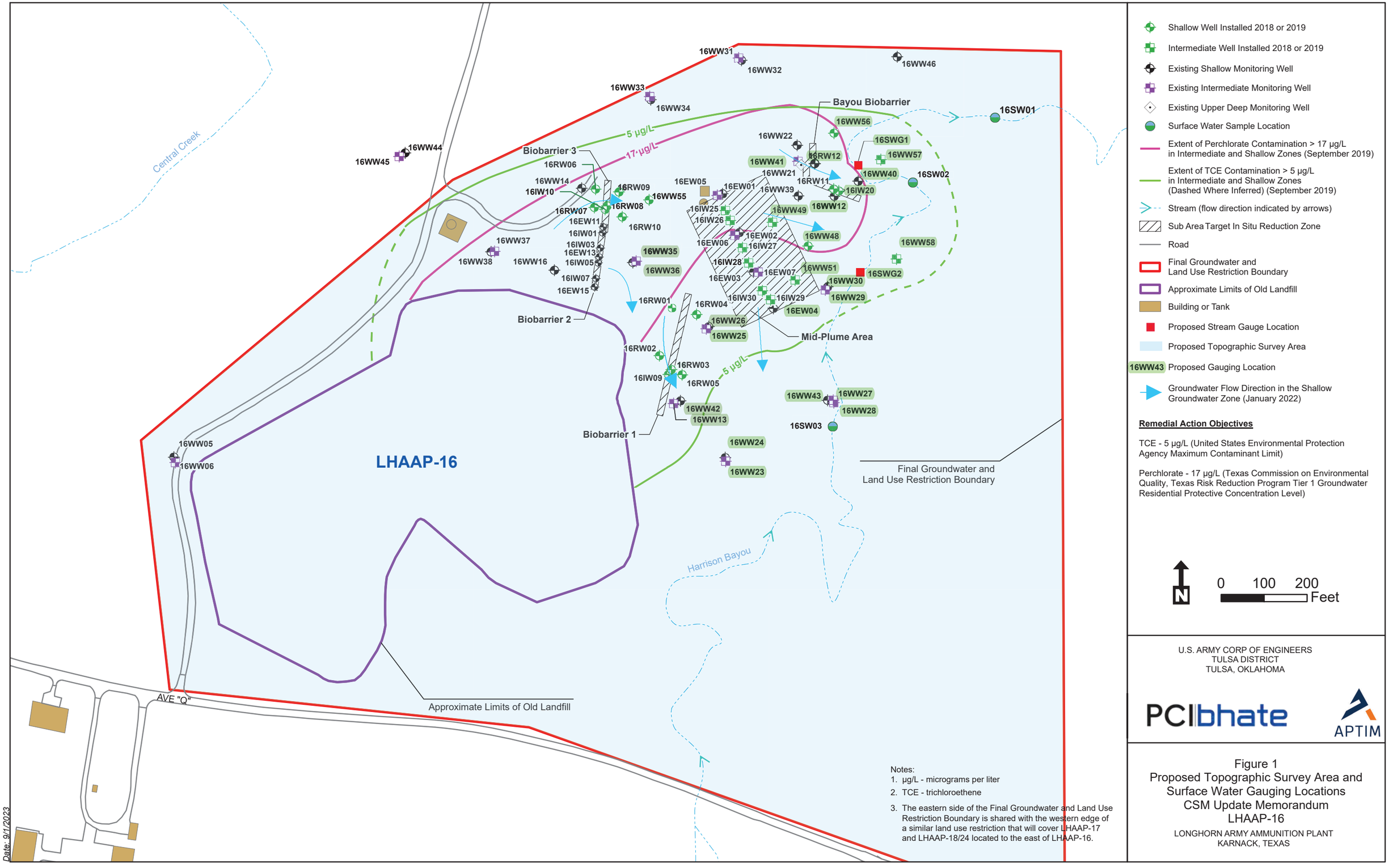
and groundwater/surface water elevation data collected will be incorporated into a CSM Update Report that will discuss the interactions between Harrison Bayou and the shallow and intermediate groundwater zone plumes. The report will also include recommendations for further investigation and/or potential remedy optimization as warranted by the results of the update.

REFERENCES

Bhate Environmental Associates, Inc. (Bhate). 2018. *Final Installation-Wide Work Plan, Longhorn Army Ammunition Plant, Karnack, Texas*. May.

Figure 1

Proposed Topographical Survey Area and Surface Water Gauging Locations



- Shallow Well Installed 2018 or 2019
- Intermediate Well Installed 2018 or 2019
- Existing Shallow Monitoring Well
- Existing Intermediate Monitoring Well
- Existing Upper Deep Monitoring Well
- Surface Water Sample Location
- Extent of Perchlorate Contamination > 17 µg/L in Intermediate and Shallow Zones (September 2019)
- Extent of TCE Contamination > 5 µg/L in Intermediate and Shallow Zones (Dashed Where Inferred) (September 2019)
- Stream (flow direction indicated by arrows)
- Sub Area Target In Situ Reduction Zone
- Road
- Final Groundwater and Land Use Restriction Boundary
- Approximate Limits of Old Landfill
- Building or Tank
- Proposed Stream Gauge Location
- Proposed Topographic Survey Area
- 16WW43 Proposed Gauging Location
- Groundwater Flow Direction in the Shallow Groundwater Zone (January 2022)

Remedial Action Objectives

TCE - 5 µg/L (United States Environmental Protection Agency Maximum Contaminant Limit)

Perchlorate - 17 µg/L (Texas Commission on Environmental Quality, Texas Risk Reduction Program Tier 1 Groundwater Residential Protective Concentration Level)

N

0 100 200 Feet

Notes:
1. µg/L - micrograms per liter
2. TCE - trichloroethene
3. The eastern side of the Final Groundwater and Land Use Restriction Boundary is shared with the western edge of a similar land use restriction that will cover LHAAP-17 and LHAAP-18/24 located to the east of LHAAP-16.

U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

PCIbhate APTIM

Figure 1
Proposed Topographic Survey Area and Surface Water Gauging Locations
CSM Update Memorandum
LHAAP-16
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 9/1/2023

Table 1

Proposed Monthly Groundwater Gauging Locations

Table 1
Proposed Monthly Groundwater Gauging Locations

Location	Zone	Ground Surface Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen (ft BTOC)	Bottom of Screen (ft BTOC)
16EW04	SHALLOW	180.71	180.66	13.95	18.95
16IW20	SHALLOW	186.03	188.94	14.91	24.91
16RW12	SHALLOW	193.23	196.22	21.49	31.49
16WW12	SHALLOW	186.17	188.81	16.64	26.64
16WW13	INTERMEDIATE	175.74	178.47	16.73	26.73
16WW23	INTERMEDIATE	174.78	177.98	27.20	37.20
16WW24	SHALLOW	174.66	177.95	14.29	19.29
16WW25	INTERMEDIATE	185.52	188.77	42.25	52.25
16WW26	SHALLOW	185.36	188.83	15.97	20.97
16WW27	INTERMEDIATE	174.21	177.31	29.10	39.10
16WW28	INTERMEDIATE	174.06	176.97	18.91	23.91
16WW29	INTERMEDIATE	175.16	178.24	40.08	45.08
16WW30	SHALLOW	175.33	178.47	28.14	33.14
16WW35	INTERMEDIATE	188.15	191.23	36.58	46.58
16WW36	SHALLOW	187.95	190.94	19.49	24.49
16WW40	SHALLOW	179.39	182.19	10.80	20.80
16WW41	INTERMEDIATE	195.38	197.98	42.60	52.60
16WW42	SHALLOW	174.17	178.74	6.57	16.57
16WW43	SHALLOW	174.54	177.13	4.59	14.59
16WW48	SHALLOW	181.46	184.41	12.95	22.95
16WW49	INTERMEDIATE	187.66	190.69	45.03	55.03
16WW51	INTERMEDIATE	180.13	183.26	34.13	44.13
16WW56	SHALLOW	195.35	198.61	24.26	34.26
16WW57	INTERMEDIATE	173.12	177.06	29.94	39.94
16WW58	INTERMEDIATE	173.32	177.24	31.92	41.92
16SWG1 [a]	Surface Water	TBD	TBD	NA	NA
16SWG2 [a]	Surface Water	TBD	TBD	NA	NA

Notes:

[a] - Locations 16SWG1 and 16SWG2 will be installed as part of the proposed field work.

BTOC - below top of casing

ft - feet

NA - not applicable

TBD - to be determined

MSL - mean sea level

Subject: **Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting: **WebEx**
Date of Meeting: **25 October 2023 – 10:00 AM Central Daylight Time (CDT)**

Attendees:

USAEC:	Lena Sierocinski (LS)
USEPA:	Brian Follin (BF)
USGS:	Tim Bartos
USACE:	Aaron Williams (AW)
BRAC:	Kyle Russell (KR)
TCEQ:	April Palmie (AP)
PCI/Bhate JV:	Zachary Beck (ZB), Scott Beesinger (SB), Erin Bradley, Kimberly Nemmers (KN), and Ike Eldridge
APTIM:	William Foss (WF)
HDR:	Gregory Kelly (GK) and Phil Werner (PW)
FWS:	Erik Duerkop (ED)

Defense Environmental Restoration Program (DERP) Performance-Based Remediation Update

There were no outstanding action items to discuss.

Groundwater Treatment Plant (GWTP) – ZB stated the Bayou continues to be dry and therefore discharging treated groundwater to the INF pond is ongoing. ZB explained that rather than waiting on effluent results to confirm treatment, work is being executed in compliance with Technical Memorandum GWTP Discharge Protocol with the GWTP being operated in a continuous fashion, discharging multiple times a week as groundwater is treated. The GWTP Protocol outlines the treatment process with a lead ion exchange vessel and a lag ion exchange vessel and states: "*If an upset condition in the fluidized bed reactor (FBR) leads to high concentrations of perchlorate going into the lead ion exchange vessel and breaking through at the sample location between the vessels, the lag vessel will still remove perchlorate before it is discharged to Harrison Bayou, the INF Pond, or LHAAP-18/24*." Therefore, there is assurance of treatment without waiting on effluent results prior to groundwater discharge. SB stated that the sand filter continues to be backwashed and air sparged multiple times a week, at minimum, in order to improve flow. SB stated the polymer line is being flushed and the old pump remains in use and is working satisfactorily. SB stated the acetic acid pump for the FBR needs to be replaced in the near future and a new pump was ordered to arrive soon. SB stated that the oxidation reduction potential (ORP) is detected at normal levels. ZB explained that acetic acid helps to regulate the ORP for the FBR. AW asked about the INF pond in terms of capacity. SB stated the INF pond is two to three feet below freeboard with the staff gauge reading 4.43 feet. SB stated that there is standing water in Harrison Bayou, but it is not flowing yet. SB explained however, that another substantial rain event will likely result in flow in the Bayou and the ability to discharge from both the Bayou and the INF pond. SB stated that the installation of exterior LED lighting around the plant was completed and has greatly improved visibility.

Field Work – ZB stated the 1st annual sampling event was completed at LHAAP-50 for Year 10 in October 2023. ZB discussed upcoming sampling including at sites LHAAP-67 and LHAAP-37 in November 2023.

ZB asked everyone to refer to the Document and Issues (DI) Tracking Table for October 2023.

- **Tasks 1 -5** (Project Management) – ZB said that the Draft September 2023 MMM minutes were submitted on 11 October 2023 and the Texas Commission on Environmental Quality (TCEQ) comments were received on 16 October 2023. ZB stated the September 2023 minutes are still under United States Environmental Protection Agency (USEPA) review. ZB said that the Draft Final June 2023 Restoration Advisory Board (RAB) minutes were submitted to RAB members on 13 October 2023. ZB stated the next RAB is scheduled for 16 November 2023 at 2:30 PM and includes a brief meeting at the community center followed by a tour of likely 8 Longhorn sites from 3:00 to 5:00 PM. ZB discussed transportation for RAB members with options spanning from one van to potentially multiple high occupancy vehicles. AW stated it would be best to have as few cars as possible, while LS said it is necessary to provide enough transportation for all RAB members. KN suggested sending an email to RAB members including a description of available transportation as well as a statement that welcomes personal vehicles if desired. A final solution was not confirmed, but KN will follow up with LS on the matter. Following discussion surrounding the timing of the Managers' Meeting, 8:00 AM on 16 November 2023 was agreed upon in addition to holding a brief tour after the meeting. ZB stated further discussion should occur ahead of the meeting to discuss which sites to visit such as LHAAP-16. BF stated another USEPA Remedial Project Manager may join to assist on site and AP stated a colleague that assists with engineering review may be joining as well.
- **Task 6** (LHAAP-04) – ZB stated that the Year 3 Annual Remedial Action – Operation (RA-O) Report Final received approval on 16 June 2023 and will be moved to the Administrative Record (AR). ZB said the Year 4 Annual RA-O Report is in progress with an anticipated delivery to TCEQ and USEPA in November 2023. ZB stated the Year 5 1st Semi Annual RA-O Sampling event is scheduled for February 2023 and the validated data package will be presented in March 2024.
- **Task 7** (LHAAP-12) – ZB stated the 2022 Annual RA-O Report Draft Final received TCEQ approval on 26 June 2023 and USEPA approval on 3 July 2023. ZB said the Final will be included in the July to September 2023 AR update.
- **Task 8** (LHAAP-16) – ZB stated the Year 4 Semiannual 1st RA-O sampling was completed in July 2023 and the validated data package will be presented at the November 2023 MMM. ZB said the Year 3 RA-O Report is anticipated to be submitted for regulatory review in November 2023.
- **Task 1022** (Option 22: LHAAP-16) – WF stated that the Conceptual Site Model Work Plan received TCEQ comments on 16 October 2023 and is awaiting USEPA review. WF brought attention to a specific TCEQ comment regarding the incorporation of an additional surface water gauge. WF stated a third surface water gauge is outside of the scope of the current Army contract. However, WF explained that if data from the initial two gauges indicate a gap and that a third gauge would be helpful, the Army is likely to support that addition in the future.
- **Task 9** (LHAAP-18/24/GWTP) – ZB stated the June 2023 Groundwater Sampling validated data package was presented in September 2023. ZB said the next Semi-Annual sampling event is upcoming in December 2023 and the validated data package will be presented at the January 2024 MMM. ZB stated the 4th quarter 2022 GWTP Operation Maintenance and Monitoring (OM&M) Report is final and will be in the April through June 2023 AR update. ZB stated the 1st Quarter 2023 GWTP OM&M Report received TCEQ comments on 7 August

2023, but is waiting on USEPA review. ZB said the 2nd Quarter 2023 GWTP OM&M Report is in progress and will be submitted in November 2023.

- **Task 10** (LHAAP-37) – ZB said the Draft Year 6 Annual RA-O Report received USEPA comments on 11 September 2023. ZB stated response to comments and the Draft Final are in progress. ZB stated the next sampling event will be in November 2023.
- **Task 11** (LHAAP-46) – ZB stated the next step for the Year 8 Annual RA-O Report is to move into the AR and that it will be in the July through September 2023 AR update. ZB said the Year 9 Annual RA-O report is in preparation with the draft submittal scheduled for November 2023.
- **Task 12** (LHAAP-50) **–** ZB stated the Year 9 Annual RA-O Report was submitted to regulators on 24 October 2023. ZB said the 1st Semi-Annual report for Year 10 was completed in October 2023 and is included in the October 2023 validated data package. ZB stated the data is extremely similar to that of October 2022. ZB identified 50WW12 specifically, where perchlorate results were detected at 17,900 micrograms per liter (µg/L). ZB stated this was a significant decrease from the May 2023 perchlorate result (79,000 µg/L), but is very similar to the October 2022 results (17,600 µg/L).
- **Task 13** (LHAAP-58) – ZB stated the Year 9 RA-O Report is in progress and aims to meet the October 2023 deadline for submittal to regulators. ZB stated the Year 10 1st Semiannual RA-O Sampling will be completed in December 2023 with the validated data scheduled to be presented in January 2024.
- **Task 14** (LHAAP-67) – ZB stated the Year 9 Annual RA-O Report was approved in October 2023 and will be placed into the AR in the 4th quarter. WF stated annual sampling will take place in November 2023.
- **Task 15** (LHAAP-001-R-01 and LHAAP-003-R-01) – ZB stated the Annual LTM report will be completed following the completion of annual inspections.
- **Task 16** (Surface Water) – ZB explained that the 3rd quarter 2023 of the Annual Surface Water Sampling Report Year 5 was unable to be completed due to no flow in the Bayou resulting in no collection taking place. ZB stated this is affecting the 4th quarter additionally, but collection of the next surface water sampling set will take place as soon as flow is present.
- **Task 17** (2023 Land Use Control [LUC] Management Plan) – ZB stated the 2023 Comprehensive LUC Management Plan is in progress, although the November 2023 submittal date may be unrealistic. AW stated an addition to the update would be the LUC from the Remedial Design (RD) for 18/24 and 29. AW said this will be included in either the 2023 or 2024 update depending on when they are finalized. ZB stated the LUC is being monitored and will be updated as soon as possible.
- **Task 18** (AR) – WF stated the April to June 2023 tracking sheet is ready for submittal to the Army. WF said the July to September 2023 tracking sheet is in progress.

Update on other DERP Sites:

- **LHAAP 18/24 –** PW stated the 2nd submittal of the 100% LHAAP- 18/24 RD received a 2nd set of comments from TCEQ and USEPA on 7 September 2023 and responses to comments are in progress. PW said the anticipated submittal of the final is by the end of 2023.
- **LHAAP-29** – PW said responses to regulator comments are being prepared for army review for the 100% LHAAP-29 RD which may be submitted as final by the end of 2023 depending on the second review. ZB said a round of groundwater sampling was completed in

September 2023 and the data is included in the validated data package for October 2023. ZB discussed notable points in the data, stating that 16 of the shallow zone wells were dry and therefore were unable to be sampled. AW added that several shallow wells with historical non-detections for methylene chloride (MC) had exceedances this round. AW also stated that wells around 29WW16 had significantly lower MC concentrations than in 2019, such as 29WW42 decreasing to approximately 270 µg/L in September 2023 from 60,000 to 130,000 µg/L historically. AW stated it is planned to implement in situ thermal treatment in this area. AP brought into question where this data will be incorporated and stated repeated sampling is important as data is largely sporadic and inconsistent for this site. ZB stated the Groundwater Monitoring Report is in progress, and therefore the data would be stand alone. AP questioned if the Army would include the data to contract out the build of the design and AW confirmed the data would be included. AW also stated the remedial design/remedial action work plan is where changes can be made if necessary.

- **LHAAP-47** – GK stated the Draft Pre-Design Investigation Report was submitted to regulatory agencies on 12 October 2023 and comments are anticipated to be received by 10 November 2023. AP stated an extension will likely be requested for the November 2023 deadline for comments.
- **LHAAP-17** – ZB stated the Draft Final Interim Remedial Action Construction Report was submitted to the regulators on 10 October 2023. ZB said the Year 1 RA-O Report covers groundwater sampling from September 2022 through August 2023 and will likely be submitted in November 2023. ZB said the Quarterly Performance Monitoring event was completed in September 2023. ZB stated the data is included in the October 2023 validated data package. ZB discussed the trends of the data, and said that 17WW06 which is the most contaminated well, dropped to 71,000 µg/L for perchlorate. ZB stated that the perchlorate concentrations increase when the system is not operating at full capacity, but that there is an overall declining trend. ZB said 17WW02 remains at the same level as initial concentrations. ZB explained however, that after an initial spike, as mass was drawn to the center of the site, perchlorate concentrations have been decreasing steadily. ZB said monitoring occurs quarterly and progress will continue to be reported.

Per- and polyfluoroalkyl substances (PFAS) Update: LS stated there is little to update about the Remedial Investigation (RI), although the aim is to start an RI by the beginning of summer 2024. LS stated the Office of the Secretary of Defense guidance was received about incorporating additional PFAS contaminants of concern. Although, there was the possibility of an additional detection from the new guidance, it will not result in additional areas of potential interest.

Five Year Review: LS stated the next step for the Five-Year Review is to be submitted to regulators in November 2023, although there will be an extension from the goal date of December 2023. BF stated he is working with headquarters and management to get back on schedule. BF stated 30 days at minimum will be necessary to complete the review, but it will be completed by the end of this fiscal year. LS stated it is not necessary to rush. BF said it may be necessary to have a short next Five-Year Review and there may be a memo or protective statement at the next time frame in 2025 or 2026.

Transfer Update: KR stated the intention is to abide by the timeline, although due to a busy schedule, he will follow up with an official update. ED introduced himself and discussed his background of working with contaminants as well as his current position as an advisory role. ED

said he is working with KR to be brought up to speed about the transfer. ZB introduced members of the meeting to ED as primary contacts.

Schedule Next Managers' Meeting: ED stated he cannot attend the next Monthly Managers Meeting. However, ED would like ZB to keep him in the loop for February 2024. ZB said the next MMM will be held in person on Thursday 16 November 2023 at 8:00 AM CDT.

Meeting concluded at approximately 11:02 AM CDT.

ACRONYM LIST

AP	April Palmie
AR	Administrative Record
AW	Aaron Williams
BF	Brian Follin
CDT	Central Daylight Time
DERP	Defense Environmental Restoration Program
ED	Erik Duerkop
FBR	Fluidized bed reactor
FWS	Fish and Wildlife Service
GK	Gregory Kelly
GWTP	Groundwater Treatment Plant
KN	Kimberly Nemmers
KR	Kyle Russell
LHAAP	Longhorn Army Ammunition Plant
LS	Lena Sierocinski
LUC	Land Use Control
µg/L	micrograms per liter
MMM	Monthly Managers' Meeting
OM&M	Operation, Maintenance, and Monitoring
ORP	Oxidation Reduction Potential
PBJV	Poarch Creek Indians, Governmental Services, LLC /Bhate Environmental Associates Joint Venture
PW	Phil Werner
RAB	Restoration Advisory Board
RA-O	Remedial Action – Operation
RD	Remedial Design
RI	Remedial Investigation
SB	Scott Beesinger
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
WF	William Foss
ZB	Zachary Beck

LHAAP Validated Data
October 2023 MMM

GWTP Effluent	*Weekly Perchlorate Sampling –September 2023* Perchlorate (6850)
GWTP Effluent	*Weekly, Bi-Weekly, and Monthly Sampling – September 2023* Ammonia (350.3) Ortho-Phosphate (365.3) Total Organic Carbon (415.1) VOC (8260C) Metals (6020A) Hexavalent Chromium (7196A) 1,4-Dioxane (8270D-SIM) Anions (9056)
GWTP Influent	*Monthly Sampling – September 2023* Metals (6020A) Perchlorate (6850) Hexavalent Chromium (7196A)
LHAAP-17	*Quarterly Sampling - September 2023* Perchlorate (6850)
LHAAP-29	*Groundwater Monitoring Event - October 2023* Explosives (8330A) VOC (8260C) Metals (6020A/7470A) Perchlorate (6850)
LHAAP-50	*Year 10 Semiannual Event #1 - October 2023* Total Organic Carbon (SM5310B) VOC (8260C) Anions (9056) Dissolved Gases (RSK175) Perchlorate (6850)

Groundwater Treatment Plant Weekly/Effluent Perchlorate Sampling - September 2023

Location ID: Sample Date:	Units	Daily Maximum Conc	PCL	LH18/24-SP650_090623_BIX 9/6/23	LH18/24-SP650_090623_AIX 9/6/23	LH18/24-SP650_091223_BIX 9/12/23	LH18/24-SP650_091223_AIX 9/12/23	LH18/24-SP650_091223_AIX 9/12/23	LH18/24-SP650_091923_BIX 9/19/23	LH18/24-SP650_091923_AIX 9/19/23	LH18/24-SP650_092823_BIX 9/28/23	LH18/24-SP650_092823_AIX 9/28/23
Location Description				Weekly	Weekly	Weekly	Weekly	Monthly Effluent	Weekly	Weekly	Weekly	Weekly
Perchlorate (6850)												
Perchlorate	µg/L	589	17	**107**	**4.70**	**67.5**	**0.185**	**0.0578 J**	**9.17**	**4.69**	**4.57**	**1.38**

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

µg/L - micrograms per liter

BIX - before ion exchange/AIX - after ion exchange

J - estimated detection between the detection limit and limit of quantitation

Groundwater Treatment Plant Weekly Sampling - September 2023

Location Identification: Sample Date:	Units	Daily Maximum Concentrations	LH18/24-SP650_090623 9/6/23	LH18/24-SP650_091223 9/12/23	LH18/24-SP650_091923 9/19/23	LH18/24-SP650_092823 9/28/23
Location Description			**GWTP–Collected from a spigot on the discharge of effluent TK-650. Sampled Weekly.**			
Ammonia as Nitrogen (350.3)						
Ammonia as Nitrogen	mg/L	NV	**13**	**24**	**24**	**17**
Ortho-Phosphate (365.3)						
Ortho-Phosphate	mg/L	NV	**0.387**	**4.38**	**4.8**	**3.21**
Organic Carbon (415.1)						
Total Organic Carbon (TOC)	mg/L	NV	**2.92**	**42.0**	**2.71**	**6.38**

Notes:

GWTP - Groundwater Treatment Plant

TK - Tank

mg/L - milligrams per liter

NV - No Value

Bold Values- Detections

Groundwater Treatment Plant Bi-Weekly Sampling - September 2023

Location ID: Sample Date:	Units	(Bayou) Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_090623 9/6/23	LH18/24-SP650_091923 9/19/23
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Biweekly.**	
Volatile Organic Compounds (8260C)					
1,1,1-Trichloroethane	µg/L	7,230	200	< 0.50 U	< 0.50 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 0.50 U	< 0.50 U
1,1-Dichloroethane	µg/L	14,032	NV	< 0.50 U	< 0.50 U
1,1-Dichloroethene	µg/L	253	7	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	181	5	< 0.50 U	< 0.50 U
1,2-Dichloropropane	µg/L	5	5	< 0.50 U	< 0.50 U
Acetone	µg/L	2,395	NV	< 2.0 U	< 2.0 U
Benzene	µg/L	181	5	< 0.50 U	< 0.50 U
Carbon tetrachloride	µg/L	181	5	< 0.50 U	< 0.50 U
Chlorobenzene	µg/L	47,180	100	< 0.50 U	< 0.50 U
Chloroform	µg/L	3,615	NV	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	NV	70	**2.5**	**2.3**
Ethylbenzene	µg/L	57,025	700	< 0.50 U	< 0.50 U
m,p-Xylene	µg/L	83.6	NV	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	1,699	5	< 2.0 U	< 2.0 U
o-Xylene	µg/L	83.6	NV	< 0.50 U	< 0.50 U
Styrene	µg/L	5,987	100	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	180.7	5	< 0.50 U	< 0.50 U
Toluene	µg/L	4,189	10	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	181	5	< 0.50 U	< 0.50 U
Vinyl chloride	µg/L	72	2	< 0.50 U	< 0.50 U
Anions (9056)					
Chloride	mg/L	NV	NV	**973**	**1,000**
Sulfate	mg/L	NV	NV	**70.2**	**60.0**

Notes:

GWTP - Groundwater Treatment Plant

INF - Intermediate Range Nuclear Forces

MCL - Maximum Contaminant Level

TK - Tank

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - No Value

Bold Values- Detections

Groundwater Treatment Plant Monthly Effluent Sampling - September 2023

Location Identification: Sample Date:	Units	Daily Maximum Conc	(INF pond) MCL	LH18/24-SP650_091223 9/12/23
Location Description				**GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled monthly**
Volatile Organic Compounds (8260C)				
1,1,1-Trichloroethane	µg/L	7,230	200	< 0.50 U
1,1,2-Trichloroethane	µg/L	216.9	5	< 0.50 U
1,1-Dichloroethane	µg/L	14,032	NV	< 0.50 U
1,1-Dichloroethene	µg/L	253	7	< 0.50 U
1,2-Dichloroethane	µg/L	181	5	< 0.50 U
1,2-Dichloropropane	µg/L	5	5	< 0.50 U
Acetone	µg/L	2,395	NV	< 2.0 U
Benzene	µg/L	181	5	< 0.50 U
Carbon tetrachloride	µg/L	181	5	< 0.50 U
Chlorobenzene	µg/L	47,180	100	< 0.50 U
Chloroform	µg/L	3,615	NV	< 0.50 U
cis-1,2-dichloroethene	µg/L	NV	70	**2.4**
Ethylbenzene	µg/L	57,025	700	< 0.50 U
m,p-Xylene	µg/L	83.6	NV	< 1.0 U
Methylene chloride	µg/L	1,699	5	< 2.0 U
o-Xylene	µg/L	83.6	NV	< 0.50 U
Styrene	µg/L	5,987	100	< 0.50 U
Tetrachloroethene	µg/L	180.7	5	< 0.50 U
Toluene	µg/L	4,189	10	< 0.50 U
Trichloroethene	µg/L	181	5	< 0.50 U
Vinyl chloride	µg/L	72	2	< 0.50 U
Metals (6020A)				
Barium	mg/L	2	2	**0.258**
Lead	mg/L	0.0046	0.015	< 0.00125 U
Selenium	mg/L	0.012	0.05	< 0.00250 U
Silver	mg/L	0.003	0.1	< 0.000500 U
Hexavalent Chromium (7196A)				
Hexavalent Chromium	mg/L	0.1244	NV	< 0.00600 U
Semi-Volatile Organic Compounds (8270D SIM)				
1,4-Dioxane	µg/L	134.2	NV	**0.48**

Notes:

GWTP - Groundwater Treatment Plant

INF - Intermediate Range Nuclear Forces

MCL - Maximum Contaminant Level

TK - Tank

SIM - Select Ion monitoring

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

NV - no value

Bold Values- Detections

Groundwater Treatment Plant Monthly Influent Sampling - September 2023

Location Identification: Sample Date:	Units	LH18/24-SP140_091223 9/12/23
Location Description		**GWTP – Collected from a spigot on the influent to TK-140. Sampled Monthly.**
Metals (6020A)		
Selenium	mg/L	< 0.00250 U
Silver	mg/L	< 0.000500 U
Hexavalent Chromium (7196A)		
Hexavalent Chromium	mg/L	< 0.00600 U
Perchlorate (6850)		
Perchlorate	µg/L	**14,600**

Notes:

GWTP - Groundwater Treatment Plant

TK - Tank

mg/L - milligrams per liter

µg/L - micrograms per liter

U- Undetected: The analyte was analyzed for, but not detected and reported to the limit of detection.

Bold Values- Detections

Perchlorate Quarterly Groundwater Analytical Results
LHAAP-17 September 2023

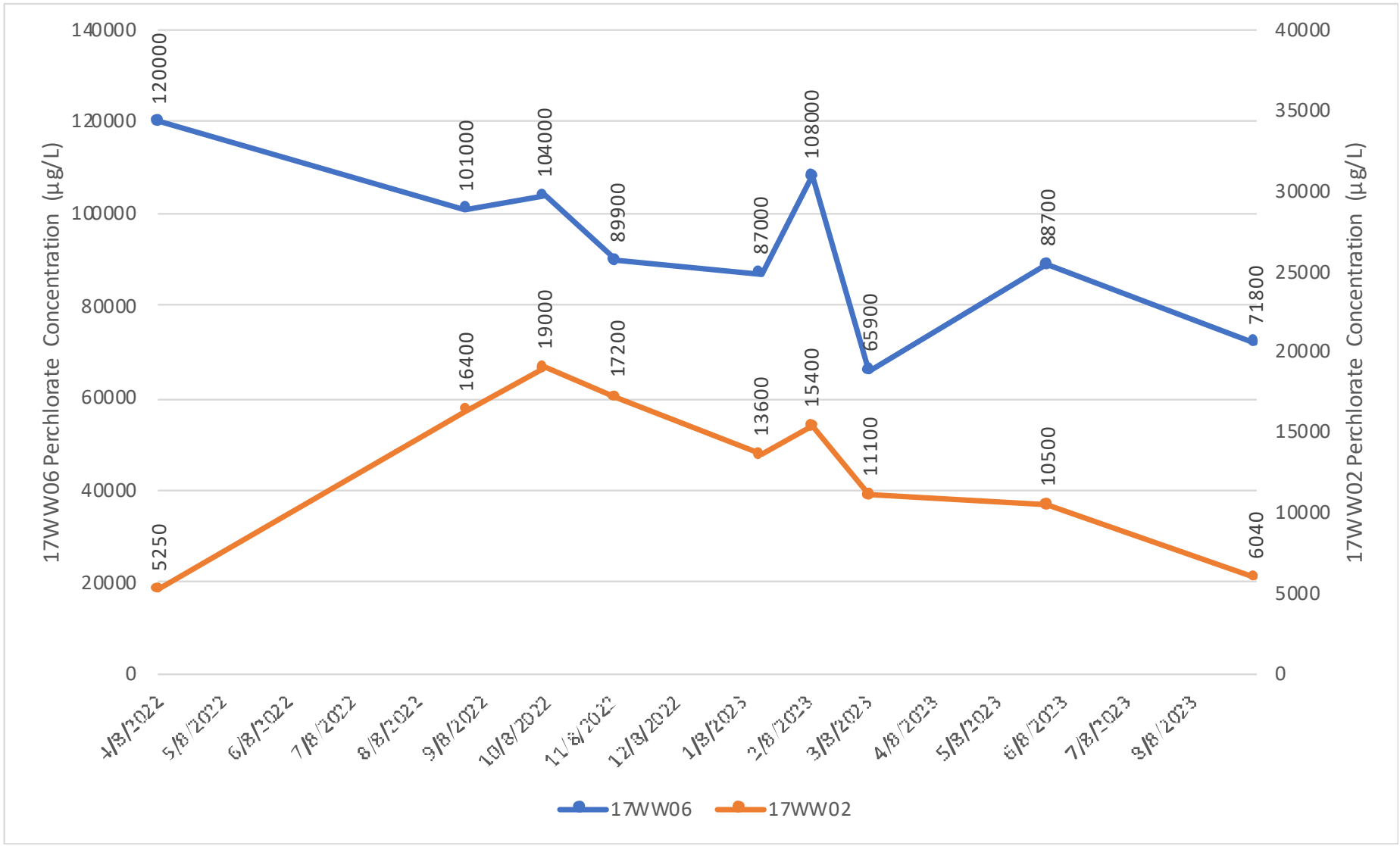
Location ID: / Sample Date:	Units	PCL	130_090723 9/7/23	17WW01_090723 9/7/23	17WW02_090723 9/7/23	17WW02_090723_a 9/7/23	17WW03_090723 9/7/23	17WW06_090723 9/7/23
Perchlorate (6850)								
Perchlorate	µg/L	17	**1.36**	**0.398**	**6,030**	**6,040**	**0.219**	**71,800**

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Highlighted results exceed the perchlorate PCL

µg/L - micrograms per liter

Figure 3-1
LHAAP-17 Perchlorate Trend Chart



17WW02		4/8/2022
COC	PCL	Result
Perchlorate	17	5,250

130		4/8/2022
COC	PCL	Result
Perchlorate	17	15.0

17WW06		4/8/2022
COC	PCL	Result
Perchlorate	17	120,000

17WW01		4/8/2022	4/21/2022
COC	PCL	Result	Result
Perchlorate	17	239	46.8

17WW03		4/8/2022
COC	PCL	Result
Perchlorate	17	44.7 J / 7.78 J

COCs shown on this figure	
COC	PCL
Perchlorate	17

Notes:
PCL – TRRP Tier 1 Groundwater Residential Protective Concentration Level
TRRP - Texas Risk Reduction Program
Bold Red values exceed the PCL
J - Estimated Value. Concentration found below the limit of quantitation
All results and PCLs are reported in micrograms per liter (µg/L)

Legend

- Extraction Well
- Shallow Monitoring Well
- Intermediate Monitoring Well
- LHAAP-17 Boundary
- Road
- Stream

Longhorn Army Ammunition Plant
Karnack, Texas

Figure X
Baseline Groundwater Sampling Analytical Results (April 2022)

0 50 100 200 Feet

1 inch = 100 feet

Prepared By: MMG / TLI JOINT VENTURE

Map Date: 9/27/2022

Service Layer Credits: Google satellite imagery

Document Path: Z:\Projects\MSC20200016 Longhorn\0002 RIP\0031 RA RACR\AB Extraction LHAAP 17\Figure X.mxd

LHAAP-29 Analytical Results - August 2023

Location Identification and Sample Date:	Units	MCL/MSC/ PCL	29WW05_082923	29WW07_082923	29WW13_083123	29WW13_083123_a	29WW14_083023	29WW16_083023	29WW18_083123	29WW19_083023	29WW21_083023
Aquifer Zone:			Shallow	Shallow	Intermediate	Intermediate	Intermediate	Intermediate	Shallow	Shallow	Intermediate
			HS23090079	HS23090079	HS23090136	HS23090136	HS23090076	HS23090076	HS23090136	HS23090076	HS23090076
Well Identification:			29WW05	29WW07	29WW13	29WW13	29WW14	29WW16	29WW18	29WW19	29WW21
Perchlorate (6850)											
Perchlorate	µg/L	17*	**0.182**	**0.205**	NA	NA	NA	**NA**	**0.169**	**0.116**	**NA**
Volatile Organic Compounds (8260C)											
1,1-Dichloroethene	µg/L	7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5,000 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5,000 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5,000 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	< 1.0 U	< 1.0 U	**8.4**	**8.1**	**39 J**	**8,000,000**	< 1.0 U	**21 J**	**94 J**
trans-1,2-Dichloroethene	µg/L	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5,000 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	5	< 1.0 U	< 1.0 U	**1.1**	**1.0**	**3.8**	**27,000**	< 1.0 U	**4.9**	**5.0**
Vinyl chloride	µg/L	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5,000 U	< 1.0 U	< 1.0 U	< 1.0 U
Metals (6020A/7470A)											
Arsenic	mg/L	0.01	**0.000466 J**	**0.000479 J**	< 0.00125 U	< 0.00125 U	< 0.00125 U	**0.0784**	< 0.00125 U	**0.000440 J**	**0.00101 J**
Nickel	mg/L	0.49*	**0.0392**	**0.418**	NA	NA	NA	**NA**	**0.377**	**0.00615**	NA
Selenium	mg/L	0.05	< 0.00250 U	< 0.00250 U	NA	NA	NA	NA	< 0.00250 U	< 0.00250 U	NA
Mercury	mg/L	0.002	< 0.000100 U	< 0.000100 U	NA	NA	NA	NA	< 0.000100 U	< 0.000100 U	NA
Explosives (8330A)											
2-Nitrotoluene	µg/L	1,000	**24.4**	< 0.0500 U	NA	NA	NA	NA	< 0.285 U	< 0.117 U	NA
3-Nitrotoluene	µg/L	1,000	**2.62**	< 0.0500 U	NA	NA	NA	NA	< 0.285 U	< 0.117 U	NA
4-Nitrotoluene	µg/L	1,000	**2.66**	< 0.0500 U	NA	NA	NA	NA	< 0.285 U	< 0.117 U	NA
2,4-Dinitrotoluene	µg/L	0.42	**0.341**	< 0.0500 U	NA	NA	NA	NA	< 0.285 U	< 0.117 U	NA
2,6-Dinitrotoluene	µg/L	0.42	**2.95**	< 0.0500 U	NA	NA	NA	NA	< 0.285 U	< 0.117 U	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

*Perchlorate, manganese, and nickel compared to the PCL

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-29 Analytical Results - August 2023

Location Identification and Sample Date:	Units	MCL/MSC/ PCL	29WW23_082923	29WW23_082923_a	29WW24_082923	29WW28_082923	29WW29_083123	29WW31_083123	29WW33_083023	29WW33_083023_a	29WW34_082923
Aquifer Zone:			Shallow	Shallow	Intermediate	Intermediate	Shallow	Shallow	Shallow	Shallow	Intermediate
			HS23090079	HS23090079	HS23090079	HS23090079	HS23090136	HS23090136	HS23090076	HS23090076	HS23090079
Well Identification:			29WW23	29WW23	29WW24	29WW28	29WW29	29WW31	29WW33	29WW33	29WW34
Perchlorate (6850)											
Perchlorate	µg/L	17*	**0.232 J**	**0.0718 J**	NA		**0.298**	**0.218**	**0.161 J**	**0.0872 J**	NA
Volatile Organic Compounds (8260C)											
1,1-Dichloroethene	µg/L	7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**7.0**	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	µg/L	5	**52**	**51**	**44**	**42**	**38**	**2.6**	**20 J**	**20 J**	< 1.0 U
trans-1,2-Dichloroethene	µg/L	100	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**1.1**	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	5	**11**	**11**	**4.1**	**4.0**	**8.6**	**13**	**2.9**	**3.1**	< 1.0 U
Vinyl chloride	µg/L	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Metals (6020A/7470A)											
Arsenic	mg/L	0.01	**0.000550 J**	< 0.00125 U	< 0.00125 U	**0.000513 J**	**0.000456 J**	**0.00114 J**	< 0.00125 U	< 0.00125 U	**0.000931 J**
Nickel	mg/L	0.49*	**0.00586**	**0.00526**	NA	NA	**1.71**	**0.00558**	**0.144**	**0.153**	NA
Selenium	mg/L	0.05	< 0.00250 U	< 0.00250 U	NA	NA	< 0.00250 U	< 0.00250 U	< 0.00250 U	< 0.00250 U	NA
Mercury	mg/L	0.002	< 0.000100 U	< 0.000100 U	NA	NA	< 0.000100 U	< 0.000100 U	< 0.000100 U	< 0.000100 U	NA
Explosives (8330A)											
2-Nitrotoluene	µg/L	1,000	< 0.0660 U	< 0.0630 U	NA	NA	< 0.0510 U	> 0.0660 U	< 0.0410 U	< 0.0650 U	NA
3-Nitrotoluene	µg/L	1,000	< 0.0660 U	< 0.0630 U	NA	NA	< 0.0510 U	> 0.0660 U	< 0.0410 U	< 0.0650 U	NA
4-Nitrotoluene	µg/L	1,000	< 0.0660 U	< 0.0630 U	NA	NA	< 0.0510 U	> 0.0660 U	< 0.0410 U	< 0.0650 U	NA
2,4-Dinitrotoluene	µg/L	0.42	< 0.0660 U	< 0.0630 U	NA	NA	< 0.0510 U	> 0.0660 U	< 0.0410 U	< 0.0650 U	NA
2,6-Dinitrotoluene	µg/L	0.42	< 0.0660 U	< 0.0630 U	NA	NA	< 0.0510 U	> 0.0660 U	< 0.0410 U	< 0.0650 U	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

*Perchlorate, manganese, and nickel compared to the PCL

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-29 Analytical Results - August 2023

Location Identification and Sample Date:	Units	MCL/MSC/ PCL	29WW35_083123	29WW36_083123	29WW37_083123	29WW38_083023	29WW39_083023	29WW42_083023	29WW43_082923	29WW44_082923
Aquifer Zone:			Intermediate	Shallow	Intermediate	Shallow	Intermediate	Intermediate	Intermediate	Intermediate
			HS23090136	HS23090136	HS23090136	HS23090076	HS23090076	HS23090076	HS23090079	HS23090079
Well Identification:			29WW35	29WW36	29WW37	29WW38	29WW39	29WW42	29WW43	29WW44
Perchlorate (6850)										
Perchlorate	µg/L	17*	NA	**0.129**	NA	**0.255**	NA	NA	NA	NA
Volatile Organic Compounds (8260C)										
1,1-Dichloroethene	µg/L	7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**2.8**	< 1.0 U	**1.5**
1,2-Dichloroethane	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	µg/L	70	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**250**	**4.2**	**180**
Methylene chloride	µg/L	5	< 1.0 U	**2.6**	< 1.0 U	**1.7 J**	**2.2 J**	**270**	**3.0**	**210**
trans-1,2-Dichloroethene	µg/L	100	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**14**	< 1.0 U	**7.1**
Vinyl chloride	µg/L	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**2.5**	< 1.0 U	< 1.0 U
Metals (6020A/7470A)										
Arsenic	mg/L	0.01	< 0.00125 U	**0.00134 J**	**0.00137 J**	**0.000732 J**	< 0.00125 U	**0.000896 J**	**0.000584 J**	< 0.00125 U
Nickel	mg/L	0.49*	NA	**0.00382 J**	NA	**0.00201 J**	NA	NA	NA	NA
Selenium	mg/L	0.05	NA	< 0.00250 U	NA	< 0.00250 U	NA	NA	NA	NA
Mercury	mg/L	0.002	NA	< 0.000100 U	NA	< 0.000100 U	NA	NA	NA	NA
Explosives (8330A)										
2-Nitrotoluene	µg/L	1,000	NA	< 0.0380 U	NA	< 0.0260 U	NA	NA	NA	NA
3-Nitrotoluene	µg/L	1,000	NA	< 0.0380 U	NA	< 0.0260 U	NA	NA	NA	NA
4-Nitrotoluene	µg/L	1,000	NA	< 0.0380 U	NA	< 0.0260 U	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	0.42	NA	< 0.0380 U	NA	< 0.0260 U	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	0.42	NA	< 0.0380 U	NA	< 0.0260 U	NA	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

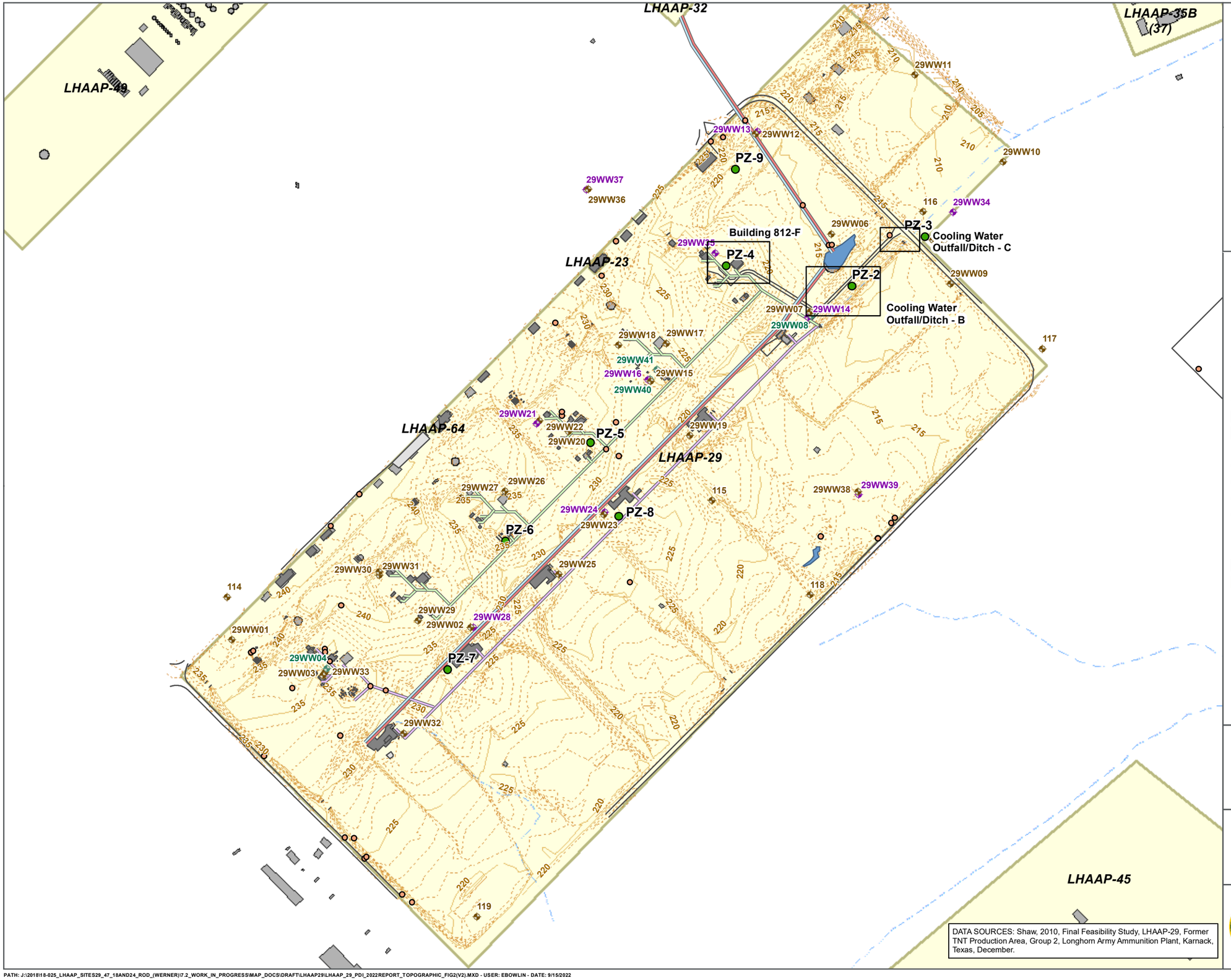
J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

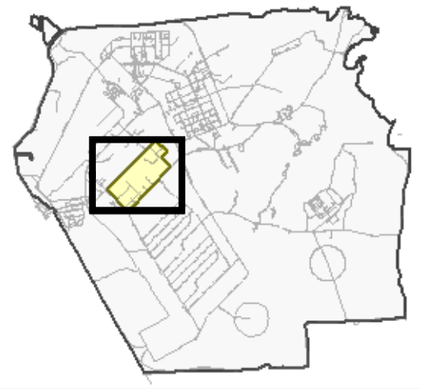
UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

*Perchlorate, manganese, and nickel compared to the PCL

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level





LEGEND

- 2022 Piezometer Locations
- Shallow or Lower Shallow Monitoring Well
- Intermediate Monitoring Well
- Deep Monitoring Well
- Utilities
- Index Contour
- Intermediate Contour
- Concrete, Pavement and Driveway
- Concrete
- Pavement
- Water
- TNT Cooling Water Drain Line (North)
- TNT Cooling Water Drain Line (South)
- TNT Wooden Wastewater Line
- TNT Transite Wastewater Line
- Stream
- Road
- Building
- Site LHAAP-29

DATA SOURCES: Shaw, 2010, Final Feasibility Study, LHAAP-29, Former TNT Production Area, Group 2, Longhorn Army Ammunition Plant, Karnack, Texas, December.

TOPOGRAPHIC MAP
SITE FEATURES

LHAAP-29 PDI REPORT JUNE 2022
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

N

0 200 400
FEET

FIGURE 2

PATH: J:\2018\18-025_LHAAP_SITES29_47_18AND24_ROD_(WERNER)\7.2_WORK_IN_PROGRESS\MAP_DOCS\DRAFT\LHAAP29\LHAAP_29_PDI_2022REPORT_TOPOGRAPHIC_FIG2(V2).MXD - USER: EBOWLIN - DATE: 9/15/2022

LHAAP-50 Year 10 Semiannual Event #1 Validated Data - October 2023

Location ID: / Sample Date:	Units	MCL/MSC	50WW05_100223 10/2/23	50WW06_100323 10/3/23	50WW08_100223 10/2/23	50WW09_100223 10/2/23	50WW11_100323 10/3/23	50WW11_100323_a 10/3/23	50WW12_100323 10/3/23	50WW13_100323 10/3/23	50WW13_100323_a 10/3/23
Location Description			Upper, cross gradient	Lower, in plume	Upper, on-site	Lower, on-site upgradient	Upper, in plume	Upper, in plume Field Duplicate	Upper, in plume	Upper, in plume	Upper, in plume Field Duplicate
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS23051834	HS23051708	HS23051708	HS23051708	HS23051708	HS23051708	HS23051834	HS23051708	HS23051708
Total Organic Carbon (415.1/SM5310C)											
Total Organic Carbon	mg/L	NV	NA	**3.27**	NA	NA	**1.88**	**2.06**	**1.36**	**2.32**	**2.53**
Volatile Organic Compounds (8260C)											
1,1-Dichloroethene	µg/L	7	**2.6**	< 0.50 U	**1.1**	< 0.50 U	**23**	**23**	**5.0**	**18**	**18**
1,2-Dichloroethane	µg/L	5	**0.93 J**	< 0.50 U	**1.1**	< 0.50 U	**20**	**19**	**1.2**	**42**	**43**
cis-1,2-Dichloroethene	µg/L	70	**69**	**0.70 J**	**77**	**1.2**	**59**	**58**	**0.77 J**	**430**	**410**
Tetrachloroethene	µg/L	5	**0.89 J**	< 0.50 U	**1.4**	< 0.50 U	**5.5**	**5.3**	< 0.50 U	**12**	**14**
Trichloroethene	µg/L	5	**180**	**15**	**610**	**14**	**2,400**	**2,400**	**160**	**7,100**	**7,700**
Vinyl chloride	µg/L	2	< 0.50 U	< 0.50 U	**0.56 J**	< 0.50 U	**1.8**	**2.1**	< 0.50 U	**3.2**	**3.2**
Anions (9056A)											
Chloride	mg/L	NV	NA	**53.6**	NA	NA	**287**	282	**1,140**	**277**	**282**
Nitrate	mg/L	10	NA	< 0.100 U	NA	NA	< 0.100 U	< 0.100 U	< 0.100 U	< 0.100 U	< 0.100 U
Sulfate	mg/L	NV	NA	**21.3**	NA	NA	**406**	**405**	**604**	**338**	**334**
Dissolved Gases (RSK-175)											
Carbon Dioxide	µg/L	NV	NA	**56,000**	NA	NA	**54,000**	**53,000**	**56,000**	**72,000**	**73,000**
Ethane	µg/L	NV	NA	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	< 0.000500 U	**0.00104**
Ethene	µg/L	NV	NA	< 0.000500 U	NA	NA	< 0.000500 U	< 0.000500 U	< 0.000500 U	**0.000630 J**	**0.000666 J**
Methane	µg/L	NV	NA	**0.216**	NA	NA	**1.33**	**1.36**	**8.89**	**0.0256**	**0.0276**
Perchlorate 6850											
Perchlorate	µg/L	17*	**0.273**	**554**	**62.9**	**0.194**	**4690**	**5110**	**17,900**	**4170**	**4270**

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed

µg/L - micrograms per liter

mg/L - milligrams per liter

a - duplicate sample

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

UJ - estimated non-detect due to discrepancies in meeting certain analyte-specific quality control criteria.

NV - No Value

*Perchlorate compared to the (PCL) – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-50 Year 10 Semiannual Event #1 Validated Data - October 2023

Location ID: Sample Date:	Units	MCL/MSC	50WW14_100323 10/3/23	50WW15_100223 10/2/23	50WW16_100223 10/2/23	50WW18_100223 10/2/23	50WW22_100223 10/2/23	50WW23_100223 10/2/23	50WW29_100223 10/2/23
Location Description			Lower, in plume	Upper, cross gradient North	Upper, cross gradient North	Upper, down gradient NE	Upper, upgradient SE	Upper, cross gradient SW	Upper
Location Depth			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Lab Package			HS23051834	HS23051834	HS23051834	HS23051834	HS23051708	HS23051834	HS23051708
Total Organic Carbon (415.1/SM5310C)									
Total Organic Carbon	mg/L	NV	**1.22**	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (8260C)									
1,1-Dichloroethene	µg/L	7	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloroethane	µg/L	5	**0.74 J**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
cis-1,2-Dichloroethene	µg/L	70	**4.6**	**3.2**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Tetrachloroethene	µg/L	5	< 0.50 U	**1.1**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Trichloroethene	µg/L	5	**67**	**6.2**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Vinyl chloride	µg/L	2	< 0.50 U	**0.63 J**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Anions (9056A)									
Chloride	mg/L	NV	**408**	NA	NA	NA	NA	NA	NA
Nitrate	mg/L	10	< 0.100 U	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	NV	**424**	NA	NA	NA	NA	NA	NA
Dissolved Gases (RSK-175)									
Carbon Dioxide	µg/L	NV	**51,000**	NA	NA	NA	NA	NA	NA
Ethane	µg/L	NV	< 0.000500 U	NA	NA	NA	NA	NA	NA
Ethene	µg/L	NV	< 0.000500 U	NA	NA	NA	NA	NA	NA
Methane	µg/L	NV	**0.00540**	NA	NA	NA	NA	NA	NA
Perchlorate 6850									
Perchlorate	µg/L	17*	**0.274**	**0.161**	**0.174**	**0.237**	**0.337**	**0.159**	**0.252**

Blue Highlighting Indicates concentrations above the MCL/MSC

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations

NA - Not Analyzed

µg/L - micrograms per liter

mg/L - milligrams per liter

a - duplicate sample

J - Estimated: Between the method detection limit and reporting limit and/or due to discrepancies control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

UJ - estimated non-detect due to discrepancies in meeting certain analyte-specific quality control c

NV - No Value

*Perchlorate compared to the (PCL) – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Re

01193902

TCE and Perchlorate Shallow Zone Plumes
Year 3, 1st Semiannual Sampling Event
(October 2022)

Figure 9

Ninth Annual Remedial Action Operation Report
LHAAP-50, Former Sump Water Tank
Longhorn Army Ammunition Plant
Karnack, Texas

DRAWN BY: MRM

DATE: 9/15/2023

SCALE: As Shown

PROJECT NO: JVPCIBH.0001.0009.01

PCIbhate

LHAAP-47

LHAAP-08

LHAAP-50

Goose Prairie Creek

GALVESTON AVE.

52ND ST.

53RD ST.

CROCKETT AVE.

51ST ST.

BOWIE AVE.

S CROCKETT AVE

S HOUSTON RD

48TH ST.

50WW18 (0.05 U) (1 U)

50WW16 (0.05 U / 0.05 U) (1 U / 1 U)

50WW29 (0.138) (1 U)

50WW05 (0.109) (290)

50WW15 (0.0301) (4.9)

50WW09 (0.118) (5.8)

50WW12 (17,600 / 17,900) (180 / 180)

50WW23 (0.142) (1 U)

50WW11 (6,280) (3,100)

50WW06 (257) (20)

50WW08 (31.1) (720)

50WW22 (0.269) (1 U)

50WW13 (5,310) (8,600)

50WW14 (0.101) (33)

Acronyms:
U - Result is less than the laboratory detection limit
ISB - In Situ Bioremediation
DPT - Direct Push Technology
/ - Duplicate Sample

Note:
LUC boundary established in the 2016 Final Remedial Action Completion Report, LHAAP-50, Former Sump Water Tank (AECOM 2016)

Aerial Photography Source: Google Earth, 6/11/2022

0 75 150 300 Feet

Legend:

- Lower Shallow Monitoring Well Location
- Upper Shallow Monitoring Well Location
- ISB DPT Point
- (257) Perchlorate Concentration Reported in Micrograms per Liter (µg/L)
- Perchlorate Contour >17 µg/L
- (3,100) Trichloroethene Concentration Reported in Micrograms per Liter (µg/L)
- Trichloroethene Contour >5 µg/L
- Direction of Groundwater Flow (October 2022)
- Land Use Control (LUC) Boundary
- Installation Restoration Program (IRP) Area
- Goose Praire Creek Flow Direction
- Goose Prairie Creek
- Former Storage Tank Location
- Former and/or Existing Building Location

PCIbhate

Subject:	**Final Monthly Managers' Meeting (MMM), Longhorn Army Ammunition Plant (LHAAP)**
Location of Meeting:	**LHAAP Groundwater Treatment Plant (Army Trailer)**
Date of Meeting:	**16 November 2023 – 8:00 AM Central Daylight Time (CDT)**

Attendees:

USAEC:	Lena Sierocinski (LS)
USEPA:	Brian Follin (BF), Joel Reyes, and Janetta Coats
USGS:	Chris Braun (remote) and Tim Bartos (remote)
USACE:	Aaron Williams (AW)
BRAC:	Kyle Russell (KR) (remote)
TCEQ:	April Palmie (ABP) and Midori Campbell
PCI/Bhate JV:	Zachary Beck (ZB) (remote), Scott Beesinger (SB), Kimberly Nemmers (KN), and Ike Eldridge
APTIM:	William Foss (WF)
HDR:	Gregory Kelly (GK), Phil Werner (PW), and Amita Patel (AP)

Defense Environmental Restoration Program (DERP) Performance-Based Remediation Update

There were no outstanding action items to discuss. Each team member introduced themselves and their role with the LHAAP program. KN said that the Caddo Lake Wildlife Refuge was closed to the public due to a Disabled Hunt. AW said that he has cleared the tour route with the U.S. Fish and Wildlife personnel.

Groundwater Treatment Plant (GWTP) – SB said that on Sunday 29 October 2023 the acetic acid pump failed, and as a result the GWTP was temporarily placed into recycle. The acetic acid pump helps regulate oxidation reduction potential (ORP) in the fluidized bed reactor (FBR). With the acetic acid pump inoperable, the ORP increased above the standard operating range which can negatively affect FBR treatment. SB said that a new acetic acid pump was installed on 7 November 2023 which allowed GWTP operation and discharge to resume on 9 November 2023. SB stated that the perchlorate effluent data collected after the ion exchange vessels confirmed proper treatment of perchlorate despite the acetic acid pump failure. SB said he continues to air sparge and backwash the sand filter two to three times per week. SB said that although, there has not been an observed increase in flow rates, the air sparging and backwashing appears to be effective in breaking up and removing sediment. SB explained that a significant amount of sediment is coming out of the sand filter after backwashing is completed. SB said that the effort to unplug the polymer feed line is ongoing but cannot be finished until leaks in the potable water line are repaired. SB stated that there is standing water in Harrison Bayou, but it is not flowing yet so treated water is being discharge to the Intermediate-Range Nuclear Forces Treaty (INF) pond. SB explained that all discharge to the INF pond is being processed through the ion exchange vessels. ABP asked about the status of extraction from LHAAP-17. SB said that extraction from LHAAP-17 has been ongoing with a brief pause during the acetic acid pump failure. SB stated that the installation of exterior lighting around the plant was completed and has greatly improved visibility.

Field Work – SB stated that the annual sampling events were completed at LHAAP-37 and LHAAP-67 in November 2023. SB discussed upcoming sampling including at sites LHAAP-12, LHAAP-17, and LHAAP-18/24 in December 2023. WF added that if the LHAAP-16 Conceptual Site Model (CSM) Work Plan is approved the stream gauges would be installed in December 2023 or January 2024.

ZB asked everyone to refer to the Document and Issues (DI) Tracking Table for November 2023.

- **Tasks 1 -5** (Project Management) – KN said that the RAB was scheduled for 2:30 PM, followed by the public site tour of LHAAP. KN said that Draft Final June 2023 Restoration Advisory Board (RAB) minutes were submitted to RAB members on 13 October 2023. KN said that following the MMM a separate site tour will be completed ahead of the RAB meeting.
- **Task 6** (LHAAP-04) – ZB stated that the Year 3 Annual Remedial Action – Operation (RA-O) Report Final received approval on 16 June 2023 and will be moved to the Administrative Record (AR). ZB said the Year 4 Annual RA-O Report is in progress with an anticipated delivery to TCEQ and USEPA in December 2023. ZB stated the Year 5 1st Semi Annual RA-O Sampling event is scheduled for February 2023 and the validated data package will be presented in March 2024.
- **Task 7** (LHAAP-12) – ZB stated the 2022 Annual RA-O Report Draft Final received TCEQ approval on 26 June 2023 and USEPA approval on 3 July 2023. ZB said the Final will be included in the July to September 2023 AR update. ZB said that the 2023 annual sampling event is scheduled for December 2023.
- **Task 8** (LHAAP-16) – WF said that the Year 3 RA-O Report is anticipated to be submitted for regulatory review in December 2023. WF stated the Year 4 Semiannual 1st RA-O sampling event was completed in July 2023 and the validated data package is included in the November 2023 MMM validated data package. WF said that the laboratory is providing a larger assay of dechlorinating bacteria than just the dehalococcoides bacteria. BF said that at injection well 16IW09 (within Landfill Biobarrier #1) there was minimal bacteria present, however there was highly negative ORP, and a significant amount of organic carbon still present at 125 milligram per liter (mg/L). WF said that 16IW09 is non detect for all the volatile organic compounds with the exception of a low detection of cis-1,2-dichloroethene. WF indicated that as groundwater moves through Biobarrier #1 similar results are expected in downgradient monitoring wells. WF said that at injection well 16IW03 (within Landfill Biobarrier #2) there are healthy bacteria populations, very low dissolved oxygen, negative ORP, and high organic carbon is still present (1,520 mg/L). WF said that although there are relatively high levels of contaminants present at 16IW09, a significant amount of vinyl chloride (VC) and ethene is being detected indicating complete reductive dichlorination is occurring in Biobarrier #2. WF said that at injection well 16IW10 (within Landfill Biobarrier #3) there are similar conditions with healthy bacteria populations, negative ORP and low dissolved oxygen. At 16IW10 the trichloroethene contamination has been reduced resulting in a building up of VC above the groundwater cleanup target level. WF said that at injection well 16IW20 (within Bayou Biobarrier) there are healthy populations of bacteria but not favorable organic carbon level indicating a potential need for additional injection.
- **Task 1022** (Option 22: LHAAP-16) – WF stated that comments on the CSM Work Plan were received from TCEQ on 16 October 2023 and USEPA on 8 November 2023. WF said that the response to comments (RTCs) are in progress. WF brought attention to a specific comment regarding the incorporation of an additional surface water gauge. WF stated a third surface water gauge is outside of the scope of the contract with the Army. However, WF explained that if data from the initial two gauges indicate a gap and a third gauge would be helpful, a recommendation will be made to support that addition, under the next contract. BF asked about gauging the surface water beyond six months as established in the CSM Work Plan.

WF explained that the CSM Report will cover the initial six months as a baseline. However, a recommendation will be made in the CSM Report regarding frequency of gauging following the first six months.

- **Task 9** (LHAAP-18/24/GWTP) – ZB said the next Semi-Annual sampling event is upcoming in December 2023 and the validated data package will be presented at the January 2024 MMM. ZB stated the 1st Quarter 2023 GWTP OM&M Report received TCEQ comments on 7 August 2023, but is waiting on USEPA review. BF indicated that USEPA has reviewed the 1st Quarter 2023 GWTP OM&M Report. ZB said that those comments will be addressed in the upcoming 2nd Quarter 2023 GWTP OM&M Report. ZB said the 2nd Quarter 2023 GWTP OM&M Report is in progress and will be submitted in November 2023.
- **Task 10** (LHAAP-37) – WF said the Draft Year 6 Annual RA-O Report received USEPA comments on 11 September 2023. WF stated that the response to comments and the Draft Final are in progress, and will likely be submitted for Regulatory review in November 2023. WF stated the Year 7 sampling event was completed in November 2023, with the validated data package to be presented in January 2024.
- **Task 11** (LHAAP-46) - WF said the Year 9 Annual RA-O report is in preparation with the draft submittal scheduled for December 2023.
- **Task 12** (LHAAP-50) **–** ZB stated the Year 9 Annual RA-O Report was submitted to regulators on 24 October 2023. ABP requested a 20-day extension with the report review due on 15 December 2023.
- **Task 13** (LHAAP-58) – ZB stated the Year 9 RA-O Report is in progress, with a tentative submittal to regulators in November 2023. KN asked if the Year 10 1st semiannual sampling event at LHAAP-58 is necessary to complete in December 2023 as a semiannual event. ZB explained that the LHAAP-58 Year 9 RA-O Report recommended reduction in sampling frequency to annual for Year 10 with the next event scheduled for June 2024. However, ZB explained that the PBJV is under contract to complete a Year 10 semiannual event on the Western Plume in December 2023. AW said that the Army would make a decision on whether this recommendation is in compliance with the Remedial Action Work Plan Contingency Remedy for Western Plume LHAAP-35A (58) (Bhate, January 2018).
- **Task 14** (LHAAP-67) – WF stated the Year 9 Annual RA-O Report was approved by TCEQ and USEPA in October 2023 and will be placed into the AR. WF stated the Year 10 annual sampling event was completed in November 2023, with the validated data to be presented at the December 2023 MMM.
- **Task 15** (LHAAP-001-R-01 and LHAAP-003-R-01) – ZB stated the Annual LTM report will be completed following the completion of annual inspections. SB said the annual inspections will be completed in November 2023 as soon as the site can be mowed and cleared.
- **Task 16** (Surface Water) – ZB explained that the 3rd Quarter 2023 surface water sampling event was unable to be completed due to no flow in the Bayou. ZB stated that the 4th Quarter 2023, surface water sampling event will take place as soon as flow is present.
- **Task 17** (2023 Land Use Control [LUC] Management Plan) – ZB stated the 2023 Comprehensive LUC Management Plan is in progress, although the December 2023 submittal date may be unrealistic. AW stated an addition to the update would be the LUC from the Remedial Design (RD) for 18/24 and 29. AW said this will be included in either the 2023 or 2024 update depending on when they are finalized. ABP said that delaying the 2023 LUC Management Plan Update to early January 2024 to include Final Remedial

Designs (RDs) would be fine with TCEQ. ABP said this delay would be preferable to sending out a LUC Management Plan Update for the required signatures with no change.

- **Task 18** (AR) – WF stated the April to June 2023 AR update is being printed. WF said the July to September 2023 tracking sheet is in progress.

Update on other DERP Sites:

- **LHAAP 18/24 –** AP stated the 2nd submittal of the 100% LHAAP- 18/24 RD received a 2nd set of comments from TCEQ and USEPA on 7 September 2023 and responses to comments are in progress. PW said the anticipated submittal of the final is in January 2024.
- **LHAAP-29** – PW said responses to regulator comments are being prepared for army review for the 100% LHAAP-29 RD which may be submitted as final by the end of 2023 depending on the second review.
- **LHAAP-47** – GK stated the Draft Pre-Design Investigation Report was submitted to regulatory agencies on 12 October 2023 with comments anticipated to be received by 20 November 2023. GK said that a technical memorandum work plan for a step draw down test is complete with a Spring 2024 delivery expected.
- **LHAAP-17** – ZB stated the Draft Final Interim Remedial Action Construction Report (RACR) was submitted to the regulators on 10 October 2023. However, BF and ABP indicated that neither USEPA or TCEQ have received the Draft Final Interim RACR. ZB said that the Draft Final Interim RACR was submitted via DoD Safe. ZB added that the Draft Final Interim RACR would be posted to the Shared Portal alternatively. ZB said the Year 1 RA-O Report covers groundwater sampling from September 2022 through August 2023 and will likely be submitted in December 2023. ZB said the next Quarterly Performance Monitoring event is scheduled for December 2023.

Per- and polyfluoroalkyl substances (PFAS) Update: LS stated the PFAS Preliminary Assessment/Site Inspection (PA/SI) Report has been posted to the Army's website. LS said that the Remedial Investigation (RI), is likely to be pushed out to fiscal year 2025. WF indicated that the PFAS PA/SI Report could be posted to the LHAAP website as well. LS agreed that the Army would like to post it to the LHAAP website.

Five Year Review: LS stated the next step for the Five-Year Review is to be submitted to regulators after Army review. LS said that regulatory submittal is tentatively planned for January 2024.

Transfer Update: KR stated that additional information has been provided to Erik Duerkop with the United States Fish and Wildlife including the Environmental Condition of Property and the Memorandum of Agreement. KR said that the transfer will likely be finalized in December 2023.

Schedule Next Managers' Meeting: KN said the next in person RAB meeting would be held on 22 February 2023. KN said the next MMM will be held via WebEx on Wednesday 20 December 2023 at 10:00 AM CDT.

Meeting concluded at approximately 09:20 AM CDT.

ACRONYM LIST

ABP	April Palmie
AP	Amita Patel
AR	Administrative Record
AW	Aaron Williams
BF	Brian Follin
CDT	Central Daylight Time
CSM	Conceptual Site Model
DERP	Defense Environmental Restoration Program
FBR	Fluidized bed reactor
FWS	Fish and Wildlife Service
GK	Gregory Kelly
GWTP	Groundwater Treatment Plant
INF	Intermediate-Range Nuclear Forces Treaty
KN	Kimberly Nemmers
KR	Kyle Russel
LHAAP	Longhorn Army Ammunition Plant
LS	Lena Sierocinski
LUC	Land Use Control
µg/L	micrograms per liter
mg/L	milligrams per liter
MMM	Monthly Managers' Meeting
OM&M	Operation, Maintenance, and Monitoring
ORP	Oxidation Reduction Potential
PA/SI	Preliminary Assessment/Site Inspection
PBJV	Poarch Creek Indians, Governmental Services, LLC /Bhate Environmental Associates Joint Venture
PW	Phil Werner
RAB	Restoration Advisory Board
RACR	Remedial Action Construction Report
RA-O	Remedial Action – Operation
RD	Remedial Design
RI	Remedial Investigation
RTC	Response to comments
SB	Scott Beesinger
TCEQ	Texas Commission on Environmental Quality
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
VC	Vinyl Chloride
WF	William Foss
ZB	Zachary Beck

LHAAP Validated Data Packages for November 2023 Monthly Manager's Meeting

LHAAP Area	Analytical Method
LHAAP-16	***July 2023 Remedial Performance Monitoring (Year 4, Semiannual 1)***
	Volatile Organic Compounds (8260C)
	Perchlorate (EPA 6850)
	Dissolved Gases (RSK-175)
	Nitrate/Sulfate (SW9056A)
	Total Organic Carbon (SM5310B)
	Dechlorinating Bacteria (Census)
	Field Measurements (Dissolved Oxygen, Oxidation Reduction Potential, and pH)

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	Landfill Biobarrier #1											
		Location Code	16IW09		16RW01		16RW04		16RW05		16WW26			
		Sample ID	16IW09-230710		16RW01-230717		16RW04-230717		16RW05-230717		16WW26-230712		16WW26-230712-FD	
		Sample Date	7/10/2023		7/17/2023		7/17/2023		7/17/2023		7/12/2023		7/12/2023	
		Sample Type	REG		REG		REG		REG		REG		FD	
		Location Description:	Performance Data Within Landfill Biobarrier #1; Shallow Zone		Upgradient Well for Landfill Biobarrier #1; Shallow Zone		Downgradient Well for Landfill Biobarrier #1; Shallow Zone		Downgradient Well for Landfill Biobarrier #1; Shallow Zone		Downgradient Well for Landfill Biobarrier #1; Shallow Zone			
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)														
BAV1 Vinyl Chloride Reductase	cells/mL	NV	< 3	U	NA		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	41.1		NA		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	550		NA		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	3		NA		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	5.6		NA		NA		NA		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.07		0.07		0.06		0.03		0.04		0.04	
Oxidation Reduction Potential	mV	NV	-91		78		56		-81		61		61	
pH	SU	NV	6.2		5.16		5		6.62		4.96		4.96	
Dissolved Gases (RSK-175)														
Carbon Dioxide	µg/L	NV	170,000		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	< 0.5	U	NA		5.55		< 0.5	U	NA		NA	
Ethylene	µg/L	NV	< 0.5	UJ	NA		4.22	J	< 0.5	UJ	NA		NA	
Methane	µg/L	NV	9,830		NA		352		5,930		NA		NA	
General Chemistry (SM5310B/SW9056A)														
Nitrate	mg/L	NV	< 0.8	UJ	NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	< 4	U	NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	125		NA		NA		NA		5.82	J	5.98	J
Metals (6020)														
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	0.795		0.163		0.207		0.212		< 0.05		< 0.05	
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 5	U	< 5	U	< 1	U	< 1	U	< 1	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 5	U	4	J	< 1	U	2.1		2.1	
1,2-Dichloroethane	µg/L	5	< 1	U	< 5	U	< 5	U	< 1	U	< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	3.1		**88**		**180**		1.3		**81**		**80**	
Methylene chloride	µg/L	5	< 1	U	< 5	U	< 5	U	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	1.1		**2,100**		**3,300**		1.5		**1,000**		**990**	
Vinyl chloride	µg/L	2	< 1	U	**4.3**	J	**8.9**		0.72	J	**5.7**		**5.5**	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	Landfill Biobarrier #1		Landfill Biobarrier #2									
		Location Code	16WW42		16IW03				16PM02		16PM03		16PM06	
		Sample ID	16WW42-230714		16IW03-230710		16IW03-230710-FD		16PM02-230710		16PM03-230710		16PM06-230713	
		Sample Date	7/14/2023		7/10/2023		7/10/2023		7/10/2023		7/10/2023		7/13/2023	
		Sample Type	REG		REG		FD		REG		REG		REG	
		Location Description:	Downgradient Well for Landfill Biobarrier #1; Shallow Zone		Performance Data Within Landfill Biobarrier #2; Shallow Zone				Upgradient Well for Landfill Biobarrier #2; Shallow Zone		Upgradient Well for Landfill Biobarrier #2; Shallow Zone		Downgradient Well for Landfill Biobarrier #2; Shallow Zone	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)														
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		4.1		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		14,800		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		< 20	U	NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		2,410		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		1,670		NA		NA		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.02		0.03		0.03		0.04		0.05		0.02	
Oxidation Reduction Potential	mV	NV	95		-22		-22		7		-1		-28	
pH	SU	NV	4.82		4.99		4.99		5.49		5.83		5.74	
Dissolved Gases (RSK-175)														
Carbon Dioxide	µg/L	NV	NA		330,000	J	770,000	J	NA		NA		NA	
Ethane	µg/L	NV	NA		< 0.5	U	< 0.5	U	NA		NA		< 0.5	U
Ethylene	µg/L	NV	NA		1,150	J	817	J	NA		NA		182	J
Methane	µg/L	NV	NA		6,430	J	4,290	J	NA		NA		597	
General Chemistry (SM5310B/SW9056A)														
Nitrate	mg/L	NV	NA		< 2	UJ	< 2	UJ	NA		NA		NA	
Sulfate	mg/L	NV	NA		< 10	U	< 10	U	NA		NA		NA	
Total organic carbon	mg/L	NV	NA		1,510		1,350		NA		NA		NA	
Metals (6020)														
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	0.432		0.547		0.599		0.184		**355**		0.193	
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 1	U	**250**	U	< 50	U	< 200	U	< 50	U	< 250	U
1,1-Dichloroethene	µg/L	7	< 1	U	**64**		**60**		< 200	U	**29**	J	< 250	U
1,2-Dichloroethane	µg/L	5	< 1	U	< 50	U	< 50	U	< 200	U	< 50	U	< 250	U
cis-1,2-Dichloroethene	µg/L	70	**320**		**23,000**		**22,000**		**4,700**		**5,800**		**31,000**	
Methylene chloride	µg/L	5	< 1	U	**280**	U	< 50	U	< 200	U	< 50	U	< 250	U
Trichloroethene	µg/L	5	**22**		**5,100**		**4,400**		**40,000**		**11,000**		**89,000**	
Vinyl chloride	µg/L	2	0.78	J	**1,700**		**1,400**		**110**	J	**250**		**850**	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	Landfill Biobarrier #2						Landfill Biobarrier #3							
		Location Code	16PM09		16PM14		16WW36		16RW06		16RW07		16RW09			
		Sample ID	16PM09-230713		16PM14-230713		16WW36-230712		16RW06-230713		16RW07-230713		16RW09-230718		16RW09-230718-FD	
		Sample Date	7/13/2023		7/13/2023		7/12/2023		7/13/2023		7/13/2023		7/18/2023		7/18/2023	
		Sample Type	REG		REG		REG		REG		REG		REG		FD	
		Location Description:	Downgradient Well for Landfill Biobarrier #2; Shallow Zone		Downgradient Well for Landfill Biobarrier #2; Shallow Zone		Downgradient Well for Landfill Biobarrier #2; Shallow Zone		Upgradient Well for Landfill Biobarrier #3; Shallow Zone		Upgradient Well for Landfill Biobarrier #3; Shallow Zone		Downgradient Well for Landfill Biobarrier #3; Shallow Zone			
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)																
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Field Measurements																
Dissolved oxygen	mg/L	NV	0.03		0.05		0.09		0.03		0.03		0.07		0.07	
Oxidation Reduction Potential	mV	NV	77		-29		82		125		169		163		163	
pH	SU	NV	5.74		6.26		5.84		6.53		6.23		6.25		6.25	
Dissolved Gases (RSK-175)																
Carbon Dioxide	µg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		NA		NA		< 0.5	U	< 0.5	U
Ethylene	µg/L	NV	NA		NA		NA		NA		NA		41.3	J	42.2	J
Methane	µg/L	NV	NA		NA		NA		NA		NA		1,420		1,420	
General Chemistry (SM5310B/SW9056A)																
Nitrate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		29.3		NA		NA		< 20	U	< 20	U
Metals (6020)																
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)																
Perchlorate	µg/L	17	0.186		0.194		< 0.05		0.281		0.448		0.137		0.0657	J
Volatile Organic Compounds (8260C)																
1,1,2-Trichloroethane	µg/L	5	< 25	U	< 50	U	< 50	U	< 1	U	< 5	U	< 5	U	< 5	U
1,1-Dichloroethene	µg/L	7	**24**	J	**35**	J	**190**		1.1		**8.8**		**15**		**15**	
1,2-Dichloroethane	µg/L	5	< 25	U	**30**	J	< 50	U	< 1	U	< 5	U	< 5	U	< 5	U
cis-1,2-Dichloroethene	µg/L	70	**400**		**7,400**		**18,000**		11		61		**240**		**250**	
Methylene chloride	µg/L	5	< 25	U	< 50	U	< 50	U	< 1	U	< 5	U	< 5	U	< 5	U
Trichloroethene	µg/L	5	**1,200**		**6,600**		**23,000**		**100**		**1,300**		**2,600**		**2,600**	
Vinyl chloride	µg/L	2	**22**	J	**280**		**250**		**5.8**		**49**		**140**		**150**	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	Landfill Biobarrier #3				Bayou Biobarrier						Bayou Biobarrier			
		Location Code	16RW10		16IW10		16IW20		16RW12		16WW12		16WW22		16WW40	
		Sample ID	16RW10-230718		16IW10-230710		16IW20-230710		16RW12-230717		16WW12-230718		16WW22-230717		16WW40-230718	
		Sample Date	7/18/2023		7/10/2023		7/10/2023		7/17/2023		7/18/2023		7/17/2023		7/18/2023	
		Sample Type	REG		REG		REG		REG		REG		REG		REG	
		Location Description:	Downgradient Well for Landfill Biobarrier #3; Shallow Zone		Performance Data Within Landfill Biobarrier #3; Shallow Zone		Performance Data Within the Bayou Biobarrier; Shallow Zone		Downgradient Well for Bayou Biobarrier; Shallow Zone		Upgradient Well for Bayou Biobarrier; Shallow Zone		Upgradient Well for Bayou Biobarrier; Shallow Zone		Downgradient Well for Bayou Biobarrier; Shallow Zone	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)																
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		< 10.9		< 0.5	U	NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		4,400		12,100		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		< 109		23,400		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		455		3,790		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		554		2,410		NA		NA		NA		NA	
Field Measurements																
Dissolved oxygen	mg/L	NV	0.05		0.44		0.04		0.07		0.03		0.08		0.04	
Oxidation Reduction Potential	mV	NV	34		-125		-42		46		129		67		107	
pH	SU	NV	6.4		6.3		5.98		6.2		6.25		6.05		5.86	
Dissolved Gases (RSK-175)																
Carbon Dioxide	µg/L	NV	NA		230,000		210,000		NA		NA		NA		NA	
Ethane	µg/L	NV	< 0.5	U	< 0.5	U	< 0.5	U	NA		NA		NA		2.26	
Ethylene	µg/L	NV	15.6	J	< 0.5	UJ	37.5	J	NA		NA		NA		5.56	J
Methane	µg/L	NV	1,440		5,830		6,140		NA		NA		NA		960	
General Chemistry (SM5310B/SW9056A)																
Nitrate	mg/L	NV	NA		< 2	UJ	< 2	UJ	NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		< 10	U	136		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		125		6.63	J	NA		NA		NA		8.99	
Metals (6020)																
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)																
Perchlorate	µg/L	17	3.11		2.79		2.52		0.587		**89.6**		0.247		0.257	
Volatile Organic Compounds (8260C)																
1,1,2-Trichloroethane	µg/L	5	< 5	U	< 1	U	< 1	U	< 1	U	< 5	U	< 1	U	< 5	U
1,1-Dichloroethene	µg/L	7	**31**		< 1	U	< 1	U	0.89	J	6		< 1	U	**7.6**	
1,2-Dichloroethane	µg/L	5	**5.8**		< 1	U	< 1	U	< 1	U	**6.4**		< 1	U	**9.7**	
cis-1,2-Dichloroethene	µg/L	70	**410**		19		2.8		43		**210**		< 1	U	**160**	
Methylene chloride	µg/L	5	< 5	U	< 1	U	< 1	U	< 1	U	< 5	U	< 1	U	< 5	U
Trichloroethene	µg/L	5	**1,300**		0.97	J	1.3		**79**		**2,200**		4.1		**2,300**	
Vinyl chloride	µg/L	2	**250**		**3.7**		**16**		**10**		**20**		< 1	U	**12**	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	Mid Plume and Bayou Biobarrier		Mid Plume Area											
		Location Code	16WW39		16EW01		16EW02		16EW03		16EW04		16EW08		16IW26	
		Sample ID	16WW39-230718		16EW01-230717		16EW02-230710		16EW03-230712		16EW04-230717		16EW08-230717		16IW26-230710	
		Sample Date	7/18/2023		7/17/2023		7/10/2023		7/12/2023		7/17/2023		7/17/2023		7/10/2023	
		Sample Type	REG		REG		REG		REG		REG		REG		REG	
		Location Description:	Upgradient Well for Bayou Biobarrier and Downgradient Well for Mid-Plume; Shallow Zone		Performance Data Within Mid-Plume ISB Injection Area; Shallow Zone		Performance Data Within Mid-Plume ISB Injection Area; Shallow Zone		Performance Data Within Mid-Plume ISB Injection Area; Shallow Zone		Performance Data Within Mid-Plume ISB Injection Area; Shallow Zone		Performance Data Within Mid-Plume ISB Injection Area; Intermediate Zone		Performance Data Within Mid-Plume ISB Injection Area; Inetermediate Zone	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)																
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		NA		0.1		NA		NA		NA		2,080	
Dehalococcoides	cells/mL	NV	NA		NA		41,800		NA		NA		NA		716,000	
Dehalobacter spp.	cells/mL	NV	NA		NA		73,100		NA		NA		NA		214,000	
tceA Reductase	cells/mL	NV	NA		NA		5,630		NA		NA		NA		122,000	
Vinyl Chloride Reductase	cells/mL	NV	NA		NA		2,890		NA		NA		NA		156,000	
Field Measurements																
Dissolved oxygen	mg/L	NV	0.07		0.06		0.08		0.02		0.05		0.02		0.02	
Oxidation Reduction Potential	mV	NV	136		7		-17		-58		-14		-81		-189	
pH	SU	NV	6.4		6.28		5.38		6.26		5.42		5.68		6.74	
Dissolved Gases (RSK-175)																
Carbon Dioxide	µg/L	NV	NA		NA		360,000		220,000		NA		NA		270,000	
Ethane	µg/L	NV	NA		NA		< 0.5	U	< 0.5	U	NA		NA		34.4	J
Ethylene	µg/L	NV	NA		NA		1,510	J	384	J	NA		NA		53.2	J
Methane	µg/L	NV	NA		NA		1,180		3,460		NA		NA		5,510	
General Chemistry (SM5310B/SW9056A)																
Nitrate	mg/L	NV	NA		NA		< 0.8	R	< 0.1	U	NA		NA		< 4	UJ
Sulfate	mg/L	NV	NA		NA		150	J	2,700		NA		NA		< 20	UJ
Total organic carbon	mg/L	NV	NA		18.7		21.8		23.8		NA		NA		206	
Metals (6020)																
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)																
Perchlorate	µg/L	17	4.43		**49.1**		0.259		< 0.05		0.159		0.168		1.35	
Volatile Organic Compounds (8260C)																
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 10	U	< 50	U	1.1		< 100	U	< 1	U	< 1	U
1,1-Dichloroethene	µg/L	7	1.2		**34**		**220**		**11**		< 100	U	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	< 1	U	**17**		**40**	J	1.5		< 100	U	< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	32		**9,200**		**47,000**		**2,400**		**3,900**		6		1	
Methylene chloride	µg/L	5	< 1	U	< 10	U	< 50	U	< 1	U	< 100	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	**230**		**4,900**		**21,000**		**53**		**8,100**		1.3		1.8	
Vinyl chloride	µg/L	2	0.97	J	**1,400**		**1,800**		**610**		**110**		< 1	U	< 1	U

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	Mid Plume Area											
		Location Code	16WW29		16WW30		16WW48				16WW49		16WW51	
		Sample ID	16WW29-230714		16WW30-230714		16WW48-230712		16WW48-230712-FD		16WW49-230718		16WW51-230714	
		Sample Date	7/14/2023		7/14/2023		7/12/2023		7/12/2023		7/18/2023		7/14/2023	
		Sample Type	REG		REG		REG		FD		REG		REG	
		Location Description:	Downgradient Well for Mid-Plume; Intermediate Zone		Downgradient Well for Mid-Plume; Shallow Zone		Downgradient Well for Mid-Plume; Shallow Zone				Performance Data for Mid-Plume ISB Injection Area; Intermediate Zone		Performance Data for Mid-Plume ISB Injection Area; Intermediate Zone	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)														
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		NA		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA	
Field Measurements														
Dissolved oxygen	mg/L	NV	0.03		0.04		0.08		0.08		0.05		0.09	
Oxidation Reduction Potential	mV	NV	-91		-73		185		185		149		-75	
pH	SU	NV	6		5.97		5.92		5.92		5.91		5.92	
Dissolved Gases (RSK-175)														
Carbon Dioxide	µg/L	NV	NA		NA		220,000		220,000		NA		NA	
Ethane	µg/L	NV	NA		NA		< 0.5	U	< 0.5	U	NA		NA	
Ethylene	µg/L	NV	NA		NA		239	J	233	J	NA		NA	
Methane	µg/L	NV	NA		NA		101		98.8		NA		NA	
General Chemistry (SM5310B/SW9056A)														
Nitrate	mg/L	NV	NA		NA		0.433		< 0.1	U	NA		NA	
Sulfate	mg/L	NV	NA		NA		3,090		3,290		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA		NA		NA		NA	
Metals (6020)														
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)														
Perchlorate	µg/L	17	0.11		0.174		1.2		1.27		0.184		0.163	
Volatile Organic Compounds (8260C)														
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 1	U	< 100	U	< 100	U	< 1	U	< 5	U
1,1-Dichloroethene	µg/L	7	< 1	U	< 1	U	**79**	J	**82**	J	< 1	U	**8.2**	
1,2-Dichloroethane	µg/L	5	< 1	U	< 1	U	< 100	U	< 100	U	< 1	U	< 5	U
cis-1,2-Dichloroethene	µg/L	70	< 1	U	5.2		**31,000**		**33,000**		33		**810**	
Methylene chloride	µg/L	5	< 1	U	< 1	U	< 100	U	< 100	U	< 1	U	< 5	U
Trichloroethene	µg/L	5	1.2		**48**		**18,000**		**17,000**		**51**		**4,200**	
Vinyl chloride	µg/L	2	< 1	U	< 1	U	**720**		**670**		< 1	U	**17**	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	MNA and LTM Performance Wells from RAWP Table 4-9													
		Location Code	16WW13		16WW16		16WW23		16WW24		16WW25		16WW27		16WW31	
		Sample ID	16WW13-230714		16WW16-230711		16WW23-230714		16WW24-230714		16WW25-230712		16WW27-230714		16WW31-230711	
		Sample Date	7/14/2023		7/11/2023		7/14/2023		7/14/2023		7/12/2023		7/14/2023		7/11/2023	
		Sample Type	REG		REG		REG		REG		REG		REG		REG	
		Location Description:	MNA Evaluation; Downgradient of Landfill Biobarrier #1; Intermediate Zone		MNA Evaluation; Upgradient of Landfill Biobarrier #2; Shallow Zone		MNA Evaluation; Intermediate Zone		MNA Evaluation; Shallow Zone		MNA Evaluation; Intermediate Zone		MNA Evaluation; Downgradient of Landfill Biobarrier #2; Intermediate Zone		MNA Evaluation; Intermediate Zone	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)																
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Field Measurements																
Dissolved oxygen	mg/L	NV	0.07		0.05		0.07		0.08		0.02		0.08		0.05	
Oxidation Reduction Potential	mV	NV	28		-31		-52		147		-47		-75		93	
pH	SU	NV	5.29		6.17		5.85		3.67		5.76		5.86		6.37	
Dissolved Gases (RSK-175)																
Carbon Dioxide	µg/L	NV	NA		120,000	J	NA		NA		NA		NA		NA	
Ethane	µg/L	NV	NA		15.1	J	NA		NA		NA		NA		NA	
Ethylene	µg/L	NV	NA		15.9	J	NA		NA		NA		NA		NA	
Methane	µg/L	NV	NA		1,660		NA		NA		NA		NA		NA	
General Chemistry (SM5310B/SW9056A)																
Nitrate	mg/L	NV	NA		0.58	J	NA		NA		NA		NA		NA	
Sulfate	mg/L	NV	NA		363		NA		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		7.59	J	NA		NA		NA		NA		NA	
Metals (6020)																
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)																
Perchlorate	µg/L	17	0.281		**716**		0.176		0.206		< 0.05		0.168		< 0.05	U
Volatile Organic Compounds (8260C)																
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 100		< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
1,1-Dichloroethene	µg/L	7	2.6		**110**	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	
1,2-Dichloroethane	µg/L	5	< 1	U	**53**	U	< 1	U	< 1	U	< 1	U	< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	**640**		**33,000**		< 1	U	< 1	U	1		< 1	U	< 1	U
Methylene chloride	µg/L	5	< 1	U	< 100		< 1	U	< 1	U	< 1	U	< 1	U	< 1	
Trichloroethene	µg/L	5	**1,600**		**58,000**	U	0.53	J	0.67	J	4.1		< 1	U	0.88	U
Vinyl chloride	µg/L	2	**18**		**580**		< 1	U	< 1	U	< 1	U	< 1	U	< 1	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	MNA and LTM Performance Wells from RAWP Table 4-9													
		Location Code	16WW32		16WW33		16WW34		16WW35		16WW37				16WW38	
		Sample ID	16WW32-230711		16WW33-230711		16WW34-230711		16WW35-230712		16WW37-230713		16WW37-230713-FD		16WW38-230713	
		Sample Date	7/11/2023		7/11/2023		7/11/2023		7/12/2023		7/13/2023		7/13/2023		7/13/2023	
		Sample Type	REG		REG		REG		REG		REG		FD		REG	
		Location Description:	MNA Evaluation; Upgradient of Bayou Biobarrier; Shallow Zone		MNA Evaluation; Intermediate Zone		MNA Evaluation; Shallow Zone		MNA Evaluation; Downgradient of Landfill Biobarrier #3; Intermediate Zone		MNA Evaluation; Intermediate Zone				MNA evaluation; Shallow Zone	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)																
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Field Measurements																
Dissolved oxygen	mg/L	NV	0.03		0.08		0.09		0.07		0.06		0.06		0.07	
Oxidation Reduction Potential	mV	NV	119		71		28		1		195		195		96	
pH	SU	NV	6.14		6.17		6.22		6.32		6.3		6.3		6.23	
Dissolved Gases (RSK-175)																
Carbon Dioxide	µg/L	NV	NA		NA		NA		190,000		NA		NA		NA	
Ethane	µg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA	
Ethylene	µg/L	NV	NA		NA		NA		11.7	J	NA		NA		NA	
Methane	µg/L	NV	NA		NA		NA		201		NA		NA		NA	
General Chemistry (SM5310B/SW9056A)																
Nitrate	mg/L	NV	NA		NA		NA		< 0.5	U	NA		NA		NA	
Sulfate	mg/L	NV	NA		NA		NA		12,500		NA		NA		NA	
Total organic carbon	mg/L	NV	NA		NA		NA		84.8		NA		NA		NA	
Metals (6020)																
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)																
Perchlorate	µg/L	17	< 0.05	U	< 0.05	U	< 0.05	U	**478**		**164**		**172**		0.203	
Volatile Organic Compounds (8260C)																
1,1,2-Trichloroethane	µg/L	5	< 1	U	< 1	U	< 1	U	< 100	U	< 1	U	< 1	U	< 20	U
1,1-Dichloroethene	µg/L	7	< 1		< 1		< 1		**110**		3.7		3.2		**24**	
1,2-Dichloroethane	µg/L	5	< 1	U	< 1	U	< 1	U	< 100	U	< 1	U	< 1	U	< 20	U
cis-1,2-Dichloroethene	µg/L	70	< 1	U	< 1	U	4.7	U	**770**		24		26		**830**	
Methylene chloride	µg/L	5	< 1		< 1		< 1		< 100	U	< 1	U	< 1	U	< 20	U
Trichloroethene	µg/L	5	1.3	U	2	U	**22**	U	**9,100**		**360**		**370**		**3,700**	
Vinyl chloride	µg/L	2	< 1		< 1		< 1		**160**		**20**		**23**		**64**	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	MNA and LTM Performance Wells from RAWP Table 4-9												MNA and LTM Performance	
		Location Code	16WW41		16WW43		16WW44		16WW46		16WW55		16WW56		16WW57	
		Sample ID	16WW41-230712		16WW43-230714		16WW44-230713		16WW46-230713		16WW55-230712		16WW56-230711		16WW57-230711	
		Sample Date	7/12/2023		7/14/2023		7/13/2023		7/13/2023		7/12/2023		7/11/2023		7/11/2023	
		Sample Type	REG		REG		REG		REG		REG		REG		REG	
		Location Description:	MNA Evaluation; Upgradient of the Bayou Biobarrier; Intermediate Zone		MNA Evaluation; Shallow Zone		MNA Evaluation; Shallow Zone		MNA Evaluation; Shallow Zone		MNA Evaluation; Shallow Zone		MNA Evaluation; Downgradient of the Bayou Biobarrier; Shallow Zone		MNA Evaluation; Intermediate Zone	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)																
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA		NA		NA	
Field Measurements																
Dissolved oxygen	mg/L	NV	0.03		0.01		0.04		0.08		0.06		0.06		0.08	
Oxidation Reduction Potential	mV	NV	196		-52		125		-46		215		128		-39	
pH	SU	NV	6.21		5.93		5.92		6.29		6.07		5.98		5.64	
Dissolved Gases (RSK-175)																
Carbon Dioxide	µg/L	NV	220,000		NA		NA		NA		120,000		NA		210,000	
Ethane	µg/L	NV	< 0.5	U	NA		NA		NA		9.73		NA		< 0.5	U
Ethylene	µg/L	NV	59.2	J	NA		NA		NA		34.3	J	NA		< 0.5	UJ
Methane	µg/L	NV	29.4		NA		NA		NA		1,700		NA		1.31	J
General Chemistry (SM5310B/SW9056A)																
Nitrate	mg/L	NV	< 0.5	U	NA		NA		NA		0.0836	J	NA		< 4	UJ
Sulfate	mg/L	NV	11,200		NA		NA		NA		813		NA		2,740	
Total organic carbon	mg/L	NV	60.1		NA		NA		NA		10.5	J	NA		29.4	U
Metals (6020)																
Arsenic	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Chromium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Manganese	mg/L	1.100 [a]	NA		NA		NA		NA		NA		NA		NA	
Nickel	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Thallium	mg/L	NV	NA		NA		NA		NA		NA		NA		NA	
Perchlorate (EPA 6850)																
Perchlorate	µg/L	17	**52.5**		< 0.05		0.169		0.239		**45.9**		< 0.05	U	< 0.05	U
Volatile Organic Compounds (8260C)																
1,1,2-Trichloroethane	µg/L	5	< 10	U	< 1	U	< 1	U	< 1	U	< 5	U	< 1	U	< 5	
1,1-Dichloroethene	µg/L	7	**33**		< 1	U	< 1	U	< 1	U	**9.3**		< 1		2.6	
1,2-Dichloroethane	µg/L	5	**6.1**	J	< 1	U	< 1	U	< 1	U	**5.2**		< 1	U	< 5	
cis-1,2-Dichloroethene	µg/L	70	**4,000**		< 1	U	< 1	U	< 1	U	**760**		2.4	U	3	
Methylene chloride	µg/L	5	< 10	U	< 1	U	< 1	U	< 1	U	< 5	U	< 1		< 5	J
Trichloroethene	µg/L	5	**6,300**		< 1	U	1.1		< 1	U	**2,900**		**19**	U	**150**	
Vinyl chloride	µg/L	2	**890**		< 1	U	< 1	U	< 1	U	**160**		< 1		< 5	

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

		Injection Area:	Wells from RAWP Table 4-9		Harrison Bayou							
		Location Code	16WW58		16SW01				16SW02		16SW03	
		Sample ID	16WW58-230711		16SW01-230718		16SW01-230718-FD		16SW02-230718		16SW03-230718	
		Sample Date	7/11/2023		7/18/2023		7/18/2023		7/18/2023		7/18/2023	
		Sample Type	REG		REG		FD		REG		REG	
		Location Description:	MNA Evaluation; Intermediate Zone		Surface Water				Surface Water		Surface Water	
Analyte	**Units**	**MCL/PCL/UTL**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**	**Result**	**Val Qual**
Dechlorinating Bacteria (Census)												
BAV1 Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA	
Dehalococcoides	cells/mL	NV	NA		NA		NA		NA		NA	
Dehalobacter spp.	cells/mL	NV	NA		NA		NA		NA		NA	
tceA Reductase	cells/mL	NV	NA		NA		NA		NA		NA	
Vinyl Chloride Reductase	cells/mL	NV	NA		NA		NA		NA		NA	
Field Measurements												
Dissolved oxygen	mg/L	NV	0.07		0.77		0.77		0.81		0.89	
Oxidation Reduction Potential	mV	NV	-77		197		197		185		179	
pH	SU	NV	5.83		6.87		6.87		6.77		6.88	
Dissolved Gases (RSK-175)												
Carbon Dioxide	µg/L	NV	130,000		NA		NA		NA		NA	
Ethane	µg/L	NV	< 0.5	U	NA		NA		NA		NA	
Ethylene	µg/L	NV	0.558	J	NA		NA		NA		NA	
Methane	µg/L	NV	8.97		NA		NA		NA		NA	
General Chemistry (SM5310B/SW9056A)												
Nitrate	mg/L	NV	< 2	UJ	NA		NA		NA		NA	
Sulfate	mg/L	NV	477		NA		NA		NA		NA	
Total organic carbon	mg/L	NV	9.83	J	NA		NA		NA		NA	
Metals (6020)												
Arsenic	mg/L	NV	NA		0.000897	J	0.000926	J	0.00108	J	0.000916	J
Chromium	mg/L	NV	NA		0.00105	J	0.000884	J	0.00304	J	0.000476	J
Manganese	mg/L	1.100 [a]	NA		0.12		0.127		0.114		0.12	J
Nickel	mg/L	NV	NA		0.00338	J	0.00479	J	0.00399	J	0.00338	J
Thallium	mg/L	NV	NA		< 0.0005		< 0.0005		< 0.0005		0.000772	UB
Perchlorate (EPA 6850)												
Perchlorate	µg/L	17	< 0.05	U	0.084	J	0.0776	J	0.162		0.0306	J
Volatile Organic Compounds (8260C)												
1,1,2-Trichloroethane	µg/L	5	< 50	U	< 1	U	< 1	U	< 1	U	< 1	U
1,1-Dichloroethene	µg/L	7	< 50	U	< 1	U	< 1	U	< 1	U	< 1	U
1,2-Dichloroethane	µg/L	5	< 50	U	< 1	U	< 1	U	< 1	U	< 1	U
cis-1,2-Dichloroethene	µg/L	70	**140**		< 1	U	< 1	U	< 1	U	< 1	U
Methylene chloride	µg/L	5	< 50	U	< 1	U	< 1	U	< 1	U	< 1	U
Trichloroethene	µg/L	5	**3,600**		< 1	U	< 1	U	< 1	U	< 1	U
Vinyl chloride	µg/L	2	< 50	U	< 1	U	< 1	U	< 1	U	< 1	U

LHAAP-16 Remedial Performance Monitoring
Year 4 Semiannual Event #1
(July 2023)

Notes:

[a] Cleanup Level for manganese identifed in Table 1-1 of the Remedial Action Work Plan is the 95% upper tolerance limit value from the *Final Evaluation of Perimeter Well Data for Use as Groundwater Background* (Shaw, 2007)

Blue highlighting indicates the concentration (bolded) or detection level (unbolded) exceeds the MCL/PCL

Some samples have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

R - The data for this analyte in this sample were rejected due to quality control parameter exceedences.

UB - Undetected. The concentration shown is considered to be a non-detect due to contamination detected in the blank sample.

UJ – Undetected estimated. The analyte was analyzed for but, was not detected. Even though the analyte was not detected, certain discrepancies in meeting analyte specific quality control were not met.

U - Undetected: The analyte was analyzed for, but not detected.

MCL - Maximum Contaminant Limit

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level (used for perchlorate, manganese, and nickel where no MCL has been established)

mg/L - milligrams per liter

µg/L - micrograms per liter

ID - Identification

REG - Regular sample

FD - Field duplicate sample

< - The analyte was not detected above the concentration shown

NV - No MCL/PCL is shown for analytes that are not contaminants of concern

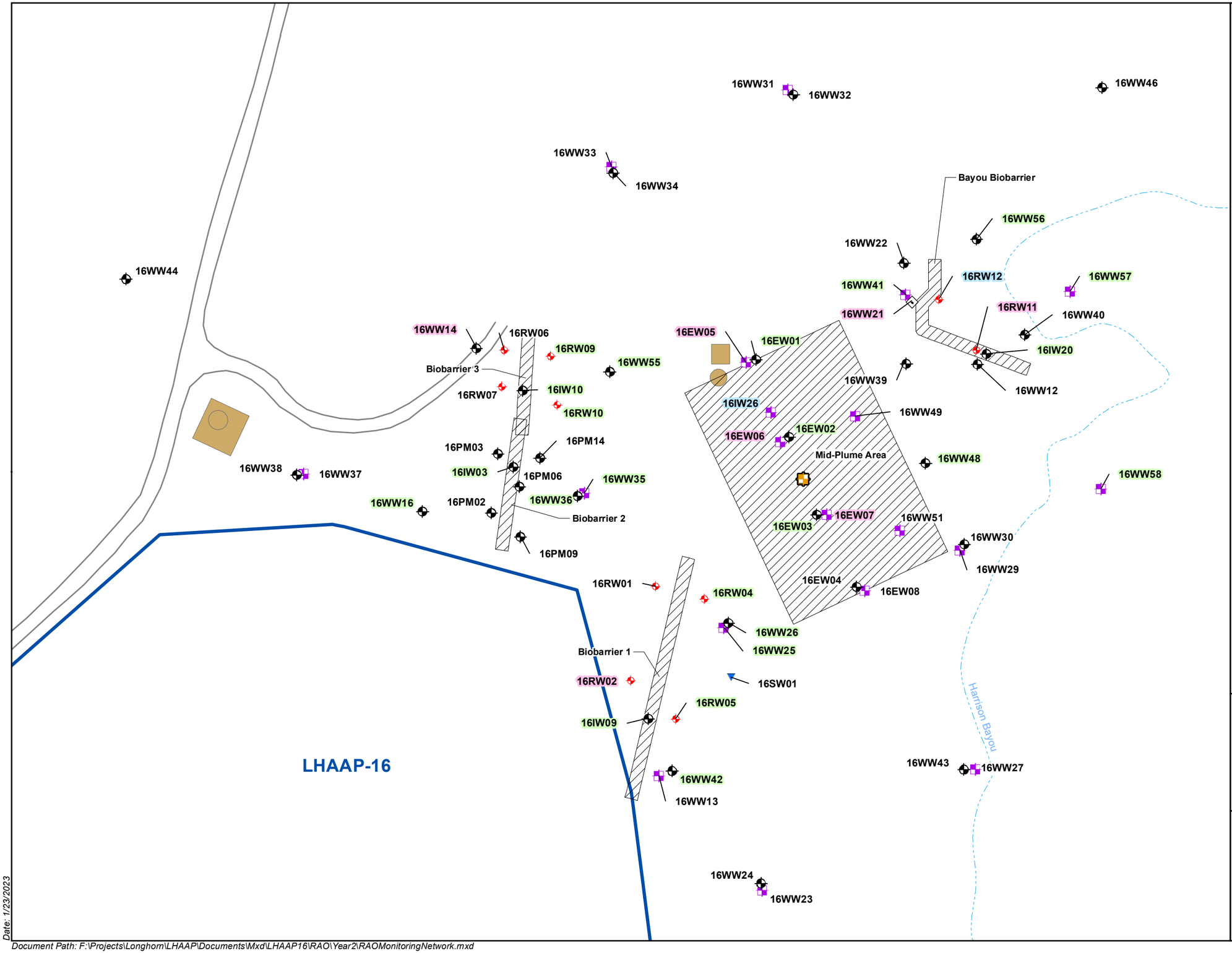
NA - not analyzed

SU - standard pH Units

mV - millivolts

cells/mL - cells per milliliter

UTL - upper tolerance limit



U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

Figure 2-31

Year 3 Proposed RA-O
Monitoring Network
Second Annual RA-O Report
LHAAP-16

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

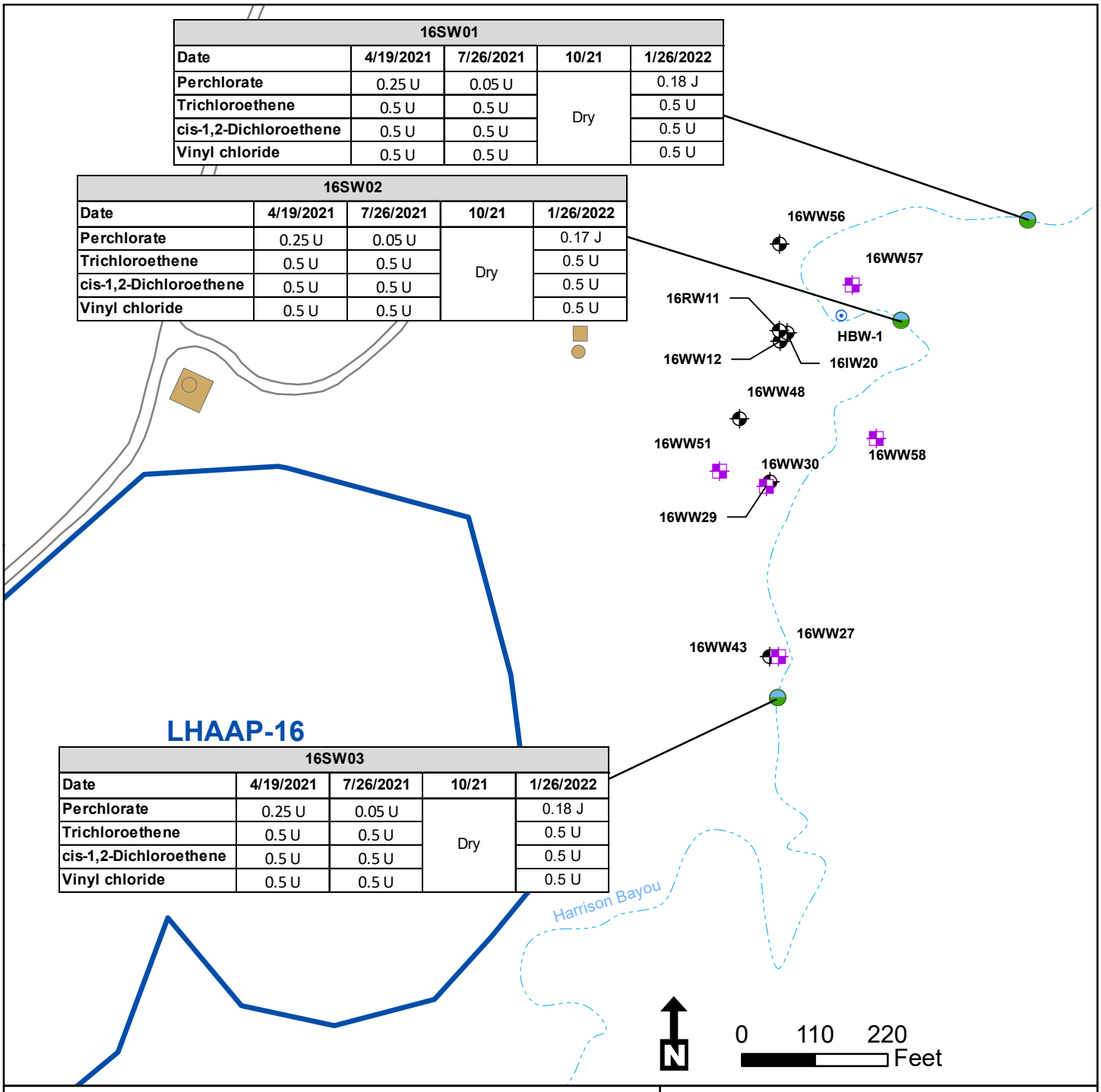
Date: 1/23/2023

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP16\RAO\Year2\RAOMonitoringNetwork.mxd

16SW01				
Date	4/19/2021	7/26/2021	10/21	1/26/2022
Perchlorate	0.25 U	0.05 U	Dry	0.18 J
Trichloroethene	0.5 U	0.5 U		0.5 U
cis-1,2-Dichloroethene	0.5 U	0.5 U		0.5 U
Vinyl chloride	0.5 U	0.5 U		0.5 U

16SW02				
Date	4/19/2021	7/26/2021	10/21	1/26/2022
Perchlorate	0.25 U	0.05 U	Dry	0.17 J
Trichloroethene	0.5 U	0.5 U		0.5 U
cis-1,2-Dichloroethene	0.5 U	0.5 U		0.5 U
Vinyl chloride	0.5 U	0.5 U		0.5 U

16SW03				
Date	4/19/2021	7/26/2021	10/21	1/26/2022
Perchlorate	0.25 U	0.05 U	Dry	0.18 J
Trichloroethene	0.5 U	0.5 U		0.5 U
cis-1,2-Dichloroethene	0.5 U	0.5 U		0.5 U
Vinyl chloride	0.5 U	0.5 U		0.5 U



- Surface Water Sample Location
- Shallow Monitoring Well
- Intermediate Monitoring Well
- Water Level Gauge
- Stream
- Road
- LHAAP-16 Landfill Fence
- Building or Tank

Notes:
1. Blue Highlighting Indicates the concentration exceeds the MCL/PCL.
2. Qualifiers:
U - Undetected: The analyte was analyzed for, but not detected.
3. Concentrations are shown in micrograms per liter (µg/L).
4. There was no flow in October 2021 and therefore samples were not collected.

U.S. ARMY CORP OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

bhate APTIM

Figure 2-32

Year 2 Surface Water Sampling Results
Second Annual RA-O Report
LHAAP-16

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Date: 5/4/2022

Document Path: F:\Projects\Longhorn\LHAAP\Documents\Mxd\LHAAP16\RAO\Year2\SurfaceWaterSamplingLocations_Year2RAO.mxd

QUARTERLY EVALUATION REPORT
2ND QUARTER (APRIL-JUNE) 2023
GROUNDWATER TREATMENT PLANT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

December 2023

Prepared For:

Longhorn Army Ammunition Plant
Karnack, Texas

Under Contract To:

U.S. Army Corps of Engineers
Tulsa District
Tulsa, Oklahoma

Contract Number: W912BV23C0007
Solicitation Number: W912BV23R0022

Prepared By:

Poarch Creek Indians, Government Services, LLC and Bhate Environmental Services, Inc. Joint Venture
11921 Freedom Drive, Suite 550
Reston, VA 20190
1-251-333-1127

This page intentionally left blank.

TABLE OF CONTENTS

Acronyms and Abbreviations iii

Executive Summary vii

1 Evaluation of Groundwater Treatment Plant 1-1

1.1 Treatment Configuration 1-2
1.1.1 Historical GWTP Operation 1-3
1.1.2 2nd Quarter 2023 GWTP Operation 1-8
1.2 Work Performed at the GWTP 1-10
1.2.1 Major Maintenance 1-10
1.2.2 Routine Maintenance 1-10
1.2.3 Routine Maintenance (Potable Water Wells) 1-11
1.2.4 Emergency Responses 1-12
1.3 Filter Cake Operations and Management 1-12
1.4 Fluidized Bed Reactor Operations 1-12
1.5 Process Chemical Usage at GWTP 1-14

2 Evaluation of LHAAP-18/24 ICT Effectiveness 2-1

2.1 Groundwater Elevation 2-1
2.2 Performance of Plume Capture 2-1
2.3 Quantity of Water Extracted from LHAAP-18/24 and LHAAP-17 2-3
2.4 Monitoring Well Installation Activities 2-3
2.5 Sampling Activities at LHAAP-18/24 2-4
2.5.1 LHAAP-18/24 Analytical Results (June/August 2023) 2-4
2.5.2 LHAAP-18/24 Trend Analysis 2-6
2.6 Groundwater Treatment Plant Sampling and Analysis 2-10
2.6.1 Weekly Perchlorate Sampling 2-10
2.6.2 Monthly VOC Sampling 2-10
2.6.3 Monthly Metals Sampling 2-11
2.6.4 Quarterly Sampling 2-11

3 Quality Control 3-1

4 Treated Groundwater Discharged 4-1

5 Air Monitoring 5-1

5.1 Summary of Air Monitoring Approach 5-1
5.2 Air Monitoring Results for the 2nd Quarter of 2023 5-2
5.2.1 Summa Canister Monitoring Results 5-2
5.2.2 PID Results 5-3

6 Comments and Responses 6-1

Figures

Figure ES-1: Groundwater Recovery from March 2018 through June 2023 LHAAP-18/24, LHAAP-17, and LHAAP-16.....xi
Figure ES-2: Treated Groundwater Discharged Monthly from March 2018 through June 2023 xii
Figure 2-1: Quarterly Extraction Rate..... 2-13

Tables

Table ES-1: Discharge Information to Harrison Bayou during 2nd Quarter 2023..... xiii
Table 1. Enhanced Fluidized Bed Reactor Operating Parameters – 2nd Quarter 2023..... 1-12
Table 2. Chemical Usage and Delivery Table 1-14
Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water 2-15
Table 4. Treated Groundwater Discharged - May through June 2023 2-21
Table 5. Monthly Groundwater Extraction Quantities – May through June 2023..... 2-25
Table 6. LHAAP-18/24 Analytical Results – June/August 2023..... 2-27
Table 7. Weekly Perchlorate Sample Results – 2nd Quarter 2023 2-41
Table 8. Biweekly GWTP Analytical Sampling Results – 2nd Quarter 2023 2-43
Table 9. Monthly GWTP Analytical Sampling Results – 2nd Quarter 2023..... 2-45

Appendices

Appendix A ICT Layout and GWTP Process Flow Diagram
Appendix B Groundwater Elevation Contour Maps
Appendix C Laboratory Analytical Results for LHAAP-18/24
Appendix D Isopleth Contour Maps
Appendix E Monitoring Well Installation Documentation
Appendix F Monitoring Well Trend Charts
Appendix G GWTP Water Sampling Laboratory Analytical Results
Appendix H Quality Control Summary Report
Appendix I Air Monitoring Analytical Laboratory Report
Appendix J Protocol for Discharging GWTP Effluent
Appendix K Air Data Tables, PID Readings, and Calibration Logs

ACRONYMS AND ABBREVIATIONS

<	Less than
≤	Less than or equal to
“	Inch
%	Percent
(§)	Section
AECOM	AECOM Technical Services, Inc.
AIX	Sample collected after the first IX vessel
AMCV(s)	Air Monitoring Comparison Value(s)
amsl	Above mean sea level
Ark-La-Tex	Ark-La-Tex Electric
bgs	Below ground surface
Bhate	Bhate Environmental Associates, Inc.
BIX	Sample collected before the first IX vessel
BL	Blower
BLOC	Bloc Design Build, LLC
CFC 11	trichlorofluoromethane
CFC 12	dichlorodifluoromethane
CFC 13	trichlorotrifluoroethane
COC	Chemical of Concern
DCA	Dichloroethane
DCE	Dichloroethene
e.g.	Example given
Envirogen	Envirogen Technologies
ESD	Explanation of Significant Difference
ESL(s)	Effects Screening Level(s)
FBR	Fluidized bed reactor
ft	Feet or foot
GAC	Granular activated carbon
gpd	Gallons per day
gph	Gallons per hour
gpm	Gallons per minute

GWTP	Groundwater Treatment Plant
HCl	Hydrochloric acid
HDPE	High density polyethylene
ICT(s)	Interception-collection trench(es)
INF	Intermediate-Range Nuclear Forces Treaty
IX	Ion exchange
J	Estimated concentration
lbs.	Pounds
lbs/hr	Pounds per hour
LHAAP	Longhorn Army Ammunition Plant
MC	Methylene chloride
MCL(s)	Maximum Contaminant Level(s)
µg/L	Micrograms per liter
$Mg(OH)_2$	Magnesium hydroxide
mV	Millivolts
NA	Not applicable
NaOH	Sodium hydroxide
NM	Not measured
No.	Number
ORP	Oxidation-reduction potential
PCI	Poarch Creek Indians, Government Services, LLC
PCE	Tetrachloroethene
PBJVPBJV	PCI-Bhate Joint Venture
PCL	Protective Concentration Level
pH	Potential of Hydrogen
PID	Photoionization detector
PLC	Programmable Logic Controller
psi	Pounds per square inch
PVC	Polyvinyl chloride
ROD	Record of Decision
S.U.	Standard Unit
SWEPCO	Southwestern Electric Power Company

TAC	Texas Administrative Code
TCE	Trichloroethene
TCEQ	Texas Commission on Environmental Quality
TK	Tank
tpy	Tons per year
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VC	Vinyl chloride
VOC(s)	Volatile Organic Compound(s)

This page intentionally left blank.

EXECUTIVE SUMMARY

The operation of the Groundwater Treatment Plant (GWTP) is part of the Interim Remedial Action at Burning Ground Number (No.) 3, also referred to as Longhorn Army Ammunition Plant (LHAAP)-18/24. A historical pilot test for nearby landfill LHAAP-16 resulted in the installation of eight extraction wells which also contributed groundwater to the GWTP, but ceased after implementation of the final remedy in September 2019. The groundwater treated from LHAAP-18/24 is discussed in detail within this report. However, the GWTP also receives and treats groundwater extracted from LHAAP-17, which began in August 2022, which is discussed as part of the overall volume of water received and discharged.

The groundwater remediation processing for Burning Ground No. 3 at LHAAP includes the following operable systems:

- Equalization tank (water storage) pretreatment system (metals removal);
- Air stripper system;
- Sludge treatment system (thickening, devolatilization, and belt filter press);
- Perchlorate treatment system (fluidized bed reactor [FBR] and ion exchange [IX] vessels);
- Various pumps, meters, piping, and valves tying the treatment systems together; and
- Programmable Logic Controller (PLC) that communicates the status of the operable systems, including the extraction wells, to a central computer that can then notify the operators of shut-downs and similar issues remotely.

Contaminated water from the extraction wells and interception-collection trenches (ICTs) is pumped into the GWTP and stored in the equalization storage tank. The contaminated water is then pumped to the pretreatment system for precipitation of metals. The sludge from the pretreatment system is delivered to the sludge treatment system to be thickened, air stripped of volatile organic compounds (VOCs), and filter pressed for disposal in a landfill. The water from the pretreatment system is delivered to the air stripper system for air stripping of VOCs. Water from the air stripper is stored in the effluent storage tank for further treatment by the perchlorate system, which consists of a FBR and IX vessels.

To provide the integration necessary for proper water process management, a stand-alone central PLC and operator console is used to control the operating systems of the GWTP. The belt filter press operates independently with a polymer pump and sludge feed pump interfaced with the central PLC.

The pretreatment system and air stripper system are equipped with instrument junction boxes and motor starter control panels. The control panels contain a transformer, run indication lights, motor starters, hand or automatic switches, and relays to interface with the central PLC. The control panels have monitors and/or logic to monitor the operating parameters and determine when abnormal conditions occur.

Interface relays will indicate to the central PLC that there is a problem within the systems. The central PLC will provide the logic for the proper action required for that specific set of circumstances.

Groundwater extraction, treatment, discharge, and monitoring activities consist of:

- Continuous extraction of groundwater from multiple ICTs and extraction wells at LHAAP-18/24;
- Continuous extraction of groundwater from two extraction wells at LHAAP-17;
- Treatment of extracted groundwater for heavy metals, chlorinated compounds, and perchlorate using precipitation, air stripping, and biological methods, respectively;
- Evaluation of the hydraulic effectiveness of the extraction system by groundwater monitoring and groundwater elevation measurements;
- Monitoring and analysis of treated groundwater to ensure compliance with the discharge limits; and
- Discharge of treated water to Harrison Bayou or to a holding pond (Intermediate-Range Nuclear Forces Treaty [INF] Pond), or the treated water may be released as irrigation water on LHAAP-18/24.

The location of the extraction wells and ICTs at LHAAP-18/24 is shown on **Figure A-1** in **Appendix A**. The process flow diagram of the GWTP is shown on **Figure A-2** in **Appendix A**. **Figure ES-1** shows the monthly total volume of groundwater that was extracted from the ICTs and extraction wells at LHAAP-18/24 between March 2018 and June 2023, at LHAAP-16 between March 2018 and September 2019, and at LHAAP-17 between August 2022 and June 2023. Historical details regarding the operation of the GWTP, including downtime and resolutions are discussed in Section 1.1.1 of this Quarterly Evaluation Report.

During the 3rd Quarter 2022 (July – September), the adjacent site (LHAAP-17) groundwater extraction system was brought online and integrated into the GWTP. The LHAAP-17 groundwater extraction system was plumbed into the existing underground piping infrastructure that runs between LHAAP-16 and the GWTP. The LHAAP-17 extraction system was started up on 5 August 2022.

During the 2nd Quarter of 2023, the GWTP was shut down on 31 March 2023 during contract transition. The GWTP remained off until 2 May 2023 when the new contract was awarded. The Poarch Creek Indians, Government Services, LLC (PCI) /Bhate Environmental Associates, Inc. (Bhate) 8(a) Joint Venture (PBJV), was awarded solicitation number W912BV23R0022, under United States Army Corps of Engineers (USACE) contract number W912BV23C0007. During the contract transition, no groundwater was extracted from LHAAP-17 or LHAAP-18/24, no groundwater was treated at the GWTP, and no treated effluent was discharged in April 2023.

Power was restored to the GWTP on 2 May 2023, by Southwest Electrical Power Company. On 15 May 2023, the GWTP began processing extracted groundwater, at which point decreased flow within the sand filter was observed. While the GWTP was not running in April 2023, the sand filter had partially dried out. In addition, sediment had accumulated in the pretreatment system

resulting in a decrease in flow through the sand filter from 200 gallons per minute (gpm) to 50 gpm. In order to address the issue an air compressor was used to air sparge the sand filter breaking up the blockages increasing flow to 110 gpm. In addition, a new clarifier diaphragm pump was ordered. The existing clarifier pump, while operable, is not working efficiently due to age and environmental conditions. The new clarifier pump will assist sludge buildup in the sand filter preventing future flow restrictions and was installed during the 3rd Quarter of 2023. Documentation of the new clarifier pump will be covered in the 3rd Quarter 2023 Report.

As shown on **Figure ES-1**, the total extracted groundwater volume from LHAAP-18/24 during the 2nd Quarter of 2023 was 84,772 gallons and 105,654 gallons from LHAAP-17. The extracted groundwater volume was recorded on a monthly basis as the sum of the difference between the flow meter totalizer reading at each ICT between the beginning and end of each month. Nothing was extracted from either site during the month of April due to the GWTP not being operated. Additionally, nothing was extracted from LHAPP-18/24 in June due to the GWTP staff performing maintenance on a blockage in the sand filter. Therefore, the total extraction quantities in LHAAP-18/24 of 84,772 gallons were in May 2023. Extraction quantities in LHAAP-17 were 53,333 gallons in May 2023 and 52,321 in June 2023.

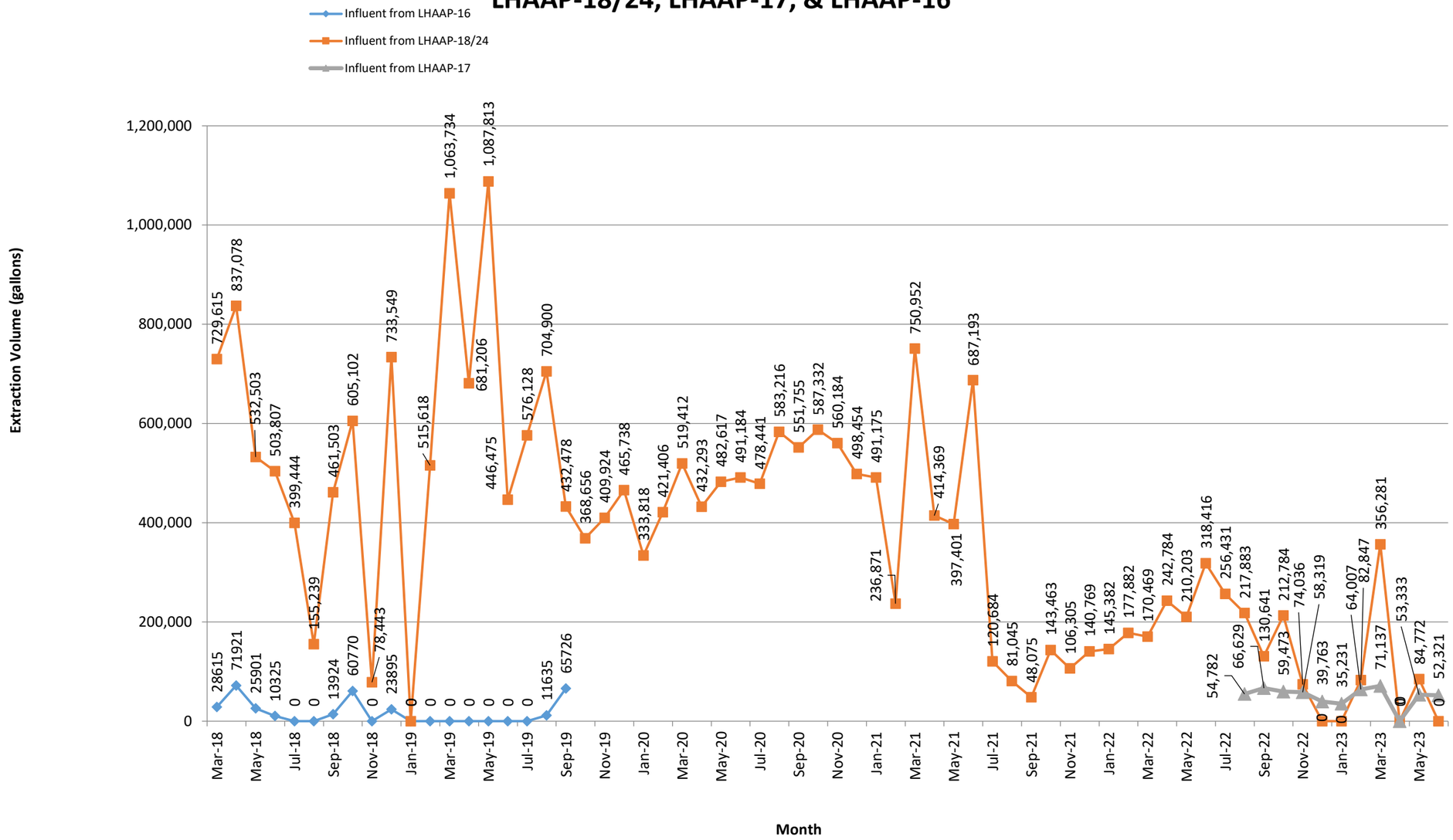
The average discharge flow rate from the GWTP was estimated as 149 gpm during the 2nd Quarter of 2023. As listed in **Table ES-1**, approximately 68,135 gallons of groundwater was treated and discharged from the GWTP to the Harrison Bayou. No treated groundwater from the GWTP was discharged to the INF pond or returned to LHAAP-18/24 via the sprinkler system. **Table ES-1** also presents the INF Pond staff gauge readings by date, which is used to determine the freeboard available in the pond.

During the 2nd Quarter of 2023, a monthly GWTP influent sample was collected for perchlorate analysis on 22 May 2023. The perchlorate levels were measured at 79,900 micrograms per liter (µg/L) on 22 May 2023. No quarterly influent samples were collected during the 2nd Quarter, as a minimal amount of groundwater was being extracted from LHAAP-17 and LHAAP-18/24. Grab perchlorate samples from the GWTP effluent were collected weekly prior to and after the first IX vessel to confirm perchlorate treatment prior to discharge. None of the perchlorate concentrations in any effluent samples discharged to the Harrison Bayou exceeded the Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (589 µg/L). Although not a requirement, prior to discharge to the Harrison Bayou, treated groundwater was also processed through the IX vessels to ensure adequate perchlorate treatment.

The treated water quantities each month since March 2018 and discharged into the Harrison Bayou are shown on **Figure ES-2**.

This page intentionally left blank.

Figure ES-1. Groundwater Recovery from March 2018 through June 2023
LHAAP-18/24, LHAAP-17, & LHAAP-16



Note: Starting in September 2019, no groundwater was extracted subsequent to the final remedy of injections being implemented at LHAAP-16.

Figure ES-2. Treated Groundwater Discharged Monthly from March 2018 through June 2023

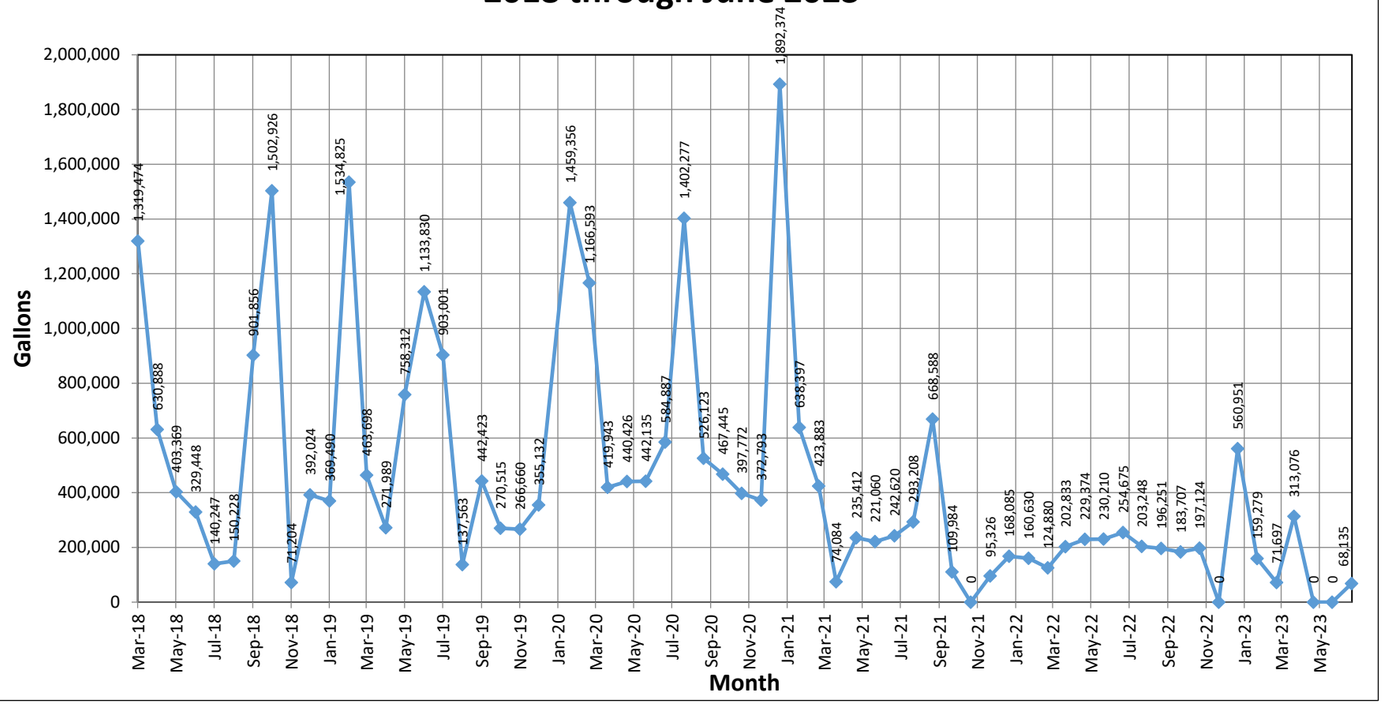


Table ES-1. Discharge Information to Harrison Bayou during 2nd Quarter 2023

Date	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (6.20 = 3 ft. Freeboard)
5/1/2023	NA	NA	0	0	0	0	1.32
5/2/2023	NA	NA	0	0	0	0	1.31
5/3/2023	NA	NA	0	0	0	0	1.3
5/4/2023	NA	NA	0	0	0	0	1.29
5/5/2023	NA	NA	0	0	0	0	1.28
5/6/2023*	NA	NA	0	0	0	0	1.27
5/7/2023*	NA	NA	0	0	0	0	1.25
5/8/2023	NA	NA	0	0	0	0	1.23
5/9/2023	NA	NA	0	0	0	0	1.27
5/10/2023	NA	NA	0	0	0	0	1.25
5/11/2023	NA	NA	0	0	0	0	1.65
5/12/2023	NA	NA	0	0	0	0	1.63
5/13/2023*	NA	NA	0	0	0	0	1.61
5/14/2023*	NA	NA	0	0	0	0	1.59
5/15/2023	NA	NA	0	0	0	0	1.63
5/16/2023	NA	NA	0	0	0	0	1.61
5/17/2023	NA	NA	0	0	0	0	1.58
5/18/2023	NA	NA	0	0	0	0	1.55
5/19/2023	NA	NA	0	0	0	0	1.54
5/20/2023*	NA	NA	0	0	0	0	1.52
5/21/2023*	NA	NA	0	0	0	0	1.5
5/22/2023	NA	NA	0	0	0	0	1.49
5/23/2023	NA	NA	0	0	0	0	1.48

Table ES-1. Discharge Information to Harrison Bayou during 2nd Quarter 2023

Date	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (6.20 = 3 ft. Freeboard)
5/24/2023	NA	NA	0	0	0	0	1.47
5/25/2023	NA	NA	0	0	0	0	1.45
5/26/2023	NA	NA	0	0	0	0	1.44
5/27/2023*	NA	NA	0	0	0	0	1.43
5/28/2023*	NA	NA	0	0	0	0	1.41
5/29/2023	NA	NA	0	0	0	0	1.4
5/30/2023	NA	NA	0	0	0	0	1.38
5/31/2023	NA	NA	0	0	0	0	1.37
6/1/2023	NA	NA	0	0	0	0	1.27
6/2/2023	NA	NA	0	0	0	0	1.25
6/3/2023*	NA	NA	0	0	0	0	1.23
6/4/2023*	NA	NA	0	0	0	0	1.22
6/5/2023	NA	NA	0	0	0	0	1.2
6/6/2023	549	121	0	0	0	0	1.18
6/7/2023	676	149	13,998	0	0	13,998	1.24
6/8/2023	380	83	11,259	0	0	11,259	1.28
6/9/2023	NA	NA	0	0	0	0	1.26
6/10/2023*	NA	NA	0	0	0	0	1.24
6/11/2023*	NA	NA	0	0	0	0	1.22
6/12/2023	NA	NA	0	0	0	0	1.2
6/13/2023	NA	NA	0	0	0	0	1.26
6/14/2023	NA	NA	0	0	0	0	1.38
6/15/2023	NA	NA	0	0	0	0	1.36
6/16/2023	NA	NA	0	0	0	0	1.67
6/17/2023*	NA	NA	0	0	0	0	1.65

Table ES-1. Discharge Information to Harrison Bayou during 2nd Quarter 2023

Date	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (6.20 = 3 ft. Freeboard)
6/18/2023*	NA	NA	0	0	0	0	1.78
6/19/2023	NA	NA	0	0	0	0	1.77
6/20/2023	NA	NA	0	0	0	0	1.76
6/21/2023	NA	NA	0	0	0	0	1.74
6/22/2023	NA	NA	0	0	0	0	1.72
6/23/2023	669	147	3,284	0	0	3,284	1.7
6/24/2023*	587	129	0	0	0	0	1.67
6/25/2023*	509	111	0	0	0	0	1.64
6/26/2023	437	96	39,594	0	0	39,594	1.6
6/27/2023	NA	NA	0	0	0	0	1.58
6/28/2023	NA	NA	0	0	0	0	1.56
6/29/2023	NA	NA	0	0	0	0	1.54
6/30/2023	NA	NA	0	0	0	0	1.52
TOTALS			**68,135**	**0**	**0**	**68,135**	

Notes: The maximum discharge rate from the INF Pond is 170 gallons per minute (gpm) and the maximum discharge rate from the GWTP is 30 gpm.
ft. - feet
NA = Not applicable
Treated groundwater volume released over the weekend is included in the total for the next working day. These dates are marked with an asterisk (*).

This page intentionally left blank.

1 EVALUATION OF GROUNDWATER TREATMENT PLANT

The Groundwater Treatment Plant (GWTP) was constructed as part of the Interim Remedial Action at Burning Ground Number (No.) 3, also referred to as Longhorn Army Ammunition Plant (LHAAP)-18/24, to treat groundwater extracted from interception-collection trenches (ICTs) and extraction wells. **Figure A-1** located in **Appendix A** presents the layout of the ICTs and extraction wells at LHAAP-18/24. The groundwater contamination at LHAAP-18/24 likely resulted from infiltration from an Unlined Evaporation Pond that was used to store manufacturing wastewater and from burning trenches and other industrial processes used to flash pyrotechnic, propellant, and explosive waste streams. The groundwater at LHAAP-18/24 is contaminated mainly with chlorinated ethenes and perchlorate, and with lesser concentrations of 1,4-dioxane.

During the 3rd Quarter 2022 (July – September), the adjacent site (LHAAP-17) groundwater extraction system was brought online and integrated into the GWTP. The LHAAP-17 groundwater extraction system was plumbed into the existing underground piping infrastructure that runs between LHAAP-16 and the GWTP. The LHAAP-17 extraction system was started up on 5 August 2022. The groundwater at LHAAP-17 is primarily impacted with perchlorate.

The GWTP no longer receives flow from LHAAP-16 due to injections completed as a part of the final remedy implementation, which commenced in September 2019. The GWTP had previously received flow from eight extraction wells installed at LHAAP-16 as part of a historical treatability study. The extraction wells were installed in 1996 and 1997 at LHAAP-16.

During the 2nd Quarter of 2023 the GWTP was shut down on 31 March 2023 during contract transition. The GWTP remained off until 2 May 2023 when the new contract was awarded. The PBJV, was awarded solicitation number W912BV23R0022, under United States Army Corps of Engineers (USACE) contract number W912BV23C0007. During the contract transition, no groundwater was extracted from LHAAP-17 or LHAAP-18/24, no groundwater was treated at the GWTP, and no treated effluent was discharged in April 2023.

Power was restored to the GWTP on 2 May 2023, by Southwest Electrical Power Company. On 15 May 2023 the GWTP began processing extracted groundwater, at which point decreased flow within the sand filter was observed. While the GWTP was not running in April 2023, the sand filter had partially dried out. In addition, sediment had accumulated in the pretreatment system resulting in a decrease in flow through the sand filter from 200 gallons per minute (gpm) to 50 gpm. To address the issue an air compressor was used to air sparge the sand filter breaking up the blockage increasing flow to 110 gpm. In addition, a new clarifier diaphragm pump was ordered. The existing clarifier pump, while operable, is not working efficiently due to age and harsh conditions. The new clarifier pump will assist with sludge build up in the sand filter preventing future flow restrictions and was installed during the 3rd Quarter of 2023. Documentation of the new clarifier pump will be covered in the 3rd Quarter 2023 Report.

1.1 Treatment Configuration

The process flow diagram for the GWTP is presented in **Appendix A, Figure A-2**. Groundwater extraction, treatment, discharge, and monitoring activities consist of the following:

- Continuous extraction of groundwater from multiple ICTs and extraction wells located at LHAAP-18/24;
- Continuous extraction of groundwater from two extraction wells located at LHAAP-17;
- Treatment of extracted groundwater for heavy metals, chlorinated compounds, and perchlorate using precipitation, air stripping, and biological methods, respectively;
- Evaluation of the hydraulic effectiveness of the extraction system by groundwater monitoring and groundwater elevation measurements;
- Monitoring and analysis of treated groundwater to ensure compliance with the discharge limits; and
- Discharge of treated water to Harrison Bayou or to a holding pond (Intermediate-Range Nuclear Forces Treaty [INF]] Pond) or the treated water may be released as irrigation water on LHAAP-18/24.

Contaminated water from the extraction wells and ICTs is pumped into the GWTP and stored in the equalization storage tank. The contaminated water is then pumped to the pretreatment system for precipitation of metals. The sludge from the pretreatment system is delivered to the sludge treatment system to be thickened, air stripped of volatile organic compounds (VOCs), and filter pressed for disposal in a landfill. The water from the pretreatment system is delivered to the air stripper system for air stripping of VOCs. Water from the air stripper is stored in the effluent storage tank for further treatment by the perchlorate system, which consists of a fluidized bed reactor (FBR) and ion exchange (IX) vessels. The process flow diagram for the GWTP is presented in **Appendix A, Figure A-2**.

To provide the integration necessary for proper water process management, a stand-alone central Programmable Logic Controller (PLC) and operator console is used to control all of the operating systems of the GWTP. The belt filter press operates independently with a polymer pump and sludge feed pump interfaced with the central PLC.

The pretreatment system and air stripper system are equipped with instrument junction boxes and motor starter control panels. The control panels contain a transformer, run indication lights, motor starters, hand or automatic switches, and relays to interface with the central PLC. The control panels have monitors and/or logic to monitor the operating parameters and determine when abnormal conditions occur. Interface relays will indicate to the central PLC that there is a problem within the systems. The central PLC will provide the logic for the proper action required for that specific set of circumstances.

The GWTP was not operational between 24 May 2012 and 6 September 2012, due to malfunction of the scrubber unit associated with the catalytic oxidizer. Since 6 September 2012, the GWTP has operated without air abatement equipment. Although major repairs were conducted on the GWTP (e.g., replacement of level alarms, repair of the hydrochloric acid [HCl] tank, replacement

of tank (TK)-650, replacement of malfunctioning valves and flow meters, replacement of metering pumps, repair or replacement of various system pumps, rust removal and repainting of various tanks, and replacement and repair of various extraction pumps, motors, and level switches), the GWTP treatment configuration has remained relatively unchanged. The only exception to this is that IX vessels were installed in November 2018 following the FBR to further remove perchlorate prior to discharging to the INF pond.

1.1.1 Historical GWTP Operation

The GWTP was not operational from 24 May 2012 until 6 September 2012. This was related to meltdown of the scrubber system, associated with the catalytic oxidizer, due to system overheating. Overheating occurred when the blower became inoperable after the bearing on the scrubber blower unit was shattered and damaged the blower. This occurred around 1300 on 21 May 2012.

After developing an interim air monitoring plan and obtaining concurrence from the Texas Commission on Environmental Quality (TCEQ) and the United States Environmental Protection Agency (USEPA) to operate the GWTP without use of air abatement equipment, a pilot run of the GWTP was conducted on 6 September 2012. In that first pilot run, 85,170 gallons of water that had been stored in the influent equalization tank (TK-140) were treated. The treated water was re-circulated through the FBR to revive the FBR after 3 months of dormancy. Treated groundwater samples were collected and analyzed, respectively, for perchlorate, metals, and VOCs. Air samples were collected and analyzed for VOCs only.

On 19 September 2012, a second pilot run was performed at the GWTP, and 107,264 gallons of water were treated. Based on the successful re-start of the GWTP, continuous groundwater extraction began again on 24 September 2012. While groundwater extraction occurs on a continuous basis, operation of the GWTP occurs intermittently due to the low volume of water available for treatment with respect to the design capacity of the GWTP. During the 3rd Quarter of 2012, groundwater extraction occurred only from LHAAP-18/24. Groundwater extraction from LHAAP-16 was not performed due to equipment failure. However, extraction from LHAAP-16 began in October 2012 and the extraction volumes increased steadily throughout the 4th Quarter of 2012, as pumping equipment was gradually repaired/replaced. The GWTP operated under normal conditions until September 2015.

On 14 September 2015, at 1115, the blower (BL-340) on the air stripper malfunctioned during routine operation. The wiring on the blower was repaired and the blower operated for less than 2 hours on 17 September 2015, when the blower malfunctioned again. It was determined that the blower needed to be replaced, and groundwater extraction and operation of the GWTP ceased beginning 18 September 2015, as the influent equalization tank (TK-140) became full. Beginning on 2 October 2015, it was determined that the GWTP could operate without the blower at a reduced extraction rate. The operation of the GWTP allowed extraction of groundwater from ICTs 12E, 13A, 13B, and 13C (13C was changed to 13E on 12 October 2015), which were considered critical ICTs to prevent migration of contaminants to Harrison Bayou.

Groundwater extraction was switched frequently between ICTs 12E, 13A, 13B, and 13E to ICTs 14B, 14C, and 14D beginning on 14 December 2015.

Malfunction of the blower on the air stripper (BL-340), on 14 September 2015 and 17 September 2015, disrupted continuous extraction and routine operations of the GWTP, which lasted through 7 January 2016. Prior to this occurrence, the GWTP performed as designed and the GWTP was operated on an as needed basis (i.e., semi-continuous operational basis). During the 4th Quarter of 2015, groundwater was extracted from a limited number of ICTs (ICTs 12E, 13A, 13B, 13C, and/or 13E, or ICTs 14B, 14C, and 14D). Operation of the GWTP occurred on a batch basis through the FBR. After replacement of the blower, attempts were made to restore continuous operations to the FBR, but they remained predominantly on a batch basis throughout January 2016.

On 12 December 2016, flange bolts at TK-380 failed and allowed HCl to drain into the sump. The secondary containment area was washed down, and the sump contents were transferred into the influent equalization tank (TK-140). Because of the acid release, extraction of groundwater from the ICTs was halted, and the GWTP was put into recycle mode (effluent sent back as influent) until the acid was neutralized and perchlorate, metals, and VOCs were below discharge criteria on 17 March 2017. The FBR performance was challenged by the increased chlorides in the neutralized wastewater, but performance gradually returned to normal in the 1st Quarter of 2017. Groundwater extraction was gradually increased to full rates during the 2nd Quarter of 2017.

On 12 August 2017, severe storms caused a power outage at LHAAP-18/24. When electrical service was restored, the main transformer failed due to a manufacturing defect. A portable emergency generator was brought on-site on 21 August 2017, to allow the FBR to operate in full recycle mode. After a replacement transformer was installed on 12 September 2017, extraction began from ICTs 13B, 13C, 13D, 13E, 13F, 7, and EW01 and the FBR was put into normal operation. Beginning on 21 September 2017, groundwater was extracted from each of the ICTs.

On 27 December 2018, severe storms caused a power outage in Karnack, Texas. When electrical service was restored, the main transformer was determined to have failed. A portable emergency generator was brought on-site on 28 December 2018, to allow the FBR to operate in full recycle mode. On 5 February 2019, the smaller generator mobilized in December 2018 was replaced with a larger generator capable of powering the LHAAP-18/24 well field and the entire GWTP.

On 8 February 2019, the transformer at the GWTP was tested to ensure that it could handle back feeding necessary to power the LHAAP-18/24 well field due to the necessary step-down in power from the generator. Following additional system modifications based upon the testing, the well field at LHAAP-18/24 had power restored on 11 February 2019, using the generator and transformer at the GWTP.

From 11 June to 17 June 2019, a double-walled pipe in the burning grounds (ICTs 14C and 14D) was found to be leaking at a joint and repaired. In addition, the line to well 18WW17 was cut off due to leaks identified following repair of the other section of pipe. The ground was too wet to

dig and replace the other double-walled pipe at that time. From 28 October to 31 October 2019, a new double-walled pipe to well 18WW17 was installed by Palmetto Services.

Groundwater is no longer extracted from LHAAP-16 because in situ bioremediation injections were completed in September 2019 as part of the final remedial action. The only groundwater treated and discussed within this report is from LHAAP-18/24 and LHAAP-17.

On 11 January 2020, a possible tornado and straight-line winds came through the area and broke the power lines. The breaker was shut off at the transformer until power lines could be repaired on 14 and 15 January 2020, by Ark-La-Tex Electric (Ark-La-Tex). On 18 January 2020, power was lost to the GWTP, and it was discovered that there was a blown fuse on the power lines. Ark-La-Tex was called to the site to replace the fuse and power was restored to the GWTP the same day. On 29 March 2020, there was a power glitch that caused the air compressors to shut down. The air compressors and FBR were restarted on the same day. On 13 April 2020, two trees fell across a power line and caused loss of power to the plant. Ark-La-Tex removed the trees and restored power at 0945 on 14 April 2020. On 2 May 2020, a tree fell across Southwestern Electric Power Company's (SWEPCO's) line inside the plant that feeds the GWTP. SWEPCO came out and removed the tree from the line. Power was restored the same day. On 29 December 2020, housing was built for the acetic acid pump associated with the FBR to prevent rainwater from causing it to shut down.

On 13 February 2021, inclement weather began, and it stayed below freezing until 20 February 2021. The level transmitter on TK-650 froze, making the discharge pump inoperable. The level transmitter was thawed out and pumping was restarted. On 20 February 2021, the air compressors were able to be started again. The FBR began operation in recycle mode, but the oxidation-reduction potential (ORP) was greater than the normal operating requirements. From 21 February through 9 March 2021, repairs from the freeze were made on broken polyvinyl chloride (PVC) pipes, valves, fittings, and level transmitters. The ORP on the FBR remained elevated and the FBR was in recycle mode until 25 March 2021 when the ORP returned to normal range and discharge to the Harrison Bayou was able to resume.

A power outage occurred on 12 May through 13 May 2021, due to downed power lines. On 14 May 2021, Ark-La-Tex was on-site to replace the broken power pole and repair broken power lines. On 28 May 2021, a power outage occurred at 0430, due to a downed tree. SWEPCO restored power the following day on 29 May 2021. On 2 June 2021, elevated perchlorate effluent results, precipitated replacement on the acetic acid nutrient feed pump. Perchlorate effluent results dropped below discharge limits, but not to expected concentrations. As a result, the FBR was placed in recycle mode from 18 June 2021 through the end of the 2nd Quarter 2021.

On 29 July 2021, Envirogen Technologies (Envirogen) mobilized to the site to troubleshoot the FBR. The plant was brought offline to diagnose why perchlorate effluent results remained elevated. Envirogen found the fluidization flow at 230 gpm and the inlet pressure to the FBR at 14 pounds per square inch (psi) as satisfactory. Envirogen determined that the inline potential of hydrogen (pH) probe was not calibrating properly, and it was giving an incorrect reading of 7.4. In July 2021, the pH reading was 8.24, which is above the optimum FBR operating parameters.

Ideally, the pH should be between 7.1 and 7.4 in the FBR. A high pH can inhibit biological activity. Envirogen recommended the installation and calibration of a new pH probe. A new inline pH probe was ordered, and replacement and calibration were completed on 6 April 2022.

Additionally, Envirogen noted that the granular activated carbon (GAC) settled bed height was 6.33 feet (ft) and the expanded bed height was 9 ft. The design settled bed height for the GAC was 9 ft and the design expanded bed height was 15 ft, with the expanded bed height being a key performance indicator for the FBR. Therefore, Envirogen recommended the addition of GAC media. One supersack of GAC was delivered, pre-wetted, and loaded in the FBR on 29 July 2021. After the addition of one supersack of GAC, the settled bed height was measured at 9.1 ft and the expanded bed height was measured at 11.3 ft. Additional GAC was ordered and added to the FBR. The GWTP was brought back online on 3 August 2021.

Palmetto Services was on-site from 20 September through 24 September 2021 to replace sand in the sand filter. The sand in the sand filter collects debris that is filtered out of the water as designed. However, over time the debris restricts the flow of water through the filter. Therefore, the GWTP was taken offline on 20 September 2021 to replace the sand. Palmetto Services removed the sand and screens, acid washed the screens, put the screens back in place, and then added new sand using a crane. Approximately 4.5 tons of 10 x 20 silica sand and 12 tons of 8 x 12 silica sand were placed into the sand filter. While the plant was down for the sand filter activities, the 10-inch (“) PVC line between the clarifier effluent and the sludge tanks was replaced, and the polymer feed line was unclogged. However, before the GWTP could be operated again, the HCl feed pump malfunctioned as discussed below.

On 4 October 2021, the GWTP was unable to operate due to a malfunctioning pump motor on the HCl feed pump (P-390). On 5 October 2021, Bloc Design Build, LLC (BLOC) was on-site to diagnose the problem with the HCl pump motor (P-390) which was seized and inoperable. A new pump motor was ordered and on 14 October 2021, BLOC returned and installed wiring to the new motor on the HCl pump (P-390).

Upon arrival at the GWTP on 5 October 2021, there was no power at the GWTP. A blown fuse was found on SWEPCO’s transformer. SWEPCO replaced the fuse, however, only partial power was restored to the GWTP on 5 October 2021. On 7 October 2021, Ark-La-Tex was on-site to troubleshoot the electrical power issue and determined that the load break switch (commonly referred to as an arc strangler) was blown at the transformer at the GWTP and needed to be replaced. The load break switch malfunction had caused the fuse to fail, cutting power to the GWTP. On 11 October 2021, Ark-La-Tex was on-site to repair the load break switch and restore power to the GWTP. Following the restoration of power and replacement of the HCl pump, the GWTP operation resumed on 18 October 2021.

In March 2022, a severe storm blew down a tree damaging two power poles, but there was no power loss at the time of the storm event. On 16 March 2022 and 17 March 2022, Ark-La-Tex arrived on-site to replace the power poles and to repair the power lines. As a result, power was shut off at the plant for approximately 24 hours from 16 March to 17 March 2022, to allow Ark-La-Tex to safely work with the power lines.

On the afternoon of 2 May 2022, there was partial power loss to the GWTP. After an inspection of the overhead power lines, a fuse was found blown on SWEPCO's transformer. SWEPCO was alerted and responded on 2 May 2022 to replace the fuse. The GWTP was completely powered down as a safety precaution while SWEPCO addressed the blown fuse. In addition to the blown fuse, there was also a small fire observed on the ground at the base of the transformer load breaker switch at the GWTP. The United States Fish and Wildlife Service was alerted, and the fire was put out with a water sprayer on 2 May 2022. The status of the load breaker switch on the transformer could not be assessed until power was fully restored.

However, before power could be restored to the GWTP, a severe storm on 3 May 2022 knocked down another tree. The downed tree fell on the overhead line, breaking the overhead line and two cross arms. Ark-La-Tex repaired the overhead line, cross arms, and assessed the load breaker switch on 11 May 2022. Power was restored to the GWTP on 11 May 2022 and a new load breaker switch was ordered. Ark-La-Tex returned on 17 May 2022 to install the replacement load breaker switch.

On 10 June 2022, the K-701 air compressors went down due to a power glitch. The air compressors were restarted and the FBR returned to normal operating range.

A supersack of GAC (1,000 pounds) was delivered on 17 June 2022. On 20 June 2022, the FBR was topped off with approximately 150 pounds of GAC, expanding the bed height to 15 ft as designed. The expanded bed height is a key performance indicator for optimal performance of the FBR.

On 22 June 2022, a power outage occurred for 1.5 hours on SWEPCO's side. Power was restored and air compressors were restarted and the FBR was returned to normal operating range.

During the 3rd Quarter 2022 (July – September), the adjacent LHAAP-17 groundwater extraction system was brought online and integrated into the GWTP. The LHAAP-17 groundwater extraction system was plumbed into the existing underground piping infrastructure that runs between LHAAP-16 and the GWTP. The LHAAP-17 extraction system was started up on 5 August 2022. Details regarding the installation of the groundwater extraction system at LHAAP-17 are included in the Interim-Remedial Action Completion Report (TLI Solutions, December 2022). Through the end of September 2022, 121,411 gallons of groundwater had been pumped from LHAAP-17 to the GWTP. Monthly performance monitoring completed at LHAAP-17 and an evaluation of the effectiveness of the LHAAP-17 extraction system will be presented in Annual Remedial Action Operation Reports under separate cover.

To address a potential blockage identified during the 2nd Quarter 2022, the GWTP was brought offline and the metals pretreatment process tanks TK-200A, TK-200B, and TK-200C were drained on 12 September 2022. While, each tank had sediment buildup, no blockage was found inside the metals pretreatment tanks. The blockage was believed to be in the overhead 10" steel piping between tanks TK-200B and TK-200C. However, to safely access the overhead piping, which is elevated approximately 15 ft in the air, scaffolding is necessary. In the interim, the sediment was removed from the metals pretreatment tanks and the GWTP was brought back online on 13 September 2022.

On 14 November 2022, a flange on the sodium hydroxide solution tank (TK-100) was identified as being cracked and the material was released within the containment area of the GWTP. The sodium hydroxide (35 percent [%] weight) was transferred into a 1,500-gallon holding tank. Following the repairs, the sodium hydroxide was pumped back into the storage tank (TK-100) for the system starting on 5 December 2022 and finishing on 8 December 2022.

Unprecedented freezing conditions were observed throughout east Texas in December 2022. Despite attempts to heat tape and freeze protect the GWTP, on 25 December 2022, damage to a number of tanks, piping, and system components was observed due to the freezing temperatures. Starting on 27 December 2022, repairs to the GWTP system due to damage from extreme freeze commenced. Repairs continued into 2023 and included: replacing broken valves and piping on air lines; removing broken fan from K-701; installing new belts on K-701; replacing broken 2" valve and flanges on level switch on TK-300; cutting bolts from flanges and installing new 6" butterfly valve on TK-300; cutting bolts from flanges on suction and discharge of P-170; replacing broken 3" and 4" flanges, and elbow on suction of P-170; and replacing broken 4" flange, tee, and pipe on discharge of P-170. The repairs continued through the end of December 2022. At the end of the 4th Quarter 2022, the GWTP FBR was in recycle mode, but full operation of the GWTP had not been restored.

As a result of the repair activities completed, the GWTP only operated 32.50 hours in January 2023. Furthermore, as a result of the broken piping and valves from freezing conditions, untreated groundwater within the GWTP had to be discharged into the secondary containment basin. Therefore, the GWTP was treating groundwater and rainwater stored in the secondary containment basin and groundwater from LHAAP-17 in January 2023, but not extracted groundwater from LHAAP-18/24. The extraction wells and ICT network at LHAAP-18/24 remained off throughout January 2023.

In early February 2023, additional GWTP repairs were completed once the containment basin was emptied of rainwater. On 15 February 2023, the metals pretreatment process piping between tanks TK-200A, TK-200B, and TK-200C was inspected. A sediment blockage was identified between tanks TK-200B and TK-200C. Scale and debris were removed from an 8" pipe, from the outlet of tank TK-200B, and from the inlet of tank TK-200C. The piping was reinstalled, and the manways on tanks TK-200B and TK-200C were closed and tightened. On 22 February 2023, the pretreatment system was tested and ran at 200 gpm with no leaks. The GWTP returned to full operation on 28 February 2023. The GWTP was shut down on 31 March 2023 during the contract transition as discussed above.

1.1.2 2nd Quarter 2023 GWTP Operation

During the 2nd Quarter of 2023 (April – June), the ICT repairs included replacement of the flow meter at ICT 13F, replacement of the pump in ICT 2, and cleaning of level probes. In addition, Bhate was on-site on 2 June 2023 to troubleshoot an electrical issue at ICT wells 12D and 13C. Previous ICT repairs are summarized in **Table A-2** in **Appendix A.**

In the 2nd Quarter of 2023, the GWTP processed approximately 147,660 gallons of water including influent water from LHAAP-18/24, influent water from LHAAP-17, and rainwater from the secondary containment basin.

During the 2nd Quarter of 2023, the GWTP operated for a total of 23.75 hours. Due to contract transition that occurred during the month April 2023, the GWTP did not operate until May 2023. The plant was also brought offline in June to assess and remove a sediment blockage in the sand filter. Flow rates for the treatment processes for metals and VOCs ranged between 90 and 135 gpm. The treatment configuration of the plant at these rates (with minor variations) is shown in the following tables.

GWTP Metals Precipitation Operating Parameters

Pretreatment Settings	Tank 200-A $Mg(OH)_2$ Mixing	Tank 200-B NaOH Mixing	Tank 200-C Polymer Mixing	Tank 300 feed line to Air Stripper
pH Adjustment	9.0	10.5	NA	5.0 to meet ≤ 8.0 release from stripper
Feed Pump Settings	Speed 100% Stroke 100% 10 gph $Mg(OH)_2$	Speed 100% Stroke 100% 9.0 gph NaOH	Speed 90% Stroke 100% 40 gph water	Speed 80% Stroke 80% 10 gph HCl
Notes: % - percent, ≤ - less than or equal to, gph - gallons per hour, NaOH - sodium hydroxide, $Mg(OH)_2$ - magnesium hydroxide, NA - not applicable				

GWTP Air Compressors Operating Parameters

Air Compressors	K-700A	K-700B	K-701
Air Pressure Settings	88 psi	88 psi	105 psi

GWTP Stripper Operating Parameters

pH Setting	7.4
Inlet Pressure Gauge	Not operational
Stripper Pressure Gauge	Not operational
Air Flow Rate	Not operational

GWTP Fluidized Bed Reactor Operating Parameters

Carbon Bed Height	12 ft and 8 to 11”
Recycle Flow Rate	200 gpm
pH	7.1 to 7.4
Recycle ORP	<-430 mV
Note: mV – millivolts, <- less than	

1.2 Work Performed at the GWTP

Groundwater extraction, treatment, discharge, and monitoring activities consist of:

- Continuous extraction of groundwater from multiple ICTs and extraction wells at LHAAP-18/24 and LHAAP-17;
- Treatment of extracted groundwater for heavy metals, chlorinated compounds, and perchlorate using precipitation, air stripping, and biological methods, respectively;
- Evaluation of the hydraulic effectiveness of the extraction system by groundwater monitoring;
- Monitoring and analysis of treated groundwater to ensure compliance with the discharge limits; and
- Discharge of treated water to Harrison Bayou or to a holding pond (INF Pond).

Maintenance performed at the GWTP during the 2nd Quarter of 2023 is described in the following subsections.

1.2.1 Major Maintenance

The following major maintenance was completed at the GWTP during this quarterly reporting period are:

- On 2 May 2023 and 8 May 2023, blown fuses on power lines were replaced by Ark-La-Tex, which occurred on 2 May 2023 and 8 May 2023. The blown fuses occurred in April 2023, at which point the GWTP was offline.
- On 30 May 2023, the ethernet splitter on the GWTP computer was replaced by BLOC, who was also on-site to troubleshoot problems with TK-630's level transmitter.
- On 7 June 2023, BLOC arrived on-site to replace a bad level transmitter on TK-630.

1.2.2 Routine Maintenance

The following routine maintenance was completed at the GWTP during the 2nd Quarter of 2023:

- Performed housekeeping in GWTP Office, Army office trailer, around GWTP and containment area, and in GWTP Shop;
- Mowed grass around GWTP Office, Army trailer, GWTP and containment area, GWTP Shop, decontamination pad, and storage Conex boxes;
- Removed and cleaned basket from 4"strainer on discharge of FBR;
- Replaced 1/4" tubing on inlet side of pump P-104;
- Replaced the belts on the K-701 air compressor;
- Changed the battery on the automatic gate;
- Repaired the roadway on the backside of the GWTP;
- Rebuilt Grundfos pumps;
- Cleaned melted rubber out of grooves on shives of K-701 air compressor;

- Collected surface water samples;
- Repaired the tire on the older Kubota utility vehicle;
- Repaired the keypad on the automatic gate.

1.2.2.1 Lubrication

No lubrication maintenance was conducted during the 2nd Quarter of 2023.

1.2.2.2 Air Compressors

Blown down valve on air compressor K-700B was repaired.

1.2.2.3 Belt Press and Waste Disposal

No belt press or waste disposal was conducted during the 2nd Quarter of 2023.

1.2.2.4 Sand Filter

After the GWTP was down in April 2023, the sand filter partially solidified as sediment in the groundwater was settled out. The solidified sand was decreasing flow through the GWTP from 200 gpm to 50 gpm. Therefore, the sand filter was backwashed and air sparged to loosen built-up sediment, increasing flow through the GWTP to 110 gpm by the end of June 2023. Replacement of the polymer pump, identified as a need in June 2023, will prevent future build-up of sediment within the GWTP. Although operable, the current polymer pump is not effectively feeding polymer, which assists with removing sediment from the groundwater after the metals treatment process and before groundwater moves into the sand filter. Installation of the new polymer pump began in October 2023 and documentation will be covered in the 3rd Quarter 2023 Report.

1.2.2.5 Well Field at LHAAP-18/24

The following activities were conducted at the well field at LHAAP-18/24 during the reporting period:

- Measured monthly water levels
- Replaced pump in ICT 2 and cleaned level probes
- Cut grass around wells using bush hog and weed trimmer
- Installed new well, 1824DPTMW07
- Developed new well, 1824DPTMW07
- Sampled wells
- Collected annual ICT well samples

1.2.3 Routine Maintenance (Potable Water Wells)

During the 2nd Quarter of 2023, the potable water lines were flushed.

1.2.4 Emergency Responses

- On 28 May 2023, the ethernet splitter failed on plant computer and plant could not be viewed remotely.
- On 3 June 2023 at 18:15, there was a power glitch causing the air compressors to shut down. At 19:30, air compressors were restarted and the FBR was returned to normal operating state.
- On 10 June 2023 at 16:15, pump P-104 shut off causing the ORP to rise. At 17:15 on the same day, pump P-104 was restarted and primed and the FBR returned to normal operating state.

1.3 Filter Cake Operations and Management

No filter cake operations took place during the 2nd Quarter of 2023 reporting period.

1.4 Fluidized Bed Reactor Operations

The operating parameters for the GWTP FBR are presented in **Table 1**. Measurements indicating pH or ORP values that fell outside of the optimal range are highlighted gray.

Table 1. Enhanced Fluidized Bed Reactor Operating Parameters – 2nd Quarter 2023

Date	pH (7.1-7.4 S.U.)	ORP (< -430 mV)	Temperature (Degrees Fahrenheit)
5/1/2023	Power loss	Power loss	Power loss
5/2/2023	7.3	-389	68
5/3/2023	7.3	-439	69
5/4/2023	7.3	-370	69
5/5/2023	7.4	-416	71
5/6/2023	7.4	-473	72
5/7/2023	Power Loss	Power Loss	Power loss
5/8/2023	7.4	-553	74
5/9/2023	7.4	-557	76
5/10/2023	7.4	-557	76
5/11/2023	7.3	-557	75
5/12/2023	7.4	-563	77
5/13/2023	7.4	-558	78
5/14/2023	7.4	-554	80
5/15/2023	7.3	-544	80
5/16/2023	7.4	-538	81
5/17/2023	7.3	-546	81
5/18/2023	7.4	-549	81
5/19/2023	7.4	-548	83
5/20/2023	7.4	-540	82

Table 1. Enhanced Fluidized Bed Reactor Operating Parameters – 2nd Quarter 2023

Date	pH (7.1-7.4 S.U.)	ORP (< -430 mV)	Temperature (Degrees Fahrenheit)
5/21/2023	7.4	-540	82
5/22/2023	7.4	-547	81
5/23/2023	7.4	-549	82
5/24/2023	7.4	-542	81
5/25/2023	7.4	-543	82
5/26/2023	7.4	-543	83
5/27/2023	7.4	-546	84
5/28/2023	7.4	-547	84
5/29/2023	7.4	-545	84
5/30/2023	7.4	-547	83
5/31/2023	7.4	-549	84
6/1/2023	7.4	-554	85
6/2/2023	7.4	-543	85
6/3/2023	7.4	-555	87
6/4/2023	7.4	-553	85
6/5/2023	7.4	-551	84
6/6/2023	7.4	-553	85
6/7/2023	7.4	-554	86
6/8/2023	7.4	-426	83
6/9/2023	7.4	-530	83
6/10/2023	7.4	-541	84
6/11/2023	7.4	-550	85
6/12/2023	7.4	-560	85
6/13/2023	7.4	-563	85
6/14/2023	7.3	-563	85
6/15/2023	7.3	-563	86
6/16/2023	No Power	No Power	No Power
6/17/2023	No Power	No Power	No Power
6/18/2023	No Power	No Power	No Power
6/19/2023	No Power	No Power	No Power
6/20/2023	7.4	-545	87
6/21/2023	7.3	-549	89
6/22/2023	7.4	-555	89
6/23/2023	7.4	-555	89
6/24/2023	7.4	-550	89
6/25/2023	7.4	-560	90

Table 1. Enhanced Fluidized Bed Reactor Operating Parameters – 2nd Quarter 2023

Date	pH (7.1-7.4 S.U.)	ORP (< -430 mV)	Temperature (Degrees Fahrenheit)
6/26/2023	7.4	-487	87
6/27/2023	7.2	-477	88
6/28/2023	7.2	-492	89
6/29/2023	7.2	-463	90
6/30/2023	7.2	-513	90
Note: S.U. - standard unit; Shaded values - pH or ORP outside of operating parameters.			

1.5 Process Chemical Usage at GWTP

Approximate chemical consumption and the quantity delivered during the 2nd Quarter of 2023 are listed in **Table 2**.

Table 2. Chemical Usage and Delivery Table

Chemical	Usage 2nd Quarter 2023	Quantity Delivered 2nd Quarter 2023
Hydrochloric acid	105 gallons	0
Sodium hydroxide (35%)	150 gallons	0
Acetic acid (50%)	1 1/3 drum = 75 gallons	0
Phosphoric acid (75%)	30.5 liters	0
Magnesium hydroxide	36 gallons	0
Urea	600 pounds (lbs.)	12 bags = 600 lbs.
Polymer (magnafloc 110-liters)	1.8 liters	0

2 EVALUATION OF LHAAP-18/24 ICT EFFECTIVENESS

The ICT system at Burning Ground No. 3 is composed of 14 sections ranging in length from 100 ft to 1,300 ft. A total of approximately 5,000 linear ft of trench was installed within and around three sides of Burning Ground No. 3. The trench sections extend approximately 22 ft to 45 ft below ground surface (bgs). Most, but not all, of the trenches are as deep as the confining clay layer of the shallow groundwater zone. High density polyethylene (HDPE) liners were installed outside of ICTs 12A-12E and 13A-13G, located on the southwestern and northwestern boundaries of LHAAP-18/24, respectively. The locations of the liners are shown on **Figure A-1** and depths of the ICTs are presented on **Table A-1** in **Appendix A**.

2.1 Groundwater Elevation

Water levels from 98 monitoring wells and 11 piezometers are measured monthly to generate potentiometric surface maps that assist in monitoring the effectiveness of the groundwater extraction system on plume containment. Piezometer 12 (BGPZ-12) was damaged and plugged and abandoned in May 2013, and monitoring wells 18WW01 and 18WW16 were plugged and abandoned in August 2020. The potentiometric surface contours are generated using the water levels from the shallow zone and Wilcox Formation wells. The water level data are presented in **Table 3**. No reinjection of treated groundwater or reapplication of groundwater to LHAAP-18/24 grounds via the existing irrigation system occurred during the 2nd Quarter of 2023. Groundwater elevations measured during the 2nd Quarter of 2023 are discussed in Section 2.2. Potentiometric surface maps based on the groundwater elevations measured during the 2nd Quarter of 2023 are contained in **Appendix B**.

2.2 Performance of Plume Capture

The intent of the ICTs is to control horizontal groundwater hydraulic gradients, prevent off-site migration of contaminated groundwater, extract the most highly contaminated groundwater, and reduce the mass of contaminants in groundwater. Liners were installed in the ICTs on the northern (ICT 13) and western (ICT 12) site boundaries to limit migration of contaminated water from the site towards Harrison Bayou. At the same time, the liners reduce or prevent removal of contaminated groundwater that is outside the ICT containment area, between the site and Harrison Bayou. The ICTs are installed within the shallow subsurface at the site and capture primarily shallow zone groundwater (example given [e.g.], <40 ft bgs).

In 2007 and 2008, in consultation with the TCEQ and the USEPA, the Army ceased operations of ICTs 1, 3, 5, 10, 12A, and 13G for groundwater extraction (note that extraction from ICT 12A was resumed after pump replacement in December 2012). Two other ICTs (ICT 6 and ICT 9) were changed from extraction ICTs to re-injection ICTs which ceased in July 2012. Groundwater extraction from well EW-1 located in the northeast central portion of the site began in October 2008 and extraction from well 18WW17 located to the northeast of the ICT containment area began in January 2008. **Table A-2** in **Appendix A** presents a summary of extraction equipment replacement since 2011, as dictated by poor extraction performance (malfunctioning pumps,

poor pump positioning with respect to groundwater elevations, non-operational level probes, scale build up, etc.). Further discussion of extraction performance of various ICTs and extraction wells is presented in Section 2.3.

Potentiometric surface maps of the shallow zone groundwater in the vicinity of LHAAP-18/24, based on groundwater elevations measured on 15 May and 26 June 2023, are shown on **Figures B-1** and **B-2 in Appendix B**, respectively. The potentiometric surface maps of the shallow zone were contoured using the Kriging geostatistical interpolation method included in the Golden Software Surfer® data analysis software.

The HDPE liners in the ICTs, where present, continue to retard groundwater flow. The potentiometric surface maps for May and June 2023 continue to reflect high groundwater elevations in the shallow zone in the northern/northwestern portion of the site, with groundwater flowing radially outward from an area within the ICT containment area with the highest groundwater elevations. Monitoring wells MW-1 and AWD-3, which are installed in the shallow zone, had the highest groundwater elevations in May 2023 of 174.50 ft above mean sea level (amsl) and 174.73 ft amsl, respectively. While monitoring wells 18CPTMW04 and AWD-1, had the highest groundwater elevations in June 2023 of 174.55 ft amsl and 174.68 ft amsl, respectively. Monitoring wells MW-1, 18CPTMW04, AWD-1, and AWD-3 are near one another.

Groundwater levels in Wilcox Formation wells (constructed greater than 40 ft bgs) were measured during the 2nd Quarter of 2023 groundwater gauging events. Wilcox Formation wells correspond to those wells previously identified as "intermediate" and "deep" wells. "Intermediate" wells are designated as upper Wilcox Formation wells and "deep" wells are designated as lower Wilcox Formation wells. The upper and lower Wilcox Formation are in hydraulic communication and so can be treated as a single hydrogeologic unit (Remedial Investigation Report, Jacobs Engineering Group, April 2011). Therefore, the groundwater elevations in upper and lower Wilcox wells were used to construct the potentiometric surface maps for the Wilcox Formation. **Figures B-3** and **B-4 in Appendix B** show the locations of the Wilcox Formation monitoring wells and the potentiometric surface of the Wilcox Formation, based on static water levels measured during the May and June 2023 gauging events, respectively. A groundwater high is present in the Wilcox Formation, whereby groundwater flows radially away, in the area of monitoring wells MW-14 and 18CPTMW01SW. Across the rest of the site, Wilcox Formation groundwater flows in a north-northwest direction, towards Caddo Lake and there is a downward vertical hydraulic gradient between the overlying shallow zone and the Wilcox Formation.

The extracted groundwater volume was measured on a monthly basis as the sum of the difference between the flow meter totalizer reading at each ICT between the beginning and end of each month. During the 2nd Quarter of 2023, approximately 84,772 gallons of groundwater was extracted from the LHAAP-18/24 ICTs for treatment (**Table 5**). Additionally, LHAAP-17 contributed another 105,654 gallons to the GWTP during the 2nd Quarter of 2023 for a total of 174,256 gallons of extracted groundwater. Note that the sum of the ICT totalizers does not match up to the influent totalizer (FIT-140) at the groundwater treatment plant. As shown on **Figure 2-1,** the influent totalizer volume for the 2nd Quarter of 2023 was 174,614 gallons. The influent

totalizer is slightly higher because the flow meters at ICT 13F were replaced during the reporting period.

During the 2nd Quarter of 2023, approximately 68,135 gallons of treated groundwater was discharged to Harrison Bayou from the GWTP. No treated groundwater from the GWTP was discharged to the INF pond or returned to LHAAP-18/24 via the sprinkler system during the 2nd of Quarter 2023. Throughout the 2nd Quarter of 2023, the treated groundwater was processed through the IX vessels to provide additional water treatment for perchlorate prior to discharge to Harrison Bayou. **Table 4** presents the daily discharge rates and volume for the 2nd Quarter of 2023.

2.3 Quantity of Water Extracted from LHAAP-18/24 and LHAAP-17

During the 2nd Quarter of 2023, the GWTP operated for 23.75 hours. The GWTP was not operated in April due to the contract transition. Flow rates for the treatment processes for metals and VOCs ranged between 90 and 135 gpm.

The average daily extraction rates from the extraction wells at LHAAP-17 were approximately 1,720 gallons per day (gpd) in May 2023, approximately 1,744 gpd in June 2023 (**Table 5**). No groundwater was extracted from LHAAP-17 in April 2023. The average daily extraction rates from the ICTs at LHAAP-18/24 were approximately 2,213 gpd in May 2023 and 0 gpd in June 2023 (**Table 5**). No groundwater was extracted from LHAAP-18/24 in April or June 2023. The volume of groundwater removed from LHAAP-17 and LHAAP-18/24 during the 2nd Quarter 2023 measured approximately 174,614 gallons based on the influent totalizer (FIT-140). **Figure 2-1** shows the historical trends of extracted volumes based on the influent totalizer by quarter. The processed water measured on the equalization tank (TK-140) effluent totalizer (FIT-172) was recorded at 174,660 gallons indicating a difference of only 46 gallons between influent and processed water.

As indicated by **Table 5**, 19 of 25 ICTs and wells produced water in the 2nd Quarter 2023. ICTs 1, 2, 3, 5, 10, 13F, 18WW17, and EW-01 did not produce water in the 2nd Quarter of 2023. ICTs 1, 3, 5, and 10 were deactivated on 18 February 2008 as part of a pilot study for system optimization. ICT 13G is dry and no longer active. ICT 13F required a new flow meter, which was installed in June 2023. While ICT 13F produced water in May 2023, the flow meter did not record any volume. No production at ICTs 18WW17 and EW-01 is attributed to the low water levels present in these ICTs. ICT 12D, ICT 13C, and ICT 13F require new pumps, which will be replaced in the 3rd Quarter of 2023. During the 2nd Quarter of 2023, ICT repairs completed including replacement of the flow meter at ICT 13F and replacement of the pump at ICT 2. In addition, Bhate was on-site on 2 June 2023 to troubleshoot an electrical issue and replace fuses at ICT wells 12D and 13C.

2.4 Monitoring Well Installation Activities

During the 2nd Quarter of 2023, a new monitoring well (1824DPTMW07) was installed downgradient of 18WW08 in June 2023 to define the perchlorate and TCE plumes in the shallow zone (**Figure D-1**). Monitoring well 1824DPTMW07 was installed by Walker Hill Environmental

(a licensed Texas driller) utilizing hollow stem auger, per the standard operating procedures provided in the Installation Wide Work Plan Bhate, May 2018). Monitoring well 1824DPTMW07 was constructed of 2" schedule 40 PVC materials with solid riser and 10 ft of 0.010" machine slotted screen. The filter pack, extending a minimum of 2 ft above the screen, consists of 20 to 40 mesh silica sand. A 2-ft-thick bentonite seal was then placed via gravity methods above the filter pack and allowed to hydrate for a minimum of 30 minutes between lifts. The remainder of the borehole annular space was filled with Portland cement grout. The monitoring well construction diagram is presented in **Appendix E.** Monitoring well 18DPTMW07 was completed with a 4" by 4" steel stickup, set within a 2-ft by 2-ft concrete pad, and is protected by four steel bollards filled with sand.

Well development at 1824DPTMW07 was completed on 29 June 2023. Bail, surge, and purge method was used during development. The new monitoring well was developed with a stainless-steel submersible pump outfitted with disposable high-density polyethylene tubing. Water quality parameters (pH, conductivity, temperature, ORP, dissolved oxygen, and turbidity) of the well development water were measured and recorded on the Monitoring Well Development Form in Appendix E. Well development continued until the water quality parameters stabilized and the development water was generally sediment-free or clear.

Monitoring well 1824DPTMW07 was surveyed by MTX Surveying, a Texas-licensed surveyor, on 31 July 2023 (**Appendix E**). Latitude and Longitude are in the North American Datum of 1983 Geographic Coordinates, FL North Zone, U.S. Survey Foot. The vertical datum is the North American Vertical Datum of 1988, U.S. Survey Foot.

2.5 Sampling Activities at LHAAP-18/24

Groundwater sampling was completed at LHAAP-18/24 in accordance with the requirements documented in the Final Revised Installation Wide Work Plan (Bhate, May 2018). During the 2nd Quarter of 2023, 85 monitoring wells and 21 ICT wells were sampled. The analytical results are presented in **Table 6**. Laboratory data packages are provided in **Appendix C**. Analytes exceeding their respective Maximum Contaminant Levels (MCLs), Medium Specific Concentrations, or Protective Concentration Levels (PCLs) are as follows: perchlorate; 1,1,2-trichloroethane; 1,1-dichloroethene (DCE); 1,2-dichloroethane (DCA); carbon tetrachloride; cis-1,2-DCE; methylene chloride (MC); tetrachloroethene (PCE); trichloroethene (TCE); vinyl chloride (VC); arsenic; barium; chromium; copper; lead; manganese; nickel; and 1,4-dioxane.

Groundwater chemicals of concern (COCs) maps showing the results of the June/August 2023 groundwater sampling event for perchlorate, TCE, and MC are presented by shallow aquifer zone and Wilcox Formation as **Figures D-1** through **D-6** in **Appendix D**.

2.5.1 LHAAP-18/24 Analytical Results (June/August 2023)

Perchlorate exceedances of the PCL (17 micrograms per liter [µg/L]) in the shallow zone groundwater ranged from 51.9 µg/L in MW-102 to 199,000 µg/L in 1824DPTMW05 (**Table 6**). The highest perchlorate concentrations in the shallow zone were observed in MW-5, MW-7, MW-23, 18WW17, 1824DPTMW02, and 1824DPTMW05, with concentrations in these wells ranging

between 18,100 µg/L in MW-7 to 199,000 µg/L in 1824DPTMW05 (**Figure D-1**). Monitoring well 18WW08 had a detection of perchlorate at 7,450 µg/L, which decreased from the December 2022 result (21,300 µg/L). A new monitoring well (1824DPTMW07) was installed downgradient of 18WW08 in June 2023 to define the perchlorate and TCE plumes in the shallow zone. Perchlorate was detected at 0.126 µg/L at 1824DPTMW07 in August 2023.

Perchlorate exceedances of the PCL (17 µg/L) in the Wilcox Formation ranged from 23.1 µg/L in C-03 to 241,000µg/L in MW-14 (**Table 6**). Perchlorate in the Wilcox Formation was identified at an elevated concentration in MW-14, with a reported June 2023 concentration of 241,000 µg/L. This June 2023 detection is greater than the detection in December 2022 of 24,400 µg/L. Perchlorate in the Wilcox Formation was detected in 18CPTMW08SW at a concentration of 13,700 µg/L (**Figure D-2**), which is comparable to the concentrations reported in December 2022 (15,500 µg/L) and August 2022 (13,800 µg/L), but lower than the concentration reported in December 2021 (19,700 µg/L). The perchlorate concentration decreases rapidly downgradient from 18CPTMW08SW. Monitoring well 18CPTMW08DW contained an elevated concentration of perchlorate at 6,000 µg/L in June 2023, which is comparable to the perchlorate concentrations reported in December 2022 (5,740 µg/L) and August 2022 (4,930 µg/L).

The highest TCE detection in the shallow zone was 9,400 µg/L in MW-1 (**Figure D-3)**. Detections of TCE in the shallow zone above 300 µg/L were generally confined to inside of the ICT boundary in June 2023. However, one monitoring well (18CPTMW23), just outside the northwest ICT boundary, had an elevated detection of TCE at 1,800 µg/L. However, there is one monitoring well (18WW24), downgradient of monitoring well 18CPTMW23, that was below the TCE MCL of 5 µg/L. Monitoring well 18WW08 had a detection of TCE at 6.2 µg/L, which is less than the December 2022 result (11 µg/L) and the August 2022 result (14 µg/L). As previously discussed above, a new monitoring well (1824DPTMW07) was installed downgradient of 18WW08 in June 2023 to define the perchlorate and TCE plumes in the shallow zone. TCE was non-detect at 1824DPTMW07 in August 2023. (**Figure D-3**).

TCE in the Wilcox Formation was generally present at low concentrations, with the exception of monitoring well MW-14 (**Figure D-4**) at a concentration of 15,000 µg/L in June 2023. This is an increase in TCE concentration from December 2022 (5,500 µg/L), August 2022 (8,100 µg/L), and December 2021 (6,200 µg/L). A TCE concentration of 69 µg/L was reported in June 2023 in 18CPTMW01SW, which is slightly less than the detection of 100 µg/L in December 2022 and 91 in August 2022, but a significant decrease from 180 µg/L in June 2021 and 230 µg/L in December 2021.

The elevated concentration of MC above the MCL (5 µg/L) in the shallow zone remains centered on MW-2 with a concentration of 74 µg/L. This is a decrease in the MC concentration reported in December 2022 at 130 µg/L and a significant decrease from the concentration in August 2022 at 15,000 µg/L. The concentrations of MC in MW-2 have fluctuated since June 2017; however, MC was 290,000 µg/L as recently as June 2020. MC in MW-23 was non-detect, which decreased from the MC concentration of 130 µg/L reported in December 2022. No other wells in the shallow zone had detection levels above the MCL in June 2023 compared to several reported in December 2022. The extent of MC detected in the shallow zone is confined to within the ICT boundary as

depicted on **Figure D-5**.

MC in the Wilcox Formation was detected in 18CPTMW01SW at 5,000 µg/L in June 2023, a decrease to the detection of 12,000 µg/L in December 2022 and 21,000 µg/L in December 2021. The concentrations of MC in the Wilcox Formation are shown on **Figure D-6**.

2.5.2 LHAAP-18/24 Trend Analysis

Time-series graphs for the shallow zone and Wilcox Formation wells are presented in **Appendix F**. Graphs for shallow zone wells 18WW08, AWD-3, C-08, MW-2, MW-7, MW-8, MW-16, MW-17, MW-20, MW-21, MW-22, MW-23, MW-109, MW-120, and MW-126 are included. Graphs for Wilcox Formation wells C-03 and MW-14 are also included in **Appendix F**.

2.5.2.1 Shallow Zone Trend Analysis

The following observations were made for the shallow zone groundwater, based on the June 2023 groundwater monitoring results:

- 18WW08 is located north-northwest of the site in the shallow zone. Perchlorate increased significantly from 1,520 µg/L in June 2021 to 20,000 µg/L in August 2022. Since August 2022 perchlorate has decreased to 7,450 µg/L in June 2023. Historical detections have fluctuated from 20,300 µg/L in November 2003, to non-detect in June 2019. Perchlorate detections have seasonal fluctuations at this well. TCE was detected at 6.2 µg/L in June 2023, a decrease from 10 µg/L in December 2021, 14 µg/L in August 2022, and 11 µg/L in December 2022. TCE has increased compared to other recent sampling events including 3.9 µg/L in June 2021 and 3.8 µg/L in December 2020. A new monitoring well (1824DPTMW07) was installed downgradient of 18WW08 in June 2023 to define the perchlorate and TCE plumes in the shallow zone. Perchlorate was detected at 0.126 µg/L and TCE was non-detect at 1824DPTMW07 in August 2023. The concentration of MC continues to be non-detect in 18WW08.
- AWD-3 is located inside the ICT containment area near the center of the site in the shallow zone. Perchlorate decreased to 9.18 µg/L in June 2023 compared to 41.5 µg/L in December 2022. However, the June 2023 detection at AWD-3 is still an increased perchlorate concentration from 1.94 µg/L in June 2021. Historical detections in AWD-3 have fluctuated from 14,100 µg/L in September 2012 to 1.8 µg/L in June 2019. TCE decreased to 360 µg/L in June 2023 from 1,300 µg/L in December 2022 and 650 µg/L in August 2022. The concentration of MC continues to be non-detect at AWD-3.
- C-08 is located to the northeast of the ICT containment area in the shallow zone. Perchlorate decreased slightly to a concentration of 0.615 µg/L in June 2023 compared to 3.46 µg/L in January 2023, but has increased from a concentration of 0.135 µg/L reported in August 2022. TCE increased in June 2023 to 5.2 µg/L from January 2023 (3.1 µg/L), August 2022 (1.9 µg/L), and December 2021 (1.3 µg/L). MC remained below the detection limit in well C-08.

- MW-2 is located inside the ICT containment area in the shallow zone. Perchlorate was below detection limit in June 2023. Perchlorate has been non-detect since December 2018. MC concentration was detected at 74 µg/L in June 2023, which is a decrease from 130 µg/L in December 2022. This follows the trend where MC has significantly decreased from 510,000 µg/L in June 2019; to 290,000 µg/L in June 2020; to 6,400 µg/L in June 2021; to 1,900 µg/L (duplicate result) in December 2021; and then to 15,000 µg/L in August 2022. The TCE concentration increased in June 2023 to 5,400 µg/L from 3,500 µg/L in December 2022. The TCE detected in June 2023 is an increase since December 2021(3,600 µg/L), but still a decrease from 6,200 µg/L in June 2021. Overall TCE concentrations are trending down. Both MC and TCE fluctuate seasonally at this well location.

- Monitoring wells MW-7, MW-8, and MW-17 are located to the southwest of the ICT containment area in the shallow zone.
    - Perchlorate increased at MW-7 to 18,100 µg/L in June 2023 from 14,200 µg/L in January 2023 and from 17,300 µg/L in August 2022. In June 2023, the perchlorate concentration still represents an overall decrease from 20,300 µg/L in June 2020 and 25,000 µg/L in December 2019. TCE detected at MW-7 decreased based on the detected concentration of 860 µg/L in June 2023 from the detected concentration of 1,800 µg/L in both January 2023 and August 2022. Although TCE had a slightly increasing trend from June 2019 (1,300 µg/L) through January 2023 (1,800 µg/L), the TCE concentration in June 2023 (860 µg/L) is the lowest since June 2018 (420 µg/L), which aligns with the overall decreasing trend since December 2020 (2,700 µg/L). MC was not detected at MW-7 in June 2023.
    - Perchlorate increased in MW-8 to 4,460 µg/L in June 2023 from 2,860 µg/L in January 2023. This is the highest concentration detected since June 2019 at 7,100 µg/L. However, perchlorate concentrations are still trending downward from a historical high of 78,000 µg/L in March 2012. TCE at MW-8 was detected at 360 µg/L in June 2023. This is a slightly higher concentration from January 2023 at 290 µg/L and from August 2022 at 200 µg/L, where TCE concentrations had been relatively stable since December 2019 (180 µg/L). TCE and perchlorate both fluctuate seasonally at this well. MC remained below the detection limit in MW-8.
    - Perchlorate was not detected at MW-17 in June 2023. The perchlorate concentration in MW-17 had previously remained below the detection limit since June 2016. TCE and MC were not analyzed at MW-17 in June 2023.

- MW-16 is located west of the site in the shallow zone. Perchlorate was not detected in June 2023. Perchlorate concentrations have decreased compared to 1.07 µg/L in December of 2020, and a significant decrease from 848 µg/L in June 2020. Historical detections at this well include a low of 1.8 J (estimated detection) µg/L in December 2019, but the well had a concentration of 2,900 µg/L in June 2019. TCE increased in June 2023 to 540 µg/L compared to 230 µg/L in January 2023, 290 µg/L in August 2022, and 380 µg/L in December 2021. Historical detections include 440 µg/L in December 2020, 1,200 µg/L in June of 2020, 550

µg/L in December 2019, and 1,200 µg/L in June 2019. This variability in the TCE detection has been observed since 2014. MC remained below the detection limit.

- MW-21 is located on the eastern side of the site in the shallow zone. The perchlorate concentration in MW-21 continued to decrease to 1,480 µg/L in June 2023 from 6,220 µg/L in December 2022, 9,080 µg/L in August 2022, and 9,660 µg/L in December 2021. Previous detections include 25,500 µg/L in December 2020, 33,200 µg/L in June 2020, 13,000 µg/L in December 2019, and 24,000 µg/L in June 2019. Perchlorate fluctuates seasonally at this well location, but was detected at the lowest concentration to date in June 2023. MC remained below the detection limit. TCE in MW-21 decreased to 4,700 µg/L in June 2023 from 6,400 µg/L in December 2022 and 6,300 µg/L in August 2022. While there was an increasing trend between June 2021 (3,900 µg/L) to December 2022 (6,400 µg/L), the June 2023, December 2022, August 2022, June 2021, and December 2021 TCE detections, represent an overall decrease in TCE from the detections of 8,700 µg/L in December 2020 and 7,200 µg/L in June 2020. TCE is trending stable overall.
- MW-22 is in the east-southeast portion of the site in the shallow zone. Perchlorate increased in June 2023 to 2,230 µg/L compared to 1,460 µg/L in January 2023, 1,330 µg/L in August 2022, 1,060 µg/L in December 2021, and 484 µg/L in June 2021. The TCE concentration in MW-22 decreased to 320 µg/L in June 2023 from 500 µg/L in January 2023 and a detection of 380 µg/L in both August 2022 and December 2021. Previous TCE concentrations include 220 µg/L in June 2021, 420 µg/L in December 2020, 400 µg/L in June 2020, 240 µg/L in December 2019, and 230 µg/L in June 2019. This variability in the TCE detection has been observed since 2013. MC remained below the detection limit.
- MW-23 is located in the south-central portion of the site in the shallow zone. Perchlorate detected in MW-23 decreased to 63,500 µg/L in June 2023 from 72,900 in December 2022. While this is an increase from 58,400 µg/L in August 2022, it represents a lower perchlorate concentration than 81,600 µg/L in December 2021 and 76,800 µg/L in June 2021. Perchlorate concentrations have continued to decrease since December 2021. TCE decreased to 2,600 µg/L in June 2023 from 3,700 µg/L in December 2022, which was the second highest TCE concentration since December 2018 at 4,800 µg/L. Concentrations are relatively stable with historical detections of 2,600 µg/L in August 2022, 3,100 µg/L in December 2021, 2,200 µg/L in June 2021, 2,800 µg/L in December 2020, 2,300 µg/L in June 2020, and 3,000 µg/L in December 2019. MC was non-detect in June 2023, which is a decrease from 22 µg/L in December 2022. Previous historical detections for MC include 10 µg/L in August 2022 and 6.7 µg/L in December 2021. Other previous concentrations dating back to June 2015 had remained below the detection limit.
- Monitoring well 109 is in the northeastern portion of the site in the shallow zone. Monitoring well 109, saw a decrease of perchlorate to 2,870 µg/L in June 2023 from 11,100 µg/L in December 2022 and 8,850 µg/L in August 2022. This remains an overall decrease from 21,500 µg/L in December 2021 and 20,400 µg/L in June 2021. The June and December 2021 perchlorate detections are a marked increase from 4,350 µg/L in December 2020, and

from the June 2020 concentration of 10,500 µg/L. TCE maintained a concentration of 1,200 µg/L in June 2023 as also seen in December 2022, which is an increase from 890 µg/L in August 2022, 120 µg/L in December 2021, 240 µg/L in June 2021, 400 µg/L in December of 2020, and 310 µg/L in June 2020. December 2019 saw a concentration of 400 µg/L, which was an increase compared to 130 µg/L in June 2019. TCE and perchlorate both fluctuate seasonally at this well. MC was non-detect in June 2023, which has remained at the same level since August 2022.

- Monitoring well 120 is located on the west side of the site in the shallow zone. Perchlorate at 120 decreased to 11,900 µg/L in June 2023 from 22,400 µg/L in December 2022. The December 2022 concentration was a significant increase from 5,770 µg/L in August 2022, 15,200 µg/L in December 2021, 12,000 µg/L in June 2021, and 13,600 µg/L in December 2020. MC concentration was non-detect in June 2023, a decrease from 42 J µg/L in December 2022, whereas previous MC concentrations have remained below the detection limit since June 2015. TCE decreased to 7,500 µg/L in June 2023 from 9,100 µg/L in December 2022. The June 2023 concentration is still an increase from 6,300 µg/L in August 2022 and from 4,900 µg/L in December 2021, but remained below the December 2019 concentration of 9,200 µg/L.

As of June 2023, monitoring well MW-126 had no detections of TCE or MC, and perchlorate was detected at a low concentration of 0.10 µg/L. This well confirms that the extent of groundwater contamination in the shallow zone is currently delineated to the south.

2.5.2.2 Wilcox Formation Trend Analysis

The following observations were made for the Wilcox Formation groundwater, based on the June 2023 groundwater monitoring results:

- C-03 is a Wilcox Formation well located northeast of the ICT containment area. Perchlorate increased to 23.1 µg/L in June 2023 from 8.54 µg/L in December 2022. However, the June 2023 concentration is still a decrease from 69.8 µg/L in August 2022 and from 220 µg/L in December 2021. Perchlorate has decreased compared to 619 µg/L concentration detected in September 2012. TCE was last detected at 0.5 µg/L in December 2019 and remains non-detect in June 2023. MC has remained non-detect since December 2014.
- MW-14 is located inside the containment area in the Wilcox Formation. The concentration of perchlorate in MW-14 significantly increased to 241,000 µg/L in June 2023 from 24,400 µg/L in December 2022, 106,000 µg/L in August 2022, 164,000 µg/L in December 2021, and 198,000 µg/L in June 2021. Perchlorate has fluctuated historically, with recent detections including 73,800 µg/L in December 2020, 158,000 µg/L in June 2020, and 130,000 µg/L in December 2019. These levels reflect a seasonal fluctuation, but had been overall trending downward from a historical high concentration of 288,000 µg/L detected in December 2015. The concentration of TCE increased to 15,000 µg/L in June 2023 from 5,500 µg/L in December 2022, 8,100 µg/L in August 2022, and 6,200 µg/L in December 2021. Apart from the June 2023 concentration, TCE had been trending downward at this well. MC remained

below the detection limit.

In general, other than the changes observed above in perchlorate, TCE, and MC concentrations, the COC concentration trends indicate that the plumes are stable, supporting the conclusion that the extraction system is effective in minimizing contaminant transport off-site and reducing COC concentrations.

2.6 Groundwater Treatment Plant Sampling and Analysis

Sampling and analysis were conducted in accordance with the requirements specified in the Final Revised Sampling and Analysis Plan (AECOM Technical Services [AECOM], Inc., September 2017). Besides the sampling requirement established in the Record of Decision (ROD) for the Early Interim Remedial Action (USACE, May 1995), additional sample analyses are typically performed on the influent and effluent samples to monitor the effectiveness of the perchlorate treatment (FBR and/or IX vessels) process. Sections 2.5.1 through 2.5.4 present the results of analyses conducted during the 2nd Quarter of 2023. The complete laboratory results are provided in **Appendix G**.

2.6.1 Weekly Perchlorate Sampling

Table 7 presents the weekly effluent perchlorate results for the 2nd Quarter of 2023. During the contract transition, the GWTP was not operational in April 2023, and therefore no samples were collected in April 2023. Throughout the 2nd Quarter of 2023, the treated groundwater was processed through the IX vessels to provide additional water treatment for perchlorate prior to discharge to the Harrison Bayou. After FBR treatment, the weekly effluent perchlorate samples were collected at 2 locations including before the first IX vessel (BIX) and after the first IX vessel (AIX). The effluent perchlorate concentrations from samples collected after the FBR treatment and BIX, ranged from 0.874 µg/L (22 May 2023) to 2,540 µg/L (27 June 2023). However, in the effluent samples collected after the first IX vessel (AIX), perchlorate was not detected above the Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (589 µg/L). The effluent perchlorate samples collected AIX ranged from 0.184 J (22 May 2023) to 2.58 µg/L (27 June 2023).

2.6.2 Monthly VOC Sampling

Table 8 presents the effluent VOC results for May 2023. Sampling of the effluent for VOCs was conducted on a monthly basis for May 2023, per the Final Installation-Wide Work Plan (Bhate, May 2018). **Table 9** presents the effluent VOC results for June 2023. Sampling of the effluent for VOCs was conducted on a biweekly basis for June 2023. However, influent/effluent was not analyzed for VOCs in April 2023 because the GWTP was not operational. Influent concentrations for perchlorate are also provided monthly for May 2023 in **Table 8** and biweekly for June 2023 in **Table 9**. The monthly and biweekly effluent results from the 2nd Quarter of 2023 were below the discharge limits.

2.6.3 Monthly Metals Sampling

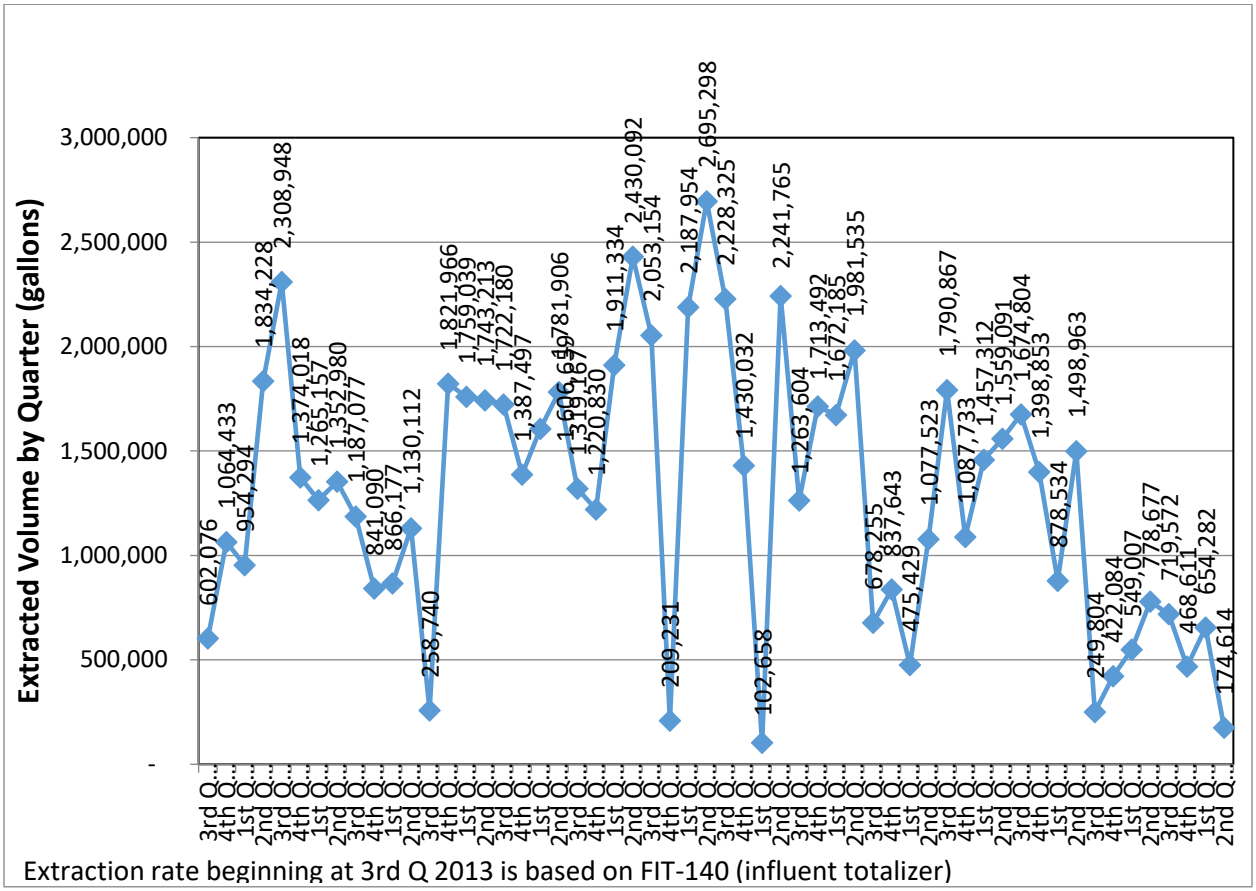
Table 8 presents the monthly influent and effluent metals results for May 2023. Sampling of the influent and effluent for metals was conducted on a monthly basis for May 2023, per the Final Installation Wide Work Plan (Bhate, May 2018). **Table 9** presents the biweekly influent and effluent metals results for June 2023. However, influent/effluent was not analyzed for metals in April 2023 because the GWTP was not operational. None of the metals exceeded the effluent discharge limits in the 2nd Quarter of 2023.

2.6.4 Quarterly Sampling

No quarterly sampling of the effluent for VOCs, anions, chemical oxygen demand, oil and grease, perchlorate, and metals was completed due to limited GWTP operation.

This page intentionally left blank

Figure 2-1. Quarterly Extraction Rate


Extracted Volume by Quarter (gallons)
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
602,076
1,064,433
954,294
1,834,228
2,308,948
1,374,018
1,265,157
1,352,980
1,187,077
841,090
866,177
1,130,112
258,740
1,821,966
1,759,039
1,743,213
1,722,180
1,387,497
1,606,687
1,781,906
1,311,687
1,220,830
1,911,334
2,430,092
2,053,154
209,231
2,187,954
2,695,298
2,228,325
1,430,032
102,658
2,241,765
1,263,604
1,713,492
1,672,185
1,981,535
678,255
837,643
475,429
1,077,523
1,790,867
1,087,733
1,457,312
1,559,091
1,674,804
1,398,853
878,534
1,498,963
249,804
422,084
549,007
778,677
719,572
468,611
654,282
174,614
3rd Q
4th Q
1st Q
2nd Q
3rd Q
4th Q
1st Q
2nd Q
3rd Q
4th Q
1st Q
2nd Q

This page intentionally left blank

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 05/15/2023	Groundwater Elevation (feet amsl) 05/15/2023	Depth to Water (feet) 06/26/2023	Groundwater Elevation (feet amsl) 06/26/2023
BGPZ-1	Piezometer	184.99	5.19	179.80	5.63	179.36
BGPZ-2	Piezometer	184.39	13.29	171.10	13.14	171.25
BGPZ-3	Piezometer	180.35	10.21	170.14	10.17	170.18
BGPZ-4	Piezometer	177.77	7.79	169.98	8.09	169.68
BGPZ-5	Piezometer	180.76	8.89	171.87	9.17	171.59
BGPZ-6	Piezometer	197.82	26.55	171.27	26.83	170.99
BGPZ-7	Piezometer	195.96	25.81	170.15	26.05	169.91
BGPZ-8	Piezometer	197.08	27.44	169.64	27.67	169.41
BGPZ-9	Piezometer	196.45	25.08	171.37	25.31	171.14
BGPZ-10	Piezometer	197.00	26.96	170.04	27.39	169.61
BGPZ-11	Piezometer	196.99	25.71	171.28	25.96	171.03
BGPZ-12	Piezometer	188.17	NM	Plugged	NM	Plugged
AWD-1	Monitoring Well	182.27	8.41	173.86	7.59	174.68
AWD-2	Monitoring Well	186.78	13.22	173.56	13.67	173.11
AWD-3	Monitoring Well	200.13	25.40	174.73	25.95	174.18
AWD-4	Monitoring Well	193.89	22.28	171.61	22.31	171.58
MW-1	Monitoring Well	199.22	24.72	174.50	24.98	174.24
MW-2	Monitoring Well	196.73	23.25	173.48	23.66	173.07

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 05/15/2023	Groundwater Elevation (feet amsl) 05/15/2023	Depth to Water (feet) 06/26/2023	Groundwater Elevation (feet amsl) 06/26/2023
MW-3	Monitoring Well	196.54	24.45	172.09	25.15	171.39
MW-4	Monitoring Well	197.27	24.32	172.95	24.97	172.3
MW-5	Monitoring Well	194.97	23.69	171.28	23.83	171.14
MW-6	Monitoring Well	192.18	21.64	170.54	21.29	170.89
MW-7	Monitoring Well	188.47	16.85	171.62	16.58	171.89
MW-8	Monitoring Well	187.13	15.23	171.90	15.42	171.71
MW-9	Monitoring Well	184.73	12.65	172.08	12.86	171.87
MW-10	Monitoring Well	178.12	6.91	171.21	7.62	170.5
MW-11	Monitoring Well	184.65	14.63	170.02	15.08	169.57
MW-12	Monitoring Well	178.33	6.71	171.62	7.53	170.8
MW-13	Monitoring Well	176.72	5.65	171.07	6.2	170.52
MW-14	Monitoring Well	186.19	12.30	173.89	12.15	174.04
MW-16	Monitoring Well	178.59	8.17	170.42	8.11	170.48
MW-17	Monitoring Well	179.03	8.31	170.72	8.27	170.76
MW-18	Monitoring Well	178.58	6.32	172.26	7.61	170.97
MW-19	Monitoring Well	178.60	7.18	171.42	7.61	170.99
MW-20	Monitoring Well	186.64	11.15	175.49	10.98	175.66
MW-21	Monitoring Well	198.70	27.10	171.60	27.83	170.87
MW-22	Monitoring Well	197.51	24.51	173.00	25.32	172.19
MW-23	Monitoring Well	198.79	25.69	173.10	25.84	172.95

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 05/15/2023	Groundwater Elevation (feet amsl) 05/15/2023	Depth to Water (feet) 06/26/2023	Groundwater Elevation (feet amsl) 06/26/2023
101	Monitoring Well	197.53	8.21	189.32	9.07	188.46
102	Monitoring Well	193.94	18.64	175.30	19.1	174.84
109	Monitoring Well	197.02	25.03	171.99	25.64	171.38
120	Monitoring Well	184.19	11.59	172.60	10.39	173.8
123	Monitoring Well	186.21	12.32	173.89	12.77	173.44
125	Monitoring Well	196.28	24.27	172.01	24	172.28
126	Monitoring Well	199.37	26.90	172.47	27.84	171.53
129	Monitoring Well	197.24	24.77	172.47	23.63	173.61
130	Monitoring Well	177.73	5.49	172.24	6.65	171.08
C-01	Monitoring Well	193.89	22.12	171.77	22.4	171.49
C-02	Monitoring Well	175.95	3.95	172.00	4.95	171
C-03	Monitoring Well	196.34	25.39	170.95	25.55	170.79
C-04	Monitoring Well	194.64	24.68	169.96	24.08	170.56
C-04A	Monitoring Well	194.61	24.37	170.24	23.89	170.72
C-05	Monitoring Well	180.74	11.71	169.03	11.44	169.3
C-06	Monitoring Well	192.22	25.03	167.19	20.95	171.27
C-07	Monitoring Well	196.80	27.29	169.51	27.55	169.25
C-08	Monitoring Well	193.10	21.25	171.85	22.41	170.69
C-09	Monitoring Well	202.35	31.26	171.09	31.42	170.93
C-10	Monitoring Well	201.86	31.47	170.39	31.69	170.17

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 05/15/2023	Groundwater Elevation (feet amsl) 05/15/2023	Depth to Water (feet) 06/26/2023	Groundwater Elevation (feet amsl) 06/26/2023
17WW08	Monitoring Well	179.72	7.52	172.20	8.78	170.94
1824DPTMW01	Monitoring Well	187.97	18.60	169.37	18.75	169.22
1824DPTMW02	Monitoring Well	197.90	27.68	170.22	27.8	170.1
1824DPTMW03	Monitoring Well	197.30	27.22	170.08	27.47	169.83
1824DPTMW04	Monitoring Well	196.25	25.89	170.36	26.08	170.17
1824DPTMW05	Monitoring Well	197.57	24.35	173.22	24.28	173.29
1824DPTMW06	Monitoring Well	180.35	8.59	171.76	9.62	170.73
18WW02	Monitoring Well	179.30	7.92	171.38	8.16	171.14
18WW03	Monitoring Well	195.59	25.09	170.50	25.25	170.34
18WW04	Monitoring Well	183.74	16.05	167.69	15.87	167.87
18WW05	Monitoring Well	189.59	22.28	167.31	22.06	167.53
18WW06	Monitoring Well	179.70	9.05	170.65	9.15	170.55
18WW08	Monitoring Well	177.77	7.29	170.48	8.37	169.4
18WW09	Monitoring Well	177.51	6.85	170.66	7.28	170.23
18WW10	Monitoring Well	182.26	12.66	169.60	12.13	170.13
18WW11	Monitoring Well	182.29	12.71	169.58	12.26	170.03
18WW14	Monitoring Well	186.47	14.97	171.50	15.27	171.2
18WW15	Monitoring Well	186.24	14.30	171.94	14.65	171.59
18WW18	Monitoring Well	196.82	26.03	170.79	26.22	170.6
18WW19	Monitoring Well	179.56	10.61	168.95	10.26	169.3

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 05/15/2023	Groundwater Elevation (feet amsl) 05/15/2023	Depth to Water (feet) 06/26/2023	Groundwater Elevation (feet amsl) 06/26/2023
18WW20	Monitoring Well	180.42	11.29	169.13	11	169.42
18WW21	Monitoring Well	195.20	25.65	169.55	25.95	169.25
18WW22	Monitoring Well	195.37	24.79	170.58	25.13	170.24
18WW24	Monitoring Well	176.40	6.17	170.23	7	169.4
18WW25	Monitoring Well	175.15	5.82	169.33	5.6	169.55
18CPTMW01SW	Monitoring Well	198.20	26.10	172.10	26.41	171.79
18CPTMW01DW	Monitoring Well	197.92	27.27	170.65	27.18	170.74
18CPTMW03SW	Monitoring Well	198.53	27.15	171.38	28.83	169.7
18CPTMW04	Monitoring Well	196.60	22.55	174.05	22.05	174.55
18CPTMW04SW	Monitoring Well	196.42	25.40	171.02	25.75	170.67
18CPTMW06	Monitoring Well	198.12	27.04	171.08	27.36	170.76
18CPTMW07	Monitoring Well	197.32	25.95	171.37	26.68	170.64
18CPTMW08SW	Monitoring Well	196.38	25.30	171.08	25.59	170.79
18CPTMW08DW	Monitoring Well	196.59	26.16	170.43	26.32	170.27
18CPTMW10SW	Monitoring Well	186.98	16.02	170.96	16.1	170.88
18CPTMW10DW	Monitoring Well	187.38	17.00	170.38	16.59	170.79
18CPTMW12SW	Monitoring Well	190.90	20.18	170.72	19.94	170.96
18CPTMW12DW	Monitoring Well	190.25	19.67	170.58	19.64	170.61
18CPTMW14	Monitoring Well	196.69	23.76	172.93	25.32	171.37
18CPTMW15	Monitoring Well	179.79	8.35	171.44	9.7	170.09

Table 3. Groundwater Elevations at LHAAP-18/24 Piezometers, Monitoring Wells, and Surface Water

Location Identification	Type	Reference Elevation (feet amsl)	Depth to Water (feet) 05/15/2023	Groundwater Elevation (feet amsl) 05/15/2023	Depth to Water (feet) 06/26/2023	Groundwater Elevation (feet amsl) 06/26/2023
18CPTMW16	Monitoring Well	175.37	5.27	170.10	5.55	169.82
18CPTMW18	Monitoring Well	194.53	24.16	170.37	25.57	168.96
18CPTMW19	Monitoring Well	193.59	22.39	171.20	22.68	170.91
18CPTMW19SW	Monitoring Well	193.29	24.45	168.84	22.95	170.34
18CPTMW22SW	Monitoring Well	187.79	16.58	171.21	17	170.79
18CPTMW22R	Monitoring Well	187.23	6.22	181.01	9.22	178.01
18CPTMW22DW	Monitoring Well	188.00	16.81	171.19	17.28	170.72
18CPTMW23	Monitoring Well	177.47	6.54	170.93	7.21	170.26
18CPTMW23SW	Monitoring Well	177.43	6.31	171.12	7.21	170.22
18CPTMW24	Monitoring Well	194.89	23.11	171.78	24.62	170.27
18CPTMW26	Monitoring Well	182.60	16.27	166.33	15.96	166.64
18CPTMW26SW	Monitoring Well	182.00	12.62	169.38	11.16	170.84
1824HBSW7	Surface Water Sample	167.92	3.69	171.61	1.92	169.84

Notes:

No April collection due to GWTP shut down on 31 March 2023 through 2 May 2023 during contract transition.

amsl - above mean sea level

NM - not measured

Table 4. Treated Groundwater Discharged-May through June 2023

DATE	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (feet) (6.20 = 3 feet Freeboard)
5/1/2023	NA	NA	0	0	0	0	1.32
5/2/2023	NA	NA	0	0	0	0	1.31
5/3/2023	NA	NA	0	0	0	0	1.3
5/4/2023	NA	NA	0	0	0	0	1.29
5/5/2023	NA	NA	0	0	0	0	1.28
5/6/2023	NA	NA	0	0	0	0	1.27
5/7/2023	NA	NA	0	0	0	0	1.25
5/8/2023	NA	NA	0	0	0	0	1.23
5/9/2023	NA	NA	0	0	0	0	1.27
5/10/2023	NA	NA	0	0	0	0	1.25
5/11/2023	NA	NA	0	0	0	0	1.65
5/12/2023	NA	NA	0	0	0	0	1.63
5/13/2023	NA	NA	0	0	0	0	1.61
5/14/2023	NA	NA	0	0	0	0	1.59
5/15/2023	NA	NA	0	0	0	0	1.63
5/16/2023	NA	NA	0	0	0	0	1.61
5/17/2023	NA	NA	0	0	0	0	1.58
5/18/2023	NA	NA	0	0	0	0	1.55
5/19/2023	NA	NA	0	0	0	0	1.54
5/20/2023	NA	NA	0	0	0	0	1.52

Table 4. Treated Groundwater Discharged-May through June 2023

DATE	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (feet) (6.20 = 3 feet Freeboard)
5/21/2023	NA	NA	0	0	0	0	1.5
5/22/2023	NA	NA	0	0	0	0	1.49
5/23/2023	NA	NA	0	0	0	0	1.48
5/24/2023	NA	NA	0	0	0	0	1.47
5/25/2023	NA	NA	0	0	0	0	1.45
5/26/2023	NA	NA	0	0	0	0	1.44
5/27/2023	NA	NA	0	0	0	0	1.43
5/28/2023	NA	NA	0	0	0	0	1.41
5/29/2023	NA	NA	0	0	0	0	1.4
5/30/2023	NA	NA	0	0	0	0	1.38
5/31/2023	NA	NA	0	0	0	0	1.37
6/1/2023	NA	NA	0	0	0	0	1.27
6/2/2023	NA	NA	0	0	0	0	1.25
6/3/2023	NA	NA	0	0	0	0	1.23
6/4/2023	NA	NA	0	0	0	0	1.22
6/5/2023	NA	NA	0	0	0	0	1.2
6/6/2023	549	121	0	0	0	0	1.18
6/7/2023	676	149	13,998	0	0	13,998	1.24
6/8/2023	380	83	11,259	0	0	11,259	1.28
6/9/2023	NA	NA	0	0	0	0	1.26
6/10/2023	NA	NA	0	0	0	0	1.24
6/11/2023	NA	NA	0	0	0	0	1.22
6/12/2023	NA	NA	0	0	0	0	1.2

Table 4. Treated Groundwater Discharged-May through June 2023

DATE	Harrison Bayou Flow (gpm)	Maximum Rate Allowed (gpm)	Released From GWTP To Harrison Bayou (gallons)	Released From INF Pond to Harrison Bayou (gallons)	Released From GWTP to INF Pond (gallons)	Combined Total Released to Harrison Bayou (gallons)	INF Pond Staff Reading (feet) (6.20 = 3 feet Freeboard)
6/13/2023	NA	NA	0	0	0	0	1.26
6/14/2023	NA	NA	0	0	0	0	1.38
6/15/2023	NA	NA	0	0	0	0	1.36
6/16/2023	NA	NA	0	0	0	0	1.67
6/17/2023	NA	NA	0	0	0	0	1.65
6/18/2023	NA	NA	0	0	0	0	1.78
6/19/2023	NA	NA	0	0	0	0	1.77
6/20/2023	NA	NA	0	0	0	0	1.76
6/21/2023	NA	NA	0	0	0	0	1.74
6/22/2023	NA	NA	0	0	0	0	1.72
6/23/2023	669	147	3,284	0	0	3,284	1.7
6/24/2023	587	129	0	0	0	0	1.67
6/25/2023	509	111	0	0	0	0	1.64
6/26/2023*	437	96	39,594	0	0	39,594	1.6
6/27/2023	NA	NA	0	0	0	0	1.58
6/28/2023	NA	NA	0	0	0	0	1.56
6/29/2023	NA	NA	0	0	0	0	1.54
6/30/2023	NA	NA	0	0	0	0	1.52
			68,135	**0**	**0**	**68,135**	

Notes: The maximum discharge rate from the INF Pond is 170 gpm and the maximum discharge rate from the GWTP is 30 gpm.
NA = Not applicable
NM = Not measured
Treated groundwater volume released over the weekend is included in the total for the next working day. These dates are marked with an asterisk (*).

This page intentionally left blank

Table 5. Monthly Groundwater Extraction Quantities – May through June 2023

ICT or Well Number	May 2023 (gallons)	June 2023 (gallons)	Total
1	0	0	0
2	0	0	0
3	0	0	0
4	4,525	0	4,525
5	0	0	0
EW-01	0	0	0
7	4,918	0	4,918
8	5,722	0	5,722
18WW17	0	0	0
10	0	0	0
11	1,816	0	1,816
12A	687	0	687
12B	8,019	0	8,019
12C	8,868	0	8,868
12D	3	0	3
12E	11,522	0	11,522
13A	3,337	0	3,337
13B	5,304	0	5,304
13C	150	0	150
13D	2,803	0	2,803
13E	7,051	0	7,051
13F	0	0	0
14A	1,202	0	1,202
14B	2,675	0	2,675
14C	8,332	0	8,332
14D	3,958	0	3,958
14E	3,880	0	3,880
LHAAP-18/24 Total	***84,772***	***0***	***84,772***
Site 17	53,333	52,321	105,654
LHAAP-17 Total	***53,333***	***52,321***	***105,654***
Total	***138,105***	***52,321***	***190,426***

Notes:
gpd – gallons per day
ICT 6 & 9 were converted from extraction to infiltration trenches beginning September 18, 2007.
ICTs 1, 3, 5, and 10 were deactivated on February 18, 2008 as part of a pilot study for system optimization.
Low production in ICT 12A, 18WW17, & EW-01 due to low water table.
Replaced flow meter on ICT 13F in May 2023.
Replaced pump and flow meter on ICT 2 in May 2023
Eliminated malfunctions in electrical issues and replaced fuses on ICT 12D and 13C in June 2023.

This page intentionally left blank.

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				AWD1_062423	AWD3_061423	AWD4_062423	18CPTMW01SW_062223	18CPTMW01DW_062323	18CPTMW03SW_061323	18CPTMW04SW_060923	18CPTMW04_060923	18CPTMW04_060923_a	18CPTMW06_062423	18CPTMW07_062123	18CPTMW08DW_060923	18CPTMW08SW_060923	18CPTMW10SW_062223
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox
Well Identification				AWD-1	AWD-3	AWD-4	18CPTMW01SW	18CPTMW01DW	18CPTMW03SW	18CPTMW04SW	18CPTMW04	18CPTMW04	18CPTMW06	18CPTMW07	18CPTMW08DW	18CPTMW08SW	18CPTMW10SW
ANALYTE	CAS NUMBER	UNITS		HS23061812-03	HS23061096-01	HS23061821-03	HS23061712-05	HS23061712-06	HS23060999-02	HS23060739-04	HS23060739-05	HS23060739-06	HS23061812-02	HS23061557-05	HS23060739-02	HS23060739-03	HS23061712-02
Method: 6850																	
Perchlorate		µg/L	17*	NA	**9.18**	**3930**	**0.0345 J**	<0.0500 U	**0.688**	< 0.0500 U	**302**	**341**	**0.0464 J**	**1.37**	**6000**	**13700**	**0.195**
Method: SW6020A																	
Aluminum	7429-90-5	mg/L	100	NA	**0.0717**	**0.304**	**0.0172**	**0.0114**	**0.0464**	**0.0239**	NA	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	mg/L	0.006	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	mg/L	0.01	NA	<0.00125 U	**0.000707 J**	**0.00655**	**0.00135 J**	**0.00448 J**	**0.00279 J**	NA	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	mg/L	2	NA	**0.0358**	**0.222**	**0.922**	**0.253**	**0.539**	**0.571**	NA	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	mg/L	0.004	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	mg/L	0.005	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	mg/L	NV	NA	**1.05**	**11.0**	**33.2**	**22.2**	**106**	**24.9**	NA	NA	NA	NA	NA	NA	NA
Chromium	7440-47-3	mg/L	0.1	NA	**0.0716**	**0.471**	**0.00212 J**	**0.00423 J**	**0.00941**	**0.0220**	NA	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	mg/L	6.1	NA	**0.000810 J**	**0.0174**	**0.000795 J**	**0.000275 J**	**0.00162 J**	**0.00382 J**	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	mg/L	1.3	NA	**0.00134 J**	**0.0149**	<0.00250 U	**<0.00250 U**	**<0.00250 U**	<0.00250 U	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	mg/L	NV	NA	**0.382**	**14.2**	**43.7**	**0.746**	**9.91**	**7.08**	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	mg/L	0.015	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	mg/L	NV	NA	**0.540**	**5.73**	**20.8**	**12.0**	**19.0**	**15.1**	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	mg/L	1.1*	NA	**0.00963**	**0.142**	**0.492**	**0.0467**	**0.682**	**0.370**	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	mg/L	0.49*	NA	**0.0157**	**1.39**	**0.00197 J**	**0.00192 J**	**0.00403 J**	**0.00256 J**	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	mg/L	NV	NA	**0.682**	**0.610**	**10.2**	**72.6**	**102**	**137**	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	mg/L	0.05	NA	**0.00410 J**	<0.00250 U	<0.00250 U	**<0.00250 U**	**<0.00250 U**	<0.00250 U	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	mg/L	0.51	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	mg/L	NV	NA	**26.3**	**53.2**	**94.5**	**383**	**214**	**127**	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	mg/L	0.002	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	mg/L	0.72	NA	**0.00600**	**0.00636**	<0.00125 U	**<0.00125 U**	**<0.00125 U**	**0.000957 J**	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	mg/L	31	NA	**0.00352 J**	**0.00929**	**0.00543**	**0.00250 J**	**0.00565**	**0.00559**	NA	NA	NA	NA	NA	NA	NA
Method: SW7470A																	
Mercury	7439-97-6	mg/L	0.002	NA	<0.000100 U	**0.0000580 J**	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	NA	NA	NA	NA	NA
Method: SW8260																	
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	NA	<0.50 U	<0.50 U	**0.72 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	**3.0**	<0.50 U
1,1-Dichloroethene	75-35-4	µg/L	7	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	NA	**2.5**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
1,2-Dichloropropane	78-87-5	µg/L	5	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
4-Chlorotoluene	106-43-4	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Benzene	71-43-2	µg/L	5	NA	<0.50 U	<0.50 U	**3.3**	<0.50 U	**1.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	NA	<0.50 U	<0.50 U	**4.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Bromoform	75-25-2	µg/L	36	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	NA	**16**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	NA	**0.95 J**	<0.50 U	**3.8**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Chloromethane	74-87-3	µg/L	220	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	NA	**47**	**3.6**	**1100**	<0.50 U	**33**	<0.50 U	**5.9**	**5.9**	<1.0 U	**<0.50 U**	NA	**8.4**	<0.50 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				AWD1_062423	AWD3_061423	AWD4_062423	18CPTMW01SW_062223	18CPTMW01DW_062323	18CPTMW03SW_061323	18CPTMW04SW_060923	18CPTMW04_060923	18CPTMW04_060923_a	18CPTMW06_062423	18CPTMW07_062123	18CPTMW08DW_060923	18CPTMW08SW_060923	18CPTMW10SW_062223
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Wilcox	Wilcox	Wilcox	Wilcox	Wilcox
Well Identification				AWD-1	AWD-3	AWD-4	18CPTMW01SW	18CPTMW01DW	18CPTMW03SW	18CPTMW04SW	18CPTMW04	18CPTMW04	18CPTMW06	18CPTMW07	18CPTMW08DW	18CPTMW08SW	18CPTMW10SW
ANALYTE	CAS NUMBER	UNITS		HS23061812-03	HS23061096-01	HS23061821-03	HS23061712-05	HS23061712-06	HS23060999-02	HS23060739-04	HS23060739-05	HS23060739-06	HS23061812-02	HS23061557-05	HS23060739-02	HS23060739-03	HS23061712-02
Dichlorodifluoromethane	75-71-8	µg/L	20,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	NA	<0.50 U	<0.50 U	**1.1**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	NA	<1.0 U	<1.0 U	**1.0 J**	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.0 U	<1.0 U	NA	<1.0 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	NA	<0.50 U	<0.50 U	**5000**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	NA	<0.50 U	<0.50 U	**0.76 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Styrene	100-42-5	µg/L	100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	NA	**1.6**	<0.50 U	**1.2**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	NA	<0.50 U	<0.50 U	**3.0**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	NA	<0.50 U	<0.50 U	**4.7**	<0.50 U	**1.0**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	NA	**360**	**9.5**	**69**	<0.50 U	**9.8**	<0.50 U	**170**	**180**	**6.5**	**1.6**	NA	**31**	**2.2**
Trichlorofluoromethane	75-69-4	µg/L	31,000	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	NA	<0.50 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	NA	**0.66 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	**0.99 J**	<0.50 U
Method: SW8270SIM																	
1,4-Dioxane	123-91-1	ug/L	9.1	**1.1**	NA	**0.075**	**0.044**	**0.027**	**0.097**	<0.0050 U	**0.027 J**	**0.039 J**	**0.020**	**0.051**	**0.021**	**0.035**	**0.037**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				18CPTMW10DW_062223	18CPTMW10DW_062223_a	18CPTMW12SW_061423	18CPTMW12DW_061423	18CPTMW14_062123	18CPTMW15_062323	18CPTMW15_062323_a	18CPTMW16_061923	18CPTMW18_062023	18CPTMW19_062423	18CPTMW19SW_062423	18CPTMW22DW_061323	18CPTMW22R_061323
Aquifer Zone				Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow
Well Identification				18CPTMW10DW	18CPTMW10DW	18CPTMW12SW	18CPTMW12DW	18CPTMW14	18CPTMW15	18CPTMW15	18CPTMW16	18CPTMW18	18CPTMW19	18CPTMW19SW	18CPTMW22DW	18CPTMW22R
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23061712-03	HS23061712-04	HS23061096-02	HS23061096-03	HS23061557-03	HS23061707-06	HS23061707-07	HS23061372-01	HS23061459-08	HS23061821-04	HS23061821-05	HS23060999-05	HS23060999-06
Method: 6850																
Perchlorate		µg/L	17*	<0.0500 U	**0.0359 J**	**9.79**	<0.0500 U	**4710**	**51.9**	**54.7**	<0.0500 U	<0.0500 U	**1.33**	<0.0500 U	**0.568**	**0.147**
Method: SW6020A																
Aluminum	7429-90-5	mg/L	100	**0.0329**	**0.0297**	**0.0221**	**0.0244**	**0.0577**	NA	NA	NA	**0.0111**	NA	**0.0619**	**0.0474**	**1.59**
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	**0.00106 J**	**0.000987 J**	**0.000625 J**	**0.00211 J**	**0.00109 J**	NA	NA	NA	**0.000696 J**	NA	**0.00998**	**0.00765**	**0.000831 J**
Barium	7440-39-3	mg/L	2	**0.393**	**0.373**	**0.837**	**0.289**	**3.27**	NA	NA	NA	**0.495**	NA	**0.136**	**0.134**	**0.0539**
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	**0.000311 J**
Cadmium	7440-43-9	mg/L	0.005	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000758 J**	NA	NA	NA	**0.000219 J**	NA	<0.000500 U	<0.000500 U	<0.000500 U
Calcium	7440-70-2	mg/L	NV	**61.6**	**59.1**	**78.0**	**27.2**	**337**	NA	NA	NA	**216**	NA	**7.77**	**13.9**	**0.679**
Chromium	7440-47-3	mg/L	0.1	**0.00342 J**	**0.00368 J**	**0.00759**	**0.0143**	**0.00717**	NA	NA	NA	**0.00209 J**	NA	**0.00101 J**	**0.00119 J**	**0.00231 J**
Cobalt	7440-48-4	mg/L	6.1	**0.000318 J**	**0.000284 J**	**0.00156 J**	**0.000402 J**	**0.00527**	NA	NA	NA	**0.0113**	NA	**0.00482 J**	**0.000413 J**	**0.00480 J**
Copper	7440-50-8	mg/L	1.3	<0.00250 U	<0.00250 U	**0.00190 J**	<0.00250 U	<0.00250 U	NA	NA	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	**0.00203 J**
Iron	7439-89-6	mg/L	NV	**9.08**	**8.69**	**1.20**	**7.26**	**0.356**	NA	NA	NA	**0.628**	NA	**11.4**	**4.74**	**1.83**
Lead	7439-92-1	mg/L	0.015	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	**0.00143 J**
Magnesium	7439-95-4	mg/L	NV	**11.6**	**11.3**	**40.7**	**12.3**	**122**	NA	NA	NA	**164**	NA	**4.46**	**7.11**	**0.796**
Manganese	7439-96-5	mg/L	1.1*	**0.297**	**0.284**	**0.131**	**0.244**	**0.275**	NA	NA	NA	**1.75**	NA	**0.323**	**0.0857**	**0.0321**
Nickel	7440-02-0	mg/L	0.49*	**0.00100 J**	**0.00156 J**	**0.00172 J**	**0.00108 J**	**0.00516**	NA	NA	NA	**0.0103**	NA	**0.00258 J**	**0.00105 J**	**0.00251 J**
Potassium	7440-09-7	mg/L	NV	**44.3**	**42.2**	**25.1**	**53.8**	**6.19**	NA	NA	NA	**2.49**	NA	**1.06**	**2.86**	**0.188 J**
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	**128**	**124**	**251**	**164**	**495**	NA	NA	NA	**640**	NA	**22.5**	**292**	**18.5**
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	<0.00125 U	<0.00125 U	**0.00258 J**	**0.00284 J**	**0.00129 J**	NA	NA	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	**0.0102**
Zinc	7440-66-6	mg/L	31	**0.00336 J**	**0.00290 J**	**0.00554**	**0.00478 J**	**0.00490 J**	NA	NA	NA	**0.0110**	NA	**0.00828**	**0.00325 J**	**0.00867**
Method: SW7470A																
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	NA	<0.000100 U	NA	<0.000100 U	<0.000100 U	<0.000100 U
Method: SW8260																
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**12**	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**3.1 J**	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**19**	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**21**	**0.83 J**	**0.89 J**	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				18CPTMW10DW_062223	18CPTMW10DW_062223_a	18CPTMW12SW_061423	18CPTMW12DW_061423	18CPTMW14_062123	18CPTMW15_062323	18CPTMW15_062323_a	18CPTMW16_061923	18CPTMW18_062023	18CPTMW19_062423	18CPTMW19SW_062423	18CPTMW22DW_061323	18CPTMW22R_061323
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Wilcox	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow
Well Identification				18CPTMW10DW	18CPTMW10DW	18CPTMW12SW	18CPTMW12DW	18CPTMW14	18CPTMW15	18CPTMW15	18CPTMW16	18CPTMW18	18CPTMW19	18CPTMW19SW	18CPTMW22DW	18CPTMW22R
ANALYTE	CAS NUMBER	UNITS		HS23061712-03	HS23061712-04	HS23061096-02	HS23061096-03	HS23061557-03	HS23061707-06	HS23061707-07	HS23061372-01	HS23061459-08	HS23061821-04	HS23061821-05	HS23060999-05	HS23060999-06
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<5.0 U	<1.0 U	<1.0 U	NA	<0.50 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Styrene	100-42-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	**1.3**	**1.4**	**2.2**	**1.6**	**1700**	**7.3**	**7.3**	NA	<0.50 U	<0.50 U	<0.50 U	**2.0**	**0.83 J**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U
Method: SW8270SIM																
1,4-Dioxane	123-91-1	ug/L	9.1	NA	NA	**0.016**	**0.020**	**0.17**	**0.025**	**0.022**	**0.013**	**0.023**	**0.026**	**0.034**	<0.0050 U	**0.22**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				18CPTMW22SW_061323	18CPTMW23_062423	18CPTMW23SW_062423	18CPTMW24_062123	18CPTMW26SW_062323	17WW08_062423	18WW02_061423	18WW03_061923	18WW06_061423	18WW08_062323	18WW09_062323	18WW10_062623	18WW14_061923	18WW17_062023	18WW18_062023	18WW19_062323
Aquifer Zone			MCL/MSC/ PCL	Wilcox	Shallow	Wilcox	Shallow	Wilcox	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Wilcox	Shallow	Shallow	Shallow	Wilcox	Wilcox
Well Identification				18CPTMW22SW	18CPTMW23	18CPTMW23SW	18CPTMW24	18CPTMW26SW	17WW08	18WW02	18WW03	18WW06	18WW08	18WW09	18WW10	18WW14	18WW17	18WW18	18WW19
ANALYTE	CAS NUMBER	UNITS		HS23060999-07	HS23061821-06	HS23061821-07	HS23061557-04	HS23061707-10	HS23061821-10	HS23061096-09	HS23061372-06	HS23061096-08	HS23061707-04	HS23061707-05	HS23061825-07	HS23061372-02	HS23061459-05	HS23061459-04	HS23061707-01
Method: 6850																			
Perchlorate		µg/L	17*	**12200**	**420**	<0.0500 U	**85.9**	<0.0500 U	<0.0500 U	**0.0496 J**	<0.0500 U	<0.0500 U	**7450**	<0.0500 U	<0.0500 U	**0.870**	**89000**	<0.0500 U	<0.0500 U
Method: SW6020A																			
Aluminum	7429-90-5	mg/L	100	**0.122**	NA	NA	NA	NA	**0.0152**	**0.0775**	**0.0109**	NA	NA	**0.258**	NA	**0.0159**	**0.00696 J**	**0.0181**	**0.288 J**
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	NA	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	<0.00125 U	NA	**0.000588 J**	<0.00125 U	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	**0.00142 J**	NA	NA	NA	NA	**0.00537**	**0.000493 J**	**0.000986 J**	NA	NA	**0.00397 J**	NA	<0.00125 U	**0.000929 J**	**0.00630**	**0.000541 J**
Barium	7440-39-3	mg/L	2	**0.222**	NA	NA	NA	NA	**0.396**	**0.0409**	**0.219**	NA	NA	**0.221**	NA	**0.413**	**2.10**	**1.36**	**0.122**
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	**0.000483 J**	<0.000500 U
Cadmium	7440-43-9	mg/L	0.005	<0.000500 U	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	**0.000243 J**	NA	**0.000291 J**	**0.000386 J**	<0.000500 U	<0.000500 U
Calcium	7440-70-2	mg/L	NV	**31.9**	NA	NA	NA	NA	**88.6**	**6.97**	**10.0**	NA	NA	**15.6**	NA	**24.8**	**249**	**60.2**	**5.24**
Chromium	7440-47-3	mg/L	0.1	**0.0577**	NA	NA	NA	NA	**0.633**	**0.0132**	**0.00354 J**	NA	NA	**0.0250**	NA	**0.0991 J**	**0.0899**	**0.0280**	**0.0380 J**
Cobalt	7440-48-4	mg/L	6.1	**0.000149 J**	NA	NA	NA	NA	**0.0167**	**0.000176 J**	<0.000500 U	NA	NA	**0.000854 J**	NA	**0.00138 J**	**0.00724**	**0.000391 J**	**0.000710 J**
Copper	7440-50-8	mg/L	1.3	<0.00250 U	NA	NA	NA	NA	**0.0205**	**0.00150 J**	<0.00250 U	NA	NA	<0.00250 U	NA	**0.00344 J**	**0.137**	**0.00160 J**	**0.00201 J**
Iron	7439-89-6	mg/L	NV	**0.0372 J**	NA	NA	NA	NA	**23.9**	**0.561**	**10.0**	NA	NA	**35.8**	NA	**0.417**	**3.50**	**108**	**18.4**
Lead	7439-92-1	mg/L	0.015	<0.00125 U	NA	NA	NA	NA	<0.00125 U	**0.00124 J**	<0.00125 U	NA	NA	<0.00125 U	NA	<0.00125 U	**0.00250 J**	**0.000630 J**	**0.000697 J**
Magnesium	7439-95-4	mg/L	NV	**0.463**	NA	NA	NA	NA	**55.1**	**1.34**	**6.80**	NA	NA	**8.90**	NA	**19.8**	**175**	**36.4**	**2.91**
Manganese	7439-96-5	mg/L	1.1*	**0.00845**	NA	NA	NA	NA	**1.14**	**0.0730**	**0.0912**	NA	NA	**0.659**	NA	**0.0644**	**0.224**	**2.12**	**0.340**
Nickel	7440-02-0	mg/L	0.49*	**0.000864 J**	NA	NA	NA	NA	**0.684**	**0.0127**	**0.000786 J**	NA	NA	**0.0131**	NA	**0.0703**	**0.592**	**0.00400 J**	**0.0156**
Potassium	7440-09-7	mg/L	NV	**336**	NA	NA	NA	NA	**1.93**	**1.85**	**2.07**	NA	NA	**2.08**	NA	**3.02**	**1.34**	**3.61**	**1.83**
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	NA	NA	NA	NA	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	<0.00250 U	NA	**0.00121 J**	<0.00250 U	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	<0.000500 U	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	**298**	NA	NA	NA	NA	**361**	**34.0**	**118**	NA	NA	**40.5**	NA	**85.5**	**876**	**154**	**19.8**
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	**0.00111 J**	<0.000500 U	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	**0.00132 J**	NA	NA	NA	NA	**0.00135 J**	**0.00324 J**	<0.00125 U	NA	NA	**0.00144 J**	NA	**0.000768 J**	**0.00265 J**	<0.00125 U	**0.00188 J**
Zinc	7440-66-6	mg/L	31	**0.00334 J**	NA	NA	NA	NA	**0.00667**	**0.00498 J**	**0.00298 J**	NA	NA	**0.00365 J**	NA	**0.00872**	**0.338**	**0.00459 J**	**0.00484 J**
Method: SW7470A																			
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	NA	NA	NA	NA	<0.000100 U	<0.000100 U	0.0000320 UB	NA	NA	<0.000100 U	NA	<0.000100 U	**0.0000470 J**	<0.000100 U	**0.0000420 J**
Method: SW8260																			
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	**0.51 J**	<0.50 U	<0.50 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	**98**	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	**0.98 J**	<0.50 U	<0.50 U
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	**15**	<5.0 UJ	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Benzene	71-43-2	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	**0.62 J**	<0.50 U	<0.50 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	<0.50 U	**120**	<0.50 U	**13**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.9**	NA	<0.50 U	NA	**31**	<0.50 U	<0.50 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				18CPTMW22SW_061323	18CPTMW23_062423	18CPTMW23SW_062423	18CPTMW24_062123	18CPTMW26SW_062323	17WW08_062423	18WW02_061423	18WW03_061923	18WW06_061423	18WW08_062323	18WW09_062323	18WW10_062623	18WW14_061923	18WW17_062023	18WW18_062023	18WW19_062323
Aquifer Zone				Wilcox	Shallow	Wilcox	Shallow	Wilcox	Shallow	Wilcox	Wilcox	Wilcox	Shallow	Wilcox	Shallow	Shallow	Shallow	Wilcox	Wilcox
Well Identification				18CPTMW22SW	18CPTMW23	18CPTMW23SW	18CPTMW24	18CPTMW26SW	17WW08	18WW02	18WW03	18WW06	18WW08	18WW09	18WW10	18WW14	18WW17	18WW18	18WW19
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23060999-07	HS23061821-06	HS23061821-07	HS23061557-04	HS23061707-10	HS23061821-10	HS23061096-09	HS23061372-06	HS23061096-08	HS23061707-04	HS23061707-05	HS23061825-07	HS23061372-02	HS23061459-05	HS23061459-04	HS23061707-01
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<10 U	<1.0 U	<5.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	NA	<1.0 U	NA	<0.50 U	<0.50 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Styrene	100-42-5	µg/L	100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	**1.4**	<0.50 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	**0.94 J**	<0.50 U	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	**0.83 J**	**1800**	<0.50 U	**17**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**6.2**	NA	<0.50 U	NA	**260**	<0.50 U	<0.50 U
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<5.0 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	NA	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	<5.0 U	<0.50 U	**59**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.0**	NA	<0.50 U	NA	**0.42 J**	<0.50 U	<0.50 U
Method: SW8270SIM																			
1,4-Dioxane	123-91-1	ug/L	9.1	<0.0050 U	**1.7**	**0.029**	**0.014**	**0.012**	NA	<0.0050 U	**0.026**	**0.038**	**0.017**	**0.016**	**0.054**	NA	NA	**0.013**	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				18WW19_062323_a	18WW20_062323	18WW22_062123	18WW24_062423	18WW24_062423_a	18WW25_062123	C01_061923	CO1_061923_a	C02_062623	C03_062023	C04_062023	C06_062023	C08_061923	C09_062023	C09_062023_a	MW1_062323	MW2_062323	MW3_062623
Aquifer Zone				Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				18WW19	18WW20	18WW22	18WW24	18WW24	18WW25	C-01	C-01	C-02	C-03	C-04	C-06	C-08	C-09	C-09	MW-1	MW-2	MW-3
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23061707-02	HS23061707-03	HS23061557-01	HS23061821-08	HS23061821-09	HS23061557-06	HS23061372-03	HS23061372-04	HS23061825-06	HS23061459-06	HS23061557-02	HS23061459-03	HS23061372-07	HS23061459-01	HS23061459-02	HS23061712-08	HS23061712-07	HS23061825-02
Method: 6850																					
Perchlorate		µg/L	17*	<0.0500 U	<0.0500 U	**0.421**	**0.237**	**0.286**	<0.0500 U	<0.0500 U	<0.0500 U	**0.0962 J**	**23.1**	**0.233**	<0.0500 U	**0.615**	**8.61**	**9.10**	**2160**	**0.0940 J**	**2910**
Method: SW6020A																					
Aluminum	7429-90-5	mg/L	100	**0.614 J**	**0.0164**	**0.104**	**0.477**	**0.486**	**0.376**	NA	NA	NA	**0.00965 J**	NA	**0.0161**	NA	**0.0356**	**0.0321**	**0.00542 J**	NA	**0.00601 J**
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	<0.00125 U	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	**0.000663 J**	<0.00125 U	**0.000839 J**	**0.000580 J**	**0.000650 J**	**0.00486 J**	NA	NA	NA	**0.000987 J**	NA	**0.000924 J**	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	<0.00125 U
Barium	7440-39-3	mg/L	2	**0.119**	**0.0694**	**0.0737**	**0.0378**	**0.0393**	**0.315**	NA	NA	NA	**0.803**	NA	**0.864**	NA	**0.155**	**0.156**	**0.494**	NA	**0.176**
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	<0.000500 U	<0.000500 U	**0.000662 J**	**0.000703 J**	<0.000500 U	NA	NA	NA	<0.000500 U	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U
Cadmium	7440-43-9	mg/L	0.005	<0.000500 U	<0.000500 U	<0.000500 U	**0.000259 J**	**0.000285 J**	<0.000500 U	NA	NA	NA	**0.000276 J**	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U
Calcium	7440-70-2	mg/L	NV	**5.26**	**1.95**	**25.5**	**57.3**	**59.4**	**17.9**	NA	NA	NA	**32.7**	NA	**18.5**	NA	**63.8**	**64.8**	**24.2**	NA	**16.0**
Chromium	7440-47-3	mg/L	0.1	**0.0578 J**	**0.000965 J**	**0.0122**	**0.00150 J**	**0.00147 J**	**0.000911 J**	NA	NA	NA	**0.000748 J**	NA	**0.000556 J**	NA	**0.00618 J**	**0.00326 J**	**0.0218**	NA	**0.00300 J**
Cobalt	7440-48-4	mg/L	6.1	**0.000804 J**	**0.000420 J**	**0.000168 J**	**0.00724**	**0.00789**	**0.00133 J**	NA	NA	NA	**0.000267 J**	NA	**0.00175 J**	NA	**0.000705 J**	**0.000716 J**	**0.0187 J**	NA	**0.000399 J**
Copper	7440-50-8	mg/L	1.3	**0.00186 J**	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	NA	<0.00250 U	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	**0.00137 J**	NA	<0.00250 U
Iron	7439-89-6	mg/L	NV	**19.0**	**7.34**	**0.0466 J**	**0.281**	**0.328**	**40.5**	NA	NA	NA	**50.0**	NA	**55.2**	NA	**0.134 J**	**0.119 J**	**0.924**	NA	**0.167 J**
Lead	7439-92-1	mg/L	0.015	**0.000789 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	<0.00125 U	NA	<0.00125 U	NA	<0.00125 U	<0.00125 U	<0.00125 U	NA	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	**2.92**	**1.32**	**2.14**	**46.8**	**49.7**	**10.6**	NA	NA	NA	**18.3**	NA	**10.8**	NA	**10.4**	**10.5**	**20.7**	NA	**8.67**
Manganese	7439-96-5	mg/L	1.1*	**0.366**	**0.108**	0.00110 UB	**1.82**	**1.96**	**1.90**	NA	NA	NA	**0.936**	NA	**0.858**	NA	**0.0576**	**0.0584**	**0.671**	NA	**0.116**
Nickel	7440-02-0	mg/L	0.49*	**0.0159**	**0.00107 J**	<0.00125 U	**0.110**	**0.114**	**0.00104 J**	NA	NA	NA	**0.000738 J**	NA	**0.00152 J**	NA	**0.00753**	**0.00777**	**1.36**	NA	**0.00175 J**
Potassium	7440-09-7	mg/L	NV	**1.87**	**1.29**	**2.12**	**0.684**	**0.716**	**1.40**	NA	NA	NA	**2.51**	NA	**3.84**	NA	**0.376**	**0.374**	**2.14**	NA	**1.17**
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	NA	<0.00250 U	NA	<0.00250 U	NA	<0.00250 U	<0.00250 U	<0.00250 U	NA	<0.00250 U
Silver	7440-22-4	mg/L	0.51	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	<0.000500 U	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U
Sodium	7440-23-5	mg/L	NV	**19.7**	**20.8**	**23.2**	**674**	**730**	**39.0**	NA	NA	NA	**113**	NA	**204**	NA	**39.5**	**40.1**	**190**	NA	**179**
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	<0.000500 U	NA	<0.000500 U	NA	<0.000500 U	<0.000500 U	**0.000636 J**	NA	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	**0.00244 J**	<0.00125 U	**0.00771**	**0.000779 J**	**0.000970 J**	**0.000747 J**	NA	NA	NA	<0.00125 U	NA	<0.00125 U	NA	**0.00112 J**	**0.00128 J**	<0.00125 U	NA	<0.00125 U
Zinc	7440-66-6	mg/L	31	**0.00514**	**0.00427 J**	<0.00250 U	**0.0516**	**0.0536**	**0.00467 J**	NA	NA	NA	**0.00532**	NA	**0.00592**	NA	**0.00321 J**	**0.00425 J**	<0.00250 U	NA	**0.00235 J**
Method: SW7470A																					
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	NA	<0.000100 U	NA	<0.000100 U	NA	<0.000100 U	<0.000100 U	<0.000100 U	NA	<0.000100 U
Method: SW8260																					
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**16 J**	**2.4 J**
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**620**	<12 U	<2.5 U
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<0.50 U	<0.50 UJ	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**21**	**43**	<2.5 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**9100 J**	**25000**	**26**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				18WW19_062323_a	18WW20_062323	18WW22_062123	18WW24_062423	18WW24_062423_a	18WW25_062123	C01_061923	CO1_061923_a	C02_062623	C03_062023	C04_062023	C06_062023	C08_061923	C09_062023	C09_062023_a	MW1_062323	MW2_062323	MW3_062623
Aquifer Zone				Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				18WW19	18WW20	18WW22	18WW24	18WW24	18WW25	C-01	C-01	C-02	C-03	C-04	C-06	C-08	C-09	C-09	MW-1	MW-2	MW-3
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23061707-02	HS23061707-03	HS23061557-01	HS23061821-08	HS23061821-09	HS23061557-06	HS23061372-03	HS23061372-04	HS23061825-06	HS23061459-06	HS23061557-02	HS23061459-03	HS23061372-07	HS23061459-01	HS23061459-02	HS23061712-08	HS23061712-07	HS23061825-02
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**15 J**	<2.5 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<0.50 U	<1.0 U	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<20 U	<25 U	<5.0 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**74**	<2.5 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Styrene	100-42-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**45**	<2.5 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**16 J**	<2.5 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**19 J**	**69**	<2.5 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Trichloroethene	79-01-6	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**5.2**	<0.50 U	<0.50 U	**9400**	**5400**	**160**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	<12 U	<2.5 U
Vinyl chloride	75-01-4	µg/L	2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<10 U	**14 J**	**5.2**
Method: SW8270SIM																					
1,4-Dioxane	123-91-1	ug/L	9.1	NA	**0.016**	**0.016**	NA	NA	**0.012**	NA	NA	NA	**0.015**	NA	NA	<0.0050 U	NA	NA	NA	**1.4**	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				MW5_060923	MW6_062623	MW7_061423	MW8_061423	MW9_062623	MW10_062123	MW12_062423	MW13_062623	MW14_061323	MW16_062623	MW17_062623	MW18_062323	MW19_062323	MW20_062123	MW21_062623	MW22_062423	MW23_062623	102_061323	109_062623
Aquifer Zone				Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-12	MW-13	MW-14	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-102	MW-109
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23060739-01	HS23061812-05	HS23061096-04	HS23061096-07	HS23061825-04	HS23061557-07	HS23061821-01	HS23061825-05	HS23060999-04	HS23061825-09	HS23061825-08	HS23061707-08	HS23061707-09	HS23061557-08	HS23061812-06	HS23061812-01	HS23061825-03	HS23060999-01	HS23061812-07
Method: 6850																						
Perchlorate		µg/L	17*	**22100**	**3140**	**18100**	**4460**	**2490**	<0.0500 U	<0.0500 U	**0.0520 J**	**241000**	<0.0500 U	<0.0500 U	<0.0500 U	<0.0500 U	**0.0494 J**	**1480**	**2230**	**63500**	**57.3**	**2870**
Method: SW6020A																						
Aluminum	7429-90-5	mg/L	100	**0.00603 J**	**0.00784 J**	NA	NA	**0.0211**	NA	NA	**0.0346**	**0.148**	NA	NA	NA	**1.35**	**0.661**	**0.00808 J**	**0.00626 J**	NA	**1.22**	**0.231**
Antimony	7440-36-0	mg/L	0.006	<0.00125 U	<0.00125 U	NA	NA	<0.00125 U	NA	NA	<0.00125 UJ	<0.00125 U	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	**0.000465 J**	NA	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	<0.00125 U	**0.000767 J**	NA	NA	<0.00125 U	NA	NA	<0.00125 U	**0.00178 J**	NA	NA	NA	**0.00223 J**	<0.00125 U	<0.00125 U	**0.000631 J**	NA	**0.000461 J**	<0.00125 U
Barium	7440-39-3	mg/L	2	**0.928**	**0.452**	NA	NA	**0.137**	NA	NA	**0.451**	**0.238**	NA	NA	NA	**0.189**	**0.437**	**2.47**	**0.542**	NA	**0.0501**	**0.235**
Beryllium	7440-41-7	mg/L	0.004	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	NA	<0.000500 U	**0.00194 J**	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	**0.000279 J**	<0.000500 U
Cadmium	7440-43-9	mg/L	0.005	**0.000827 J**	<0.000500 U	NA	NA	<0.000500 U	NA	NA	<0.000500 U	**0.000805 J**	NA	NA	NA	**0.000512 J**	**0.000211 J**	**0.000326 J**	<0.000500 U	NA	<0.000500 U	<0.000500 U
Calcium	7440-70-2	mg/L	NV	**22.9**	**20.2**	NA	NA	**14.8**	NA	NA	**25.1**	**112**	NA	NA	NA	**116**	**52.3**	**95.0**	**66.9**	NA	**1.07**	**11.3**
Chromium	7440-47-3	mg/L	0.1	**0.129**	**0.0616**	NA	NA	**0.0946**	NA	NA	**0.227**	**0.0383**	NA	NA	NA	**0.302**	**0.00848**	**0.233**	**0.131**	NA	**0.00159 J**	**0.00151 J**
Cobalt	7440-48-4	mg/L	6.1	**0.00354 J**	**0.00142 J**	NA	NA	**0.0100**	NA	NA	**0.000449 J**	**0.0254**	NA	NA	NA	**0.00792**	**0.00625**	**0.0266**	**0.00169 J**	NA	**0.00130 J**	**0.000240 J**
Copper	7440-50-8	mg/L	1.3	**0.00203 J**	**0.00258 J**	NA	NA	**0.00177 J**	NA	NA	**0.00312 J**	**0.00454 J**	NA	NA	NA	**0.00743**	**0.00345 J**	**0.00873**	**0.00296 J**	NA	**0.00216 J**	<0.00250 U
Iron	7439-89-6	mg/L	NV	**0.830**	**0.987**	NA	NA	**1.32**	NA	NA	**93.3**	**108**	NA	NA	NA	**86.7**	**0.981**	**2.10**	**3.99**	NA	**1.34**	**0.228**
Lead	7439-92-1	mg/L	0.015	<0.00125 U	<0.00125 U	NA	NA	<0.00125 U	NA	NA	<0.00125 U	<0.00125 U	NA	NA	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	NA	**0.00120 J**	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	**24.3**	**16.6**	NA	NA	**6.22**	NA	NA	**12.5**	**70.5**	NA	NA	NA	**67.4**	**12.8**	**72.5**	**21.8**	NA	**0.940**	**8.14**
Manganese	7439-96-5	mg/L	1.1*	**0.0938**	**0.0409**	NA	NA	**0.217**	NA	NA	**1.07**	**4.74**	NA	NA	NA	**2.13**	**0.121**	**0.809**	**0.0115**	NA	**0.0105**	**0.0201**
Nickel	7440-02-0	mg/L	0.49*	**0.0784**	**0.126**	NA	NA	**0.298**	NA	NA	**0.0365**	**0.0901**	NA	NA	NA	**0.186**	**0.363**	**0.547**	**0.507**	NA	**0.00327 J**	**0.00150 J**
Potassium	7440-09-7	mg/L	NV	**2.33**	**1.86**	NA	NA	**0.399**	NA	NA	**3.35**	**11.9**	NA	NA	NA	**3.97**	**0.522**	**1.60**	**1.78**	NA	**0.420**	**0.457**
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	<0.00250 U	NA	NA	<0.00250 U	NA	NA	<0.00250 U	<0.00250 U	NA	NA	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	NA	<0.000500 U	<0.000500 U	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	**117**	**169**	NA	NA	**22.5**	NA	NA	**87.4**	**482**	NA	NA	NA	**931**	**39.8**	**324**	**321**	NA	**10.9**	**98.0**
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	<0.000500 U	NA	NA	<0.000500 U	NA	NA	**0.000522 J**	<0.000500 U	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	**0.00310 J**	**0.000777 J**	NA	NA	**0.000691 J**	NA	NA	**0.000753 J**	<0.00125 U	NA	NA	NA	**0.00298 J**	**0.000683 J**	**0.00108 J**	**0.000717 J**	NA	**0.00951**	**0.000734 J**
Zinc	7440-66-6	mg/L	31	**0.0218**	**0.00627**	NA	NA	**0.00715**	NA	NA	**0.00519**	**0.378**	NA	NA	NA	**0.0101**	**0.00310 J**	**0.00812**	<0.00250 U	NA	**0.0110**	**0.00858**
Method: SW7470A																						
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	<0.000100 U	NA	NA	<0.000100 U	NA	NA	<0.000100 U	<0.000100 U	NA	NA	NA	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	NA	<0.000100 U	<0.000100 U
Method: SW8260																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	**11**	<0.50 U	<5.0 U	<0.50 U	<10 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	**3.1**	**1.5**	<0.50 U	<0.50 U	**0.46 J**	<0.50 U	**1.7**	<0.50 U	**42**	**1.2**	NA	<0.50 U	<0.50 U	<0.50 U	**7.6**	<0.50 U	<5.0 U	<0.50 U	<10 U
1,1-Dichloroethene	75-35-4	µg/L	7	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**3.8**	<0.50 U	**220**	**6.8**	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,2-Dichloroethane	107-06-2	µg/L	5	<0.50 U	<0.50 U	**19**	**5.9**	**1.5**	<0.50 U	**1.4**	<0.50 U	**210**	**40**	NA	<0.50 U	**0.57 J**	<0.50 U	**22**	**7.1**	**81**	<0.50 U	<10 U
1,2-Dichloropropane	78-87-5	µg/L	5	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	**0.52 J**	**0.64 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,3-Dichloropropane	142-28-9	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<10 U
2,2-Dichloropropane	594-20-7	µg/L	42	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
2-Butanone	78-93-3	µg/L	61,000	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
2-Hexanone	591-78-6	µg/L	6,100	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
4-Chlorotoluene	106-43-4	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Acetone	67-64-1	µg/L	92,000	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 UJ	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Benzene	71-43-2	µg/L	5	<0.50 U	<0.50 U	<0.50 U	**0.87 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**6.1 J**	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Bromobenzene	108-86-1	µg/L	2,000	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Bromochloromethane	74-97-5	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Bromodichloromethane	75-27-4	µg/L	4.6	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Bromoform	75-25-2	µg/L	36	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Bromomethane	74-83-9	µg/L	140	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Carbon disulfide	75-15-0	µg/L	10,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Carbon tetrachloride	56-23-5	µg/L	5	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Chlorobenzene	108-90-7	µg/L	100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Chloroethane	75-00-3	µg/L	41,000	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Chloroform	67-66-3	µg/L	1,000	<0.50 U	<0.50 U	**7.7**	<0.50 U	**1.3**	<0.50 U	<0.50 U	<0.50 U	**11**	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	**13**	**2.5**	**9.3 J**	<0.50 U	<5.0 U
Chloromethane	74-87-3	µg/L	220	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**11**	**4.9**	**9.5**	**14**	**58**	<0.50 U	**30**	<0.50 U	**2100**	**23**	NA	<0.50 U	**4.4**	<0.50 U	**4400**	**4.1**	**21**	<0.50 U	**710**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Dibromochloromethane	124-48-1	µg/L	34	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Dibromomethane	74-95-3	µg/L	380	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				MW5_060923	MW6_062623	MW7_061423	MW8_061423	MW9_062623	MW10_062123	MW12_062423	MW13_062623	MW14_061323	MW16_062623	MW17_062623	MW18_062323	MW19_062323	MW20_062123	MW21_062623	MW22_062423	MW23_062623	102_061323	109_062623
Aquifer Zone				Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Wilcox	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Well Identification				MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-12	MW-13	MW-14	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-102	MW-109
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23060739-01	HS23061812-05	HS23061096-04	HS23061096-07	HS23061825-04	HS23061557-07	HS23061821-01	HS23061825-05	HS23060999-04	HS23061825-09	HS23061825-08	HS23061707-08	HS23061707-09	HS23061557-08	HS23061812-06	HS23061812-01	HS23061825-03	HS23060999-01	HS23061812-07
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Ethylbenzene	100-41-4	µg/L	700	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Hexachlorobutadiene	87-68-3	µg/L	20	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Isopropylbenzene	98-82-8	µg/L	10,000	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<10 U	<1.0 U	NA	<1.0 U	<1.0 U	<1.0 U	<5.0 U	<1.0 U	<10 U	<1.0 U	<20 U
Methylene chloride	75-09-2	µg/L	5	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Naphthalene	91-20-3	µg/L	2,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
n-Butylbenzene	104-51-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
n-Propylbenzene	103-65-1	µg/L	4,100	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
o-Xylene	95-47-6	µg/L	10,000**	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Styrene	100-42-5	µg/L	100	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Tetrachloroethene	127-18-4	µg/L	5	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	**0.66 J**	NA	<0.50 U	<0.50 U	<0.50 U	<2.5 U	<0.50 U	<5.0 U	<0.50 U	<10 U
Toluene	108-88-3	µg/L	1,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<0.50 U	<1.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**29**	**0.54 J**	NA	<0.50 U	<0.50 U	<0.50 U	**15**	<0.50 U	<5.0 U	<0.50 U	<10 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Trichloroethene	79-01-6	µg/L	5	**41**	**15**	**860**	**360**	**930**	**1.3**	**270**	<0.50 U	**15000**	**540**	NA	**4.6**	**2.5**	<0.50 U	**4700**	**320**	**2600**	<0.50 U	**1200**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	NA	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U	<0.50 U	<5.0 U
Vinyl chloride	75-01-4	µg/L	2	**4.1**	**0.92 J**	**0.41 J**	<0.50 U	**0.42 J**	<0.50 U	**0.56 J**	<0.50 U	**16**	**0.87 J**	NA	<0.50 U	<0.50 U	<0.50 U	**32**	<0.50 U	<5.0 U	<0.50 U	<10 U
Method: SW8270SIM																						
1,4-Dioxane	123-91-1	ug/L	9.1	**0.056**	NA	**0.86**	**0.34**	**0.76**	**0.039**	NA	NA	**10 J**	**5.1**	**0.084**	NA	NA	NA	**0.46**	NA	NA	NA	**0.11**

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				120_061323	125_062623	126_061923	129_062623	130_061423	130_061423_a	1824DPTMW01_062023	1824DPTMW01_062023_a	1824DPTMW02_061923	1824DPTMW03_062023	1824DPTMW04_061923	1824DPTMW05_062223	1824DPTMW06_062423	1824DPTMW07_080223	ICT2_062723	ICT4_062723	ICT4_062723_a	ICT7_062723
Aquifer Zone			MCL/MSC/ PCL	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Shallow	NA	NA	NA	NA
Well Identification				MW-120	MW-125	MW-126	MW-129	MW-130	MW-130	1824DPTMW01	1824DPTMW01	1824DPTMW02	1824DPTMW03	1824DPTMW04	1824DPTMW05	1824DPTMW06	1824DPTMW07	ICT2	ICT4	ICT4	ICT7
ANALYTE	CAS NUMBER	UNITS		HS23060999-03	HS23061825-01	HS23061372-05	HS23061812-04	HS23061096-05	HS23061096-06	HS23061459-09	HS23061459-10	HS23061372-09	HS23061459-07	HS23061372-08	HS23061712-01	HS23061821-02	HS23080324-01	HS23061925-01	HS23061925-02	HS23061925-03	HS23061925-04
Method: 6850																					
Perchlorate		µg/L	17*	**11900**	**4680**	**0.104**	**1820**	**1.17**	**1.37**	**2.59**	**2.85**	**86100**	<0.0500 U	**1.03**	**199000**	**9.56**	**0.126**	**0.0445 J**	**5500 J**	**7980 J**	**8780**
Method: SW6020A																					
Aluminum	7429-90-5	mg/L	100	NA	**0.166**	**0.0280**	**1.07**	**0.159 J**	**0.544 J**	NA	NA	NA	NA	NA	NA	NA	NA	**1.01**	**0.0143 J**	**0.00573 J**	**0.151**
Antimony	7440-36-0	mg/L	0.006	NA	<0.00125 U	**0.000502 J**	<0.00125 U	<0.00125 U	<0.00125 U	NA	NA	NA	NA	NA	NA	NA	NA	**0.000580 J**	<0.00125 U	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	NA	<0.00125 U	**0.0120**	<0.00125 U	**0.00238 J**	**0.00311 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.00359 J**	**0.00120 J**	**0.000451 J**	<0.00125 U
Barium	7440-39-3	mg/L	2	NA	**0.0690**	**10.1**	**0.0976**	**0.162**	**0.193**	NA	NA	NA	NA	NA	NA	NA	NA	**0.128**	**0.114**	**0.135**	**0.205**
Beryllium	7440-41-7	mg/L	0.004	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	**0.000219 J**
Cadmium	7440-43-9	mg/L	0.005	NA	**0.000456 J**	**0.000701 J**	<0.000500 U	<0.000500 U	**0.000213 J**	NA	NA	NA	NA	NA	NA	NA	NA	<0.000500 U	<0.000500 U	**0.000256 J**	**0.000207 J**
Calcium	7440-70-2	mg/L	NV	NA	**1.35**	**329**	**3.87**	**36.2**	**44.0**	NA	NA	NA	NA	NA	NA	NA	NA	**8.49**	**22.3**	**28.4**	**13.0**
Chromium	7440-47-3	mg/L	0.1	NA	**0.00206 J**	**0.00204 J**	**0.00182 J**	**0.00210 J**	**0.00254 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.0230**	**0.285 J**	**0.0402 J**	**0.117**
Cobalt	7440-48-4	mg/L	6.1	NA	**0.000549 J**	**0.0150**	**0.000740 J**	**0.0196**	**0.0234**	NA	NA	NA	NA	NA	NA	NA	NA	**0.0294**	**0.00772 J**	**0.00534 J**	**0.0128**
Copper	7440-50-8	mg/L	1.3	NA	<0.00250 U	<0.00250 U	<0.00250 U	**0.00355 J**	**0.00143 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.0422**	**0.0187**	**0.00219 J**	**0.00517**
Iron	7439-89-6	mg/L	NV	NA	**0.205**	**10.9**	**0.494**	**3.18**	**3.94**	NA	NA	NA	NA	NA	NA	NA	NA	**4.78**	**2.49 J**	**0.696 J**	**2.75**
Lead	7439-92-1	mg/L	0.015	NA	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	**0.000749 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.00553**	**0.000941 J**	<0.00125 U	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	NA	**1.08**	**265**	**2.97**	**24.1**	**28.9**	NA	NA	NA	NA	NA	NA	NA	NA	**8.17**	**19.2**	**24.1**	**10.5**
Manganese	7439-96-5	mg/L	1.1*	NA	**0.0123**	**0.140**	**0.0170**	**1.03**	**1.23**	NA	NA	NA	NA	NA	NA	NA	NA	**0.586**	**0.154 J**	**0.200 J**	**0.386**
Nickel	7440-02-0	mg/L	0.49*	NA	**0.00234 J**	**0.0124**	**0.00288 J**	**0.00795**	**0.00909**	NA	NA	NA	NA	NA	NA	NA	NA	**0.0372**	**0.686 J**	**0.252 J**	**0.653**
Potassium	7440-09-7	mg/L	NV	NA	**0.478**	**4.32**	**0.298**	**0.810**	**0.976**	NA	NA	NA	NA	NA	NA	NA	NA	**1.56**	**1.59**	**1.54**	**1.23**
Selenium	7782-49-2	mg/L	0.05	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	NA	**32.3**	**896**	**62.0**	**518**	**551**	NA	NA	NA	NA	NA	NA	NA	NA	**83.3**	**176**	**176**	**41.6**
Thallium	7440-28-0	mg/L	0.002	NA	<0.000500 U	<0.000500 U	<0.000500 U	**0.000798 J**	<0.000500 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	NA	<0.00125 U	**0.00198 J**	**0.00139 J**	**0.000729 J**	**0.00189 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.00275 J**	**0.00264 J**	**0.000798 J**	<0.00125 U
Zinc	7440-66-6	mg/L	31	NA	**0.00506**	**0.0295**	**0.00478 J**	**0.0102**	**0.00950**	NA	NA	NA	NA	NA	NA	NA	NA	**0.0325**	**0.147 J**	**0.0611 J**	**0.0770**
Method: SW7470A																					
Mercury	7439-97-6	mg/L	0.002	NA	<0.000100 U	0.0000600 UB	<0.000100 U	<0.000100 U	<0.000100 U	NA	NA	NA	NA	NA	NA	NA	NA	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U
Method: SW8260																					
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	**13 J**	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.69 J**	<0.50 U	<0.50 U	<12 U	**0.98 J**	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,1-Dichloroethene	75-35-4	µg/L	7	**85**	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,2-Dichloroethane	107-06-2	µg/L	5	**28**	<2.5 U	<0.50 U	**9.1**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**84**	**1.5**	<0.50 U	**4.5**	**140 J**	**330 J**	<0.50 U
1,2-Dichloropropane	78-87-5	µg/L	5	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,3-Dichloropropane	142-28-9	µg/L	29	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
2,2-Dichloropropane	594-20-7	µg/L	42	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
2-Butanone	78-93-3	µg/L	61,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
2-Hexanone	591-78-6	µg/L	6,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<2.0 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
4-Chlorotoluene	106-43-4	µg/L	2,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<2.0 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Acetone	67-64-1	µg/L	92,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<2.0 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Benzene	71-43-2	µg/L	5	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Bromobenzene	108-86-1	µg/L	2,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Bromochloromethane	74-97-5	µg/L	4,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Bromodichloromethane	75-27-4	µg/L	4.6	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Bromoform	75-25-2	µg/L	36	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Bromomethane	74-83-9	µg/L	140	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Carbon disulfide	75-15-0	µg/L	10,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<2.0 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Carbon tetrachloride	56-23-5	µg/L	5	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**27**	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Chlorobenzene	108-90-7	µg/L	100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Chloroethane	75-00-3	µg/L	41,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Chloroform	67-66-3	µg/L	1,000	**16 J**	<2.5 U	<0.50 U	**4.2 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.6**	<0.50 U	<0.50 U	**34**	<0.50 UJ	<0.50 U	<0.50 U	<5.0 U	**11**	<0.50 U
Chloromethane	74-87-3	µg/L	220	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**960**	<2.5 U	<0.50 U	**5.7**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**12**	<0.50 U	<0.50 U	**82**	**4.8**	<0.50 U	**78**	**1600 J**	**3600 J**	**2.7**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Dibromochloromethane	124-48-1	µg/L	34	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Dibromomethane	74-95-3	µg/L	380	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				120_061323	125_062623	126_061923	129_062623	130_061423	130_061423_a	1824DPTMW01_062023	1824DPTMW01_062023_a	1824DPTMW02_061923	1824DPTMW03_062023	1824DPTMW04_061923	1824DPTMW05_062223	1824DPTMW06_062423	1824DPTMW07_080223	ICT2_062723	ICT4_062723	ICT4_062723_a	ICT7_062723
Aquifer Zone				Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Wilcox	Shallow	NA	NA	NA	NA
Well Identification				MW-120	MW-125	MW-126	MW-129	MW-130	MW-130	1824DPTMW01	1824DPTMW01	1824DPTMW02	1824DPTMW03	1824DPTMW04	1824DPTMW05	1824DPTMW06	1824DPTMW07	ICT2	ICT4	ICT4	ICT7
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23060999-03	HS23061825-01	HS23061372-05	HS23061812-04	HS23061096-05	HS23061096-06	HS23061459-09	HS23061459-10	HS23061372-09	HS23061459-07	HS23061372-08	HS23061712-01	HS23061821-02	HS23080324-01	HS23061925-01	HS23061925-02	HS23061925-03	HS23061925-04
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Ethylbenzene	100-41-4	µg/L	700	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Hexachlorobutadiene	87-68-3	µg/L	20	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Isopropylbenzene	98-82-8	µg/L	10,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<25 U	<5.0 U	<1.0 U	<5.0 U	<1.0 U	<1.0 U	<0.50 U	<0.50 U	<1.0 U	<0.50 U	<1.0 U	<25 U	<1.0 U	<1.0 U	<1.0 U	<10 U	<10 U	<1.0 U
Methylene chloride	75-09-2	µg/L	5	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<2.0 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Naphthalene	91-20-3	µg/L	2,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
n-Butylbenzene	104-51-8	µg/L	4,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
n-Propylbenzene	103-65-1	µg/L	4,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
o-Xylene	95-47-6	µg/L	10,000**	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Styrene	100-42-5	µg/L	100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Tetrachloroethene	127-18-4	µg/L	5	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Toluene	108-88-3	µg/L	1,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.46 J**	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	**0.44 J**	**8.9 J**	**25 J**	<0.50 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Trichloroethene	79-01-6	µg/L	5	**7500**	<2.5 U	<0.50 U	**680**	**1.1**	**1.1**	<0.50 U	<0.50 U	**200**	<0.50 U	<0.50 U	**5100**	**3.9**	<0.50 U	**8.2**	**2800 J**	**6200 J**	**13**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<5.0 U	<0.50 U
Vinyl chloride	75-01-4	µg/L	2	<12 U	<2.5 U	<0.50 U	<2.5 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.3**	<0.50 U	<0.50 U	<12 U	<0.50 U	<0.50 U	**0.46 J**	**8.4 J**	**55 J**	<0.50 U
Method: SW8270SIM																					
1,4-Dioxane	123-91-1	ug/L	9.1	**120**	NA	**0.027**	**0.31**	NA	NA	**0.018**	**0.026**	**0.089**	**0.020**	**0.026**	**8.8**	**2.5**	**0.014**	NA	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				ICT8_062723	ICT11_062723	ICT12A_062723	ICT12B_062723	ICT12C_062723	ICT12D_062723	ICT12E_062723	ICT13A_062723	ICT13B_062723	ICT13B_062723_a	ICT13C_062723	ICT13D_062723	ICT13E_062723	ICT13F_062723	ICT14A_062723	ICT14B_062723	ICT14C_062723	ICT14D_062723	ICT14E_062723
Aquifer Zone				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Well Identification				ICT8	ICT11	ICT12A	ICT12B	ICT12C	ICT12D	ICT12E	ICT13A	ICT13B	ICT13B	ICT13C	ICT13D	ICT13E	ICT13F	ICT14A	ICT14B	ICT14C	ICT14D	ICT14E
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23061925-05	HS23061925-06	HS23061925-07	HS23061925-08	HS23061925-09	HS23061925-10	HS23061925-11	HS23061925-12	HS23061925-13	HS23061925-14	HS23061925-15	HS23061925-16	HS23061925-17	HS23061925-18	HS23061925-19	HS23061925-20	HS23061925-21	HS23061925-22	HS23061925-23
Method: 6850																						
Perchlorate		µg/L	17*	**17.5**	**3290**	**12700**	**5060**	**703**	8.95	**6100**	**35.5**	**1040**	**983**	**82200**	16.0	**2770**	2.50	**118**	**4210**	**683**	**76.2**	**2810**
Method: SW6020A																						
Aluminum	7429-90-5	mg/L	100	**0.212**	**0.00913 J**	**0.0673**	**0.0119**	**0.108**	**0.0266**	**0.0753**	**0.310**	**0.00338 J**	**0.00678 J**	**0.0138**	**0.216**	**1.14**	**0.290**	**0.0189**	**0.00787 J**	**0.00889 J**	**0.0325**	**0.0999**
Antimony	7440-36-0	mg/L	0.006	**0.000716 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	**0.00132 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	**0.000423 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U
Arsenic	7440-38-2	mg/L	0.01	**0.00647**	**0.000481 J**	**0.000455 J**	**0.000873 J**	**0.00316 J**	**0.00496 J**	**0.00103 J**	**0.00394 J**	<0.00125 U	**0.000495 J**	**0.000657 J**	**0.000517 J**	**0.000407 J**	**0.00110 J**	**0.000463 J**	**0.000873 J**	**0.0105**	**0.0390**	**0.00200 J**
Barium	7440-39-3	mg/L	2	**0.402**	**0.157**	**0.711**	**0.190**	**0.0947**	**0.0768**	**0.0959**	**0.0890**	**0.103**	**0.109**	**0.176**	**0.0441**	**0.115**	**0.0719**	**0.0623**	**0.174**	**2.34**	**2.97**	**1.90**
Beryllium	7440-41-7	mg/L	0.004	**0.000343 J**	<0.000500 U	**0.00283**	<0.000500 U	**0.000472 J**	<0.000500 U	**0.000281 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000240 J**	**0.000271 J**	<0.000500 U	<0.000500 U	**0.000470 J**	**0.000208 J**
Cadmium	7440-43-9	mg/L	0.005	**0.000681 J**	<0.000500 U	**0.00161 J**	<0.000500 U	<0.000500 U	**0.000301 J**	<0.000500 U	**0.000288 J**	<0.000500 U	<0.000500 U	**0.000696 J**	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	**0.000333 J**	<0.000500 U	**0.000701 J**
Calcium	7440-70-2	mg/L	NV	**12.0**	**6.57**	**14.6**	**17.9**	**4.54**	**6.34**	**4.83**	**8.20**	**8.86**	**7.95**	**103**	**1.37**	**3.61**	**1.14**	**1.85**	**7.48**	**97.7**	**103**	**70.5**
Chromium	7440-47-3	mg/L	0.1	**0.673**	**0.0687**	**0.364**	**0.0832**	**1.37**	**0.192**	**0.0351**	**0.139**	**0.000462 J**	**0.00136 J**	**0.00441 J**	**0.00442 J**	**0.0618**	**0.00738**	**0.00223 J**	**0.0784**	**0.0365**	**0.0854**	**0.192**
Cobalt	7440-48-4	mg/L	6.1	**0.00167 J**	**0.000274 J**	**0.0103**	**0.00151 J**	**0.00272 J**	**0.0117**	**0.00810**	**0.0347**	**0.00265 J**	**0.00162 J**	**0.00304 J**	**0.00410 J**	**0.00281 J**	**0.00145 J**	**0.00135 J**	**0.00195 J**	**0.0507**	**0.0129**	**0.0180**
Copper	7440-50-8	mg/L	1.3	**0.279**	**0.0206**	**0.0718**	**0.110**	**0.144**	**2.23**	**0.0226**	**0.0270**	**0.00114 J**	**0.00537 J**	**0.0158**	**0.0474**	**0.0106**	**0.00442 J**	<0.00250 U	**0.0163**	**0.00251 J**	**0.0606**	**0.0652**
Iron	7439-89-6	mg/L	NV	**16.6**	**0.532**	**2.98**	**1.55**	**17.9**	**36.2**	**1.94**	**24.5**	**0.154 J**	**0.567 J**	**0.495**	**1.06**	**1.29**	**2.19**	**1.10**	**2.01**	**26.2**	**70.3**	**17.1**
Lead	7439-92-1	mg/L	0.015	**0.00157 J**	<0.00125 U	**0.00891**	**0.00108 J**	**0.00316 J**	**0.0281**	**0.00402 J**	<0.00125 U	<0.00125 U	<0.00125 U	**0.00117 J**	**0.0104**	<0.00125 U	**0.00198 J**	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U	<0.00125 U
Magnesium	7439-95-4	mg/L	NV	**9.58**	**4.93**	**12.9**	**9.42**	**3.12**	**6.91**	**4.12**	**8.21**	**11.1**	**9.79**	**96.4**	**1.51**	**3.99**	**1.00**	**1.78**	**7.28**	**77.6**	**70.7**	**57.7**
Manganese	7439-96-5	mg/L	1.1*	**0.217**	**0.00996**	**0.205**	**0.114**	**0.111**	**0.639**	**0.217**	**0.631**	**0.291 J**	**0.174 J**	**0.700**	**0.0842**	**0.0342**	**0.0170**	**0.0377**	**0.0487**	**2.56**	**2.64**	**0.626**
Nickel	7440-02-0	mg/L	0.49*	**0.0508**	**0.0574**	**0.848**	**0.110**	**0.175**	**0.302**	**0.0414**	**0.159**	**0.00579 J**	**0.0168 J**	**0.0849**	**0.0137**	**0.136**	**0.00442 J**	**0.00757**	**0.133**	**0.0831**	**0.216**	**0.339**
Potassium	7440-09-7	mg/L	NV	**1.10**	**0.727**	**1.06**	**0.807**	**0.404**	**0.651**	**0.502**	**1.25**	**1.72**	**1.53**	**1.30**	**0.497**	**1.60**	**1.28**	**0.609**	**0.379**	**1.01**	**0.951**	**1.23**
Selenium	7782-49-2	mg/L	0.05	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	**0.00188 J**	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U	<0.00250 U
Silver	7440-22-4	mg/L	0.51	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Sodium	7440-23-5	mg/L	NV	**59.4**	**50.1**	**79.0**	**76.1**	**50.1**	**104**	**74.1**	**113**	**52.0**	**51.7**	**529**	**19.0**	**26.9**	**4.19**	**22.1**	**69.9**	**208**	**318**	**231**
Thallium	7440-28-0	mg/L	0.002	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U	<0.000500 U
Vanadium	7440-62-2	mg/L	0.72	**0.00919**	**0.00102 J**	**0.00123 J**	**0.00211 J**	**0.0131**	**0.000679 J**	<0.00125 U	**0.00653**	<0.00125 U	<0.00125 U	**0.000694 J**	**0.00161 J**	**0.00235 J**	**0.00501**	**0.00108 J**	**0.00198 J**	<0.00125 U	**0.000803 J**	**0.00250 J**
Zinc	7440-66-6	mg/L	31	**1.06**	**0.0961**	**0.188**	**0.0219**	**0.180**	**10.9**	**0.113**	**0.394**	**0.0100 J**	**0.0176 J**	**0.0616**	**0.0545**	**0.0682**	**0.0535**	**0.0140**	**0.206**	**0.0213**	**0.143**	**0.236**
Method: SW7470A																						
Mercury	7439-97-6	mg/L	0.002	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	**0.0000390 J**	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U	<0.000100 U
Method: SW8260																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	110	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	200	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	14	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	5	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	**0.51 J**	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**6.3 J**	<12 U	<5.0 U
1,1-Dichloroethane	75-34-3	µg/L	10,000	<12 U	<10 U	<0.50 U	**10 J**	<2.5 U	**51**	**19**	**4.3**	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.87 J**	**10**	**39**	<5.0 U
1,1-Dichloroethene	75-35-4	µg/L	7	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	**87**	**15**	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,1-Dichloropropene	563-58-6	µg/L	2.9	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	310	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.041	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	70	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	5,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dibromoethane	106-93-4	µg/L	0.05	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dichloroethane	107-06-2	µg/L	5	**28**	<10 U	**1.8**	**27**	**14**	**91**	**32**	**55**	**9.5 J**	**22 J**	**19**	**1.4**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,2-Dichloropropane	78-87-5	µg/L	5	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	5,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	3,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,3-Dichloropropane	142-28-9	µg/L	29	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2,2-Dichloropropane	594-20-7	µg/L	42	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2-Butanone	78-93-3	µg/L	61,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2-Chlorotoluene	95-49-8	µg/L	2,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
2-Hexanone	591-78-6	µg/L	6,100	<12 U	<10 U	<1.0	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
4-Chlorotoluene	106-43-4	µg/L	2,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
4-Isopropyltoluene	99-87-6	µg/L	10,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
4-Methyl-2-pentanone	108-10-1	µg/L	8,200	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Acetone	67-64-1	µg/L	92,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Benzene	71-43-2	µg/L	5	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromobenzene	108-86-1	µg/L	2,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromochloromethane	74-97-5	µg/L	4,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromodichloromethane	75-27-4	µg/L	4.6	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromoform	75-25-2	µg/L	36	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Bromomethane	74-83-9	µg/L	140	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Carbon disulfide	75-15-0	µg/L	10,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Carbon tetrachloride	56-23-5	µg/L	5	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Chlorobenzene	108-90-7	µg/L	100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Chloroethane	75-00-3	µg/L	41,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Chloroform	67-66-3	µg/L	1,000	<12 U	<10 U	**1.7**	<12 U	<2.5 U	<25 U	**11**	**1.4**	<0.50 U	**0.62 J**	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**0.71 J**	**29**	<12 U	<5.0 U
Chloromethane	74-87-3	µg/L	220	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	**1000**	**59**	**4.9**	**1400**	**230**	**12000**	**3400**	**330**	**28 J**	**86 J**	**280**	**13**	**1.1**	<0.50 U	**23**	**130**	**9000**	**20000 J**	**67**
cis-1,3-Dichloropropene	10061-01-5	µg/L	5.3	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Dibromochloromethane	124-48-1	µg/L	34	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Dibromomethane	74-95-3	µg/L	380	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U

Table 6. LHAAP-18/24 Analytical Results - June/August 2023

Sample ID				ICT8_062723	ICT11_062723	ICT12A_062723	ICT12B_062723	ICT12C_062723	ICT12D_062723	ICT12E_062723	ICT13A_062723	ICT13B_062723	ICT13B_062723_a	ICT13C_062723	ICT13D_062723	ICT13E_062723	ICT13F_062723	ICT14A_062723	ICT14B_062723	ICT14C_062723	ICT14D_062723	ICT14E_062723
Aquifer Zone				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Well Identification				ICT8	ICT11	ICT12A	ICT12B	ICT12C	ICT12D	ICT12E	ICT13A	ICT13B	ICT13B	ICT13C	ICT13D	ICT13E	ICT13F	ICT14A	ICT14B	ICT14C	ICT14D	ICT14E
ANALYTE	CAS NUMBER	UNITS	MCL/MSC/ PCL	HS23061925-05	HS23061925-06	HS23061925-07	HS23061925-08	HS23061925-09	HS23061925-10	HS23061925-11	HS23061925-12	HS23061925-13	HS23061925-14	HS23061925-15	HS23061925-16	HS23061925-17	HS23061925-18	HS23061925-19	HS23061925-20	HS23061925-21	HS23061925-22	HS23061925-23
Dichlorodifluoromethane	75-71-8	µg/L	20,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Ethylbenzene	100-41-4	µg/L	700	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	**18 J**	<5.0 U
Hexachlorobutadiene	87-68-3	µg/L	20	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Isopropylbenzene	98-82-8	µg/L	10,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
m,p-Xylene	179601-23-1	µg/L	10,000**	<25 U	<20 U	<1.0 U	<25 U	<5.0 U	<50 U	<10 U	<1.0 U	<1.0 U	<1.0 U	<10 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<10 U	<25 U	<10 U
Methylene chloride	75-09-2	µg/L	5	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	**420**	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	**4900**	<5.0 U
Naphthalene	91-20-3	µg/L	2,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
n-Butylbenzene	104-51-8	µg/L	4,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
n-Propylbenzene	103-65-1	µg/L	4,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
o-Xylene	95-47-6	µg/L	10,000**	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
sec-Butylbenzene	135-98-8	µg/L	4,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Styrene	100-42-5	µg/L	100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
tert-Butylbenzene	98-06-6	µg/L	4,100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Tetrachloroethene	127-18-4	µg/L	5	**56**	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	**2.4**	<0.50 U	<0.50 U	**15**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**14**	**21 J**	<5.0 U
Toluene	108-88-3	µg/L	1,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	**27 J**	**9.5 J**	**2.7**	**0.49 J**	**0.92 J**	**5.7 J**	<0.50 U	<0.50 U	<0.50 U	<0.50 U	**1.5**	**44**	**82**	<5.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	29	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Trichloroethene	79-01-6	µg/L	5	**1500**	**250**	**360**	**4300**	**930**	**24000**	**7500**	**1100**	**290 J**	**570 J**	**1900**	**31**	**2.9**	<0.50 U	**14**	**350**	**9300**	**980**	**1600**
Trichlorofluoromethane	75-69-4	µg/L	31,000	<12 U	<10 U	<0.50 U	<12 U	<2.5 U	<25 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<5.0 U	<12 U	<5.0 U
Vinyl chloride	75-01-4	µg/L	2	**210**	<10 U	<0.50 U	**48**	<2.5 U	**280**	**60**	**13**	**0.50 J**	**1.1 J**	**10**	**0.41 J**	<0.50 U	<0.50 U	**0.44 J**	**1.9**	**510**	**4100**	**31**
Method: SW8270SIM																						
1,4-Dioxane	123-91-1	ug/L	9.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Blue highlighting indicates concentrations above the MCL/MSC/PCL

MCL/MSC - Maximum Contaminant Limit/Medium-Specific Concentrations/Protective Concentration Level

NA - Not Analyzed/Not Applicable; NV - No value

µg/L - micrograms per liter; mg/L - milligrams per liter

a - duplicate sample

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

UJ - The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected at the limit of detection presented.

UB - considered a non-detect due to blank contamination

*Perchlorate, manganese, and nickel compared to the PCL

** Value is for total xylenes

PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

Table 7. Weekly Perchlorate Sample Results- 2nd Quarter 2023

Sample Identification	Lab Package	Date Sampled	Sample Location	Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (µg/L)	INF Pond Discharge Criteria for Perchlorate (µg/L)	Reporting Limit	Influent Perchlorate (6850)	Effluent Perchlorate (6850)	Does Concentration Meet Discharge Limit? (Yes/No)	No Daily Maximum Concentration		
							Result (µg/L)	Result (µg/L) BIX/AIX		Ammonia as N (350.3) (mg/L)	Ortho-Phosphate (365.3) (mg/L)	Organic Carbon (415.1) (mg/L)
LH18/24-SP650_052223_BIX/AIX	HS23051518	5/22/2023	TK-650	589	17	0.1	NA	**0.874/0.184 J**	Yes	**46**	**4.1**	**158**
LH18/24-SP650_052223_AIX (monthly)	HS23051522	5/22/2023	TK-650	589	17	0.1	NA	**0.244 J**	Yes	--	--	--
LH18/24-SP140_052223 (monthly)	HS23051516	5/22/2023	TK-140	--	--	NA	**79,900**	**NA**	NA	--	--	--
LH18/24-SP650_061223_BIX/AIX	HS23060692	6/12/2023	TK-650	589	17	0.1	NA	**28/0.226**	Yes	**96**	**1.84**	**498**
LH18/24-SP650_062723_BIX/AIX	HS23061899	6/27/2023	TK-650	589	17	0.1	NA	**2,540/2.58**	Yes	**340**	**2.25**	**919**

Notes:

Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level (PCL)

SP140 samples are influent samples.

µg/L - micrograms per liter

J - Estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancies

Detected analytes are in bold.

Red font indicates concentrations above the INF Pond Discharge Criteria for Perchlorate

NA - not applicable

BIX - before ion exchange/AIX - after ion exchange

mg/L - milligrams per liter

This page intentionally left blank

Table 8. Bi-weekly GWTP Analytical Sampling Results - 2nd Quarter 2023

Sample Location				EFFLUENT - Biweekly		EFFLUENT - Biweekly		Does Concentration Meet Effluent Discharge Limits? (Yes/No)
Sample Identification				LH18/24-SP650_061223		LH18/24-SP650_062723		
Lab Package				HS23060983		HS23061900		
Sample Date				6/12/2023		6/27/2023		
Sample Type				GRAB		GRAB		
	Effluent Limitation for Discharge (µg/L) per Table 2 of ROD			Result	DVQ	Result	DVQ	
	Daily Average Concentration	Daily Maximum Concentration	INF Pond MCL					
VOLATILES	**µg/L**	**µg/L**	**µg/L**					
1,1,1-Trichloroethane	3,417	7,230	200	< 0.50	U	< 0.50	U	Yes
1,1,2-Trichloroethane	102.5	216.9	5	< 0.50	U	< 0.50	U	Yes
1,1-Dichloroethane	6,633	14,032	NV	< 0.50	U	< 0.50	U	Yes
1,1-Dichloroethene	119	253	7	< 0.50	U	< 0.50	U	Yes
1,2-Dichloroethane	85	181	5	< 0.50	U	< 0.50	U	Yes
1,2-Dichloropropane	NV	NV	5	< 0.50	U	< 0.50	U	Yes
Acetone	1,132	2,395	NV	< 0.50	U	< 0.50	U	Yes
Benzene	85	181	5	< 0.50	U	< 0.50	U	Yes
Carbon Tetrachloride	85	181	5	< 0.50	U	< 0.50	U	Yes
Chlorobenzene	22,300	47,180	100	< 0.50	U	< 0.50	U	Yes
Chloroform	1,708	3,615	NV	< 0.50	U	< 0.50	U	Yes
cis-1,2-Dichloroethene	NV	NV	70	**1.1**		**1.2**	J	Yes
Ethylbenzene	26,954	57,025	700	< 0.50	U	< 0.50	U	Yes
m,p-Xylenes	39.5	83.6	NV	< 0.50	U	< 0.50	U	Yes
Methylene Chloride	803	1,699	5	< 0.50	U	< 1.0	U	Yes
o-Xylene	39.5	83.6	NV	< 0.50	U	< 0.50	U	Yes
Styrene	2,829	5,987	100	< 0.50	U	< 0.50	U	Yes
Tetrachloroethene	85.4	180.7	5	< 0.50	U	< 0.50	U	Yes
Toluene	1,980	4,189	10	< 0.50	U	< 0.50	U	Yes
Trichloroethene	85	181	5	< 0.50	U	< 0.50	U	Yes
Vinyl Chloride	34	72	2	< 0.50	U	**2.7**		Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Chloride	NV	NV	NV	**1,100**		**1,270**		NA
Sulfate	NV	NV	NV	**19.8**		**35.4**		NA
PERCHLORATE	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		
Perchlorate**	278	589	17	NA		NA		Yes
METALS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Hexavalent Chromium	0.058	0.124	NV	NA		NA		Yes
Barium	1	2	2	NA		NA		Yes
Lead	0.0022	0.0046	0.015	NA		NA		Yes
Selenium	0.0057	0.0120	0.05	NA		NA		Yes
Silver	0.0014	0.0030	0.1	NA		NA		Yes
SEMI-VOLATILES	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		
1,4-Dioxane***	NV	134.2	NV	NA		NA		Yes

Notes:

µg/L - micrograms per liter

DVQ - data validation qualifier

GWTP - Groundwater Treatment Plant

U - Non detect reported to the limit of detection

mg/L - milligrams per liter

J - estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancy

*Influent sample not compared to discharge limits

**-perchlorate is also collected weekly and reported on the Weekly Results Table

*** Calculated Effluent Limit

Grab samples are compared to the daily maximum

ROD - Record of Decision

NA - not applicable or not analyzed

NV- no value

This page intentionally left blank

Table 9. Monthly GWTP Analytical Sampling Results - 2nd Quarter 2023

	Sample Location	EFFLUENT - Monthly			INFLUENT - Monthly*		
	Sample Identification	LH18/24-SP650_052223			LH18/24-SP140_052223		
	Lab Package	HS23051522			HS23051516		
	Sample Date	5/22/2023			5/22/2023		
	Sample Type	GRAB			GRAB		
	Effluent Limitation for Discharge (µg/L) per Table 2 of ROD			Result	DVQ	Result	DVQ	Does Concentration Meet Effluent Discharge Limits? (Yes/No)
	Daily Average Concentration	Daily Maximum Concentration	INF Pond MCL					
VOLATILES	**µg/L**	**µg/L**	**µg/L**	**µg/L**				
1,1,1-Trichloroethane	3,417	7,230	200	< 0.50	U	NA		Yes
1,1,2-Trichloroethane	102.5	216.9	5	< 0.50	U	NA		Yes
1,1-Dichloroethane	6,633	14,032	NV	< 0.50	U	NA		Yes
1,1-Dichloroethene	119	253	7	< 0.50	U	NA		Yes
1,2-Dichloroethane	85	181	5	< 0.50	U	NA		Yes
1,2-Dichloropropane	NV	NV	5	< 0.50	U	NA		Yes
Acetone	1,132	2,395	NV	< 0.50	U	NA		Yes
Benzene	85	181	5	< 0.50	U	NA		Yes
Carbon Tetrachloride	85	181	5	< 0.50	U	NA		Yes
Chlorobenzene	22,300	47,180	100	< 0.50	U	NA		Yes
Chloroform	1,708	3,615	NV	< 0.50	U	NA		Yes
cis-1,2-Dichloroethene	NV	NV	70	**1.2**		NA		Yes
Ethylbenzene	26,954	57,025	700	< 0.50	U	NA		Yes
m,p-Xylenes	39.5	83.6	NV	< 1.0	U	NA		Yes
Methylene Chloride	803	1,699	5	< 0.50	U	NA		Yes
o-Xylene	39.5	83.6	NV	< 0.50	U	NA		Yes
Styrene	2,829	5,987	100	< 0.50	U	NA		Yes
Tetrachloroethene	85.4	180.7	5	< 0.50	U	NA		Yes
Toluene	1,980	4,189	10	< 0.50	U	NA		Yes
Trichloroethene	85	181	5	< 0.50	U	NA		Yes
Vinyl Chloride	34	72	2	< 0.50	U	NA		Yes
ANIONS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Chloride	NV	NV	NV	NA		NA		NA
Sulfate	NV	NV	NV	NA		NA		NA
PERCHLORATE	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		
Perchlorate**	278	589	17	**0.244**	J	**79,900**		Yes
METALS	**mg/L**	**mg/L**	**mg/L**	**mg/L**		**mg/L**		
Hexavalent Chromium	0.058	0.124	NV	< 0.00600	U	< 0.00600	U	Yes
Barium	1	2	2	**0.129**		NA		Yes
Lead	0.0022	0.0046	0.015	< 0.00125	U	NA		Yes
Selenium	0.0057	0.0120	0.05	< 0.00250	U	< 0.00250	U	Yes
Silver	0.0014	0.0030	0.1	< 0.000500	U	< 0.000500	U	Yes
SEMI-VOLATILES	**µg/L**	**µg/L**	**µg/L**	**µg/L**		**µg/L**		
1,4-Dioxane***	NV	134.2	NV	**0.018**		NA		Yes

Notes:
µg/L - micrograms per liter
DVQ - data validation qualifier
GWTP - Groundwater Treatment Plant
U - Non detect reported to the limit of detection
mg/L - milligrams per liter
J - estimated concentration between the detection limit and limit of quantitation and/or due to quality control discrepancy
*Influent sample not compared to discharge limits
**-perchlorate is also collected weekly and reported on the Weekly Results Table
*** Calculated Effluent Limit
Grab samples are compared to the daily maximum
ROD - Record of Decision
NA - not applicable or not analyzed
NV- no value

This page intentionally left blank

3 QUALITY CONTROL

This report summarizes the data for samples collected in May and June 2023. The samples were reviewed and validated in accordance with the guidelines in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, January 2017); *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (USEPA, January 2017); and the quality control criteria specified in the *Basewide Uniform Federal Policy - Quality Assurance Project Plan Longhorn Army Ammunition Plant* which is in Appendix C of the *Final Installation-Wide Work Plan for Longhorn Army Ammunition Plant Karnack, Texas* (Bhate, May 2018).

The purpose of the sampling program is to evaluate the effectiveness of the groundwater pump and treatment system, assess water quality within the LHAAP-18/24 ICT containment area, and assure compliance with the Interim Remedial Action (USACE, May 1995) and the Memorandum for Record - Development of Proposed Discharge Limits for Perchlorate for the Groundwater Treatment Plant (AECOM, May 2017). Quality control and quality assurance problems noted in the case narratives received from the laboratory are minor and do not affect the usability of the data for compliance at the GWTP. No sample results from the 2nd Quarter of 2023 were rejected due to quality control problems.

ALS Environmental analyzed the compliance samples collected from the GWTP. Independent data verification and validation was performed by the Bhate Project Chemist as described in the Quality Control Summary Report in **Appendix H**. The laboratory reports for the GWTP are included in **Appendix G**. Air monitoring data is presented in **Appendix H**.

This page intentionally left blank.

4 TREATED GROUNDWATER DISCHARGED

Reinjection of groundwater in ICT 6 and ICT 9 was discontinued as of 15 July 2012. The last reinjection occurred on 24 May 2012, immediately prior to the scrubber system malfunction which caused GWTP operation to cease temporarily.

Treated groundwater that met the Harrison Bayou Maximum Allowable Daily Discharge Perchlorate Concentration (589 µg/L) was discharged to the Harrison Bayou in accordance with the Protocol for Discharging GWTP Effluent (**Appendix J**). Although not a requirement, prior to discharge to the Harrison Bayou, treated groundwater was also processed through the IX vessels to ensure adequate perchlorate treatment. As discussed in Section 2.5, additional sample analyses were performed on the effluent samples to monitor the effectiveness of the perchlorate treatment after the FBR and IX processes to evaluate potential optimizations or maintenance requirements. Approximately, 68,135 gallons of treated groundwater were discharged from the GWTP to Harrison Bayou. There was no additional treated groundwater released to the Harrison Bayou from the INF pond. **Table 4** summarizes the daily volume of discharged groundwater from the GWTP or the INF Pond to the Harrison Bayou, the maximum flow rate allowed by chloride and sulfate concentrations, and the approximate volumes discharged for the 2nd Quarter of 2023.

This page intentionally left blank.

5 AIR MONITORING

5.1 Summary of Air Monitoring Approach

Operation of the GWTP without air abatement was approved by the TCEQ and USEPA conditioned on collection of air monitoring data to determine the effect of GWTP operation on ambient air quality with respect to potential human health exposure risk. An Interim Air Monitoring Plan is used to implement the air monitoring program, which was drafted in 2012. The air monitoring program included sampling emission concentrations from the air stripper, ambient air at the GWTP, and ambient air downwind of the GWTP. Collection of air data occurred weekly from September 2012 through September 2013, monthly from September 2013 through September 2014, and quarterly since September 2014. The sampling program includes use of Summa canisters and a photoionization detector (PID) to measure vapor phase concentrations. The air stripper emission sample is collected as a grab sample while the ambient air samples are collected as composite samples. The GWTP sample is collected over 8 hours to represent a workday and the downwind sample is collected over 24 hours to represent potential exposure to an off-site receptor[1]. The downwind sample is collected at the closest downwind property boundary based on prevailing wind direction.

PID data (after system calibration) are collected each time the GWTP is operated and serve as a real-time indicator of ambient air conditions at and downwind of the GWTP. Correlations between definitive analytical air data and PID measurements were established and a method to calculate contaminant concentrations from PID measurements was developed. A PID threshold of 0.4 parts per million by volume in ambient air was established, such that Summa canister measurements would occur when the PID threshold is exceeded.

The Summa canister samples are analyzed for VOCs in accordance with USEPA Method TO-15 from the *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air – Second Edition* (EPA/625/R-96/010b), USEPA, January 1999. The PID measurements are collected after instrument calibration. The air sampling results are summarized and reported to the USEPA and TCEQ in the GWTP quarterly reports; however, the air results are reviewed immediately upon receipt for the potential presence of any exceedances of ambient air concentrations. **Appendix K** (**Tables 1 through 3**) includes a comparison of ambient air concentrations with TCEQ Air Monitoring Comparison Values (AMCVs) or the short-term Effects Screening Levels (ESLs) for chemicals with no published AMCVs, calculations of emission rates from the emission point, and a compilation of PID results and calibration records. The air

[1] Off-site receptor - Any recreational area, residence, commercial/industrial facility, or other normally occupied structures not used solely by the owner or operator of the facilities or the owner of the site upon which the facilities are located. Measurements of distances to determine compliance with this distance restriction must be taken toward structures that are in use as of the date that a notification is filed with the commission.

monitoring results to date indicate that all ambient air concentrations are lower than the AMCVs or ESLs. The stripper stack sample concentrations are used to calculate emission rates in pounds per hour (lbs/hr) and tons per year (tpy). The calculated emission rates in lbs/hr are then compared to the allowable emission rates per 30 Texas Administrative Code (TAC) Section (§)106.533(f)(1). The emission rates have been lower than the allowable emission rates to the conservatively-selected off-site receptor. The calculated emission rate in tpy is compared to the allowable limit of 5 tpy per chemical. All emission rates have been lower than the allowable emission rates.

The air monitoring results from the first few months of operation between September and November 2012 were compiled and submitted in a separate report (December 2012) (along with validated data) to TCEQ to demonstrate compliance with Texas Permit by Rule emission standards. Approval of the analytical results and concurrence that the site will continue to meet Title 30 TAC §106.533 without the use of air abatement using a catalytic oxidation system was obtained from the TCEQ via email on 22 February 2013.

On 18 February 2013, AECOM presented analysis of the approach applicable to obtaining a variance for operating the GWTP without air abatement equipment to the TCEQ and USEPA. The analysis indicated that the use of an Explanation of Significant Difference (ESD) was the appropriate approach for the site. Approval of use of an ESD was obtained from the USEPA via email on 21 March 2013. The ESD was developed, reviewed, and accepted by USEPA and TCEQ. The ESD was signed by the designated parties on 3 April 2014, and concurrence from the TCEQ was obtained in a letter dated 16 April 2014.

5.2 Air Monitoring Results for the 2nd Quarter of 2023

During the 2nd Quarter of 2023, air sampling was completed on 26 June 2023. The laboratory data package is presented in **Appendix I.** A summary of the air sampling results is presented in **Appendix K** (**Tables 1, 2,** and **3**). All results met the criteria described in Section 5.1.

5.2.1 Summa Canister Monitoring Results

Air sampling was conducted using Summa canisters on 26 June 2023. The samples were collected and analyzed as described in Section 5.1 and per the Interim Air Monitoring Plan (AECOM, August 2012). The analytical results were then compiled in spreadsheets where calculations were completed and comparisons to applicable criteria were made as described in Section 5.1.

5.2.1.1 Ambient Air Results

In June 2023, acetone; TCE; n-hexane; toluene; dichlorodifluoromethane (CFC 12); ethanol; trichlorofluoromethane (CFC 11); trichlorotrifluoroethane (CFC 113); and carbon disulfide were detected in the ambient air at the GWTP.

Compounds originating at the GWTP would be expected to have lower concentrations in the downwind sampling location than at the GWTP sampling location. However, the fact that the compounds acetone; n-hexane; toluene; CFC 12; CFC 11; alpha-pinene; d-Limonene; and carbon

disulfide were detected in downwind ambient air, suggests that they are present in the ambient (background) air.

The ambient air results during the quarter met the ambient air criteria, as presented in **Table 1** within **Appendix K**.

5.2.1.2 Air Stripper Effluent Results

The VOCs present in groundwater that are removed via the air stripper include 1,1-DCE; 1,2-DCA; cis-1,2-DCE; MC; TCE; PCE; VC; CFC 12; and CFC 113. These compounds are frequently reported in groundwater at the site, with the exception of CFC 113 which is not typically a groundwater analyte at LHAAP. The compound CFC 113 may be present in groundwater based on limited analysis conducted in December 2013, where it was detected in several wells. Many of the chemicals that are reported in ambient air are not detected in the air stripper effluent. This is likely because the reporting limit for the air stripper effluent is higher than the reporting limit for the ambient air samples or the source for some of these chemicals are extraneous to groundwater.

In June 2023, 1,1-DCA; 1,1-DCE; 1,2-DCA; acetone, carbon disulfide, cis-1,2-DCE; MC, PCE; trans-1,2-DCE; TCE; VC; propene, and CFC 113 were detected in air stripper effluent. The highest concentrations were for cis-1,2-DCE; TCE; acetone; and CFC 113. However, the air stripper effluent concentrations were below the emission criteria, as presented in **Table 2** within **Appendix K**.

5.2.2 PID Results

Along with collection of Summa canister air samples, PID measurements from the same sources/areas were collected and recorded. These simultaneous measurements allowed establishing a correlation between PID readings and VOC concentrations in the Summa canister air samples. Conversion from PID to compound concentrations was established by TCEQ in 30 TAC §106.533(h). The TCEQ equation allows use of a PID to determine individual compound concentrations if the distribution of chemicals in the ambient air is known or assumed. This allows the use of a PID as a tool to measure VOC concentrations and convert the PID results to estimates of compound concentrations. Ambient air PID measurements collected during this quarter were reported at 0.0 parts per million. No VOCs were detected at the GWTP ambient air or downwind PID locations. During 2nd Quarter of 2023, VOC detections at the air stripper PID location ranged between 22.1 and 25.7 parts per million at the sampling event. The results of the PID readings collected during GWTP operations are presented in **Table 3** within **Appendix K**.

This page intentionally left blank.

6 COMMENTS AND RESPONSES

The 1st Quarter (January-March) 2023 GWTP Evaluation Report was submitted to TCEQ and USEPA on 25 July 2023. USEPA has not provided comments to the 1st Quarter (January-March) 2023 GWTP Evaluation Report at the time of this report was being drafted. The TCEQ provided the following comments on 7 August 2023:

TCEQ Comment 1: The appendices are missing bookmarks for navigation within each appendix. For the archive, please revise this report and resubmit to include bookmarks that assist navigation within each appendix (especially the analytical results). GWTP 4th Quarter report includes these features.

> **Response to TCEQ Comment 1:** Concur. For the archived copy of the 1st Quarter (January-March) 2023 GWTP Evaluation Report, bookmarks will be included for ease of navigation.

TCEQ Comment 2: Please confirm that all complete lab packages are included in the appendices. The quarterly reports with groundwater sampling are usually two or three volumes (due to file size) with thousands of pages of data packages.

> **Response to TCEQ Comment 2:** Concur. For the archived copy of the 1st Quarter (January-March) 2023 GWTP Evaluation Report, the complete Level IV analytical data reports will be provided.

TCEQ Comment 3: Section 2.4, first paragraph - Is it necessary to list all of the wells? It would be sufficient to reference the table. This list is not comprehensive (84 sampled vs. about 50 listed). Also fix 18WW06 if the list remains.

> **Response to TCEQ Comment 3:** Concur. The list of wells sampled will not be listed in Section 2.5 starting with the 2nd Quarter (April-June) 2023 GWTP Evaluation Report.

TCEQ Comment 4: Section 2.4.1, page 2-5, 2nd paragraph – TCE MCL is 5 µg/L, not 3 µg/L.

> **Response to TCEQ Comment 4:** Concur. The TCE MCL of 5 µg/L will be used as the screening level in the text through the 2nd Quarter (April-June) 2023 GWTP Evaluation Report.

TCEQ Comment 5: Section 2.4.2.1, C-08 bullet – Several results are listed, therefore the non-detect sentence is incorrect.

> **Response to TCEQ Comment 5:** Concur. The following text in Section 2.4.2.1 (C-08 bullet) will be deleted from the 2nd Quarter (April-June) 2023 GWTP Evaluation Report: "*Perchlorate has remained non detect since June 2016.*"

TCEQ Comment 6: Section 5.2 – The heading is incorrect (3rd Quarter 2022).

> **Response to TCEQ Comment 6:** Concur. The heading for Section 5.2 will be corrected in the archived copy of the 1st Quarter (January-March) 2023 GWTP Evaluation Report.

This page intentionally left blank.

APPENDIX A
ICT LAYOUT AND GWTP PROCESS FLOW DIAGRAM

This page intentionally left blank.

0 100 200 400 Feet

Harrison Bayou

ICT-13G
ICT-13F
ICT-13E
ICT-13D
ICT-13C
ICT-13B
ICT-13A
ICT-12E
ICT-12D
ICT-12C
ICT-12B
ICT-12A
ICT-14A
ICT-14B
ICT-14C
ICT-14D
ICT-14E
ICT-7
ICT-5
ICT-6
ICT-1
ICT-2
ICT-3
ICT-4
ICT-8
ICT-9
ICT-10
ICT-11
EW-1
18WW17
LHAAP-24
LHAAP-18
LHAAP-39
LHAAP-17
Open Burning Pan 157
Open Burning Cage 155
33-X
35-X
37-X
41-X
21-X
27-X
22-X
22-X-1
20-X
24-X
25-X
Groundwater Treatment Plant
Ditch
SCUDDAY AVE
AVE "Q"
LONG POINT RD

Legend:

- Extraction Location
- Deactivated ICT Sump
- Injection Point – Inactive since July 2012
- HDPE — High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line
- 401 — Building Number
- 717 — Former Building Location and Number

PCIbhate

Quarterly Evaluation Report
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	8/4/2023	MRM

ICT Layout Map

Figure A-1

01194013

PROCESS WATER FROM SUMP COLLECTION

FLOW MONITORING METER FIT-140

GROUNDWATER FROM BURNING GROUNDS AND SITE 17

TK-140 EQUALIZATION 300,700 GAL.

FLOW MONITORING METER FIT-172

TK-200A ORP 5,900 GAL.

TK-200B pH 5,700 GAL.

TK-200C POLYMER 3,400 GAL.

POLYMER POTABLE WATER

TK-240 CLARIFIER 10,000 GAL.

METALS TREATMENT

TK-140 Sampling Spigot

TK-640 BACK WASH TANK

FL-290 SAND FILTER

TK-300 STRIPPER FEED TANK 22,800 GAL.

FLOW MONITORING METER FIT-322

VENT HEADER

TK-530 8,670 GAL.

TK-510B 8,670 GAL.

TK-510A 8,670 GAL.

DECANT

DECANT

FILTER PRESS MAKEUP WATER SOURCE

SAND FILTER BACKWASH WATER SOURCE

VENT TO ATMOSPHERE

RECYCLE

FILTER CAKE FOR DISPOSAL

BELT PRESS BFP-560

SOLIDS REMOVAL

COLLECTION FROM FLOOR DRAINS IN CONTAINMENT AREA AND FROM DECON PAD

SUMP

TO TK 140

ELECTRON DONOR SUBSTRATE TANK 55 GAL. DRUM

TK-103 NUTRIENT TANK

P-104

P-103

FILTER PRESS MAKEUP WATER

SAND FILTER BACKWASH WATER

CARBON FILTER

T-330 AIR STRIPPER

TK-630 EFFLUENT STORAGE 127,000 GAL.

P-175

FLOW MONITORING METER FIT-103

Recycle

Liquid Phase Adsorber Protect™ LM-36 Series

VOLATILE ORGANICS TREATMENT

P-101A

P-101B

T-101 FBR

TK-650 1,000 GAL.

P-641

P-642

TO INF POND

TO HARRISON BAYOU

TO IRRIGATION AT BURNING GROUNDS

PERCHLORATE TREATMENT

TK-650 Sampling Spigot

FLOW MONITORING METER FIT-686

NOTES:

GAL.	GALLON
TK or T	TANK
BFP	BELT FILTER PRESS
P	PUMP
FL	FILTER
FBR	FLUIDIZED BED REACTOR
I/X	ION EXCHANGE

Process Flow Diagram

Figure A-2

Quarterly Evaluation Report
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

DRAWN BY: MRM

DATE: 8/4/2023

SCALE: Not to Scale

PROJECT NO: JVPCIBH.0001.0005.03

PCIbhate

Table A-1: ICTs Completion Depths

ICT	TOC Elevation	Total Depth	Sump Elevation	Comment
1	186.07	22.5	163.57	Taken out of service in 2007.
2	185.02	29.5	155.52	
3	192.27	37.75	154.52	Taken out of service in 2007.
4	193.51	37.5	156.01	
5	192.67	35	157.67	Taken out of service in 2007.
6	197.30	40.75	156.55	Converted to infiltration in 2007. Ceased reinjection in July 2012.
7	198.03	32.33	165.7	
8	198.97	44.5	154.47	
9	197.64	45.5	152.14	Converted to infiltration in 2007. Ceased reinjection in July 2012.
10	198.07	45.42	152.65	Taken out of service in 2007.
11	198.01	43.33	154.68	
12A	189.06	31.5	157.56	Taken out of service in 2007. Reinstituted in December 2012.
12B	191.97	36.25	155.72	
12C	193.90	34.33	159.57	
12D	185.64	33.75	151.89	
12E	183.38	32.25	151.13	
13A	182.59	28.17	154.42	
13B	184.72	29.58	155.14	
13C	186.13	28.17	157.96	
13D	186.72	26.17	160.55	
13E	191.79	27.08	164.71	
13F	197.81	32.33	165.48	
13G	197.03	27.25	169.78	Taken out of service in 2008.
14A	196.8	43.00	153.8	
14B	197.61	43.42	154.19	
14C	197.86	41.33	156.53	
14D	198.47	44.25	154.22	
14E	198.47	43.08	155.39	

Note(s):

ICT - interception-collection trench

TOC - top of casing, measuring point for groundwater elevations

Elevations are reported as feet above mean sea level.

Total depths are reported as feet below TOC.

Sump elevation calculated by subtracting total depth from TOC elevation.

ICTs were installed in 1998.

ICT 12A was replaced on December 5, 2012, and extraction has resumed.

TOC Elevations and total depth measured in October 2003, 4th Quarter 2003, Groundwater Treatment Plant Report.

Table A-2: Extraction Equipment Maintenance Since 2011

LHAAP-18/24

Well I.D.	Replaced Parts	Date	Contractor
ICT 14E	Pump	3/15/2012	Shaw
ICT 14D	Pump, motor, level probes	3/16/2012	Shaw
ICT 14B	Pump, level probes, level probe wire	3/16/2012	Shaw
ICT 14A	Pump, motor, level probes, level probe wire	3/17/2012	Shaw
ICT 2	Pump, motor	3/17/2012	Shaw
ICT 13D	Pump	3/19/2012	Shaw
ICT 13B	Pump	3/20/2012	Shaw
ICT 14E	Pump, motor, broken piping	11/19/2012	AECOM
ICT 13C	Pump	11/20/2012	AECOM
ICT13E	Pump	11/20/2012	AECOM
ICT 12A	Pump, motor, wiring harness, level probes, level probe wire	12/5/2012	AECOM
ICT 7	Pump, motor, wiring harness, level probes	12/6/2012	AECOM
ICT2	Pump	6/10/2013	AECOM
ICT 13C	Pump	6/11/2013	AECOM
ICT 13D	Pump	6/12/2013	AECOM
ICT 14E	Pump rebuilt	6/15/2013	AECOM
ICT 14E	Replaced low level switch	6/19/2013	AECOM
ICT 13C	Pump, wiring harness, flow meter	4/15/2014	AECOM
ICT 14D	Repaired level probes	6/24/2014	AECOM
ICT 14E	Repaired level probes	6/24/2014	AECOM
ICT 14E	Pump and motor troubleshooting	6/26/2014	AECOM
ICT2, 13F, 14C, 14D, 14E	Repaired level probes	7/7/2014	AECOM
ICT 12E	Pump, motor	10/2/2014	AECOM
ICT 12E	Wiring harness, fixed leak	10/8/2014	AECOM
ICT 12E	Level probes	10/9/2014	AECOM
ICT13A	Pump, piping	10/15/2014	AECOM
ICT 12E	Repaired leaking fittings	10/16/2014	AECOM
ICT 11	1" tee and 1" elbow	1/13/2015	AECOM
ICT 12B	Flow meter	1/13/2015	AECOM
ICT 7	1" tee, repaired 1" pipe	1/13/2015	AECOM
ICT 13A	Flow meter	1/15/2015	AECOM
ICT 13B	Pump	1/15/2015	AECOM
ICT 13C	Pump	1/16/2015	AECOM
ICT 7	Low level probe	1/16/2015	AECOM
ICT 13D	Pump, level probes	1/17/2015	AECOM
ICT 14C	Low level probe	1/17/2015	AECOM
ICT 14C	Low level probe	1/29/2015	AECOM
ICT 14D	Low level probe	1/29/2015	AECOM
ICT 13D	Level probes	1/29/2015	AECOM
ICT 2	Pump	1/30/2015	AECOM
ICT 8	Fuse	3/2/2015	AECOM
ICT 8	Fuse	3/9/2015	AECOM
ICT 12E	Flow meter	3/13/2015	AECOM
ICT 13D	Union	3/13/2015	AECOM
ICT 14C	Cleaned level probes	4/1/2015	AECOM
ICT 14D	Cleaned level probes	4/1/2015	AECOM
ICT 13A	Cleaned level probes	4/21/2015	AECOM
ICT 14C	Cleaned level probes	4/21/2015	AECOM
ICT 8	Low level probe	7/24/2015	AECOM
ICT 13C	Installed New Pump	7/28/2015	AECOM

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 14C	Installed New Pump and Electric Motor	7/29/2015	AECOM
ICT 14E	Installed New Pump and Electric Motor	7/31/2015	AECOM
ICT 12E	Repaired wiring	8/12/2015	AECOM
ICT 13E	Replaced high and low level probes	8/12/2015	AECOM
ICT 2	Installed Rebuilt Pump	9/9/2015	AECOM
ICT 12 E, ICT 14E	Replaced high level probe and wiring	9/15/2015	AECOM
ICT 13A	Installed new pump	12/23/2015	AECOM
ICT 13B	Installed new pump	12/24/2015	AECOM
ICT 13D	Replaced high level probe	2/11/2016	Aerotek
ICT 14C	Replace low level probe on ICT 14C	2/15/2016	Aerotek
ICT 8	Installed new pump and electric motor	2/19/2016	Aerotek
ICT 14C	Repaired piping leak	3/10/2016	Aerotek
ICT 14E	Installed high and low level probes, level probe wire	3/22/2016	Aerotek
ICT 13D, ICT 14B	Installed high and low level probes, level probe wire	3/24/2016	Aerotek
ICT 14B	Installed new pump and electric motor	3/31/2016	Aerotek
ICT 14C	Installed new low level probe	4/20/2016	Aerotek
ICT 12B	Installed new mechanical flow meter	6/16/2016	Aerotek
ICT 13C	Installed rebuilt pump and new flow meter	8/10/2016	Aerotek
ICT 13A	Installed rebuilt pump, new flow meter, and new 1" unions	8/24/2016	Aerotek
ICT 14E	Installed new mechanical flow meter	8/26/2016	Aerotek
ICT 12C	Repaired flow meter	8/30/2016	Aerotek
ICT 2	Installed rebuilt pump and new flow meter	8/31/2016	Aerotek
ICT 14C	Cleaned and adjusted level probes	9/7/2016	Aerotek
ICT 14C	Replaced level probes	9/12/2016	Aerotek
ICT 14C	Installed new level probe wire and level probes	9/21/2016	Aerotek
ICT 12C	Installed rebuilt pump, new electric motor, new wiring harness, new level probe wire, and new level probes	9/27/2016	Aerotek
ICT 14C	Cleaned and adjusted level probes	10/14/2016	Aerotek
ICT 13C	Cleaned and adjusted level probes	10/21/2016	Aerotek
ICT 13B	Installed rebuilt pump	10/25/2016	Aerotek
ICT 14D	Installed rebuilt pump	10/27/2016	Aerotek
ICT 13C	Replaced low level probe	11/8/2016	Aerotek
ICT 13B	Replaced relay base plate	11/8/2016	Aerotek
ICT 13E	Cleaned and adjusted low level probe	11/15/2016	Aerotek
ICT 13B	Replaced broken relay base plate and bad level probe wire	11/17/2016	Aerotek
ICT 13C	Cleaned & repaired leaking flow meter	11/18/2016	Aerotek
ICT 13B	Cleaned & adjusted low level probe	11/18/2016	Aerotek
ICT 13A, 13B, & 13E	Clean and adjust low level probes	12/2/2016	Aerotek
ICT 13C & 14C	Pulled piping and pumps	2/8/2017	Aerotek
ICT 14C	Installed new electric motor	2/8/2017	Aerotek
ICT 13C & 14C	Installed rebuilt grundfos pumps	2/8/2017	Aerotek
ICT 7, 13A, & 14D	Repaired sample ports	2/9/2017	Aerotek
ICT 13B & 14E	Cleaned and adjusted low level probes	3/30/2017	Aerotek
ICT 13B & 13F	Installed new flow meters	3/30/2017	Aerotek
ICT 12B	Repair flow meter	4/13/2017	Aerotek
ICT 12C	Replace broken 1" tee	5/1/2017	Aerotek
ICT 11	Installed new manual flow meter	5/5/2017	Aerotek
ICT 2	Installed new flow meter	5/9/2017	Aerotek
ICT 14C & 14D	Cleaned and adjusted low level probes	5/31/2017	Aerotek
ICT 14C	Cleaned and adjusted low level probe	6/27/2017	Aerotek
ICT 8	Cleaned low level probe	7/11/2017	Aerotek
ICT 2 & 14D	Cleaned and replaced level probes	7/17/2017	Aerotek
ICT 14C	Cleaned low level probe	7/24/2017	Aerotek

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 13A	Installed new pump and flow meter	8/8/2017	Aerotek
ICT 13C & 13B	Installed new pump and flow meter	8/9/2017	Aerotek
ICT 13B	Installed new low level probe	8/10/2017	Aerotek
ICT 11	Installed new pump and flow meter	8/11/2017	Aerotek
ICT 4	Replaced low level probe	8/11/2017	Aerotek
ICT 2	Installed rebuilt pump	9/19/2017	Aerotek
ICT 13D	Adjusted level probes	9/22/2017	Aerotek
ICT 14C	Cleaned level probes	10/11/2017	Bhate
ICT 13E	Clean and adjust level probes	10/24/2017	Bhate
ICT 12B	Adjusted level probes	11/15/2017	Bhate
ICT 14D	Cleaned level probes	11/15/2017	Bhate
ICT 8	Cleaned and adjusted level probes	11/28/2017	Bhate
ICT 2	Cleaned level probes	12/20/2017	Bhate
ICT 13C	Install new flow meter	1/30/2018	Bhate
ICT 14C	Cleaned level probes	1/30/2018	Bhate
ICT 13C	Cleaned & adjusted level probes	2/1/2018	Bhate
ICT 13B	Repaired broken 1" union	2/1/2018	Bhate
ICT 14A	Repaired 2 broken 1" elbows & lower high level probe	2/1/2018	Bhate
ICT 14B	Repaired broken 1" tee & lower high level probe	2/1/2018	Bhate
ICT 14D	Installed new flow meter	2/8/2018	Bhate
ICT 8	Replaced broken 1" tee & clened level probes	2/8/2018	Bhate
ICT 14D	Cleaned level probes	2/28/2018	Bhate
ICT 14C	Replaced low level probe	2/28/2018	Bhate
ICT 13B	Cleaned level probes	2/28/2018	Bhate
ICT 13A	Installed new motor & replace leaking 1" union	3/14/2018	Bhate
ICT 13C	Cleaned & adjusted level probes	3/21/2018	Bhate
ICT 12B	Replaced broken 1" elbow & install new flow meter	3/21/2018	Bhate
ICT 2	Installed new pump	3/22/2018	Bhate
ICT 13B	Replaced level probes	3/30/2018	Bhate
ICT 14E	Lowered high level probe	3/30/2018	Bhate
ICT 14C	Cleaned level probes	4/27/2018	Bhate
ICT 11	Installed new breaker	4/27/2018	Bhate
ICT 14E	Cleaned level probes	6/7/2018	Bhate
ICT 12C	Cleaned level probes	6/7/2018	Bhate
EW 01	Cleaned level probes	6/7/2018	Bhate
ICT 14E	Replaced level probes	6/8/2018	Bhate
ICT 11	Installed new electrical wire from breaker to well	6/14/2018	Bhate
ICT 12B	Replaced pump	6/25/2018	Bhate
ICT 14E	Cleaned level probes	6/26/2018	Bhate
ICT 8	Cleaned level probes	6/26/2018	Bhate
ICT 14C	Replaced pump	6/27/2018	Bhate
EW01	Replaced level probes	9/12/2018	Bhate
ICT 7	Cleaned level probes	9/12/2018	Bhate
ICT 12C	Replaced low level probe wire and probe	9/12/2018	Bhate
ICT 14D	Replaced high level probe wire & probe	9/13/2018	Bhate
ICT 12B	Replaced high and low level probe wires & probes	9/13/2018	Bhate
ICT 12B	Replaced electrical relay and relay base plate	9/13/2018	Bhate
ICT 14C	Cleaned level probes	9/13/2018	Bhate
ICT 13E	Replaced flow meter	9/14/2018	Bhate
ICT 14D	Replaced low level probe	10/31/2018	Bhate
ICT 8	Cleaned level probes	10/31/2018	Bhate
ICT 14C	Cleaned level probes	10/31/2018	Bhate
ICT 13A	Replaced broken 1" Tee	12/12/2018	Bhate
ICT 14C	Cleaned level probes	12/12/2018	Bhate
ICT 13A	Installed new flow meters	2/14/2019	Bhate

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 12D	Replace pump & motor	3/6/2019	Bhate
ICT 13C	Replace pump	3/8/2019	Bhate
ICT 2	Replace pump & flow meter	3/11/2019	Bhate
ICT 14C	Replace pump & motor	3/12/2019	Bhate
ICT 14D	Replace pump	3/12/2019	Bhate
ICT 14E	Replace pump, seal plate & level probes	3/14/2019	Bhate
ICT 14A	Replace pump and repair leaking 1" pipe	3/15/2019	Bhate
ICT 13C	Lower high level probe	3/22/2019	Bhate
ICT 14A	Lower high level probe	3/22/2019	Bhate
EW-01	Replace pump	3/29/2019	Bhate
ICT 8	Clean level probes	4/1/2019	Bhate
ICT 12C	Clean level probes	4/1/2019	Bhate
ICT 13D	Clean level probes	4/1/2019	Bhate
ICT 14E	Replace bad relay	4/2/2019	Bhate
ICT 12A	Replace flow meter	4/3/2019	Bhate
ICT 13F	Replace flow meter	4/3/2019	Bhate
ICT 13D	Replace low level probe	4/3/2019	Bhate
ICT 13C	Clean level probes	5/8/2019	Bhate
ICT 14 C	Clean level probes	5/8/2019	Bhate
ICT 12D	Replace bad relay	5/8/2019	Bhate
ICT 13A	Replace pump	7/10/2019	Bhate
ICT 13D	Replace pump	7/17/2019	Bhate
ICT 14C	Clean level probes	9/25/2019	Bhate
ICT 14D	Clean level probes	9/25/2019	Bhate
ICT 12D	Clean level probes	10/2/2019	Bhate
ICT 13B	Clean level probes	10/2/2019	Bhate
ICT 13C	Clean level probes	10/2/2019	Bhate
ICT 14E	Clean level probes	10/2/2019	Bhate
18WW17	Install double wall pipe	10/28/2019	Bhate
ICT 14C	Clean level probes	4/16/2020	Bhate
ICT 12B	Replace coil in electrical panel	5/5/2020	Bhate
ICT 14D	Replace coil in electrical panel	5/5/2020	Bhate
ICT 11	Replace broken 1" union	5/12/2020	Bhate
ICT 13E	Replace broken 1" union	5/12/2020	Bhate
ICT 14A	Replace broken 1" tee	5/12/2020	Bhate
ICT 14C	Clean level probes	5/12/2020	Bhate
ICT 14A	Clean level probes	5/12/2020	Bhate
ICT 7	Clean level probes	5/12/2020	Bhate
ICT 13C	Replace pump	5/13/2020	Bhate
ICT 13C	Replace broken 1" union and 1" nipple	5/13/2020	Bhate
ICT 13B	Replace pump	5/19/2020	Bhate
ICT 13B	Replace flow meter	5/19/2020	Bhate
ICT 2	Replace pump	5/20/2020	Bhate
ICT 4	Replace flow meter	9/29/2020	Bhate
ICT 8	Replace flow meter	9/29/2020	Bhate
ICT 12C	Repair flow meter	9/29/2020	Bhate
ICT 13C	Replace flow meter	9/30/2020	Bhate
ICT 14B	Replace flow meter	9/30/2020	Bhate
ICT 7	Replace flow meter	9/30/2020	Bhate
ICT 14E	Replace pump	10/6/2020	Bhate
ICT 14C	Replace pump and motor	10/7/2020	Bhate
18WW17	Replace bad coil	12/9/2020	Bhate
ICT 14A	Electrical problem repaired	12/15/2020	Bhate
ICT 13F	Electrical problem repaired	12/15/2020	Bhate
ICT 8	Clean level probes	12/16/2020	Bhate

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
ICT 14C	Clean level probes	12/16/2020	Bhate
ICT 14B	Replace blown fuse	1/26/2021	Bhate
ICT 13A	Replace pump	1/27/2021	Bhate
ICT 13D	Replace Pump & motor	1/27/2021	Bhate
ICT 2	Replace pump & flowmeter	2/9/2021	Bhate
ICT 12E	Replace pump	2/9/2021	Bhate
ICT14A	Replace broken 1" tee	3/3/2021	Bhate
ICT 8	Replace Pump, repair wiring harness	4/27/2021	Bhate
ICT 14E	Replace pump & motor, spliced in new plug on wiring harness	5/4/2021	Bhate
ICT 14D	Replace pump	5/5/2021	Bhate
ICT 14C	Replace pump	5/5/2021	Bhate
ICT 13A	Repair override switch for electric motor	6/8/2021	Bhate
ICT 2	Replace Flowmeter	2/16/2022	Bhate
ICT 7	Replace Flowmeter	2/16/2022	Bhate
ICT 11	Replace broken nipple on flowmeter	2/16/2022	Bhate
ICT 14E	Replace broken nipple on flowmeter	2/16/2022	Bhate
ICT 8	Replace pump & motor	3/8/2022	Bhate
ICT 13B	Replace pump	3/10/2022	Bhate
ICT 13B	Replace Flowmeter	3/10/2022	Bhate
ICT 13A	Replace Flowmeter	3/10/2022	Bhate
ICT 12B	Replace Flowmeter	3/15/2022	Bhate
ICT 12C	Replace Flowmeter	3/15/2022	Bhate
ICT 14D	Replace pump & motor	3/23/2022	Bhate
ICT 14C	Replace motor	3/23/2022	Bhate
ICT 12D	Replace pump, motor & wiring harness	3/29/2022	Bhate
ICT 12E	Replace Flowmeter	4/29/2022	Bhate
ICT 14E	Clean level probes	11/4/2022	Bhate
ICT 14C	Clean level probes	11/4/2022	Bhate
ICT 7	Replace broken 1" elbow	2/27/2023	Bhate
ICT 11	Replace broken 1" union	2/27/2023	Bhate
ICT 12A	Replace broken 1" elbow	2/27/2023	Bhate
ICT 12C	Replace broken 1" elbow	2/27/2023	Bhate
ICT 12D	Replace broken 1" flowmeter nipple	2/27/2023	Bhate
ICT 12E	Replace broken 1" union	2/27/2023	Bhate
ICT 13B	Replace broken 1" union	2/27/2023	Bhate
ICT 14E	Replace pump & clean level probes	3/7/2023	Bhate
ICT 12C	Replace pump & clean level probes	3/22/2023	Bhate
ICT13F	Replace flow meter	5/13/2023	Bhate
ICT 2	Replace pump & clean level probes	5/16/2023	Bhate
ICT 12D and 13C	Replace fuses/trouble shoot electrical issues	6/2/2023	Bhate
	LHAAP-16		
Well I.D.	**Replaced Parts**	**Date**	**Contractor**
EW08	New pump	2/28/2011	Shaw
EW01	Rebuild pump	8/25/2011	Shaw
EW06	Rebuild pump	8/25/2011	Shaw
EW02	Rebuild pump	2/12/2012	Shaw
EW03	Rebuild pump	2/12/2012	Shaw
EW08	Rebuild pump	11/8/2012	AECOM
EW01	Rebuild pump	11/8/2012	AECOM
EW04	Repair pump	11/13/2012	AECOM
EW07	Rebuild pump	11/13/2012	AECOM
EW04	Installed New Pump	11/28/2012	AECOM
EW06	Installed New Pump	11/28/2012	AECOM
EW02	Installed New Pump	12/4/2012	AECOM

Table A-2: Extraction Equipment Maintenance Since 2011

Well I.D.	Replaced Parts	Date	Contractor
EW03	Installed New Pump	12/4/2012	AECOM
EW01	Installed New Pump	12/17/2012	AECOM
EW01	Replaced Low level probe	1/17/2015	AECOM
EW01	Cleaned and adjusted level probes	10/21/2016	Aerotek

This page intentionally left blank.

APPENDIX B
GROUNDWATER ELEVATION CONTOUR MAPS

This page intentionally left blank.

01194024

TUSCON AVE
TALVEP AVE
LHAAP-35C (53)
Harrison Bayou
Unnamed Ditch
SCUDDAY AVE
BOBBY JONES RD.
AVE "Q"
LONG POINT RD
HAYSTACK RD.
LHAAP-17
LHAAP-18
LHAAP-19
LHAAP-24
LHAAP-39
LHAAP-63
Groundwater Treatment Plant

18WW05 (167.31)
168.00
C-06 (167.19)
C-05 (169.03)
169.00
18WW20 (169.13)
18CPTMW16 (170.10) (Not Used)
18CPTMW18 (170.37)
1824DPTMW01 (169.37)
18WW22 (170.58)
1824DPTMW03 (170.08)
18WW08 (170.48)
18CPTMW19 (171.20)
BGPZ-6 (171.27)
18WW25 (169.33)
MW-5 (171.28)
AWD-4 (171.61)
MW-6 (170.54)
125 (172.01)
BGPZ-7 (170.15)
18CPTMW15 (171.44)
BGPZ-5 (171.87)
MW-4 (172.95)
171.00
1824DPTMW02 (170.22)
170.00
18WW24 (170.23)
LHAAP-24
MW-3 (172.09)
BGPZ-4 (169.98)
109 (171.99)
18CPTMW23 (170.93)
MW-16 (170.42)
BGPZ-3 (170.14)
MW-11 (170.02)
BGPZ-11 (171.28)
1824DPTMW04 (170.36)
123 (173.89)
18CPTMW04 (174.05)
MW-21 (171.60)
BGPZ-8 (169.64)
C-02 (172.00)
AWD-2 (173.56)
MW-1 (174.50)
MW-2 (173.48)
C-08 (171.85)
MW-12 (171.62)
BGPZ-12 (Plugged)
BGPZ-9 (171.37)
18WW10 (169.60)
AWD-3 (174.73)
MW-10 (171.21)
120 (172.60)
AWD-1 (173.86)
18CPTMW24 (171.78)
101 (189.32) (Not Used)
MW-22 (173.00)
MW-17 (170.72)
MW-9 (172.08)
174.00
BGPZ-2 (171.10)
MW-23 (173.10)
1824DPTMW05 (173.22)
171.00
BGPZ-10 (170.04)
18CPTMW14 (172.93)
129 (172.47)
173.00
MW-8 (171.90)
MW-18 (172.26)
MW-7 (171.62)
126 (172.47)
MW-19 (171.42)
BGPZ-1 (179.80) (Not Used)
102 (175.30) (Not Used)
130 (172.24)
18CPTMW22R (181.01) (Not Used)
18CPTMW26 (166.33) (Not Used)
MW-20 (175.49) (Not Used)
172:00
17WW08 (172.20)
18WW14 (171.50)
C-09 (171.09)
C-07 (169.51)

Legend:
- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- Shallow Piezometer Location (inside ICTs)
- Shallow Piezometer Location (outside ICTs)
- (172.47) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

Notes:
This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 75 150 300 Feet

PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Shallow Zone (May 15, 2023) LHAAP-18/24

Figure B-1

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	8/9/2023	MRM

01194025

Groundwater Potentiometric Surface Map
Shallow Zone (June 26, 2023) LHAAP-18/24

Figure B-2

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PCIbhate

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	8/9/2023	MRM

Legend:

- Shallow Monitoring Well Location (inside ICTs)
- Shallow Monitoring Well Location (outside ICTs)
- Shallow Piezometer Location (inside ICTs)
- Shallow Piezometer Location (outside ICTs)
- (170.93) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

Notes:
This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 75 150 300 Feet

Groundwater Treatment Plant

LHAAP-35C (53)
LHAAP-24
LHAAP-18
LHAAP-39
LHAAP-17
LHAAP-19
LHAAP-63

Harrison Bayou
Unnamed Ditch

TUSCON AVE
TALYER AVE
SCUDDAY AVE
AVE "Q"
BOBBY JONES RD.
LONG POINT RD
HAYSTACK RD.

18WW05 (167.53)
C-06 (171.27)
C-05 (169.30)
18WW20 (169.42)
18CPTMW16 (169.82) (Not Used)
18CPTMW19 (170.91)
18WW22 (170.24)
18CPTMW18 (168.96)
1824DPTMW01 (169.22)
18WW08 (169.40)
BGPZ-6 (170.99)
1824DPTMW03 (169.83)
18WW25 (169.55)
MW-5 (171.14)
AWD-4 (171.58)
MW-6 (170.89)
125 (172.28)
MW-4 (172.30)
BGPZ-7 (169.91)
18CPTMW15 (170.09)
BGPZ-5 (171.59)
MW-3 (171.39)
1824DPTMW02 (170.10)
18WW24 (169.40)
18CPTMW23 (170.26)
BGPZ-4 (169.68)
MW-11 (169.57)
109 (171.38)
MW-16 (170.48)
BGPZ-3 (170.18)
123 (173.44)
18CPTMW04 (174.55)
BGPZ-11 (171.03)
BGPZ-8 (169.41)
1824DPTMW04 (170.17)
AWD-2 (173.11)
MW-1 (174.24)
MW-2 (173.07)
MW-21 (170.87)
C-08 (170.69)
C-02 (171.00)
MW-12 (170.80)
BGPZ-9 (171.14)
18WW10 (170.13)
MW-10 (170.50)
120 (173.80)
BGPZ-12 (Plugged)
AWD-3 (174.18)
101 (188.46) (Not Used)
18CPTMW24 (170.27)
AWD-1 (174.68)
MW-17 (170.76)
MW-22 (172.19)
BGPZ-2 (171.25)
129 (173.61)
MW-9 (171.87)
1824DPTMW05 (173.29)
MW-23 (172.95)
BGPZ-10 (169.61)
MW-8 (171.71)
18CPTMW14 (171.37)
MW-18 (170.97)
MW-7 (171.89)
126 (171.53)
MW-19 (170.99)
BGPZ-1 (179.36) (Not Used)
102 (174.84) (Not Used)
18CPTMW22R (178.01) (Not Used)
130 (171.08)
18CPTMW26 (166.64) (Not Used)
MW-20 (175.66) (Not Used)
17WW08 (170.94)
C-09 (170.93)
18WW14 (171.20)
C-07 (169.25)

168.00
169.00
170.00
171.00
170
171
172.00
173.00
174.00
170.00
171.00
171.00
170.00

01194026

TUSCON AVE

LHAAP-35C (53)

TALYER AVE

Harrison Bayou

18WW04
(167.69)

168.00

168.50

169.00

18WW19
(168.95)

18CPTMW19SW
(168.84)

169.50

170.00

18WW21
(169.55)

C-04A
(170.24)

C-04
(169.96)
(Not Used)

170.50

18WW09
(170.66)

18WW18
(170.79)

C-03
(170.95)

18CPTMW08DW
(170.43)

18CPTMW08SW
(171.08)
(Not Used)

1824DPTMW06
(171.76)

18CPTMW23SW
(171.12)

LHAAP-24

18CPTMW01SW
(172.10)

18CPTMW01DW
(170.65)
(Not Used)

18CPTMW07
(171.37)

18WW06
(170.65)

18WW02
(171.38)

18CPTMW04SW
(171.02)

172.00

MW-13
(171.07)

171

LHAAP-18

18WW03
(170.50)

18WW11
(169.58)

173.50

173.00

172.50

172.00

18CPTMW06
(171.08)

MW-14
(173.89)

171.50

18CPTMW10DW
(170.38)

18CPTMW03SW
(171.38)

170.00

18CPTMW10SW
(170.96)

BOBBY JONES RD.

18CPTMW12SW
(170.72)

LHAAP-39

Groundwater Treatment Plant

18CPTMW12DW
(170.58)

Unnamed Ditch

170.50

18CPTMW22SW
(171.21)

18CPTMW26SW
(169.38)

169.50

18CPTMW22DW
(171.19)

LHAAP-63

171.00

SCUDDAY AVE

170.00

LHAAP-17

AVE "Q"

C-01
(171.77)

171.50

170.50

18WW15
(171.94)

LONG POINT RD

C-10
(170.39)

HAYSTACK RD.

LHAAP-19

Notes:
This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 75 150 300 Feet

Legend:

- Wilcox Formation Monitoring Well Location
- (170.39) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Wilcox Zone (May 15, 2023) LHAAP-18/24

Figure B-3

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	8/9/2023	MRM

01194027

TUSCON AVE

LHAAP-35C (53)

TALYER AVE

Harrison Bayou

18WW04
(167.87)

168.00

168.50

169.00

18WW19
(169.30)

169.50

18WW21
(169.25)

170.00

18CPTMW19SW
(170.34)

18WW09
(170.23)

C-04A
(170.72)

C-04
(170.56)

18CPTMW08SW
(170.79)

18CPTMW08DW
(170.27)

18WW18
(170.60)

C-03
(170.79)

170.50

LHAAP-24

18CPTMW01DW
(170.74)
(Not Used)

18CPTMW23SW
(170.22)

18CPTMW01SW
(171.79)

18WW06
(170.55)

1824DPTMW06
(170.73)

18CPTMW07
(170.64)

18CPTMW04SW
(170.67)

18WW02
(171.14)

171.50

LHAAP-18

18WW03
(170.34)

18WW11
(170.03)

MW-13
(170.52)

171

MW-14
(174.04)

173.50
173.00
172.50
172.00
171.50
171.00

171.00

18CPTMW06
(170.76)

18CPTMW10DW
(170.79)

18CPTMW10SW
(170.88)

18CPTMW03SW
(169.70)

170.00

170.50

18CPTMW12SW
(170.96)

LHAAP-39

Groundwater Treatment Plant

18CPTMW12DW
(170.61)

Unnamed Ditch

18CPTMW22SW
(170.79)

18CPTMW22DW
(170.72)

18CPTMW26SW
(170.84)

171.00

SCUDDAY AVE

LHAAP-17

LHAAP-63

AVE "Q"

C-01
(171.49)

171.50

18WW15
(171.59)

LONG POINT RD

C-10
(170.17)

BOBBY JONES RD.

HAYSTACK RD.

LHAAP-19

Legend:

- Wilcox Formation Monitoring Well Location
- (170.17) Potentiometric Surface Elevation in Feet Above Mean Sea Level
- Potentiometric Surface Contour
- Direction of Groundwater Flow
- HDPE High Density Polyethylene
- Interception-Collection Trench (ICT) Location
- HDPE Liner Installed outside of the ICT
- Installation Restoration Program (IRP) Area
- Stream / Ditch Centerline
- Road Line

Notes:
This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 75 150 300 Feet

PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

Groundwater Potentiometric Surface Map
Wilcox Zone (June 26, 2023) LHAAP-18/24

Figure B-4

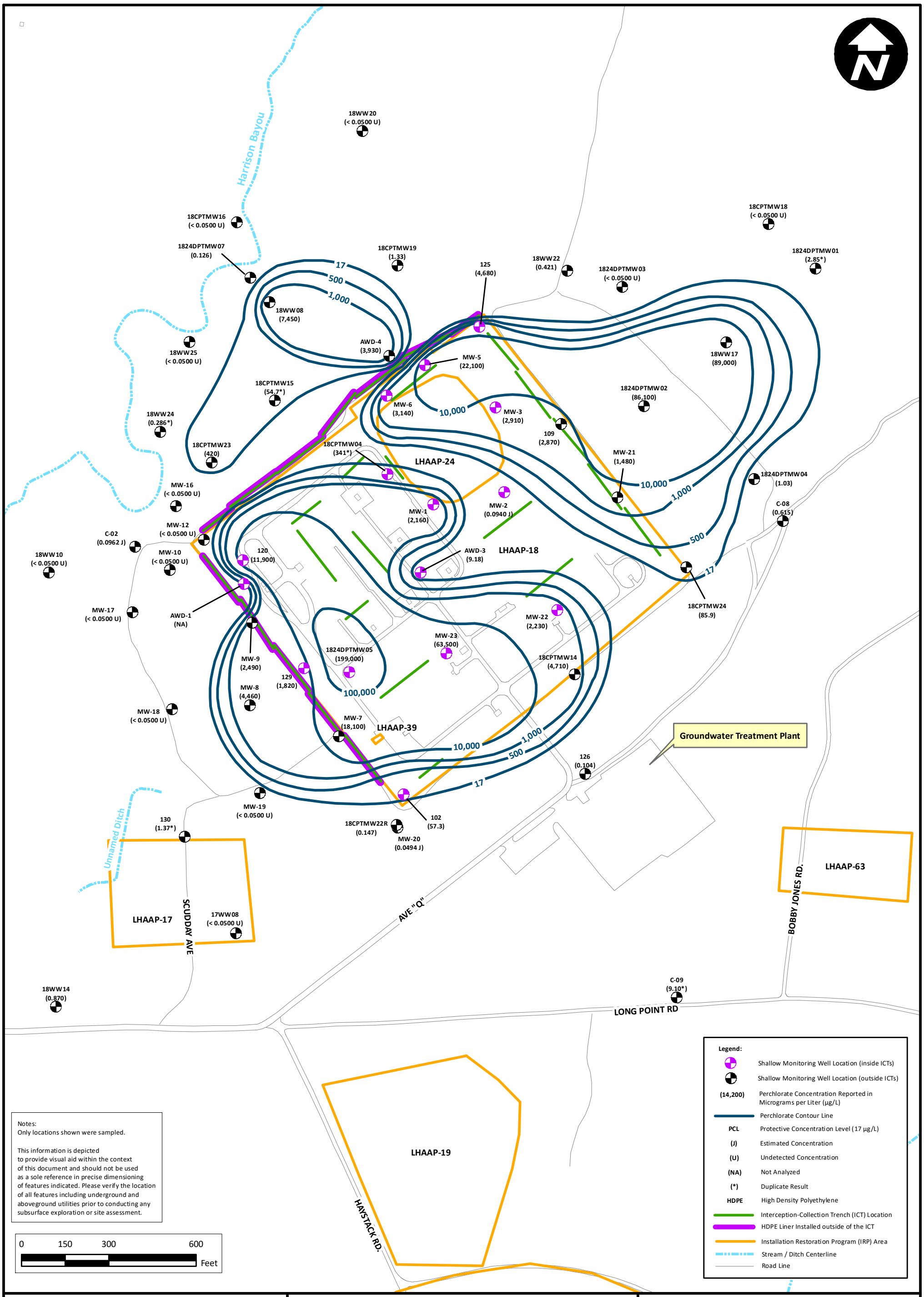
PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	8/9/2023	MRM

APPENDIX C
LABORATORY ANALYTICAL RESULTS FOR LHAAP-18/24
(PROVIDED ELECTRONICALLY AS A SEPARATE FILE)

This page intentionally left blank.

APPENDIX D
ISOPLETH CONTOUR MAPS

This page intentionally left blank.



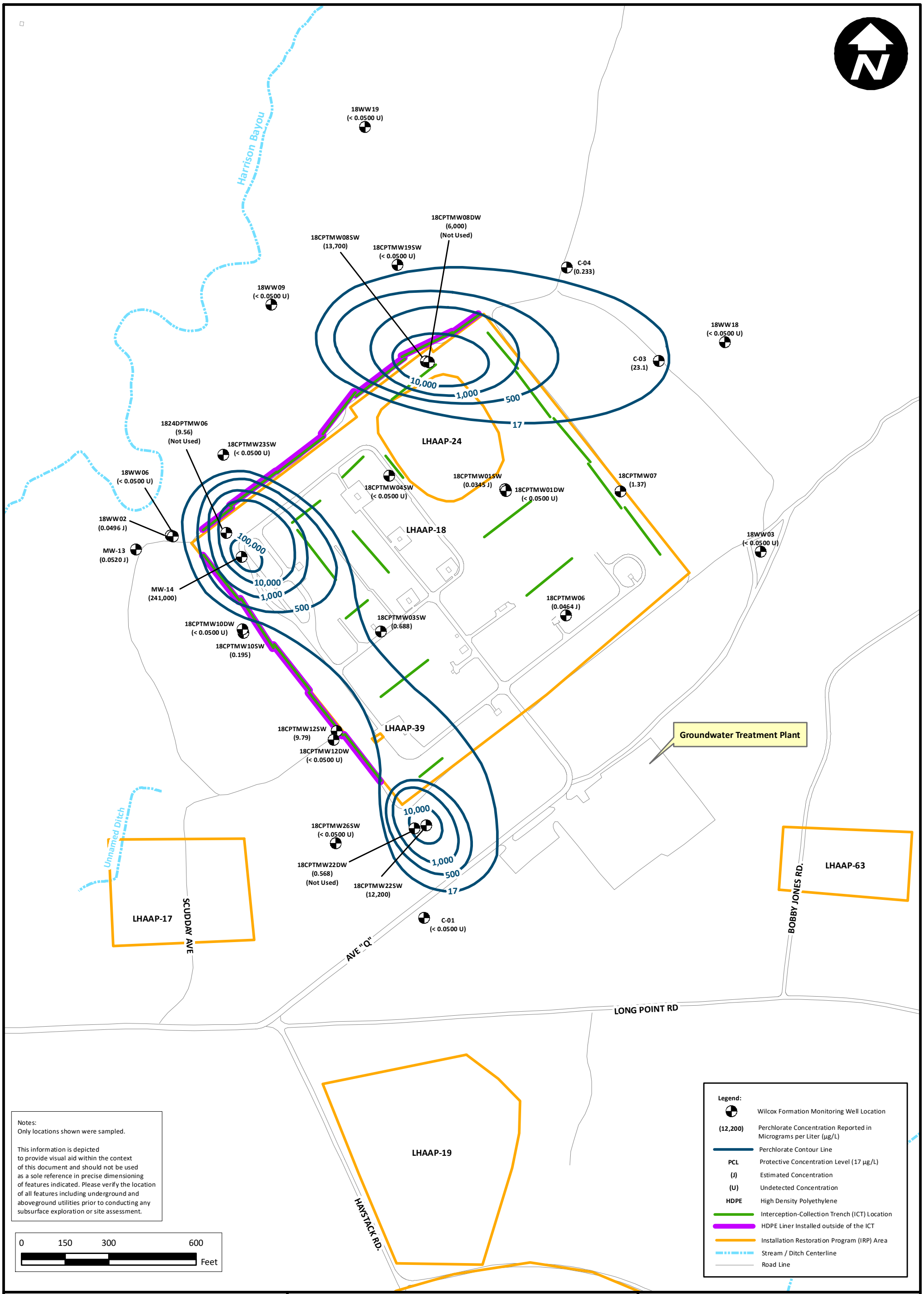
PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	9/26/2023	MRM

Perchlorate Isopleth Contours in Shallow Zone (June - August 2023)

Figure D-1



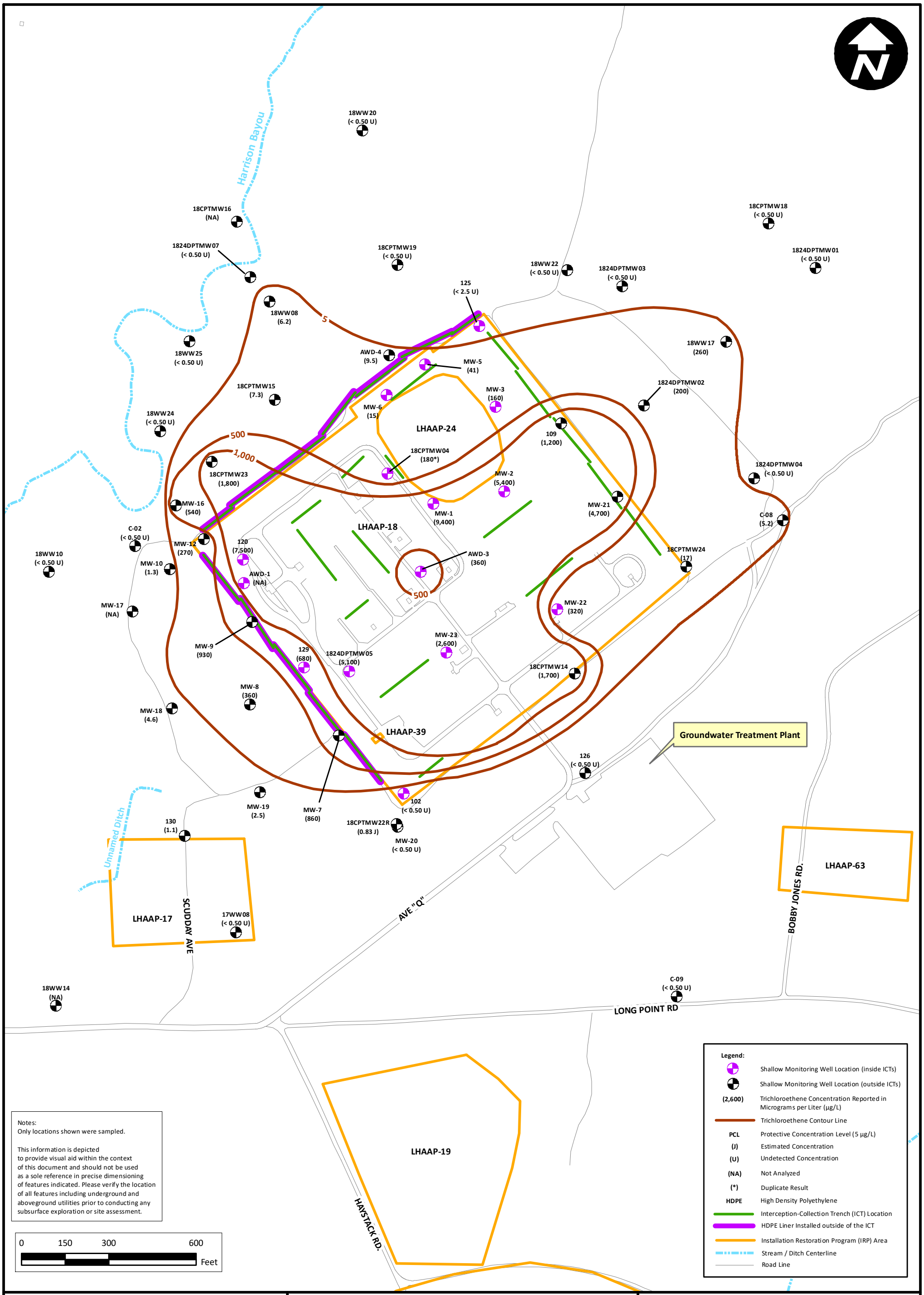
PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	9/26/2023	MRM

Perchlorate Isopleth Contours in Wilcox Formation (June 2023)

Figure D-2



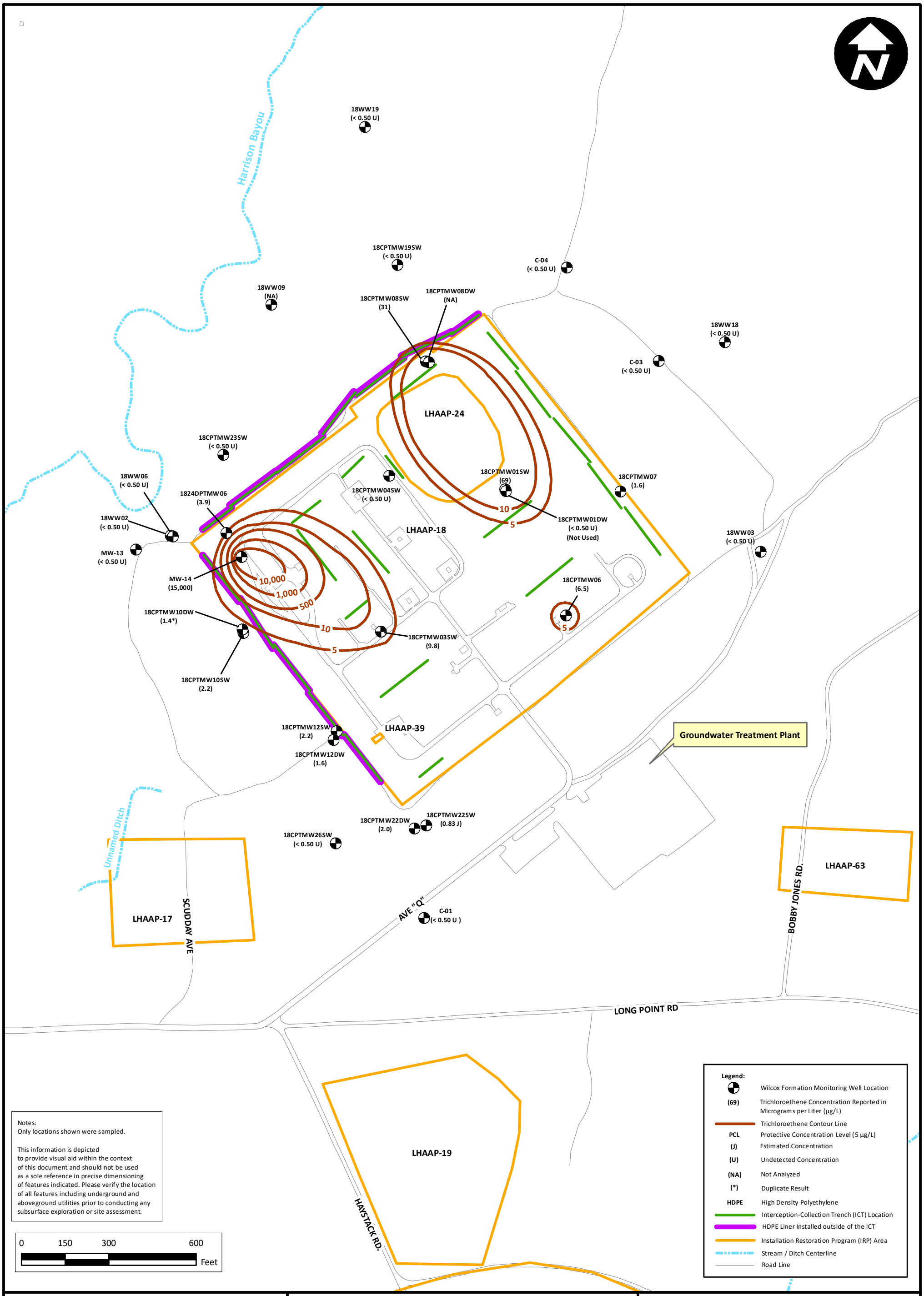
PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	9/26/2023	MRM

Trichloroethene Isopleth Contours in Shallow Zone (June - August 2023)

Figure D-3



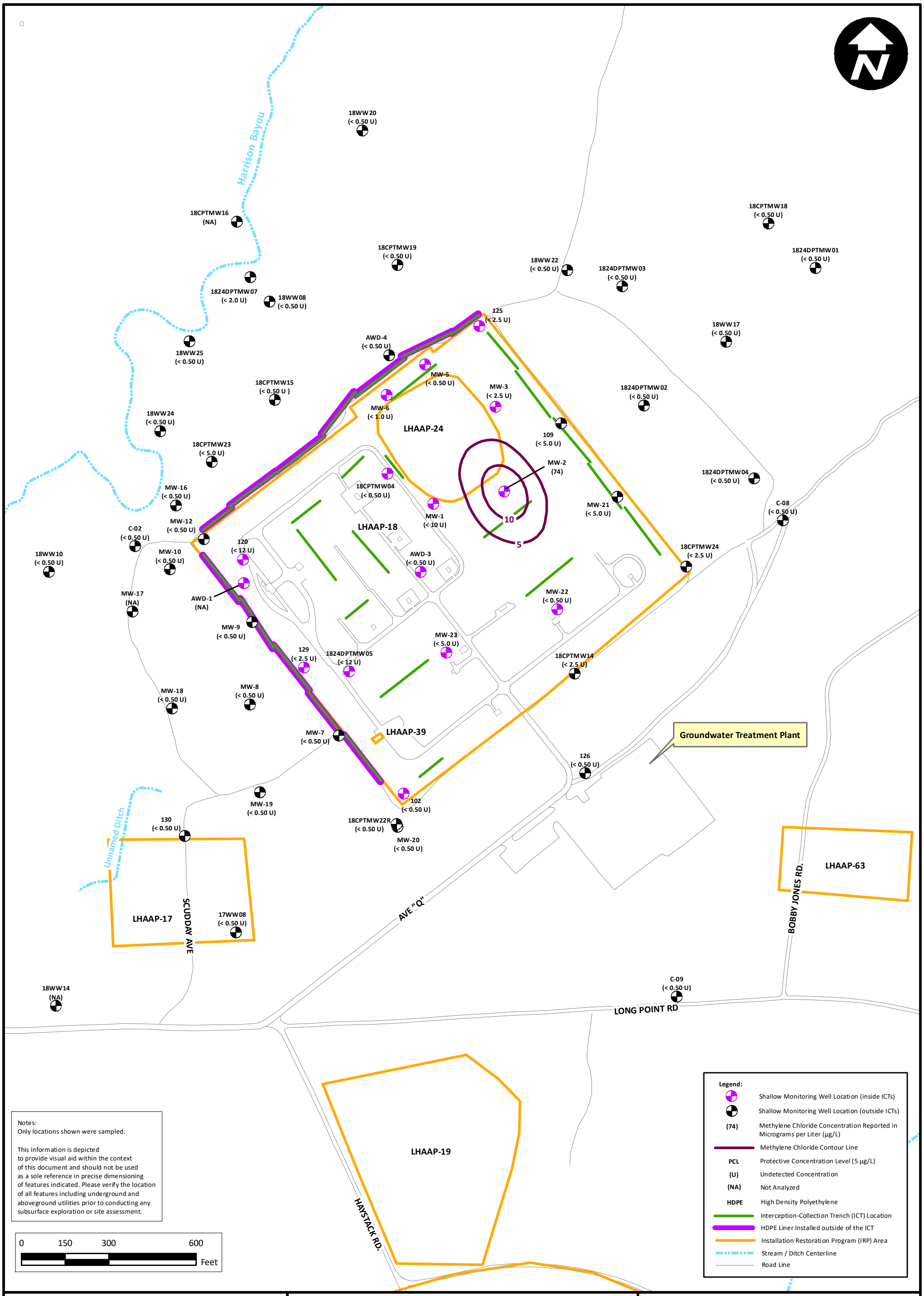
PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	9/26/2023	MRM

Trichloroethene Isopleth Contours in Wilcox Formation (June 2023)

Figure D-4



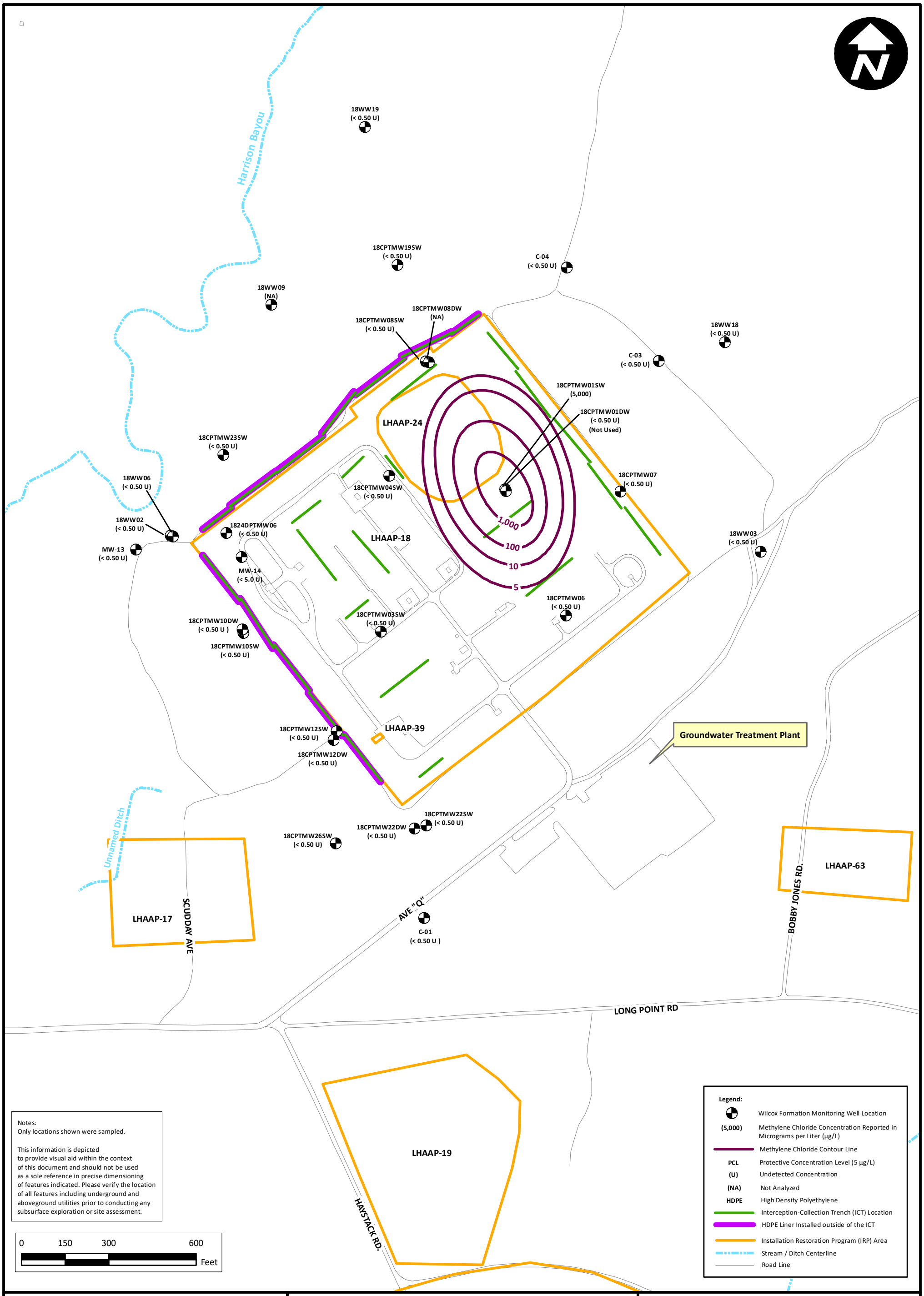
PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	9/26/2023	MRM

Methylene Chloride Isopleth Contours in Shallow Zone (June - August 2023)

Figure D-5



PCIbhate

Quarterly Evaluation Report 2nd Quarter (April – June) 2023
Groundwater Treatment Plant
Longhorn Army Ammunition Plant, Karnack, Texas

PROJECT NO:	SCALE:	DATE:	DRAWN BY:
JVPCIBH.0001.0005.03	As Shown	9/26/2023	MRM

Methylene Chloride Isopleth Contours in Wilcox Formation (June 2023)

Figure D-6

APPENDIX E
MONITORING WELL INSTALLATION DOCUMENTATION

This page intentionally left blank.

HTW DRILLING LOG

HOLE NO. 1824DPTMW07

1.COMPANY NAME: Bhate Environmental Associates	2.DRILLING CONTRACTOR: Walker Hill Environmental
SHEET 1 OF 2 SHEETS	
3.PROJECT: LHAAP- 18/24	4.LOCATION: 1824DPTMW07
5.NAME OF DRILLER: Blake Sistrunk	6.MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 7822 DT
7.SIZES AND TYPE OF DRILLING EQUIPMENT: Dual Tube DPT; 8.25" HSA	8.HOLE LOCATION: Northing survey pending Easting
	9.SURFACE ELEVATION (FT. NAVD88)
	10.DATE STARTED: 20-Jun-23 / 11.DATE COMPLETED: 21-Jun-23
12.OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED (ft bgs): ~2-3 ft bgs
13.DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER (btoc) & TIME ELAPSED AFTER DRILLING COMPLETED: 5.17 ft btoc on 6/21/23
14.TOTAL DEPTH OF HOLE (ft bgs): 12 ft bgs	17.OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18.GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19.TOTAL NUMBER OF CORE BOXES
N/A	N/A	N/A	N/A

20.SAMPLES FOR CHEMICAL ANALYSIS None	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	N/A	N/A	N/A	N/A	N/A	N/A

22.DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	N/A	X	N/A	Junaid Dawud

Depth	Description of Materials	Field Screening Results (ppm)	Geotech Sample or Box number	Analytical Sample Number	Blow Counts	Remarks
0	(0-4 ft) 50% recovery	0.0				
	clay, dark grey 10YR 4/1, moist					
1						
2						
3						
4	(4- 7.5 ft) 80% recovery					
	clay, grayish brown 10YR 5/2, moist/ wet	0.0				
5						
6						Lithology from 5 - 10 feet bgs appears to be similar to the screened interval of upgradient well 18WW08 (see attached drilling log).
7	(7.5-8 ft)	0.0				
	Silty Clay, brownish yellow 10YR 6/8, moist					
8	(8-12 ft) 90% recovery	0.0				
	Sandy Clay, dark grey 10YR 4/1, wet					
9						
10						

HTW DRILLING LOG

HOLE NO. 1824DPTMW07

PROJECT: LHAAP- 18/24

INSPECTOR: Junaid Dawud

SHEET 2 OF 2 SHEETS

Elev.	Depth.	Description of Materials	Field Screening Results (ppm)	Geotech Sample or Box number	Analytical Sample Number	Blow Counts	Remarks
	10	See above description.					
	11						
	12	TD: 12 ft bgs					
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						
	21						
	22						
	23						
	24						
	25						

PROJECT: LHAAP- 18/24

HOLE NO. 1824DPTMW07

026017

Sverdrup ENVIRONMENTAL

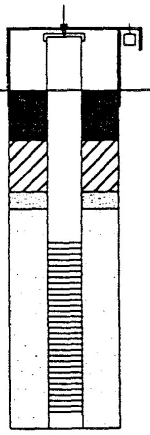
Site ID: 18WW08 Page 1 of 1

·ation: Longhorn Army Ammunition Plant	Elevation: 174.59'	Datum: NGVD
Date(s): 04/30/95 – 04/30/95	Total Depth: 20.00'	Measuring Point: 177.77'
Logged By: A. Passanise	Completed Depth: 20.00'	Static Water Level:
Contractor: Burlington Environmental Inc.	Well Casing: type: SS dia: 4.00in fm: −3.2' to: 9.00'	
Drilling Method: 6−1/4 in. I.D. Hollow Stem Auger	Screens: type: Slotted size: .010in dia: 4.00in fm: 9.00' to: 19.00'	
Remarks:	Annular Fill: type: Bentonite/Cement Grout fm: .00' to: 3.00'; type: Granular Bentonite Seal fm: 3.00' to: 6.00'; type: Secondary Sand Filter fm: 6.00' to: 7.00'; type: #20−40 Silica Filter Sand fm: 7.00' to: 20.00'; type: fm: to: ; type: fm: to:	

Elevation (ft)	Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	USCS Code	Material Description
			SS-1	1 1 2 1		CL	silty CLAY− brown, low to medium stiff, low plasticity, dry
170	5		SS-2	2 4 5 12		SC/SM	clayey silty SAND− light gray with yellowish orange, fine grained, cohesive, moist
	10		SS-3	6 10 12 13		SC	clayey SAND− light gray to yellowish orange, fine grained, cohesive, moist to wet
160	15		SS-4	2 5 7 10		SM/SP	clayey silty SAND− light gray to yellowish orange, fine grained, cohesive, moist to wet
			SS-5	5 7 10 12		CL	silty SAND− yellowish orange, fine to medium grained, slightly cohesive, wet to saturated
	20						silty CLAY− light gray to yellowish orange, fine grained, hard, low plasticity, dry, lignite
150	25						
	30						
140	35						
	40						
130	45						
	50						
120	55						

Well Construction

MP. EL. 177.77

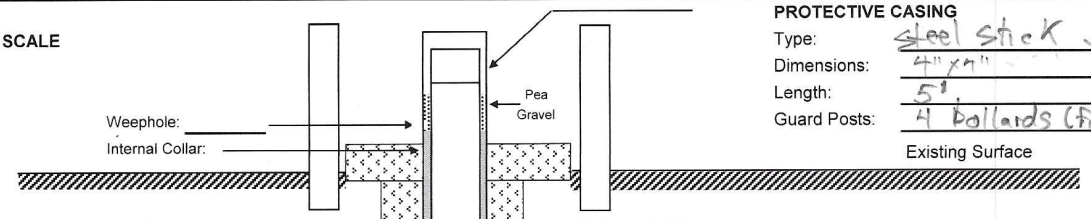


01194043

WELL CONSTRUCTION DIAGRAM (Abovegrade)

SITE:	LHAAP-1824	WELL/BORING ID:	1824 DPT MW07
PROJECT NAME:	LHAAP-1824	DRILLING METHOD:	DP & HSA
PROJECT NO./PHASE:		DATE(S):	6/20 - 6/21
DRILLING CONTRACTOR:	Walker Hill	SURVEYOR:	TBD
DRILLER:	Blake Sistrunk	NORTHING (NAD 83):	TBD
GEOLOGIST:	Junaid Dawud	EASTING (NAD 83):	TBD

NOT TO SCALE



PROTECTIVE CASING
- Type: steel stick up
- Dimensions: 4" x 4"
- Length: 5'
- Guard Posts: 4 bollards (filled)

Surface Elevation (NAVD 88):
Casing Elevation (NAVD 88):
Casing Stickup (ft):

Borehole Diameter (in): 8.25
Well Casing Diameter (in): 2.0

DEPTH TO WATER
- During Drilling: 2-3 ft bgs
- Date
- Pre Development: 5.17 ft BTOC
- Date
- Post Development:
- Date

Bent Seal
Top of ~~Secondary Filter Pack~~:
Top of Filter Pack: 9"
Top of Screen: 1' 9"

Bottom of Screen: 11' 9"
Bottom of Well: 12
Bottom of Filter Pack: 12
Borehole Depth: ~~11.88~~ 12

SURFACE PAD
- Dimensions: 2'x2'
- Type: concrete

WELL CASING (RISER)
- Manufacturer: Enviro Manufacture Inc.
- Type/Material: PVC
- Diameter (in): 2
- Connection: threaded

WELL SCREEN
- Manufacturer: Enviro Manu. Inc.
- Type/Material: PVC w/ pre made screenpack
- Slot Size (in): 0.01
- Slot Type: Continuous (Factory Slot)
- Connection: threaded

ANNULAR SEAL
- Type: ~~Bentonite~~ grout
- Manufacturer: Portland cement
- Mud Scale:
- Installation: (Gravity) Tremie Pressure
- Volume: ~4 gallons
- Hydration Time:

SECONDARY FILTER PACK
- Manufacturer: Pel plug
- Product Name: Bentonite
- Size: pellets
- Volume (ft3): 4 gallons
- Installation: Tremie (Gravity)

PRIMARY FILTER PACK
- Manufacturer: consolidated aggregates
- Product Name: "Pool filter"
- Size: 50# bags X10
- Volume (ft3):
- Installation: (Tremie) Gravity

SUMP/END CAP
- Type: PVC screw cap
- Length: 1"

BACKFILL MATERIAL
- Type:
- Volume:

Comments: Not to Scale	Notes:

6/15/2023

MONITORING WELL DEVELOPMENT FORM

LOCATION	Site: 18/2K		LocID: 1824DPTMW07		Date: 6/29/23
	Project Name: Longhorn Army Ammunition Plant		Project #: JVPCIBH.0001		Recorded By: BEESINGER Checked By:
EQUIPMENT	Water Quality Meter Type/ID #: ~~GEOTECH~~ U-52 HORIBA			Water Level Indicator Type/ID #: GEOTECH	
	Equipment Group:			Equipment Group:	
	Development Equipment: SURGE BLOCK & HURRICANA Pump			Equipment Decon.:	
WELL INFO	Casing I.D. (in) [a]: 2"		Unit Casing Volume (gal/lin ft) [b]: 0.16		Initial Depth to Water (ft) [c]: 5.47
	Total Well Depth (ft) [d]: 15.24		Water Column Thickness (ft) [d-c]: 9.77		Well Volume (gal) {[d-c] x b}: 1.56
	Ground Condition of Well: Solid			Remarks:	

CASING INFO											
Casing I.D. (in) [a]:	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (gal/lin ft) [b]:	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0	2.6

Date	Time (24 hr)	Method (pump, surge, bail)	Water Level (FTOC)	Volume Removed (gal)	Pumping Rate (gpm)	Temp. (C)	pH	Conductivity (mS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mv)	Radiation ( )	Remarks (odor, clarity, etc.)
				2.0									
6/28/23	0855	Pump	~~5.47~~	~~2.0~~	1.0	22.97	6.25	0.692	3.78	1000+	-13		
6/28/23	0835	Pump	6.21	2.5	1.0	20.94	6.15	0.711	3.74	1000+	-14		
6/28/23	0850	Pump	6.50	2.0	1.0	21.01	6.19	0.724	3.70	653	-39		
6/28/23	0920	Pump	~~5.85~~	2.0	1.0	21.52	6.32	0.729	3.88	389	~~-39~~	-30	
6/28/23	0940	Pump	6.10	2.0	1.0	21.31	6.36	0.743	2.87	177	-47		
6/28/23	1000	Pump	6.22	2.0	1.0	21.21	6.23	0.748	2.66	91.3	-48		
6/28/23	1020	Pump	6.18	2.0	1.0	21.35	6.19	0.745	2.73	45.5	-49		
6/28/23	1035	Pump	6.18	2.0	1.0	21.10	6.20	0.755	2.65	29.7	-50		
6/28/23	1055	Pump	6.29	2.0	1.0	21.37	6.32	0.764	2.67	8.8	-54		
6/28/23	1100	Pump	6.35	2.0	1.0	21.33	6.29	0.766	2.65	6.9	-55		
6/28/23	1105	Pump	6.44	2.0	1.0	21.29	6.27	0.767	2.63	5.5	-57		

Development Criteria: 1) sediment <0.75 mL/L, 2) turbidity within 10 NTU range for 30 minutes, 3) +/- 0.5 C, +/- 0.1 pH, +/- 3 % conductivity, +/- 10% DO for 3 consecutive readings, AND 4) remove water added during drilling and construction

1824DTPMW07 TOP CASING
Elev.:174.1'
LAT: 32.669872°
LON: -94.119458°

Imagery ©2023 Maxar Technologies Google

AVENUE Q

MTX
a Bowman company
4901 E End Blvd South, Marshall, Tx 75672
www.bowman.com
903.471.8391
TBPELS Firm No. 10120600 I LA Firm No. 846

JOB NO: 230386	REVISION : 0
FW BY: JS	SCALE 1"= 200'
DRAWN BY: AR	SHEET 1 OF 1
CHKD BY: MHT	

EXHIBIT OF WELL 1824DTPMW07 IN THE J.M. COX SURVEY, A-164, HARRISON COUNTY, TEXAS

LEGEND

- Light Pole
- Electric Meter (EM)
- Fire Hydrant (F)
- Manhole/Sewer/Stormdrain (MH)
- Irrigation Valve (IV)
- Water Meter (WM)
- Fence (Type as Noted)
- Foreign Pipeline
- Overhead Electric Line (OE)
- Gas Meter (GM)
- Air Conditioning Unit (A/C)

200' 0 200' 400'

GRAPHICAL SCALE: 1"=200'

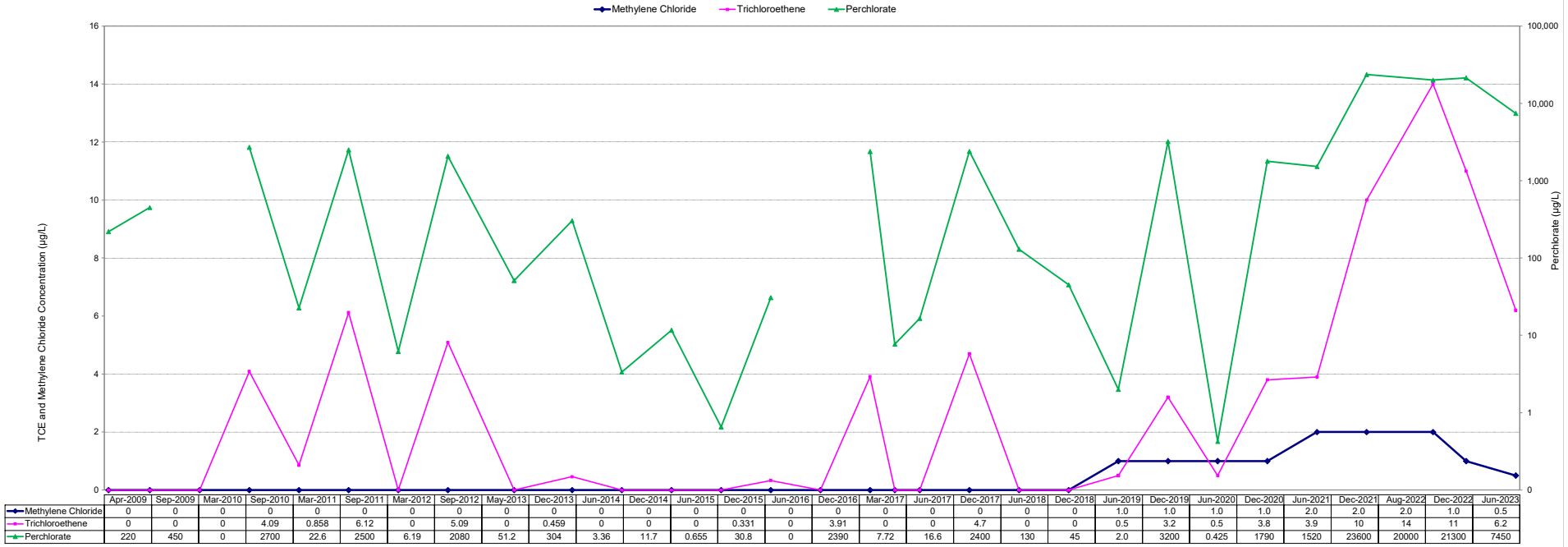
MTX SURVEYING

X:\MTX\Projects\2023\230386 (Bhate – Longhorn Ammuniton Plant)\Draw\2–Standard Platting\230386–Exhibit 1824DTPMW07.dwg

APPENDIX F
MONITORING WELL TREND CHARTS

This page intentionally left blank.

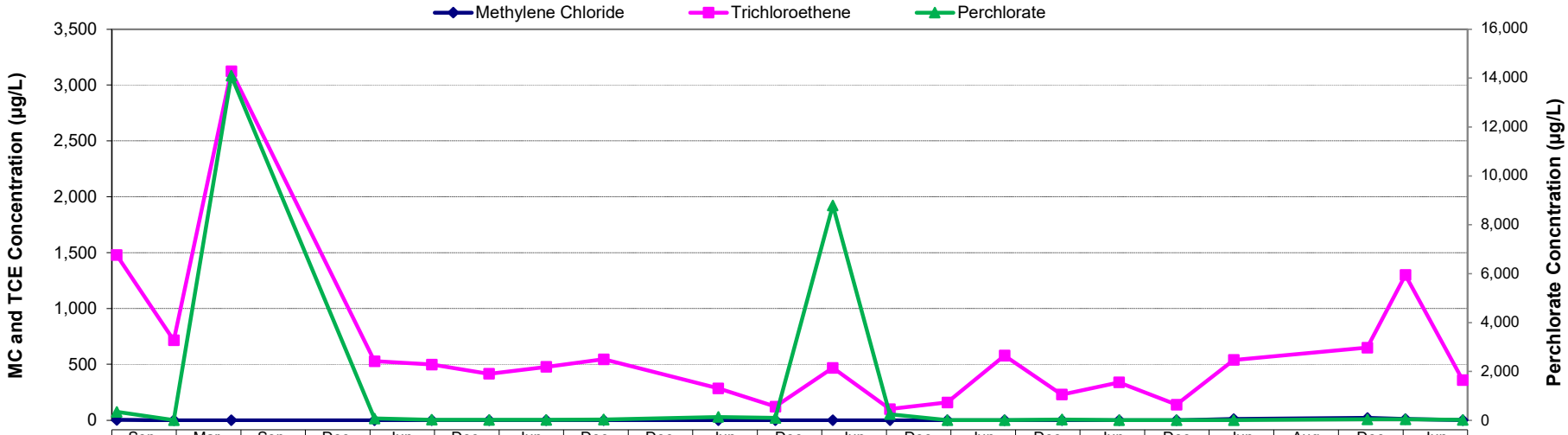
Monitoring Well 18WW08
(Shallow Zone Groundwater - North-Northwest of Site Outside the Fence Line)



	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Mar-2017	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2023
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.0	0.5
Trichloroethene	0	0	0	4.09	0.858	6.12	0	5.09	0	0.459	0	0	0	0.331	0	3.91	0	0	4.7	0	0	0.5	3.2	0.5	3.8	3.9	10	14	11	6.2
Perchlorate	220	450	0	2700	22.6	2500	6.19	2080	51.2	304	3.36	11.7	0.655	30.8	0	2390	7.72	16.6	2400	130	45	2.0	3200	0.425	1790	1520	23600	20000	21300	7450

Sample Date

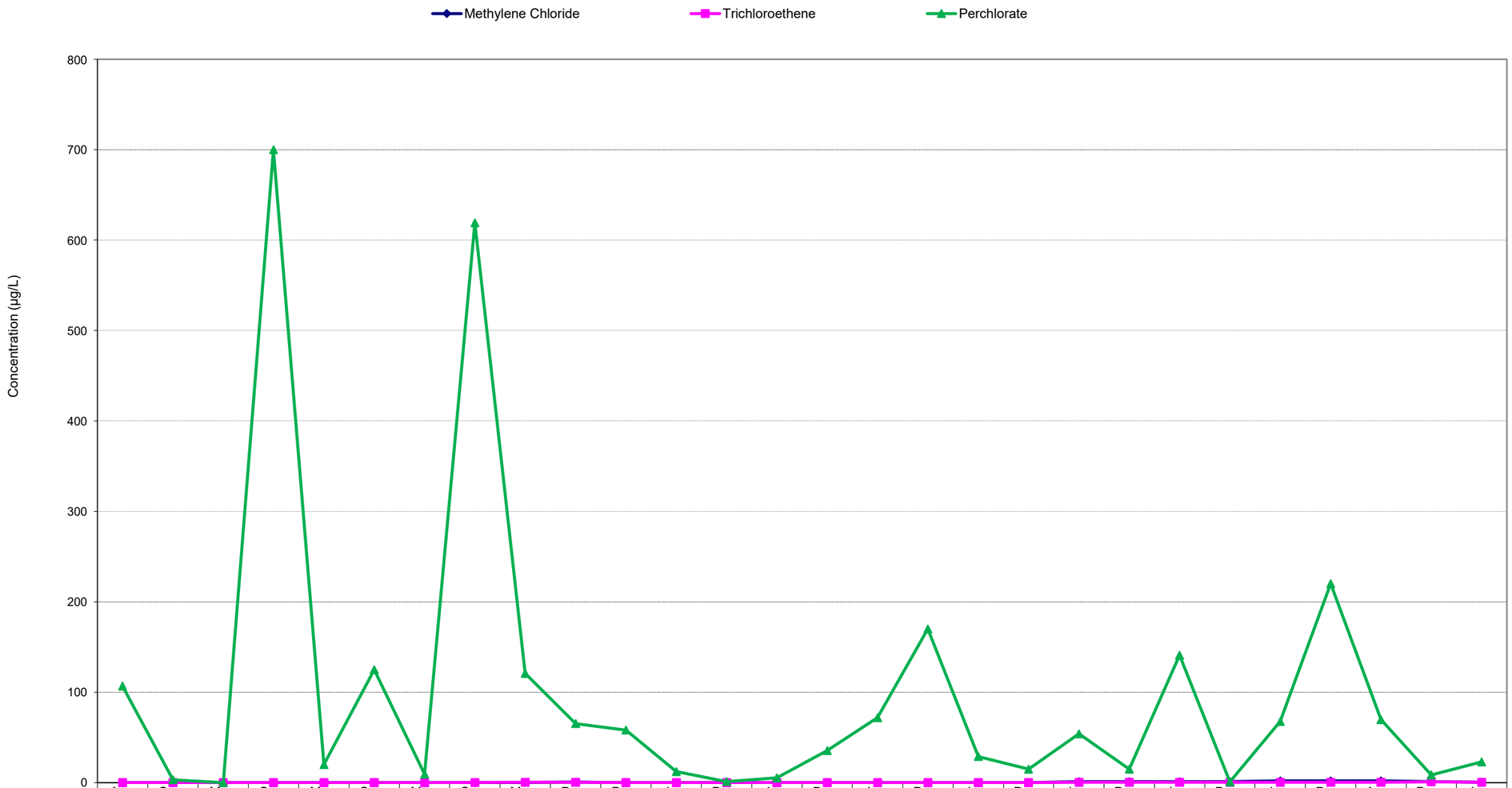
Monitoring Well AWD-3
(Shallow Zone Groundwater - Inside ICT Perimeter)



	Sep-2011	Mar-2012	Sep-2012	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Aug-2022	Dec-2022	Jun-2023
Methylene Chloride	2.92J	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	20	10	0.5
Trichloroethene	1480	716	3125	530	499	417	477	547	285	122	470	100	160	580	230	340	140	540	650	1300	360
Perchlorate	342	3.88	14100	67.2	25	13.6	8.33	33.8	140	95.4	8800	250	6.9	1.8	32	4.07	7.56	1.94	42.3	41.5	9.18

Sample Date

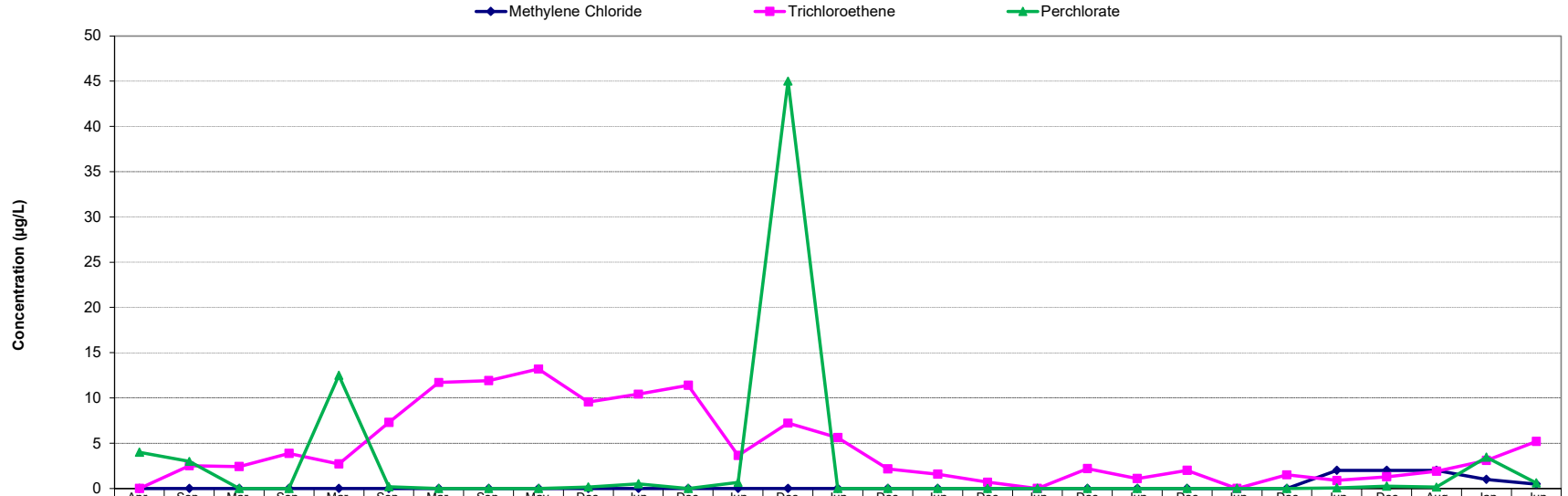
Monitoring Well C-03
(Wilcox Formation - Northest of Site Outside the Fence Line)



	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2019	Dec-2019	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2023
Methylene Chloride	0	0	0	0	0	0	0	0	0.336	0.738	0	0	0	0	0	0	0	0	0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.0	0.5
Trichloroethene	0	0	0	0	0	0	0	0.267	0.476	0.491	0	0	0	0	0	0	0	0	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5
Perchlorate	107	3.2	0	700	20	125	9.45	619	121	65.3	58.3	12.3	1.35	5.48	35.6	72	170	29	15	54	15	141	0.97	67.7	220	69.8	8.54	23.1

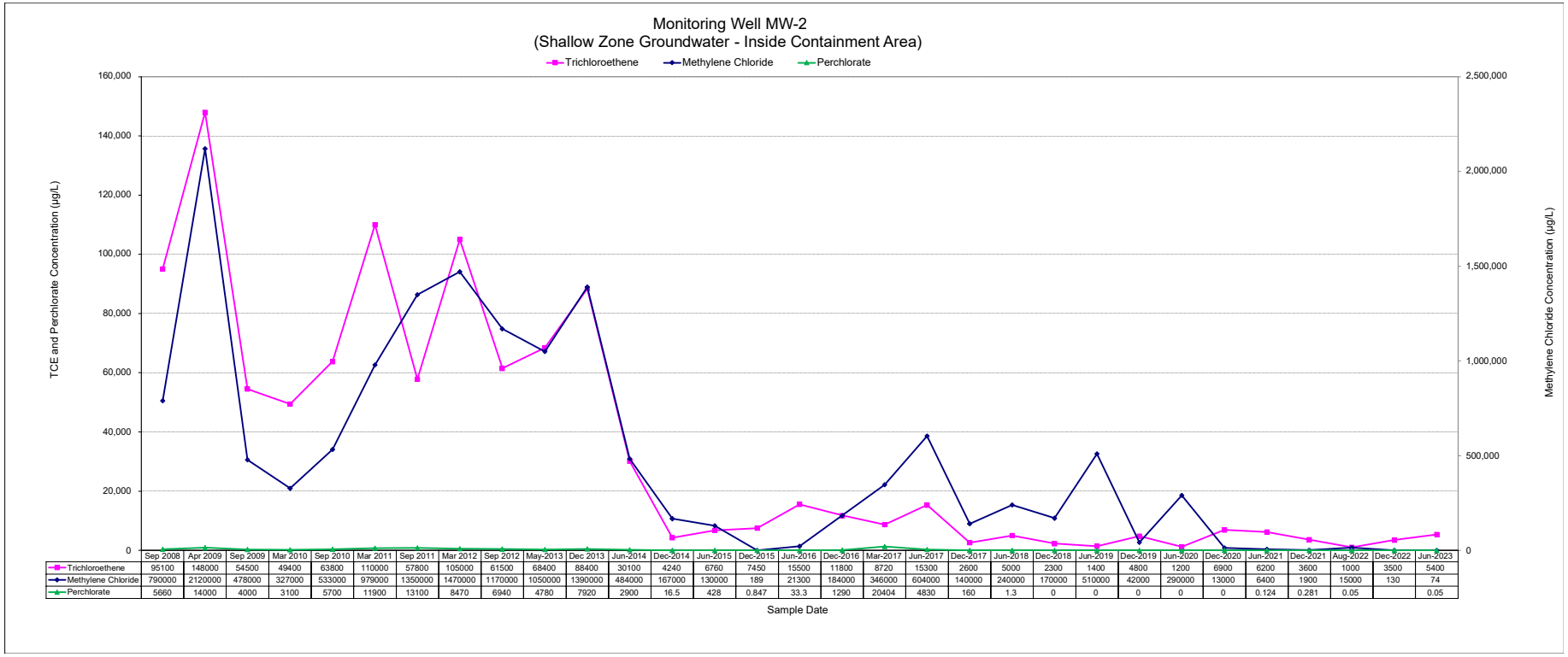
Sample Date

Monitoring Well C-08
(Shallow Zone Groundwater - East of Site Outside the Fence Line)

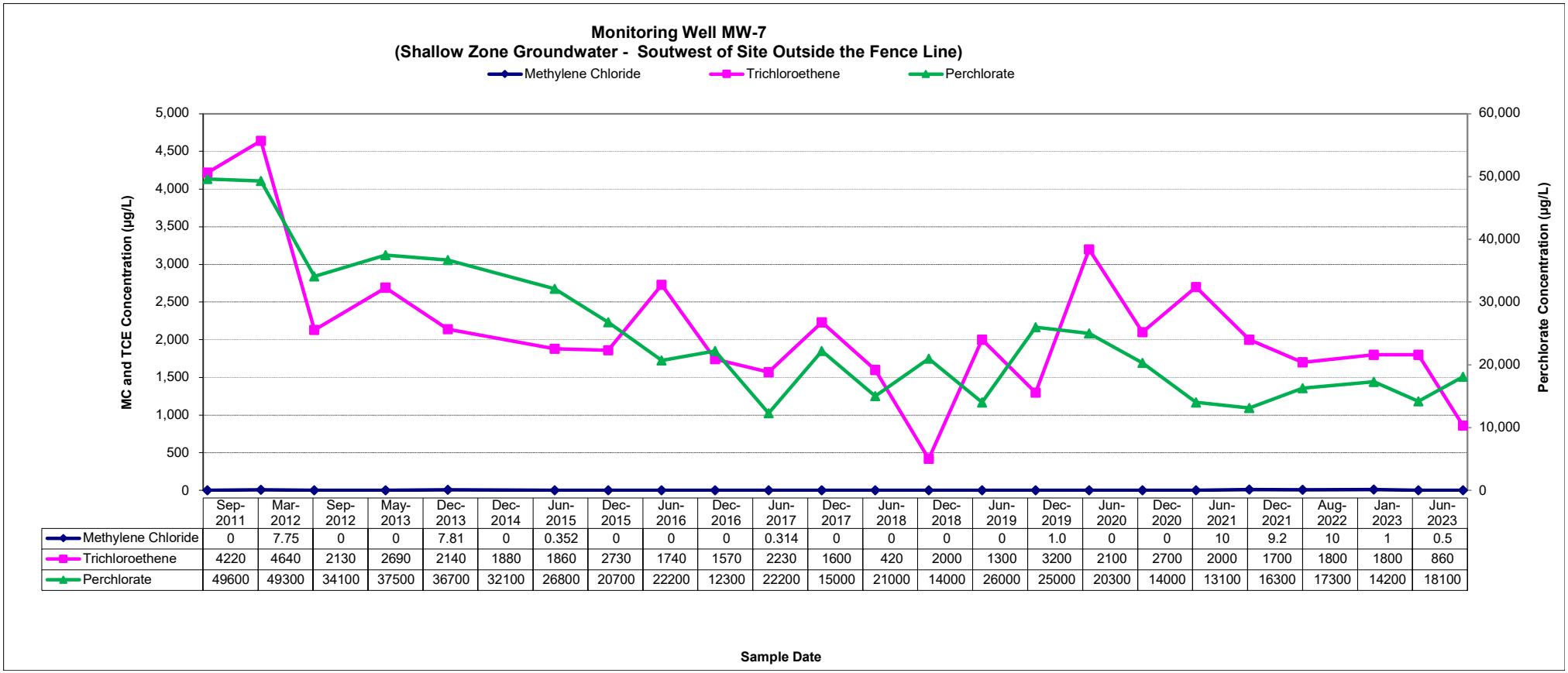


	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Jan-2023	Jun-2023
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.0	2.0	2.0	1.0	0.5
Trichloroethene	0	2.49	2.41	3.87	2.7	7.3	11.7	11.9	13.2	9.54	10.4	11.4	3.64	7.21	5.61	2.18	1.57	0.7	0	2.2	1.1	2	0	1.5	0.87	1.3	1.9	3.1	5.2
Perchlorate	4	3	0	0	12.5	0.179J	0	0	0	0.17	0.501	0	0.648	45	0	0	0	0	0	0	0	0	0	0	0.05	0.273	0.135	3.46	0.615

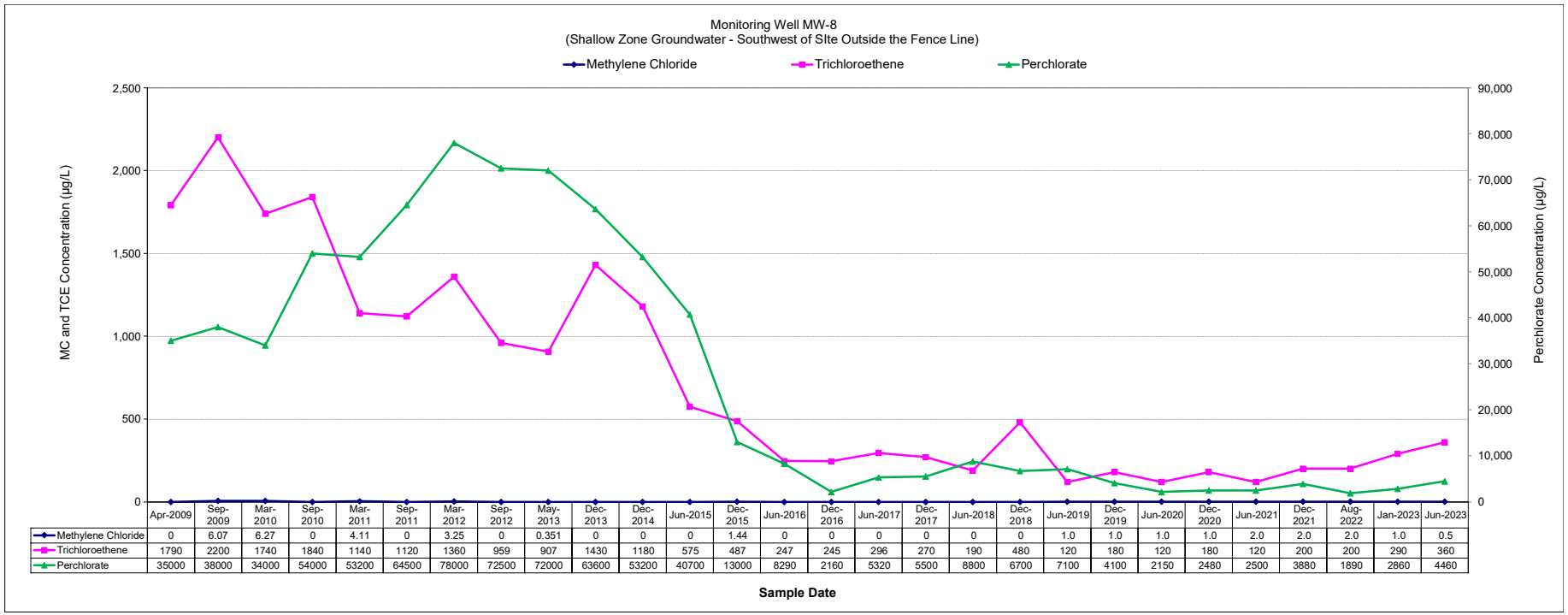
Sample Date



	Sep 2008	Apr 2009	Sep 2009	Mar 2010	Sep 2010	Mar 2011	Sep 2011	Mar 2012	Sep 2012	May-2013	Dec 2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Mar-2017	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2023
Trichloroethene	95100	148000	54500	49400	63800	110000	57800	105000	61500	68400	88400	30100	4240	6760	7450	15500	11800	8720	15300	2600	5000	2300	1400	4800	1200	6900	6200	3600	1000	3500	5400
Methylene Chloride	790000	2120000	478000	327000	533000	979000	1350000	1470000	1170000	1050000	1390000	484000	167000	130000	189	21300	184000	346000	604000	140000	240000	170000	510000	42000	290000	13000	6400	1900	15000	130	74
Perchlorate	5660	14000	4000	3100	5700	11900	13100	8470	6940	4780	7920	2900	16.5	428	0.847	33.3	1290	20404	4830	160	1.3	0	0	0	0	0	0.124	0.281	0.05		0.05

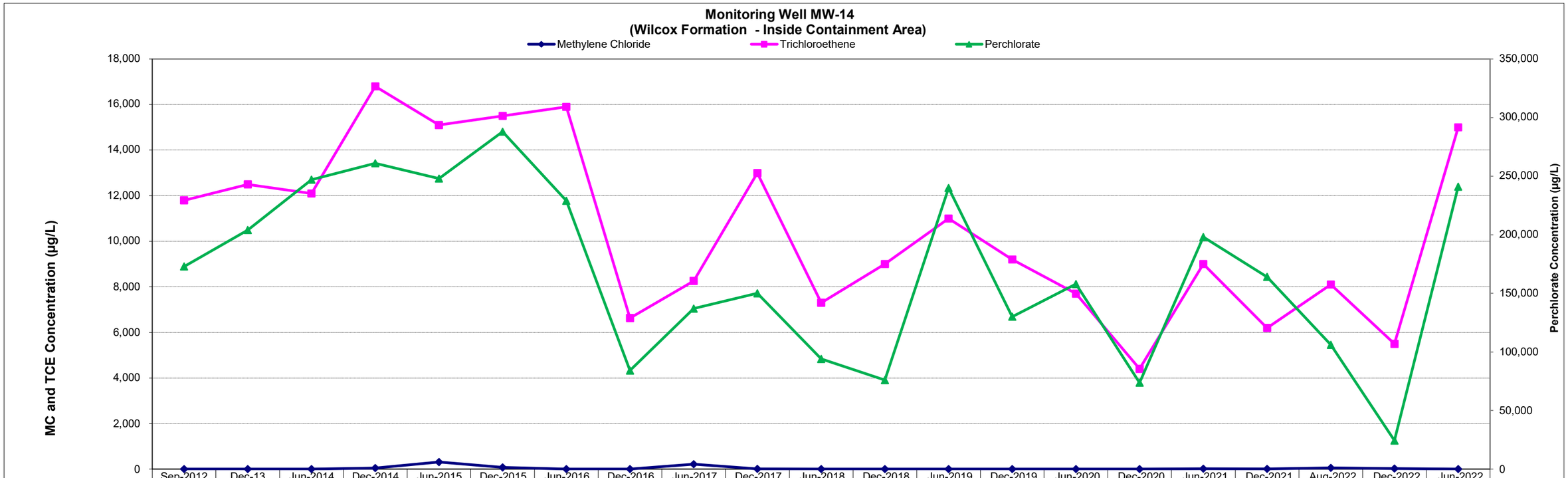


	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Jan-2023	Jun-2023
Methylene Chloride	0	7.75	0	0	7.81	0	0.352	0	0	0	0.314	0	0	0	0	1.0	0	0	10	9.2	10	1	0.5
Trichloroethene	4220	4640	2130	2690	2140	1880	1860	2730	1740	1570	2230	1600	420	2000	1300	3200	2100	2700	2000	1700	1800	1800	860
Perchlorate	49600	49300	34100	37500	36700	32100	26800	20700	22200	12300	22200	15000	21000	14000	26000	25000	20300	14000	13100	16300	17300	14200	18100



	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Jan-2023	Jun-2023
Methylene Chloride	0	6.07	6.27	0	4.11	0	3.25	0	0.351	0	0	0	1.44	0	0	0	0	0	0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.0	0.5
Trichloroethene	1790	2200	1740	1840	1140	1120	1360	959	907	1430	1180	575	487	247	245	296	270	190	480	120	180	120	180	120	200	200	290	360
Perchlorate	35000	38000	34000	54000	53200	64500	78000	72500	72000	63600	53200	40700	13000	8290	2160	5320	5500	8800	6700	7100	4100	2150	2480	2500	3880	1890	2860	4460

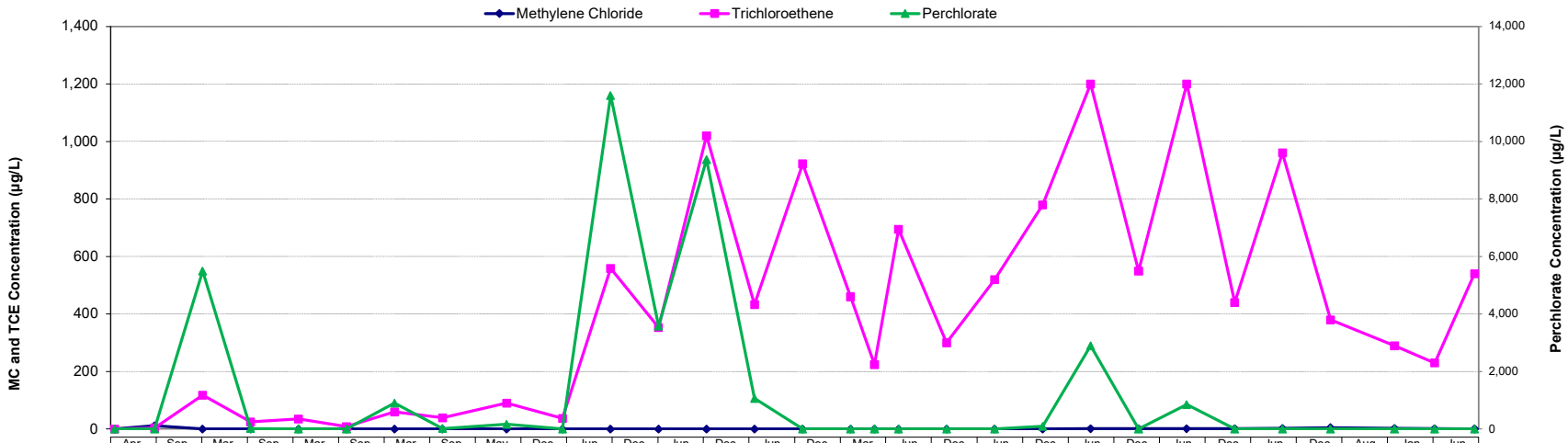
Monitoring Well MW-14
(Wilcox Formation - Inside Containment Area)



	Sep-2012	Dec-13	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2022
Methylene Chloride	1.6	0.689	5.65	42.5	312	76.8	0	0	216	11	0	0	0	0	0	0	20	10	50	25	5
Trichloroethene	11800	12500	12100	16800	15100	15500	15900	6630	8260	13000	7300	9000	11000	9200	7700	4400	9000	6200	8100	5500	15000
Perchlorate	173000	204000	247000	261000	248000	288000	229000	84200	137000	150000	94000	76000	240000	130000	158000	73800	198000	164000	106000	24400	241000

Sample Date

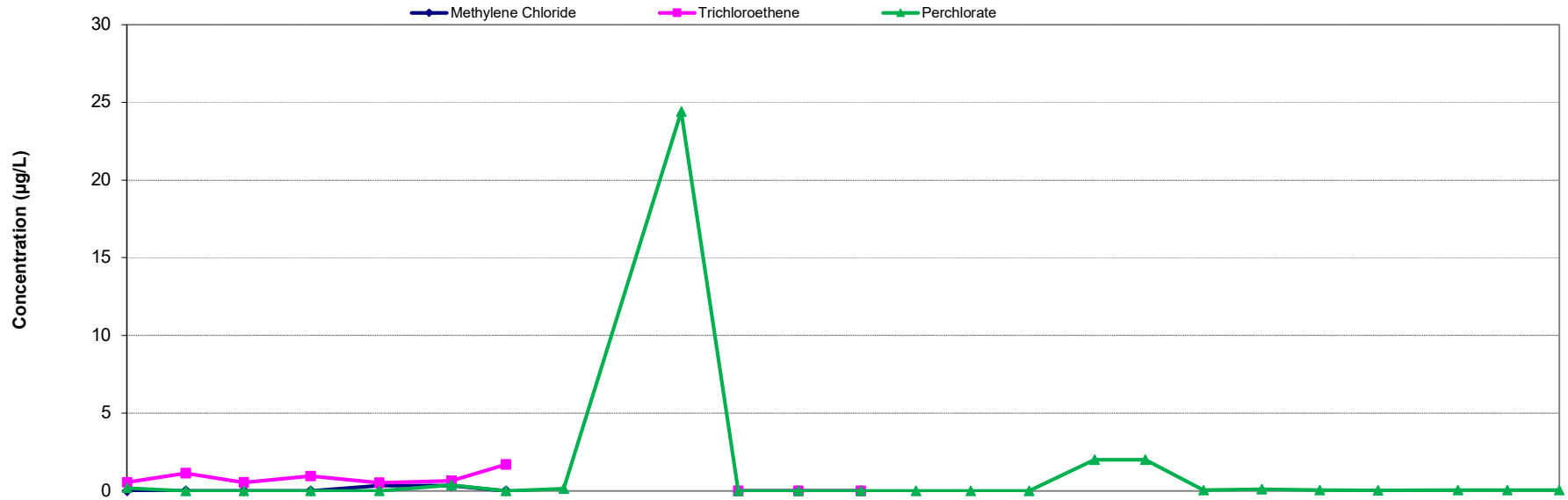
Monitoring Well MW-16
(Shallow Zone Groundwater - West of Site Outside of the Fence Line)



	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Mar-2017	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Jan-2023	Jun-2023
Methylene Chloride	0	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	1.0	1.0	1.0	2.0	5.0	2.0	1.0	0.5
Trichloroethene	0	3.49	118	24.3	34.5	8.52	59.1	38.7	89.9	36.6	559	353	1020	433	922	460	224	695	300	520	780	1200	550	1200	440	960	380	290	230	540
Perchlorate	0	0	5500	17	5.24	0	896	16.5	166	1.25	11600	3580	9370	1060	0.615	0	1.3	0	0	0	90	2900	1.8	848	1.07	0.05	0.0269	0.0518	0.05	0.05

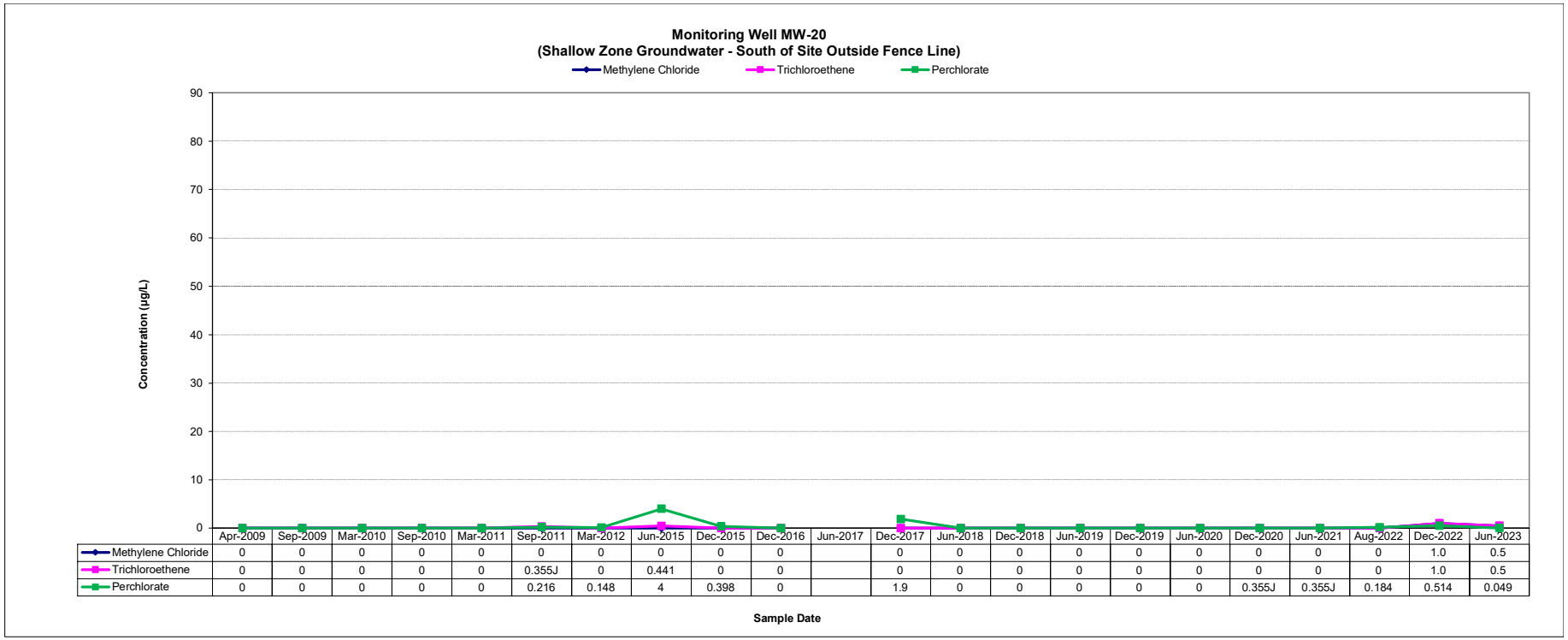
Sample Date

Monitoring Well MW-17
(Shallow Zone Groundwater - West of Site Outside of the Fence Line)



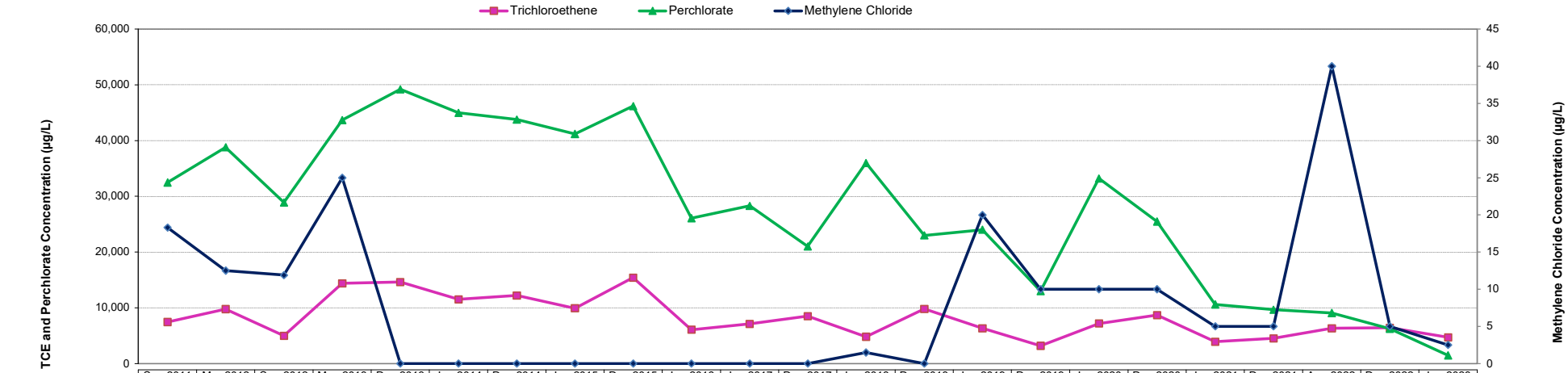
	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Jan-2023	Jun-2023
Methylene Chloride	0	0	0	0	0.335	0.346	0			0	0	0												
Trichloroethene	0.551	1.14	0.537	0.943	0.519	0.656	1.69			0	0	0												
Perchlorate	0.179	0	0	0	0	0.376	0	0.143	24.4	0	0	0	0	0	0	2.0	2.0	0.05	0.1	0.05	0.0282	0.05	0.05	0.05

Sample Date



	Apr-2009	Sep-2009	Mar-2010	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Jun-2015	Dec-2015	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Aug-2022	Dec-2022	Jun-2023
Methylene Chloride	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	1.0	0.5
Trichloroethene	0	0	0	0	0	0.355J	0	0.441	0	0		0	0	0	0	0	0	0	0	0	1.0	0.5
Perchlorate	0	0	0	0	0	0.216	0.148	4	0.398	0		1.9	0	0	0	0	0	0.355J	0.355J	0.184	0.514	0.049

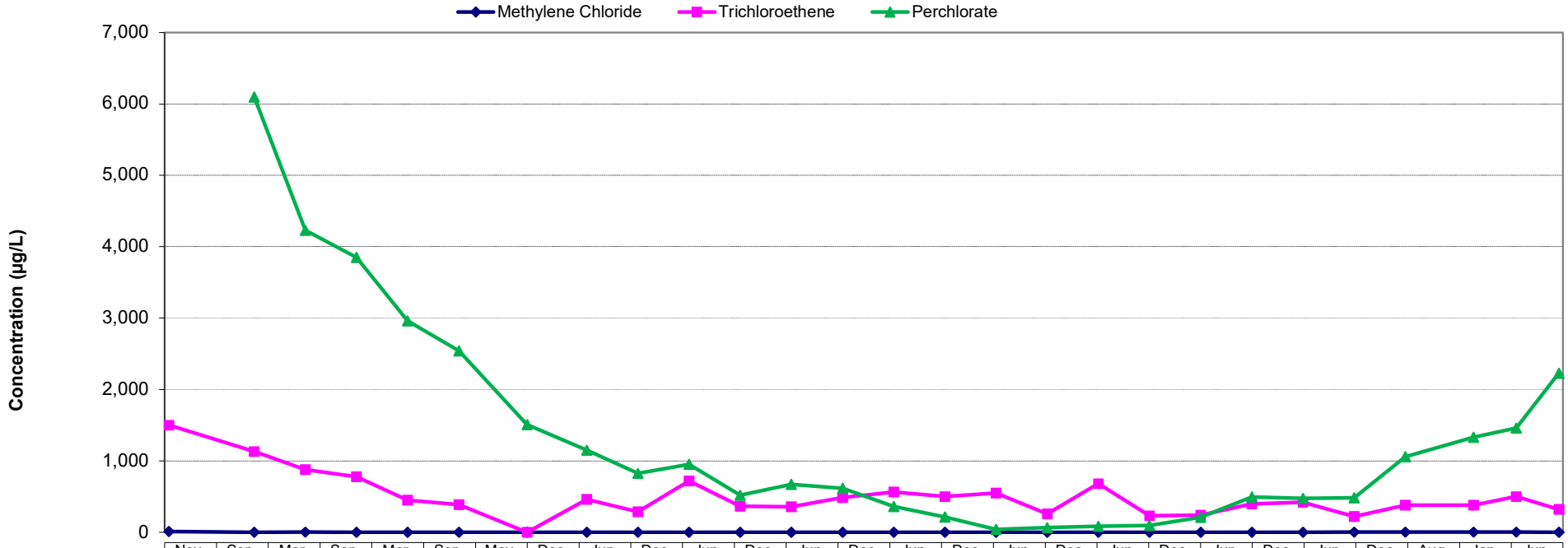
Monitoring Well MW-21
(Shallow Zone Groundwater - Eastern Portion of Site Along the Fence Line)



	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2023
Trichloroethene	7470	9760	4980	14400	14600	11500	12200	9910	15400	6080	7140	8500	4800	9800	6300	3200	7200	8700	3900	4500	6300	6400	4700
Perchlorate	32500	38800	28900	43700	49200	45000	43800	41200	46200	26100	28300	21000	36000	23000	24000	13000	33200	25500	10600	9660	9080	6220	1480
Methylene Chloride	18.3J	12.5	11.9	25	0	0	0	0	0	0	0	0	1.5	0	20	10	10	10	5.0	5.0	40.0	5.0	2.5

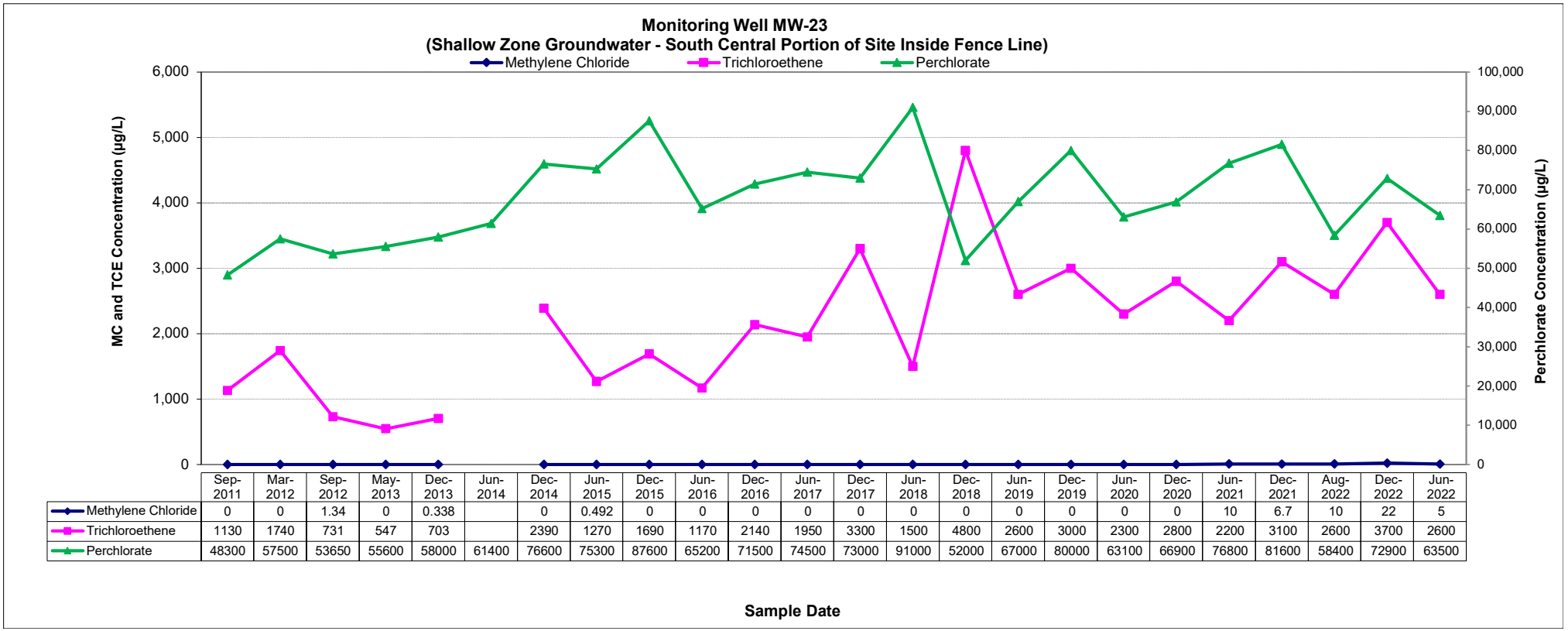
Sample Date

Monitoring Well MW-22
(Shallow Zone Groundwater - East-Southeast Portion of SIte Inside Fence Line)



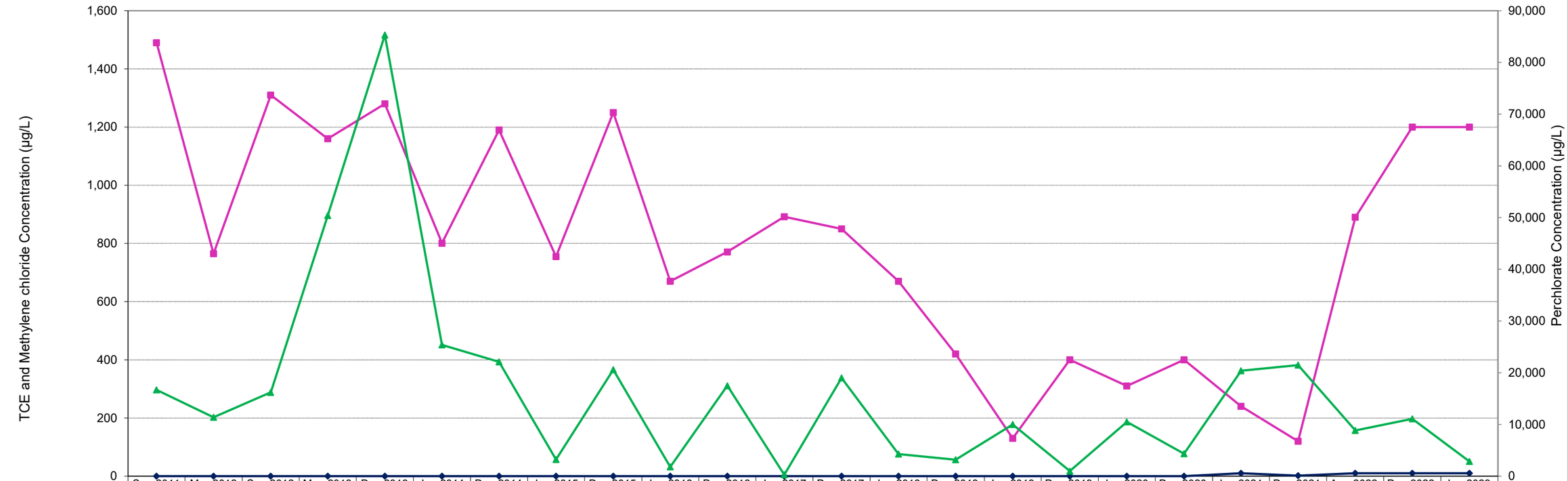
	Nov-2009	Sep-2010	Mar-2011	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Jan-2023	Jun-2023
Methylene Chloride	12	0	3.04	0	0	0	0.531	0	0	0	0.601	0	0	0	0	0	0	0	0	0	0	0	2.0	1.0	2.0	1.0	0.5
Trichloroethene	1500	1130	877	779	450	388	0	463	288	719	364	359	488	566	500	550	260	680	230	240	400	420	220	380	380	500	320
Perchlorate		6100	4230	3850	2960	2540	1510	1150	824	953	519	671	615	363	214	40	66	84	95	210	493	474	484	1060	1330	1460	2230

Sample Date



	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2022
Methylene Chloride	0	0	1.34	0	0.338		0	0.492	0	0	0	0	0	0	0	0	0	0	0	10	6.7	10	22	5
Trichloroethene	1130	1740	731	547	703		2390	1270	1690	1170	2140	1950	3300	1500	4800	2600	3000	2300	2800	2200	3100	2600	3700	2600
Perchlorate	48300	57500	53650	55600	58000	61400	76600	75300	87600	65200	71500	74500	73000	91000	52000	67000	80000	63100	66900	76800	81600	58400	72900	63500

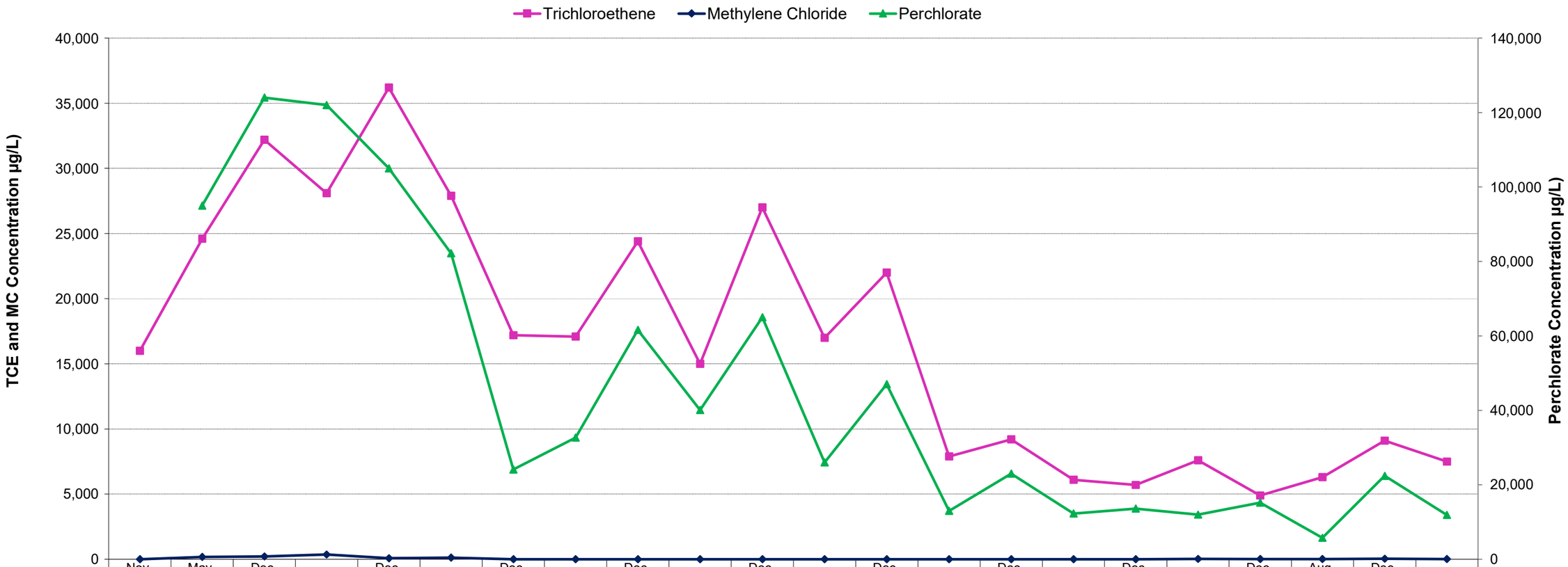
Monitoring Well 109
(Shallow Zone Groundwater - Northeast Portion of SIte Inside Fence Line)



	Sep-2011	Mar-2012	Sep-2012	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2023
Trichloroethene	1490	765	1310	1160	1280	801	1190	755	1250	670	771	892	850	670	420	130	400	310	400	240	120	890	1200	1200
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	2.0	10.0	10.0	10.0
Perchlorate	16700	11400	16200	50400	85300	25400	22100	3220	20600	1810	17500	265	19000	4300	3200	10000	1000	10500	4350	20400	21500	8850	11100	2870

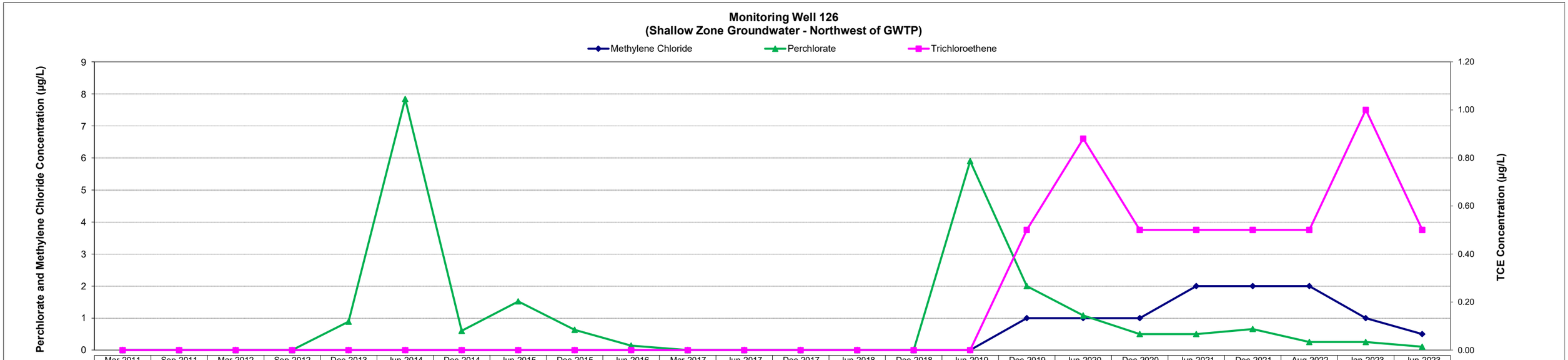
Sample Date

Monitoring Well 120
(Shallow Zone Groundwater - Western Portion of Site Inside Fence Line)



	Nov-2009	May-2013	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Dec-2016	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Dec-2022	Jun-2023
Trichloroethene	16000	24600	32200	28100	36200	27900	17200	17100	24400	15000	27000	17000	22000	7900	9200	6100	5700	7600	4900	6300	9100	7500
Methylene Chloride	0	170	214	363	71.1	125	0	0	0	0	0	0	0	0	0	0	0	20	10	10	42	12
Perchlorate		95000	124000	122000	105000	82200	24100	32700	61600	40100	65000	26000	47000	13000	23000	12300	13600	12000	15200	5770	22400	11900

Sample Date



	Mar-2011	Sep-2011	Mar-2012	Sep-2012	Dec-2013	Jun-2014	Dec-2014	Jun-2015	Dec-2015	Jun-2016	Mar-2017	Jun-2017	Dec-2017	Jun-2018	Dec-2018	Jun-2019	Dec-2019	Jun-2020	Dec-2020	Jun-2021	Dec-2021	Aug-2022	Jan-2023	Jun-2023
Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	1.0	1.0	2.0	2.0	2.0	1.0	0.5
Perchlorate	0	0	0	0	0.887	7.84	0.602	1.52	0.629	0.14	0	0	0	0	0	5.9	2.0	1.08	0.5	0.5	0.658	0.251	0.25	0.10
Trichloroethene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.88	0.5	0.5	0.5	0.5	1	0.5

Sample Date

This page intentionally left blank

APPENDIX G
GWTP WATER SAMPLING LABORATORY ANALYTICAL RESULTS
(PROVIDED ELECTRONICALLY AS A SEPARATE FILE)

This page intentionally left blank.

APPENDIX H
QUALITY CONTROL SUMMARY REPORT

This page intentionally left blank.

QUARTERLY CONTROL SUMMARY REPORT
2nd QUARTER (May-June) 2023
GROUNDWATER TREATMENT PLANT
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

August 2023

Prepared For:

Longhorn Army Ammunition Plant
Karnack, Texas

Under Contract To:

U.S. Army Corps of Engineers
Tulsa District
Tulsa, Oklahoma

Contract Number: W9128F-13-D-0012
Task Order Number: W912BV17F0150

Prepared By:

1608 13th Avenue South, Suite 300
Birmingham, Alabama 35205
1-800-806-4001 • www.bhate.com

Table of Contents

1 INTRODUCTION 3
1.1 Intended Use of Data 3
1.2 Preservation and Holding Times 4
1.3 Calibrations 4
1.3.1 Continuing Calibration Verifications 4
1.4 Blanks 4
1.4.1 Metals - SW6020A 4
1.5 Surrogates 4
1.5.1 1,4-Dioxane – 8270 SIM 5
1.6 Laboratory Control Sample/Laboratory Control Sample Duplicate 5
1.7 Matrix Spike/Matrix Spike Duplicate Sample 5
1.7.1 Volatiles - SW8260C 5
1.7.2 Metals - SW6020A 5
1.8 Internal Standards 5
1.9 Precision 5
1.9.1 Field Duplicate 6
2 DATA USABILITY SUMMARY 6

Tables

Table 1: Field Sample Identification and Laboratory Packages
Table 2: Qualified Analytical Data
Table 3: Completeness by Method

1 INTRODUCTION

Bhate reviewed 21 data packages from ALS Environmental, Houston, Texas. Groundwater samples were collected May 22, 2023 through June 26, 2023 at the Groundwater Treatment Plant (GWTP) and June 9, 2023 to June 27, 2023 (August 2nd for new well DPTMW07) at Site LHAAP 18/24 at Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas. Data were reviewed for conformance to the requirements of the following guidance documents: *USEPA Contract Laboratory Program* [CLP] *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, November 2020), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (USEPA, November 2020) and the *Final Basewide Uniform Federal Policy* [UFP] – *Quality Assurance Project Plan* [QAPP] *Longhorn Army Ammunition Plant* which is in Appendix C of the *Final Installation-Wide Work Plan for Longhorn Army Ammunition Plant Karnack, Texas* (Bhate, May 2018).

1.1 Intended Use of Data

The objective of sampling at the GWTP is to monitor effluent streams to confirm compliance with discharge limits. The LHAAP 18/24 sampling is part of the annual interim action sampling event.

Analyses performed include:

- SW6850 – Perchlorate
- E350.3 – Nitrogen, Ammonia
- E365.3 – Orthophosphate
- E415.1 – Total Organic Carbon
- SW8260C- Volatiles
- SW8270 SIM- 1,4-Dioxane
- SW6020A/7470A – Metals
- SW9056A – Chloride (Cl) and Sulfate (SO_4)
- SW7196A – Hexavalent Chromium
- E410.4 – Chemical Oxygen Demand
- E1664A – Oil and Grease
- TO-15 – Volatiles in Air

Table 1 lists the sample identification numbers (IDs) and their associated laboratory package.

Table 2 lists qualified results with the qualification flag and reason code.

The following narrative is a brief synopsis of data that required qualification due to quality control discrepancies.

1.2 Preservation and Holding Times

Sample identification data were evaluated for agreement with the chain-of-custody (COC). All samples were received in appropriate containers, within the proper temperature range, in good condition, and within the required hold time.

1.3 Calibrations

All analytes reported must be present in the initial and continuing calibration. The calibrations must meet the acceptance criteria specified in Worksheet 24 (Analytical Instrument Calibration) of the QAPP. All results reported must be within the calibration range. Samples were diluted, if necessary, to bring analyte responses within the calibration range

1.3.1 Continuing Calibration Verifications

The calibrations must meet the following criteria otherwise the compound is qualified J or UJ: The continuing calibration verification (CCV) criteria are 20 percent difference (%D) for VOCs and SVOCs and 50% for closing CCVs. Metals and general chemistry - 10%D; perchlorate - 15%D; and volatiles in air - 30%D.

The following samples were outside calibration limits:

- The CCV in samples MW12_062423, 18CPTMW23_062423 and 18WW22_062123 for acetone.

The associated sample compounds were qualified estimated non-detected “UJ”.

1.4 Blanks

If the analyte result for an associated sample was less than 5X (10X for common laboratory contaminants) the analyte concentration in the blank, that result was qualified “UB” and considered an artifact of blank contamination. Where the sample result for the affected analyte was non-detect or greater than 5X the amount in the blank, no qualifier was applied.

1.4.1 Metals - SW6020A

The following samples reported metals <5x the method blank concentration:

- 126_061923 and 18WW03_061923 for mercury.
- 18WW22_062123 for manganese.

These compounds were considered artifacts of blank contamination and flagged “UB”.

1.5 Surrogates

Surrogates were evaluated using limits defined by each method in the project-specific QAPP Worksheet 28.

1.5.1 1,4-Dioxane – 8270 SIM

The 1,4-dioxane surrogate (2-fluorobiphenyl) was above control limits in sample MW14_061323. The detected compound was considered estimated and flagged "J".

1.6 Laboratory Control Sample/Laboratory Control Sample Duplicate

Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS)/(LCSD) recoveries were evaluated using limits defined in the project-specific QAPP
Worksheet 15.

No LCS/LCSD recoveries were outside control limits.

1.7 Matrix Spike/Matrix Spike Duplicate Sample

Matrix Spike/Matrix Spike Duplicate (MS)/(MSD) recoveries were evaluated using limits defined in Worksheet 15 of the project-specific QAPP. When sample results were greater than 4x the spike amount, control limits were not applicable and require no qualification. Furthermore, if a MS/MSD analyses was performed on a batched (unrelated) sample no qualification was made to the sample data. Otherwise, only the sample used for spiking requires qualification.

1.7.1 Volatiles - SW8260C

Sample 1824DPTMW06_062423 reported 1,1-dichloroethane and chloroform below MSD recovery limits. Samples MW1_062323 and ICT14D_062723 reported the MSD below control limits for cis-1,2-dichloroethene. These compounds were qualified estimated "J/UJ".

1.7.2 Metals - SW6020A

The spike sample 18WW14_061923 reported chromium below MS/MSD recovery limits. Sample MW13_062623 reported the MS/MSD recoveries of antimony below control limits. Sample MW1_062323 reported the MS/MSD recoveries below control limits for cobalt. These metals were qualified estimated "J/UJ".

1.8 Internal Standards

If the %R for an internal standard in a sample is not within the limit, the associated sample is qualified for those analytes associated with the internal standard(s) outside of the limit.

Internal standards were within acceptance criteria for the associated compounds.

1.9 Precision

Precision is the measure of variability of individual sample measurements. Evaluation of laboratory and/or field duplicates for precision was done using the relative percent difference (RPD). The RPD is defined as the difference between two duplicate samples divided by the mean and expressed as a percent. Field duplicate RPD limits were set at <30% for groundwater and air matrices. Laboratory duplicate RPD limits were set at <25% for air matrices.

1.9.1 Field Duplicate

The following sample and duplicate were outside RPD limits:

- 18CPTMW04_060923 for 1,4-dioxane.
- 130_061423 for aluminum, copper and vanadium.
- C09_062023 for chromium.
- 18WW19_062323 for aluminum and chromium.
- 18CPTMW10DW_062223 for nickel
- ICT4_062723 and ICT13B_062723 for multiple volatiles and metals (see table below)
- LH18/24-Air_062623_Stripper for acetone

These compounds were qualified estimated "J" in both parent sample and associated duplicate sample.

2 DATA USABILITY SUMMARY

The data are usable for the intended purposes of the project (Table 3). The data quality objectives have been met for the project.

Table 1: Field Sample Identification and Laboratory Packages

Client Sample ID	Lab Package	SW6850	E350.3	E365.3	E415.1	SW8270 SIM	SW8260C	SW6020A	SW9056A	SW7196A	E410.4	1664A	TO-15
GWTP Samples													
LH18/24-SP650_052223_AIX/BIX	HS23051518	X	X	X	X								
LH18/24-SP650_052223_AIX	HS23051522	X				X	X	X		X			
LH18/24-SP140_052223	HS23051516	X						X		X			
LH18/24-SP650_061223_AIX/BIX	HS23060692	X	X	X	X								
LH18/24-SP650_061223	HS23060983						X		X				
LH18/24-SP650_062723_AIX/BIX	HS23091899	X	X	X	X								
LH18/24-SP650_062723	HS23061900						X		X				
Air Samples													
LH18/24-Air_062623_Stripper	P2303042												X
LH18/24-Air_062623_Stripper_a	P2303042												X
LH18/24-Air_062623_GWTP	P2303042												X
LH18/24-Air_062623_Downwind	P2303042												X
Site 18/24													
AWD1_062423	HS23061812					X							
AWD3_061423	HS23061096	X					X	X					
AWD4_062423	HS23061821	X				X	X	X					
18CPTMW01DW_062323	HS23061712	X				X	X	X					
18CPTMW01SW_062223	HS23061712	X				X	X	X					
18CPTMW03SW_061323	HS23060999	X				X	X	X					
18CPTMW04_060923	HS23060739	X				X	X						
18CPTMW04_060923_a	HS23060739	X				X	X						
18CPTMW04SW_060923	HS23060739	X				X	X	X					
18CPTMW06_062423	HS23061812	X				X	X						
18CPTMW07_062123	HS23061557	X				X	X						
18CPTMW08SW_060923	HS23060739	X				X	X						
18CPTMW08DW_060923	HS23060739	X				X							
18CPTMW10SW_062223	HS23061712	X				X	X						
18CPTMW10DW_062223	HS23061712	X					X	X					
18CPTMW10DW_062223_a	HS23061712	X					X	X					
18CPTMW12SW_061423	HS23061096	X				X	X	X					
18CPTMW12DW_061423	HS23061096	X				X	X	X					
18CPTMW14_062123	HS23061557	X				X	X	X					
18CPTMW15_062323	HS23061707	X				X	X						
18CPTMW15_062323_a	HS23061707	X				X	X						
18CPTMW16_061923	HS23061372	X				X							
18CPTMW18_062023	HS23061459	X				X	X	X					
18CPTMW19_062423	HS23061821	X				X	X						
18CPTMW19SW_062423	HS23061821	X				X	X	X					
18CPTMW22R_061323	HS23060999	X				X	X	X					
18CPTMW22SW_061323	HS23060999	X				X	X	X					
18CPTMW22DW_061323	HS23060999	X				X	X	X					
18CPTMW23_062423	HS23061821	X				X	X						
18CPTMW23SW_062423	HS23061821	X				X	X						
18CPTMW24_062123	HS23061557	X				X	X						
18CPTMW26SW_062323	HS23061707	X				X	X						
17WW08_062423	HS23061821	X					X	X					
18WW02_061423	HS23061096	X				X	X	X					
18WW03_061923	HS23061372	X				X	X	X					
18WW06_061423	HS23061096	X				X	X						
18WW08_062323	HS23061707	X				X	X						
18WW09_062323	HS23061707	X				X		X					

18WW10_062623	HS23061825	X				X	X						
18WW14_061923	HS23061372	X						X					
18WW17_062023	HS23061459	X					X	X					
18WW18_062023	HS23061459	X				X	X	X					
18WW19_062323	HS23061707	X					X	X					
18WW19_062323_a	HS23061707	X					X	X					
18WW20_062323	HS23061707	X				X	X	X					
18WW22_062123	HS23061557	X				X	X	X					
18WW24_062423	HS23061821	X					X	X					
18WW24_062423_a	HS23061821	X					X	X					
18WW25_062123	HS23061557	X				X	X	X					
C01_061923	HS23061372	X					X						
C01_061923_a	HS23061372	X					X						
C02_062623	HS23061825	X					X						
C03_062023	HS23061459	X				X	X	X					
C04_062023	HS23061557	X					X						
C06_062023	HS23061459	X					X	X					
C08_061923	HS23061372	X				X	X						
C09_061923	HS23061459	X					X	X					
C09_061923_a	HS23061459	X					X	X					
MW1_062323	HS23061712	X					X	X					
MW2_062323	HS23061712	X				X	X						
MW3_062623	HS23061825	X					X	X					
MW5_060923	HS23060739	X				X	X	X					
MW6_062623	HS23061812	X					X	X					
MW7_061423	HS23061096	X				X	X						
MW8_061423	HS23061096	X				X	X						
MW9_062623	HS23061825	X				X	X	X					
MW10_062123	HS23061557	X				X	X						
MW12_062423	HS23061821	X					X						
MW13_062623	HS23061825	X					X	X					
MW14_061323	HS23060999	X				X	X	X					
MW16_062623	HS23061825	X				X	X						
MW17_062623	HS23061825	X				X							
MW18_062323	HS23061707	X					X						
MW19_062323	HS23061707	X					X	X					
MW20_062123	HS23061557	X					X	X					
MW21_062623	HS23061812	X				X	X	X					
MW22_062423	HS23061812	X					X	X					
MW23_062623	HS23061825	X					X						
102_061323	HS23060999	X					X	X					
109_062623	HS23061812	X				X	X	X					
120_061323	HS23060999	X				X	X						
125_062623	HS23061825	X					X	X					
126_061923	HS23061372	X				X	X	X					
129_062623	HS23061812	X				X	X	X					
130_061423	HS23061096	X					X	X					
130_061423 _a	HS23061096	X					X	X					
ICT2_062723	HS23061925	X					X	X					
ICT4_062723	HS23061925	X					X	X					
ICT4_062723_a	HS23061925	X					X	X					
ICT7_062723	HS23061925	X					X	X					
ICT8_062723	HS23061925	X					X	X					
ICT11_062723	HS23061925	X					X	X					
ICT12A_062723	HS23061925	X					X	X					
ICT12B_062723	HS23061925	X					X	X					
ICT12C_062723	HS23061925	X					X	X					
ICT12D_062723	HS23061925	X					X	X					
ICT12E_062723	HS23061925	X					X	X					
ICT13A_062723	HS23061925	X					X	X					

ICT13B_062723	HS23061925	X					X	X					
ICT13B_062723_a	HS23061925	X					X	X					
ICT13C_062723	HS23061925	X					X	X					
ICT13D_062723	HS23061925	X					X	X					
ICT13E_062723	HS23061925	X					X	X					
ICT13F_062723	HS23061925	X					X	X					
ICT14A_062723	HS23061925	X					X	X					
ICT14B_062723	HS23061925	X					X	X					
ICT14C_062723	HS23061925	X					X	X					
ICT14D_062723	HS23061925	X					X	X					
ICT14E_062723	HS23061925	X					X	X					
1824DPTMW01_062023	HS23061459	X				X	X						
1824DPTMW01_062023_a	HS23061459	X				X	X						
1824DPTMW02_061923	HS23061372	X				X	X						
1824DPTMW03_062023	HS23061459	X				X	X						
1824DPTMW04_061923	HS23061372	X				X	X						
1824DPTMW05_062223	HS23061712	X				X	X						
1824DPTMW06_062423	HS23061821	X				X	X						
1824DPTMW07_0802423	HS23080324	X				X	X						

GWTP – Groundwater Treatment Plant
ID – Identification
MW – Monitoring Well
SM – Standard Method
SW-846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.
E – U.S. Environmental Protection Agency Method, BIX/AIX – before ion exchange/after ion exchange
HS – Houston
ICT – Interceptor Collection Trench

Table 2: Qualified Analytical Data

Client Sample ID Laboratory	Laboratory Package	Analyte Name	Data Validation Qualifier (VOCs and perchlorate in µg/L/metals in mg/L)	Reason for Qualification
GWTP				
LH18/24-Air_062623_Stripper (the higher of the two values is reported)	P2303042	Acetone	180 J	Dup RPD
LHAAP 18/24				
18CPTMW04_060923	HS23060739	1,4-Dioxane	0.027J	Dup RPD
18CPTMW04_060923_a	HS23060739	1,4-Dioxane	0.039 J	Dup RPD
130_061423	HS23061096	Aluminum Copper Vanadium	0.159 J 0.00355J 0.000729 J	Dup RPD
130_061423_a	HS23061096	Aluminum Copper Vanadium	0.544 J 0.00143 J 0.00189 J	Dup RPD
C09_062023	HS23061459	Chromium	0.00618 J	Dup RPD
C09_062023_a	HS23061459	Chromium	0.00326 J	Dup RPD
18WW19_062323	HS23061707	Aluminum Chromium	0.288 J 0.0380 J	Dup RPD
18WW19_062323_a	HS23061707	Aluminum Chromium	0.614 J 0.0578 J	Dup RPD
MW14_061323	HS23060999	1,4-Dioxane	10 J	Surr >
18WW14_061923	HS23061372	Chromium	0.0991 J	MS/MSD <
126_061923	HS23061372	Mercury	0.0000600 UB	MB
18WW03_061923	HS23061372	Mercury	0.0000320 UB	MB
18WW22_062123	HS23061557	Manganese Acetone	0.00110 UB 0.50 UJ	MB CCV
MW13_062623	HS23061825	Antimony	0.00125 UJ	MS/MSD <
1824DPTMW06_062423	HS23061821	1,1-Dichloroethane Chloroform	0.98 J < 0.50 UJ	MSD <
MW12_062423	HS23061821	Acetone	< 0.50 UJ	CCV
18CPTMW23_062423	HS23061821	Acetone	< 5.0 UJ	CCV

18CPTMW10DW_062223	HS23061712	Nickel	0.00100 J	Dup RPD
18CPTMW10DW_062223_a	HS23061712	Nickel	0.00156 J	Dup RPD
MW1_062323	HS23061712	Cobalt Cis-1,2-dichloroethene	0.0187 J 9,100 J	MS/MSD < MSD <
ICT14D_062723		Cis-1,2-dichloroethene	20,000 J	MSD <
ICT13B_062723	HS23061925	1,2-Dichloroethane Cis-1,2-dichloroethene Trans-1,2-dichloroethene Trichloroethene Vinyl Chloride Aluminum Chromium Cobalt Copper Iron Manganese Nickel Zinc	9.5 J 28 J 0.49 J 290 J 0.50 J 0.00338 J 0.000462 J 0.00265 J 0.00114 J 0.154 J 0.291 J 0.00579 J 0.0100 J	Dup RPD
ICT13B_062723_a	HS23061925	1,2-Dichloroethane Cis-1,2-dichloroethene Trans-1,2-dichloroethene Trichloroethene Vinyl Chloride Aluminum Chromium Cobalt Copper Iron Manganese Nickel Zinc	22 J 86 J 0.92 J 570 J 1.1 J 0.00678 J 0.00136 J 0.00162 J 0.00537 J 0.567 J 0.174 J 0.0168 J 0.0176 J	Dup RPD
ICT4_062723	HS23061925	1,2-Dichloroethane Cis-1,2-dichloroethene Trans-1,2-dichloroethene Trichloroethene Vinyl Chloride Aluminum Arsenic Chromium Cobalt Iron Manganese Nickel Vanadium Zinc	140 J 1600 J 8.9 J 2800 J 8.4 J 0.0143 J 0.00120 J 0.285 J 0.00772 J 2.49 J 0.154 J 0.686 J 0.00264 J 0.147 J	Dup RPD
ICT4_062723_a	HS23061925	1,2-Dichloroethane Cis-1,2-dichloroethene Trans-1,2-dichloroethene Trichloroethene Vinyl Chloride Aluminum Arsenic Chromium Cobalt Iron Manganese Nickel Vanadium Zinc	330 J 3600 J 25 J 6200 J 55 J 0.00573 J 0.000451 J 0.0402 J 0.00534 J 0.696 J 0.200 J 0.252 J 0.000798 J 0.0611 J	Dup RPD

GWTP – Groundwater Treatment Plant, ID – identification, HS – Houston
J – Estimated: The analyte was positively identified; the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
UJ – Estimated not detected; The analyte was not detected but considered estimated due to discrepancies in meeting quality control criteria and reported to the limit of detection. UB – considered an artifact of blank contamination
Dup RPD – Field Duplicate Relative Percent Difference outside control limits, ug/L – micrograms per liter, mg/L – milligrams per liter
MB – Method Blank contamination, CCV – Continuing calibration verification percent recovery outside control limits
MS/MSD <– Matrix spike/Matrix spike duplicate below control limits, Surr> - surrogate recovery above control limits

Table 3: Completeness by Method

Method	No. of Rejected Results	% Completeness
SW6850	0	100
E350.3	0	100
E365.3	0	100
E415.1	0	100
SW8270 SIM	0	100
SW8260C	0	100
SW6020A/7470A	0	100
SW9056A	0	100
SW7196A	0	100
E410.4	0	100
E1664A	0	100
TO-15	0	100
E – U.S. Environmental Protection Agency method. SW-846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods		

This page intentionally left blank.

APPENDIX I
AIR MONITORING ANALYTICAL LABORATORY REPORT

This page intentionally left blank.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

LABORATORY REPORT

July 25, 2023

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

RE: LHAAP – GWTP / JVPCIBH.0001

Dear Marcia:

Enclosed are the results of the samples submitted to our laboratory on July 3, 2023. For your reference, these analyses have been assigned our service request number P2303042.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 3:32 pm, Jul 25, 2023

Sue Anderson
Project Manager

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

Client: Bhate Environmental Associates, Inc. Service Request No: P2303042
Project: LHAAP - GWTP / JVPCIBH.0001

CASE NARRATIVE

The samples were received intact under chain of custody on July 3, 2023 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The lower control criterion was exceeded for Benzyl Chloride in the Laboratory Control Sample (LCS) and Duplicate Laboratory Control Sample (DLCS) analyzed on July 17, 2023. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analyte of concern was analyzed and verified that instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. The data has been flagged accordingly. No further corrective action was taken.

The upper control criterion was exceeded for Brommethane in the LCS/DLCS\ analyzed on July 17, 2023. The analyte in question was not detected in the associated field samples. Since the error associated with the elevated recovery equates to a high bias, the sample data has not been significantly affected. The data has been flagged accordingly. No corrective action was required.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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 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.

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

right solutions.
right partner.

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	https://dec.alaska.gov/spar/csp/lab-approval/list-of-approved-labs	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	https://internet.deq.louisiana.gov/portal/divisions/lelap/accredited-laboratories	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtm	2022028
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	006-999-456
New Jersey DEP (NELAP)	https://dep.nj.gov/dsr/oqa/certified-laboratories/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-011
Pennsylvania DEP	hhttp://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-23-14
Utah DOH (NELAP)	https://uphl.utah.gov/certifications/environmental-laboratory-certification/	CA016272022-14
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Bhate Environmental Associates, Inc. Service Request: P2303042
Project ID: LHAAP - GWTP / JVPCIBH.0001

Date Received: 7/3/2023
Time Received: 09:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
LH18/24-Air_062623_Stripper	P2303042-001	Air	6/26/2023	14:00	AC02418	-0.32	3.74	X
LH18/24-Air_062623_Stripper_a	P2303042-002	Air	6/26/2023	14:00	AS01320	-1.76	3.84	X
LH18/24-Air_062623_GWTP	P2303042-003	Air	6/26/2023	14:15	AC02091	-1.71	3.75	X
LH18/24-Air_062623_Downwind	P2303042-004	Air	6/26/2023	07:00	AS00111	-0.41	3.81	X

01194088

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

ALS
2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161

P2303042

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

ALS Contact:

Company Name & Address (Reporting Information)	BHATE ENVIRONMENTAL 445 UNION BLVD. STE. 129 LAKEWOOD, CO. 80228
Project Name	LHAAP - GWTP
Project Number	JVPCIBH.0001
Project Manager	ZACK BECK
P.O. # / Billing Information	
Phone	205-918-4000
Fax	
Email Address for Result Reporting	molive@bhate.com
Sampler (Print & Sign)	Scott Beasinger Scott Beasinger

Analysis Method

TO-15

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume			Comments e.g. Actual Preservative or specific instructions
LHAAP-AIR_062623_STRipper		6/26/23	1400	AC02418		-30	0	6L	X		
LHAAP-AIR_062623_STRipper-D		6/26/23	1400	AS01320		-30	0	6L	X		
LHAAP-AIR_062623_GWTP		6/26/23	1415	AC02091	SFC00467	-30	-4	6L	X		
LHAAP-AIR_062623_Downwind		6/26/23	0700	AS00111	SFC00487	-30	0	6L	X		

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) 10% Surcharge ____

EDD required Yes / No
Type: _____ Units: _____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature) Scott Beasinger	Date: 6/27/23	Time: 0700	Received by: (Signature) FED EX	Date:	Time:	
Relinquished by: (Signature) FED EX	Date:	Time:	Received by: (Signature)	Date: 7.3.23	Time: 0920	Cooler / Blank Temperature ____°C

ALS Environmental
Sample Acceptance Check Form

Client: Bhate Environmental Associates, Inc. Work order: P2303042

Project: LHAAP - GWTP / JVPCIBH.0001

Sample(s) received on: 7/3/23 Date opened: 7/3/23 by: ANTHONY.VASQUE

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2303042-001.01	6.0 L Ambient Can					
P2303042-002.01	6.0 L Silonite Can					
P2303042-003.01	6.0 L Ambient Can					
P2303042-004.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Stripper** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-001

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: AC02418

Initial Pressure (psig): -0.32 Final Pressure (psig): 3.74

Canister Dilution Factor: 1.28

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	**14**	6.8	**8.1**	3.9	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	6.8	ND	1.4	
74-87-3	Chloromethane	ND	6.7	ND	3.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	6.7	ND	0.95	
75-01-4	Vinyl Chloride	**8.3**	6.5	**3.3**	2.6	
106-99-0	1,3-Butadiene	ND	6.8	ND	3.1	
74-83-9	Bromomethane	ND	6.5	ND	1.7	
75-00-3	Chloroethane	ND	6.7	ND	2.5	
64-17-5	Ethanol	ND	64	ND	34	
75-05-8	Acetonitrile	ND	13	ND	7.6	
107-02-8	Acrolein	ND	13	ND	5.6	
67-64-1	Acetone	**180**	67	**78**	28	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	6.7	ND	1.2	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	13	ND	5.3	
107-13-1	Acrylonitrile	ND	6.4	ND	3.0	
75-35-4	1,1-Dichloroethene	**52**	6.9	**13**	1.7	
75-09-2	Methylene Chloride	**9.7**	6.8	**2.8**	2.0	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	6.8	ND	2.2	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**400**	6.9	**52**	0.90	
75-15-0	Carbon Disulfide	ND	14	ND	4.4	
156-60-5	trans-1,2-Dichloroethene	**12**	6.9	**3.0**	1.7	
75-34-3	1,1-Dichloroethane	**11**	6.9	**2.7**	1.7	
1634-04-4	Methyl tert-Butyl Ether	ND	6.9	ND	1.9	
108-05-4	Vinyl Acetate	ND	64	ND	18	
78-93-3	2-Butanone (MEK)	**40**	13	**14**	4.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Stripper** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-001

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: AC02418

Initial Pressure (psig): -0.32 Final Pressure (psig): 3.74

Canister Dilution Factor: 1.28

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**650**	6.8	**170**	1.7	
141-78-6	Ethyl Acetate	ND	27	ND	7.5	
110-54-3	n-Hexane	ND	6.8	ND	1.9	
67-66-3	Chloroform	ND	6.8	ND	1.4	
109-99-9	Tetrahydrofuran (THF)	ND	13	ND	4.3	
107-06-2	1,2-Dichloroethane	**42**	6.9	**10**	1.7	
71-55-6	1,1,1-Trichloroethane	ND	6.8	ND	1.2	
71-43-2	Benzene	ND	6.9	ND	2.2	
56-23-5	Carbon Tetrachloride	ND	6.7	ND	1.1	
110-82-7	Cyclohexane	ND	13	ND	3.9	
78-87-5	1,2-Dichloropropane	ND	6.8	ND	1.5	
75-27-4	Bromodichloromethane	ND	6.9	ND	1.0	
79-01-6	Trichloroethene	**2,800**	34	**520**	6.3	**D**
123-91-1	1,4-Dioxane	ND	6.8	ND	1.9	
80-62-6	Methyl Methacrylate	ND	14	ND	3.4	
142-82-5	n-Heptane	ND	6.8	ND	1.7	
10061-01-5	cis-1,3-Dichloropropene	ND	6.9	ND	1.5	
108-10-1	4-Methyl-2-pentanone	ND	14	ND	3.4	
10061-02-6	trans-1,3-Dichloropropene	ND	6.5	ND	1.4	
79-00-5	1,1,2-Trichloroethane	ND	6.8	ND	1.2	
108-88-3	Toluene	ND	6.8	ND	1.8	
591-78-6	2-Hexanone	ND	14	ND	3.4	
124-48-1	Dibromochloromethane	ND	6.9	ND	0.81	
106-93-4	1,2-Dibromoethane	ND	6.7	ND	0.87	
123-86-4	n-Butyl Acetate	ND	13	ND	2.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Stripper** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-001

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: AC02418

Initial Pressure (psig): -0.32 Final Pressure (psig): 3.74

Canister Dilution Factor: 1.28

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	6.9	ND	1.5	
127-18-4	Tetrachloroethene	**8.5**	6.8	**1.2**	1.0	
108-90-7	Chlorobenzene	ND	6.8	ND	1.5	
100-41-4	Ethylbenzene	ND	6.8	ND	1.6	
179601-23-1	m,p-Xylenes	ND	14	ND	3.2	
75-25-2	Bromoform	ND	6.9	ND	0.67	
100-42-5	Styrene	ND	6.8	ND	1.6	
95-47-6	o-Xylene	ND	6.8	ND	1.6	
111-84-2	n-Nonane	ND	6.8	ND	1.3	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.8	ND	0.99	
98-82-8	Cumene	ND	6.9	ND	1.4	
80-56-8	alpha-Pinene	ND	14	ND	2.5	
103-65-1	n-Propylbenzene	ND	6.9	ND	1.4	
622-96-8	4-Ethyltoluene	ND	7.0	ND	1.4	
108-67-8	1,3,5-Trimethylbenzene	ND	6.8	ND	1.4	
95-63-6	1,2,4-Trimethylbenzene	ND	6.8	ND	1.4	
100-44-7	Benzyl Chloride	ND	27	ND	5.2	
541-73-1	1,3-Dichlorobenzene	ND	6.8	ND	1.1	
106-46-7	1,4-Dichlorobenzene	ND	6.8	ND	1.1	
95-50-1	1,2-Dichlorobenzene	ND	6.9	ND	1.2	
5989-27-5	d-Limonene	ND	14	ND	2.5	
96-12-8	1,2-Dibromo-3-chloropropane	ND	14	ND	1.5	
120-82-1	1,2,4-Trichlorobenzene	ND	14	ND	1.9	
91-20-3	Naphthalene	ND	7.0	ND	1.3	
87-68-3	Hexachlorobutadiene	ND	6.8	ND	0.64	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Stripper_a** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-002

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: AS01320

Initial Pressure (psig): -1.76 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	7.6	ND	4.4	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	7.6	ND	1.5	
74-87-3	Chloromethane	ND	7.4	ND	3.6	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	7.4	ND	1.1	
75-01-4	Vinyl Chloride	**8.0**	7.3	**3.1**	2.9	
106-99-0	1,3-Butadiene	ND	7.6	ND	3.4	
74-83-9	Bromomethane	ND	7.3	ND	1.9	
75-00-3	Chloroethane	ND	7.4	ND	2.8	
64-17-5	Ethanol	ND	72	ND	38	
75-05-8	Acetonitrile	ND	14	ND	8.5	
107-02-8	Acrolein	ND	14	ND	6.2	
67-64-1	Acetone	**100**	75	**44**	32	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	7.4	ND	1.3	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	15	ND	6.0	
107-13-1	Acrylonitrile	ND	7.2	ND	3.3	
75-35-4	1,1-Dichloroethene	**50**	7.7	**13**	1.9	
75-09-2	Methylene Chloride	**9.6**	7.6	**2.8**	2.2	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	7.6	ND	2.4	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**400**	7.7	**52**	1.0	
75-15-0	Carbon Disulfide	**98**	15	**32**	4.9	
156-60-5	trans-1,2-Dichloroethene	**12**	7.7	**3.0**	1.9	
75-34-3	1,1-Dichloroethane	**11**	7.7	**2.7**	1.9	
1634-04-4	Methyl tert-Butyl Ether	ND	7.7	ND	2.1	
108-05-4	Vinyl Acetate	ND	72	ND	20	
78-93-3	2-Butanone (MEK)	**23**	15	**8.0**	5.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Stripper_a** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-002

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: AS01320

Initial Pressure (psig): -1.76 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	**650**	7.6	**160**	1.9	
141-78-6	Ethyl Acetate	ND	30	ND	8.3	
110-54-3	n-Hexane	ND	7.6	ND	2.2	
67-66-3	Chloroform	ND	7.6	ND	1.6	
109-99-9	Tetrahydrofuran (THF)	ND	14	ND	4.9	
107-06-2	1,2-Dichloroethane	**43**	7.7	**11**	1.9	
71-55-6	1,1,1-Trichloroethane	ND	7.6	ND	1.4	
71-43-2	Benzene	ND	7.7	ND	2.4	
56-23-5	Carbon Tetrachloride	ND	7.4	ND	1.2	
110-82-7	Cyclohexane	ND	15	ND	4.4	
78-87-5	1,2-Dichloropropane	ND	7.6	ND	1.6	
75-27-4	Bromodichloromethane	ND	7.7	ND	1.2	
79-01-6	Trichloroethene	**2,800**	38	**520**	7.1	**D**
123-91-1	1,4-Dioxane	ND	7.6	ND	2.1	
80-62-6	Methyl Methacrylate	ND	16	ND	3.8	
142-82-5	n-Heptane	ND	7.6	ND	1.9	
10061-01-5	cis-1,3-Dichloropropene	ND	7.7	ND	1.7	
108-10-1	4-Methyl-2-pentanone	ND	16	ND	3.8	
10061-02-6	trans-1,3-Dichloropropene	ND	7.3	ND	1.6	
79-00-5	1,1,2-Trichloroethane	ND	7.6	ND	1.4	
108-88-3	Toluene	ND	7.6	ND	2.0	
591-78-6	2-Hexanone	ND	16	ND	3.8	
124-48-1	Dibromochloromethane	ND	7.7	ND	0.91	
106-93-4	1,2-Dibromoethane	ND	7.4	ND	0.97	
123-86-4	n-Butyl Acetate	ND	14	ND	3.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Stripper_a** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-002

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: AS01320

Initial Pressure (psig): -1.76 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	7.7	ND	1.7	
127-18-4	Tetrachloroethene	**8.0**	7.6	**1.2**	1.1	
108-90-7	Chlorobenzene	ND	7.6	ND	1.6	
100-41-4	Ethylbenzene	ND	7.6	ND	1.7	
179601-23-1	m,p-Xylenes	ND	16	ND	3.6	
75-25-2	Bromoform	ND	7.7	ND	0.75	
100-42-5	Styrene	ND	7.6	ND	1.8	
95-47-6	o-Xylene	ND	7.6	ND	1.7	
111-84-2	n-Nonane	ND	7.6	ND	1.4	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.6	ND	1.1	
98-82-8	Cumene	ND	7.7	ND	1.6	
80-56-8	alpha-Pinene	ND	16	ND	2.8	
103-65-1	n-Propylbenzene	ND	7.7	ND	1.6	
622-96-8	4-Ethyltoluene	ND	7.9	ND	1.6	
108-67-8	1,3,5-Trimethylbenzene	ND	7.6	ND	1.5	
95-63-6	1,2,4-Trimethylbenzene	ND	7.6	ND	1.5	
100-44-7	Benzyl Chloride	ND	30	ND	5.8	
541-73-1	1,3-Dichlorobenzene	ND	7.6	ND	1.3	
106-46-7	1,4-Dichlorobenzene	ND	7.6	ND	1.3	
95-50-1	1,2-Dichlorobenzene	ND	7.7	ND	1.3	
5989-27-5	d-Limonene	ND	16	ND	2.8	
96-12-8	1,2-Dibromo-3-chloropropane	ND	16	ND	1.6	
120-82-1	1,2,4-Trichlorobenzene	ND	16	ND	2.1	
91-20-3	Naphthalene	ND	7.9	ND	1.5	
87-68-3	Hexachlorobutadiene	ND	7.6	ND	0.71	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_GWTP** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-003

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02091

Initial Pressure (psig): -1.71 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.75	ND	0.44	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.75	**0.43**	0.15	
74-87-3	Chloromethane	ND	0.74	ND	0.36	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.74	ND	0.11	
75-01-4	Vinyl Chloride	ND	0.72	ND	0.28	
106-99-0	1,3-Butadiene	ND	0.75	ND	0.34	
74-83-9	Bromomethane	ND	0.72	ND	0.19	
75-00-3	Chloroethane	ND	0.74	ND	0.28	
64-17-5	Ethanol	**11**	7.1	**6.0**	3.8	
75-05-8	Acetonitrile	ND	1.4	ND	0.85	
107-02-8	Acrolein	**27**	1.4	**12**	0.62	
67-64-1	Acetone	**30**	7.5	**13**	3.2	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.5**	0.74	**0.27**	0.13	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.7**	1.5	**1.5**	0.59	
107-13-1	Acrylonitrile	ND	0.71	ND	0.33	
75-35-4	1,1-Dichloroethene	ND	0.77	ND	0.19	
75-09-2	Methylene Chloride	ND	0.75	ND	0.22	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.75	ND	0.24	
76-13-1	Trichlorotrifluoroethane (CFC 113)	**0.99**	0.77	**0.13**	0.10	
75-15-0	Carbon Disulfide	**5.1**	1.5	**1.6**	0.49	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	ND	0.19	
75-34-3	1,1-Dichloroethane	ND	0.77	ND	0.19	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	ND	0.21	
108-05-4	Vinyl Acetate	ND	7.1	ND	2.0	
78-93-3	2-Butanone (MEK)	**3.7**	1.5	**1.3**	0.50	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_GWTP** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-003

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02091

Initial Pressure (psig): -1.71 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.75	ND	0.19	
141-78-6	Ethyl Acetate	ND	3.0	ND	0.83	
110-54-3	n-Hexane	**3.1**	0.75	**0.87**	0.21	
67-66-3	Chloroform	ND	0.75	ND	0.15	
109-99-9	Tetrahydrofuran (THF)	**1.9**	1.4	**0.65**	0.48	
107-06-2	1,2-Dichloroethane	ND	0.77	ND	0.19	
71-55-6	1,1,1-Trichloroethane	ND	0.75	ND	0.14	
71-43-2	Benzene	ND	0.77	ND	0.24	
56-23-5	Carbon Tetrachloride	ND	0.74	ND	0.12	
110-82-7	Cyclohexane	ND	1.5	ND	0.43	
78-87-5	1,2-Dichloropropane	ND	0.75	ND	0.16	
75-27-4	Bromodichloromethane	ND	0.77	ND	0.11	
79-01-6	Trichloroethene	**2.2**	0.75	**0.41**	0.14	
123-91-1	1,4-Dioxane	ND	0.75	ND	0.21	
80-62-6	Methyl Methacrylate	ND	1.6	ND	0.38	
142-82-5	n-Heptane	ND	0.75	ND	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	ND	0.17	
108-10-1	4-Methyl-2-pentanone	ND	1.6	ND	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	ND	0.16	
79-00-5	1,1,2-Trichloroethane	ND	0.75	ND	0.14	
108-88-3	Toluene	**1.6**	0.75	**0.42**	0.20	
591-78-6	2-Hexanone	ND	1.6	ND	0.38	
124-48-1	Dibromochloromethane	ND	0.77	ND	0.090	
106-93-4	1,2-Dibromoethane	ND	0.74	ND	0.096	
123-86-4	n-Butyl Acetate	ND	1.4	ND	0.30	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_GWTP** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-003

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02091

Initial Pressure (psig): -1.71 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.77	ND	0.16	
127-18-4	Tetrachloroethene	ND	0.75	ND	0.11	
108-90-7	Chlorobenzene	ND	0.75	ND	0.16	
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	1.6	ND	0.36	
75-25-2	Bromoform	ND	0.77	ND	0.074	
100-42-5	Styrene	ND	0.75	ND	0.18	
95-47-6	o-Xylene	ND	0.75	ND	0.17	
111-84-2	n-Nonane	ND	0.75	ND	0.14	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.75	ND	0.11	
98-82-8	Cumene	ND	0.77	ND	0.16	
80-56-8	alpha-Pinene	ND	1.6	ND	0.28	
103-65-1	n-Propylbenzene	ND	0.77	ND	0.16	
622-96-8	4-Ethyltoluene	ND	0.78	ND	0.16	
108-67-8	1,3,5-Trimethylbenzene	ND	0.75	ND	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	0.75	ND	0.15	
100-44-7	Benzyl Chloride	ND	3.0	ND	0.58	
541-73-1	1,3-Dichlorobenzene	ND	0.75	ND	0.13	
106-46-7	1,4-Dichlorobenzene	ND	0.75	ND	0.13	
95-50-1	1,2-Dichlorobenzene	ND	0.77	ND	0.13	
5989-27-5	d-Limonene	ND	1.6	ND	0.28	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.6	ND	0.16	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	ND	0.21	
91-20-3	Naphthalene	ND	0.78	ND	0.15	
87-68-3	Hexachlorobutadiene	ND	0.75	ND	0.071	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Downwind** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-004

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00111

Initial Pressure (psig): -0.41 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.69	ND	0.40	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.69	**0.42**	0.14	
74-87-3	Chloromethane	ND	0.68	ND	0.33	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.68	ND	0.097	
75-01-4	Vinyl Chloride	ND	0.66	ND	0.26	
106-99-0	1,3-Butadiene	ND	0.69	ND	0.31	
74-83-9	Bromomethane	ND	0.66	ND	0.17	
75-00-3	Chloroethane	ND	0.68	ND	0.26	
64-17-5	Ethanol	ND	6.5	ND	3.5	
75-05-8	Acetonitrile	ND	1.3	ND	0.77	
107-02-8	Acrolein	ND	1.3	ND	0.57	
67-64-1	Acetone	**14**	6.9	**5.9**	2.9	
75-69-4	Trichlorofluoromethane (CFC 11)	**1.0**	0.68	**0.18**	0.12	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.7**	1.3	**0.69**	0.54	
107-13-1	Acrylonitrile	ND	0.65	ND	0.30	
75-35-4	1,1-Dichloroethene	ND	0.70	ND	0.18	
75-09-2	Methylene Chloride	ND	0.69	ND	0.20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.69	ND	0.22	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.70	ND	0.092	
75-15-0	Carbon Disulfide	**8.2**	1.4	**2.6**	0.45	
156-60-5	trans-1,2-Dichloroethene	ND	0.70	ND	0.18	
75-34-3	1,1-Dichloroethane	ND	0.70	ND	0.17	
1634-04-4	Methyl tert-Butyl Ether	ND	0.70	ND	0.19	
108-05-4	Vinyl Acetate	ND	6.5	ND	1.8	
78-93-3	2-Butanone (MEK)	**2.0**	1.4	**0.68**	0.46	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Downwind** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-004

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00111

Initial Pressure (psig): -0.41 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.69	ND	0.17	
141-78-6	Ethyl Acetate	ND	2.7	ND	0.76	
110-54-3	n-Hexane	**0.75**	0.69	**0.21**	0.20	
67-66-3	Chloroform	ND	0.69	ND	0.14	
109-99-9	Tetrahydrofuran (THF)	ND	1.3	ND	0.44	
107-06-2	1,2-Dichloroethane	ND	0.70	ND	0.17	
71-55-6	1,1,1-Trichloroethane	ND	0.69	ND	0.13	
71-43-2	Benzene	ND	0.70	ND	0.22	
56-23-5	Carbon Tetrachloride	ND	0.68	ND	0.11	
110-82-7	Cyclohexane	ND	1.4	ND	0.40	
78-87-5	1,2-Dichloropropane	ND	0.69	ND	0.15	
75-27-4	Bromodichloromethane	ND	0.70	ND	0.10	
79-01-6	Trichloroethene	ND	0.69	ND	0.13	
123-91-1	1,4-Dioxane	ND	0.69	ND	0.19	
80-62-6	Methyl Methacrylate	ND	1.4	ND	0.35	
142-82-5	n-Heptane	ND	0.69	ND	0.17	
10061-01-5	cis-1,3-Dichloropropene	ND	0.70	ND	0.15	
108-10-1	4-Methyl-2-pentanone	ND	1.4	ND	0.35	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	ND	0.15	
79-00-5	1,1,2-Trichloroethane	ND	0.69	ND	0.13	
108-88-3	Toluene	**1.1**	0.69	**0.30**	0.18	
591-78-6	2-Hexanone	ND	1.4	ND	0.35	
124-48-1	Dibromochloromethane	ND	0.70	ND	0.082	
106-93-4	1,2-Dibromoethane	ND	0.68	ND	0.088	
123-86-4	n-Butyl Acetate	ND	1.3	ND	0.27	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **LH18/24-Air_062623_Downwind** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P2303042-004

Test Code: EPA TO-15 Date Collected: 6/26/23
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 7/3/23
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00111

Initial Pressure (psig): -0.41 Final Pressure (psig): 3.81

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.70	ND	0.15	
127-18-4	Tetrachloroethene	ND	0.69	ND	0.10	
108-90-7	Chlorobenzene	ND	0.69	ND	0.15	
100-41-4	Ethylbenzene	ND	0.69	ND	0.16	
179601-23-1	m,p-Xylenes	ND	1.4	ND	0.33	
75-25-2	Bromoform	ND	0.70	ND	0.068	
100-42-5	Styrene	ND	0.69	ND	0.16	
95-47-6	o-Xylene	ND	0.69	ND	0.16	
111-84-2	n-Nonane	ND	0.69	ND	0.13	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.69	ND	0.10	
98-82-8	Cumene	ND	0.70	ND	0.14	
80-56-8	alpha-Pinene	**11**	1.4	**1.9**	0.26	
103-65-1	n-Propylbenzene	ND	0.70	ND	0.14	
622-96-8	4-Ethyltoluene	ND	0.72	ND	0.15	
108-67-8	1,3,5-Trimethylbenzene	ND	0.69	ND	0.14	
95-63-6	1,2,4-Trimethylbenzene	ND	0.69	ND	0.14	
100-44-7	Benzyl Chloride	ND	2.7	ND	0.53	
541-73-1	1,3-Dichlorobenzene	ND	0.69	ND	0.11	
106-46-7	1,4-Dichlorobenzene	ND	0.69	ND	0.11	
95-50-1	1,2-Dichlorobenzene	ND	0.70	ND	0.12	
5989-27-5	d-Limonene	**3.7**	1.4	**0.66**	0.26	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.4	ND	0.15	
120-82-1	1,2,4-Trichlorobenzene	ND	1.4	ND	0.19	
91-20-3	Naphthalene	ND	0.72	ND	0.14	
87-68-3	Hexachlorobutadiene	ND	0.69	ND	0.065	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P230717-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
115-07-1	Propene	ND	0.53	ND	0.31	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.53	ND	0.11	
74-87-3	Chloromethane	ND	0.52	ND	0.25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.52	ND	0.074	
75-01-4	Vinyl Chloride	ND	0.51	ND	0.20	
106-99-0	1,3-Butadiene	ND	0.53	ND	0.24	
74-83-9	Bromomethane	ND	0.51	ND	0.13	
75-00-3	Chloroethane	ND	0.52	ND	0.20	
64-17-5	Ethanol	ND	5.0	ND	2.7	
75-05-8	Acetonitrile	ND	1.0	ND	0.60	
107-02-8	Acrolein	ND	1.0	ND	0.44	
67-64-1	Acetone	ND	5.3	ND	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	ND	0.52	ND	0.093	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1.0	ND	0.42	
107-13-1	Acrylonitrile	ND	0.50	ND	0.23	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
75-09-2	Methylene Chloride	ND	0.53	ND	0.15	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.53	ND	0.17	
76-13-1	Trichlorotrifluoroethane (CFC 113)	ND	0.54	ND	0.070	
75-15-0	Carbon Disulfide	ND	1.1	ND	0.34	
156-60-5	trans-1,2-Dichloroethene	ND	0.54	ND	0.14	
75-34-3	1,1-Dichloroethane	ND	0.54	ND	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	0.54	ND	0.15	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.35	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P230717-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.53	ND	0.13	
141-78-6	Ethyl Acetate	ND	2.1	ND	0.58	
110-54-3	n-Hexane	ND	0.53	ND	0.15	
67-66-3	Chloroform	ND	0.53	ND	0.11	
109-99-9	Tetrahydrofuran (THF)	ND	1.0	ND	0.34	
107-06-2	1,2-Dichloroethane	ND	0.54	ND	0.13	
71-55-6	1,1,1-Trichloroethane	ND	0.53	ND	0.097	
71-43-2	Benzene	ND	0.54	ND	0.17	
56-23-5	Carbon Tetrachloride	ND	0.52	ND	0.083	
110-82-7	Cyclohexane	ND	1.1	ND	0.31	
78-87-5	1,2-Dichloropropane	ND	0.53	ND	0.11	
75-27-4	Bromodichloromethane	ND	0.54	ND	0.081	
79-01-6	Trichloroethene	ND	0.53	ND	0.099	
123-91-1	1,4-Dioxane	ND	0.53	ND	0.15	
80-62-6	Methyl Methacrylate	ND	1.1	ND	0.27	
142-82-5	n-Heptane	ND	0.53	ND	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	0.54	ND	0.12	
108-10-1	4-Methyl-2-pentanone	ND	1.1	ND	0.27	
10061-02-6	trans-1,3-Dichloropropene	ND	0.51	ND	0.11	
79-00-5	1,1,2-Trichloroethane	ND	0.53	ND	0.097	
108-88-3	Toluene	ND	0.53	ND	0.14	
591-78-6	2-Hexanone	ND	1.1	ND	0.27	
124-48-1	Dibromochloromethane	ND	0.54	ND	0.063	
106-93-4	1,2-Dibromoethane	ND	0.52	ND	0.068	
123-86-4	n-Butyl Acetate	ND	1.0	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P230717-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.54	ND	0.12	
127-18-4	Tetrachloroethene	ND	0.53	ND	0.078	
108-90-7	Chlorobenzene	ND	0.53	ND	0.12	
100-41-4	Ethylbenzene	ND	0.53	ND	0.12	
179601-23-1	m,p-Xylenes	ND	1.1	ND	0.25	
75-25-2	Bromoform	ND	0.54	ND	0.052	
100-42-5	Styrene	ND	0.53	ND	0.12	
95-47-6	o-Xylene	ND	0.53	ND	0.12	
111-84-2	n-Nonane	ND	0.53	ND	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.53	ND	0.077	
98-82-8	Cumene	ND	0.54	ND	0.11	
80-56-8	alpha-Pinene	ND	1.1	ND	0.20	
103-65-1	n-Propylbenzene	ND	0.54	ND	0.11	
622-96-8	4-Ethyltoluene	ND	0.55	ND	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	0.53	ND	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	0.53	ND	0.11	
100-44-7	Benzyl Chloride	ND	2.1	ND	0.41	
541-73-1	1,3-Dichlorobenzene	ND	0.53	ND	0.088	
106-46-7	1,4-Dichlorobenzene	ND	0.53	ND	0.088	
95-50-1	1,2-Dichlorobenzene	ND	0.54	ND	0.090	
5989-27-5	d-Limonene	ND	1.1	ND	0.20	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.1	ND	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	ND	0.15	
91-20-3	Naphthalene	ND	0.55	ND	0.10	
87-68-3	Hexachlorobutadiene	ND	0.53	ND	0.050	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Bhate Environmental Associates, Inc.**
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Project ID: P2303042

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 6/26/23
Analyst: Simon Cao Date(s) Received: 7/3/23
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 7/17/23
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P230717-MB	**88**	**112**	**110**	70-130	
Lab Control Sample	P230717-LCS	**86**	**111**	**111**	70-130	
Duplicate Lab Control Sample	P230717-DLCS	**89**	**112**	**114**	70-130	
LH18/24-Air_062623_Stripper	P2303042-001	**88**	**113**	**110**	70-130	
LH18/24-Air_062623_Stripper_a	P2303042-002	**88**	**112**	**110**	70-130	
LH18/24-Air_062623_GWTP	P2303042-003	**90**	**112**	**107**	70-130	
LH18/24-Air_062623_Downwind	P2303042-004	**90**	**115**	**102**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P230717-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	42.4	40.9	40.7	**96**	**96**	56-128	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.4	40.2	40.4	**95**	**95**	71-112	0	25	
74-87-3	Chloromethane	42.0	45.0	44.9	**107**	**107**	53-126	0	25	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	42.8	44.7	44.9	**104**	**105**	62-121	1	25	
75-01-4	Vinyl Chloride	42.0	46.1	46.1	**110**	**110**	63-123	0	25	
106-99-0	1,3-Butadiene	42.0	49.7	50.6	**118**	**120**	63-135	2	25	
74-83-9	Bromomethane	42.0	50.2	50.4	**120**	**120**	71-112	0	25	**L**
75-00-3	Chloroethane	42.4	44.1	44.1	**104**	**104**	66-117	0	25	
64-17-5	Ethanol	220	204	204	**93**	**93**	57-117	0	25	
75-05-8	Acetonitrile	42.8	38.5	38.8	**90**	**91**	59-131	1	25	
107-02-8	Acrolein	88.0	93.0	91.5	**106**	**104**	71-123	2	25	
67-64-1	Acetone	212	216	215	**102**	**101**	60-117	1	25	
75-69-4	Trichlorofluoromethane (CFC 11)	42.0	38.1	38.4	**91**	**91**	71-114	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	82.8	94.6	95.0	**114**	**115**	61-124	0.9	25	
107-13-1	Acrylonitrile	83.6	91.2	91.3	**109**	**109**	65-130	0	25	
75-35-4	1,1-Dichloroethene	40.8	45.5	44.9	**112**	**110**	74-114	2	25	
75-09-2	Methylene Chloride	40.8	43.1	43.1	**106**	**106**	75-112	0	25	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	42.4	37.1	36.8	**88**	**87**	57-127	1	25	
76-13-1	Trichlorotrifluoroethane (CFC 113)	42.0	42.8	43.2	**102**	**103**	73-114	1	25	
75-15-0	Carbon Disulfide	86.0	90.0	90.1	**105**	**105**	70-113	0	25	
156-60-5	trans-1,2-Dichloroethene	43.2	44.4	44.0	**103**	**102**	76-119	1	25	
75-34-3	1,1-Dichloroethane	43.2	44.0	43.6	**102**	**101**	70-114	1	25	
1634-04-4	Methyl tert-Butyl Ether	43.2	44.7	44.7	**103**	**103**	72-118	0	25	
108-05-4	Vinyl Acetate	220	187	189	**85**	**86**	56-137	1	25	
78-93-3	2-Butanone (MEK)	82.8	87.8	89.1	**106**	**108**	74-121	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P230717-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	42.8	43.6	43.5	**102**	**102**	73-117	0	25	
141-78-6	Ethyl Acetate	79.6	77.3	77.8	**97**	**98**	59-161	1	25	
110-54-3	n-Hexane	42.4	44.4	44.4	**105**	**105**	55-130	0	25	
67-66-3	Chloroform	43.2	41.5	41.8	**96**	**97**	71-114	1	25	
109-99-9	Tetrahydrofuran (THF)	80.4	84.2	83.4	**105**	**104**	73-114	1	25	
107-06-2	1,2-Dichloroethane	40.8	40.1	40.3	**98**	**99**	71-119	1	25	
71-55-6	1,1,1-Trichloroethane	42.0	41.0	40.7	**98**	**97**	73-119	1	25	
71-43-2	Benzene	40.8	45.3	44.7	**111**	**110**	72-113	0.9	25	
56-23-5	Carbon Tetrachloride	42.0	43.2	42.7	**103**	**102**	67-123	1	25	
110-82-7	Cyclohexane	85.2	92.0	90.5	**108**	**106**	70-119	2	25	
78-87-5	1,2-Dichloropropane	42.8	43.5	42.8	**102**	**100**	70-118	2	25	
75-27-4	Bromodichloromethane	43.2	43.0	42.3	**100**	**98**	74-119	2	25	
79-01-6	Trichloroethene	42.4	45.6	45.1	**108**	**106**	74-115	2	25	
123-91-1	1,4-Dioxane	42.4	47.8	46.4	**113**	**109**	77-124	4	25	
80-62-6	Methyl Methacrylate	85.6	98.2	96.8	**115**	**113**	78-126	2	25	
142-82-5	n-Heptane	42.8	46.3	45.2	**108**	**106**	70-119	2	25	
10061-01-5	cis-1,3-Dichloropropene	42.4	50.5	49.8	**119**	**117**	81-126	2	25	
108-10-1	4-Methyl-2-pentanone	85.2	86.2	85.3	**101**	**100**	73-129	1	25	
10061-02-6	trans-1,3-Dichloropropene	39.2	40.5	40.9	**103**	**104**	80-127	1	25	
79-00-5	1,1,2-Trichloroethane	43.2	44.8	44.8	**104**	**104**	78-117	0	25	
108-88-3	Toluene	42.8	50.3	50.1	**118**	**117**	70-118	0.9	25	
591-78-6	2-Hexanone	85.2	82.0	82.0	**96**	**96**	74-132	0	25	
124-48-1	Dibromochloromethane	42.8	49.4	48.9	**115**	**114**	69-137	0.9	25	
106-93-4	1,2-Dibromoethane	40.8	48.8	48.7	**120**	**119**	76-128	0.8	25	
123-86-4	n-Butyl Acetate	84.8	73.4	73.9	**87**	**87**	75-134	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Bhate Environmental Associates, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001** ALS Sample ID: P230717-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
111-65-9	n-Octane	42.4	50.6	50.5	**119**	**119**	68-120	0	25	
127-18-4	Tetrachloroethene	42.8	50.4	50.0	**118**	**117**	63-130	0.9	25	
108-90-7	Chlorobenzene	43.2	49.3	48.6	**114**	**113**	70-118	0.9	25	
100-41-4	Ethylbenzene	43.6	50.7	50.6	**116**	**116**	71-123	0	25	
179601-23-1	m,p-Xylenes	86.0	99.7	99.4	**116**	**116**	67-127	0	25	
75-25-2	Bromoform	43.6	51.3	50.8	**118**	**117**	65-149	0.9	25	
100-42-5	Styrene	42.8	51.0	51.0	**119**	**119**	76-132	0	25	
95-47-6	o-Xylene	43.2	50.0	49.7	**116**	**115**	69-124	0.9	25	
111-84-2	n-Nonane	42.8	49.4	49.5	**115**	**116**	64-127	0.9	25	
79-34-5	1,1,2,2-Tetrachloroethane	43.2	48.6	48.4	**113**	**112**	69-128	0.9	25	
98-82-8	Cumene	42.4	48.8	49.0	**115**	**116**	69-125	0.9	25	
80-56-8	alpha-Pinene	43.2	46.9	47.7	**109**	**110**	68-129	0.9	25	
103-65-1	n-Propylbenzene	42.4	48.9	49.0	**115**	**116**	70-127	0.9	25	
622-96-8	4-Ethyltoluene	43.6	51.4	51.3	**118**	**118**	69-127	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.2	49.3	49.2	**114**	**114**	66-129	0	25	
95-63-6	1,2,4-Trimethylbenzene	42.4	49.2	48.6	**116**	**115**	63-142	0.9	25	
100-44-7	Benzyl Chloride	85.6	42.9	44.6	**50**	**52**	73-145	4	25	**L**
541-73-1	1,3-Dichlorobenzene	42.8	47.0	47.3	**110**	**111**	67-136	0.9	25	
106-46-7	1,4-Dichlorobenzene	42.8	45.6	45.7	**107**	**107**	63-134	0	25	
95-50-1	1,2-Dichlorobenzene	42.4	47.7	47.0	**113**	**111**	64-139	2	25	
5989-27-5	d-Limonene	41.6	41.4	42.5	**100**	**102**	63-137	2	25	
96-12-8	1,2-Dibromo-3-chloropropane	83.2	85.9	84.6	**103**	**102**	72-145	1	25	
120-82-1	1,2,4-Trichlorobenzene	88.0	76.1	76.4	**86**	**87**	62-154	1	25	
91-20-3	Naphthalene	44.0	39.4	38.9	**90**	**88**	62-156	2	25	
87-68-3	Hexachlorobutadiene	43.6	32.6	32.6	**75**	**75**	55-142	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 07172302.D
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 04:00
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	230372	7.24	973160	9.29	186445	14.81
	Upper Limit	322521	7.57	1362424	9.62	261023	15.14
	Lower Limit	138223	6.91	583896	8.96	111867	14.48
	Client Sample ID						
01	Method Blank	195923	7.20	854914	9.26	165622	14.81
02	Lab Control Sample	204223	7.21	881509	9.27	170455	14.81
03	Duplicate Lab Control Sample	203373	7.21	892056	9.28	171109	14.81
04	LH18/24-Air_062623_Stripper	185338	7.21	808480	9.27	152929	14.81
05	LH18/24-Air_062623_Stripper_a	183362	7.21	795862	9.27	151678	14.81
06	LH18/24-Air_062623_Stripper (Dilution)	182873	7.20	796777	9.26	150788	14.81
07	LH18/24-Air_062623_Stripper_a (Dilution)	177601	7.20	773516	9.26	148279	14.81
08	LH18/24-Air_062623_GWTP	188225	7.20	808016	9.26	151632	14.80
09	LH18/24-Air_062623_Downwind	166392	7.22	699452	9.27	124737	14.81
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Bhate Environmental Associates, Inc.** ALS Project ID: P2303042
Client Project ID: **LHAAP - GWTP / JVPCIBH.0001**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 07172304.D
Analyst: Simon Cao Date Analyzed: 7/17/23
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 05:04
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P230717-LCS	07172305.D	05:37
Duplicate Lab Control Sample	P230717-DLCS	07172306.D	06:09
LH18/24-Air_062623_Stripper	P2303042-001	07172319.D	14:21
LH18/24-Air_062623_Stripper_a	P2303042-002	07172320.D	14:54
LH18/24-Air_062623_Stripper (Dilution)	P2303042-001	07172321.D	15:25
LH18/24-Air_062623_Stripper_a (Dilution)	P2303042-002	07172322.D	15:58
LH18/24-Air_062623_GWTP	P2303042-003	07172323.D	17:10
LH18/24-Air_062623_Downwind	P2303042-004	07172324.D	17:42

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172319.D Vial: 8
Acq On : 17 Jul 2023 14:21 Operator: SC
Sample : P2303042-001 (100mL) Inst : MS09
Misc : S37-06132301

7/17/23

Quant Time: Jul 17 14:50:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	185338	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	808480	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	152929	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	348709	11.019	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%				
57) Toluene-d8 (SS2)	12.39	98	948326	14.103	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
73) Bromofluorobenzene (SS3)	16.79	174	364113	13.802	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.40%				
Target Compounds							Qvalue
2) Propene	3.29	42	18016	1.090	ng		99
3) Dichlorodifluoromethan...	3.36	85	8043	N.D.			
4) Chloromethane	3.51	50	2586	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	3.69	62	16695	0.651	ng		99
7) 1,3-Butadiene	3.77	54	939	N.D.			
8) Bromomethane	4.01	94	178	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	9485	0.768	ng	#	60
11) Acetonitrile	4.48	41	1196	N.D.			
12) Acrolein	4.53	56	1825	N.D.			
13) Acetone	4.63	58	168370	14.431	ng	#	87
14) Trichlorofluoromethane	4.74	101	3996	N.D.			
15) 2-Propanol (Isopropanol)	4.85	45	14144	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	5.24	96	70287	4.050	ng		93
18) 2-Methyl-2-Propanol (t...	5.23	59	4326	N.D.			
19) Methylene Chloride	5.33	84	14387	0.755	ng		93
20) 3-Chloro-1-propene (Al...	5.41	41	272	N.D.			
21) Trichlorotrifluoroethane	5.55	151	551110	30.929	ng		99
22) Carbon Disulfide	5.59	76	14807	N.D.			
23) trans-1,2-Dichloroethene	6.12	61	24072	0.927	ng		98
24) 1,1-Dichloroethane	6.29	63	26252	0.840	ng		98
25) Methyl tert-Butyl Ether	6.28	73	2083	N.D.			
26) Vinyl Acetate	6.43	86	763	N.D.			
27) 2-Butanone (MEK)	6.66	72	35649	3.141	ng		96
28) cis-1,2-Dichloroethene	7.05	61	1292439	51.111	ng		96
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.27	57	3381	N.D.			
32) Chloroform	7.34	83	5740	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	1729	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.09	62	103738	3.313	ng		98
38) 1,1,1-Trichloroethane	8.37	97	376	N.D.			
39) Isopropyl Acetate	9.27	61	23875	No Calib		#	
40) 1-Butanol	8.84	56	7540	No Calib		#	
41) Benzene	8.88	78	11174	N.D.			
42) Carbon Tetrachloride	9.04	117	1774	N.D.			
43) Cyclohexane	9.18	84	2550	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	10.12	130	3386428	174.010	ng		100
48) 1,4-Dioxane	10.14	88	2493	N.D.			
49) 2,2,4-Trimethylpentane...	10.21	57	863	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\DATA\2023 07\17\07172319.D Vial: 8
Acq On : 17 Jul 2023 14:21 Operator: SC
Sample : P2303042-001 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 14:50:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

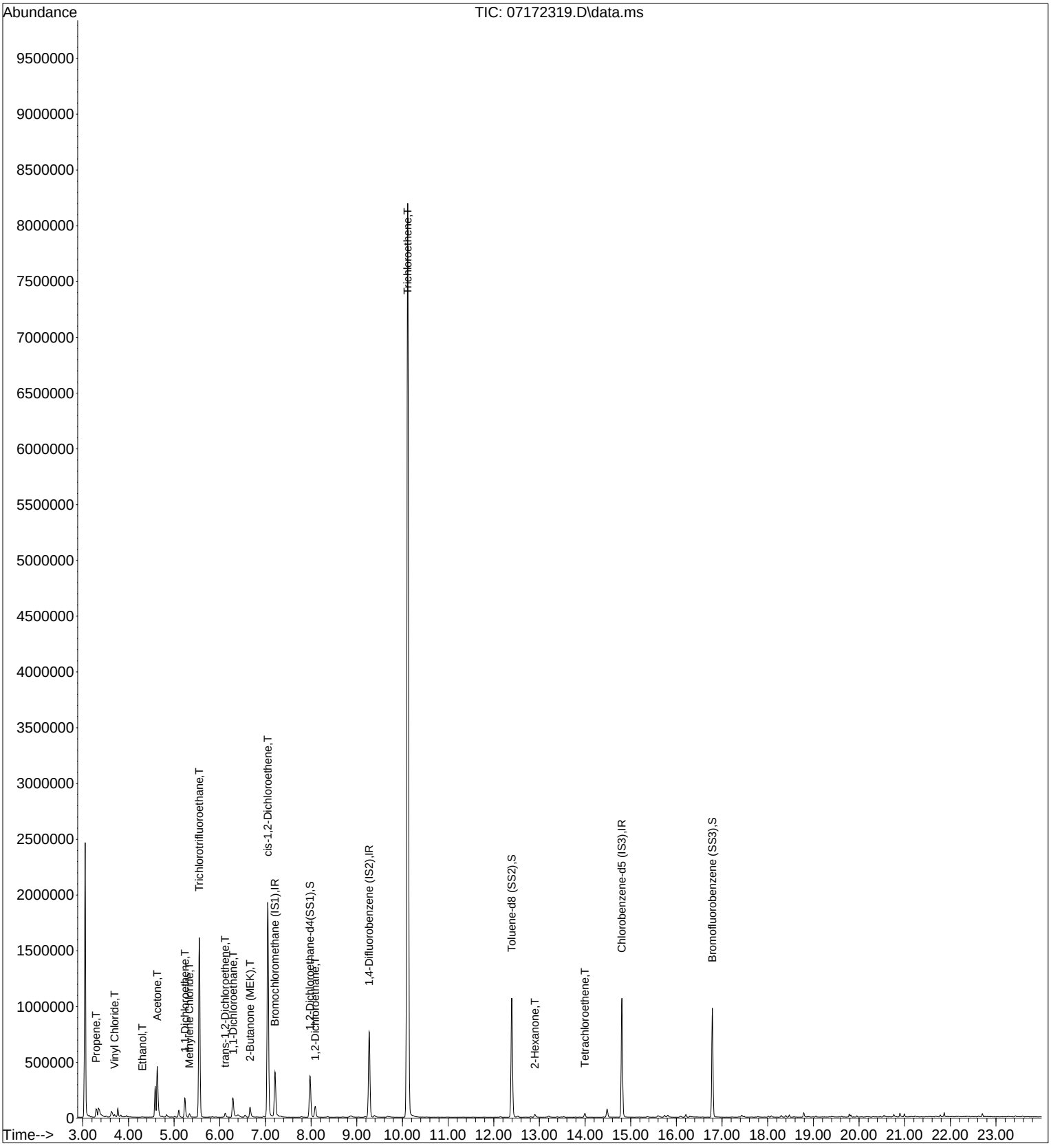
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	497	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	118	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	12.14	97	1820	N.D.	
58) Toluene	12.53	91	8923	N.D.	
59) 2-Hexanone	12.90	43	25847	0.852 ng	99
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	13.89	57	286	N.D.	
64) Tetrachloroethene	13.99	166	13721	0.661 ng	100
65) Chlorobenzene	14.86	112	748	N.D.	
66) Ethylbenzene	15.38	91	5266	N.D.	
67) m- & p-Xylenes	15.60	91	15002	N.D.	
68) Bromoform	15.64	173	152	N.D.	
69) Styrene	16.07	104	639	N.D.	
70) o-Xylene	16.21	91	16676	N.D.	
71) n-Nonane	16.58	43	1237	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.17	83	131	N.D.	
74) Cumene	17.00	105	743	N.D.	
75) alpha-Pinene	17.49	93	2321	N.D.	
76) n-Propylbenzene	17.65	91	1290	N.D.	
77) 3-Ethyltoluene	17.00	105	743	No Calib	#
78) 4-Ethyltoluene	17.83	105	1256	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	1019	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	743	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	3887	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	266	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	912	N.D.	
87) sec-Butylbenzene	18.71	105	591	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	1884	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	743	No Calib	#
90) 1,2-Dichlorobenzene	19.01	146	280	N.D.	
91) d-Limonene	19.06	68	2005	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	5537	No Calib	#
94) 1,2,4-Trichlorobenzene	20.82	180	494	N.D.	
95) Naphthalene	20.92	128	2943	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.28	225	519	N.D.	
98) Cyclohexanone	15.48	55	968	No Calib	#
99) tert-Butylbenzene	18.40	119	943	N.D.	
100) n-Butylbenzene	19.36	91	1041	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172319.D Vial: 8
Acq On : 17 Jul 2023 14:21 Operator: SC
Sample : P2303042-001 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 14:50:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172319.D Vial: 8
Acq On : 17 Jul 2023 14:21 Operator: SC
Sample : P2303042-001 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 14:50:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/17/23

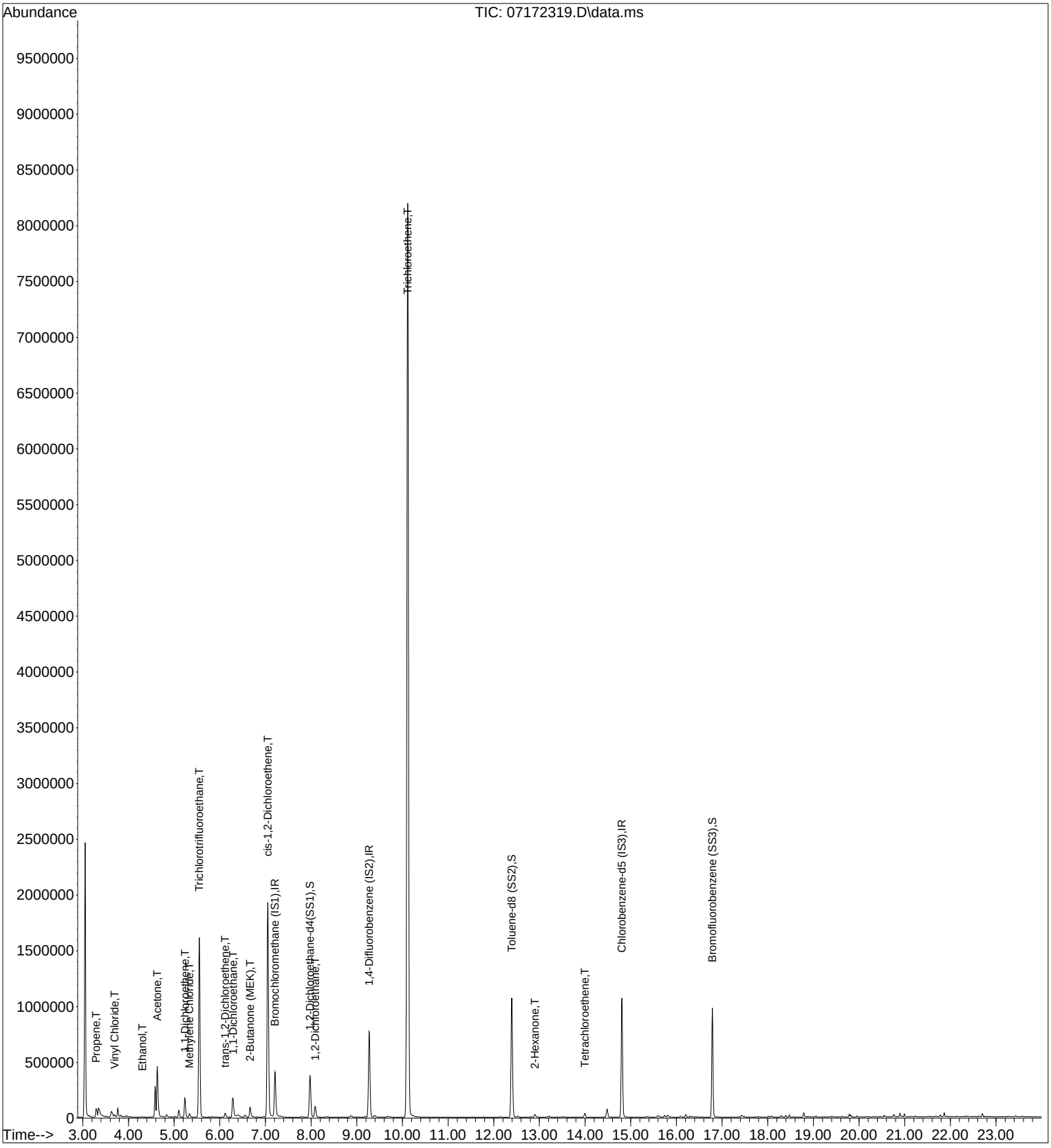
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	185338	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	808480	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	152929	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	348709	11.019	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%				
57) Toluene-d8 (SS2)	12.39	98	948326	14.103	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
73) Bromofluorobenzene (SS3)	16.79	174	364113	13.802	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.40%				
Target Compounds							Qvalue
2) Propene	3.29	42	18016	1.090	ng		99
6) Vinyl Chloride	3.69	62	16695	0.651	ng		99
10) Ethanol	4.30	45	9485	0.768	ng	#	60
13) Acetone	4.63	58	168370	14.431	ng	#	87
17) 1,1-Dichloroethene	5.24	96	70287	4.050	ng		93
19) Methylene Chloride	5.33	84	14387	0.755	ng		93
21) Trichlorotrifluoroethane	5.55	151	551110	30.929	ng		99
23) trans-1,2-Dichloroethene	6.12	61	24072	0.927	ng		98
24) 1,1-Dichloroethane	6.29	63	26252	0.840	ng		98
27) 2-Butanone (MEK)	6.66	72	35649	3.141	ng		96
28) cis-1,2-Dichloroethene	7.05	61	1292439	51.111	ng		96
36) 1,2-Dichloroethane	8.09	62	103738	3.313	ng		98
47) Trichloroethene	10.12	130	3386428	174.010	ng		100
59) 2-Hexanone	12.90	43	25847	0.852	ng		99
64) Tetrachloroethene	13.99	166	13721	0.661	ng		100

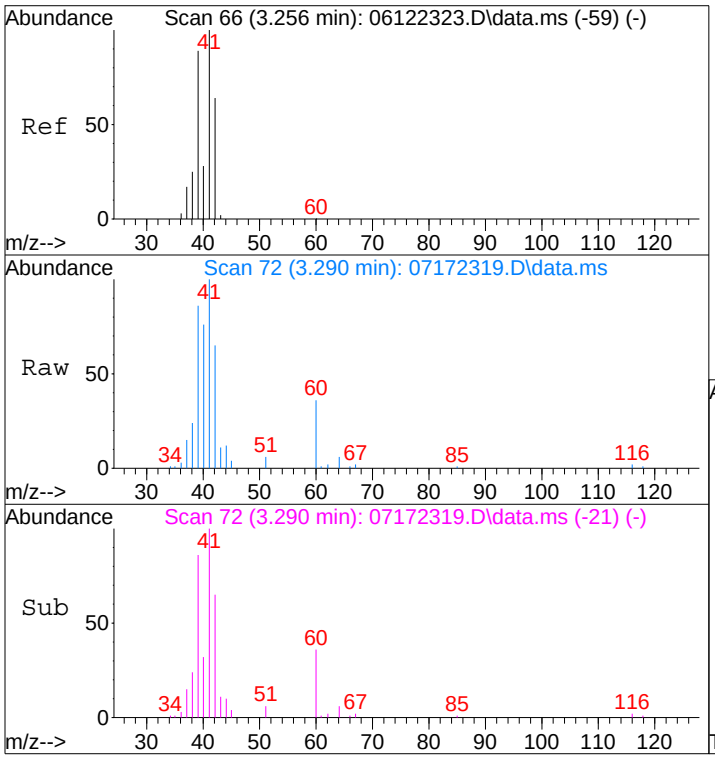
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172319.D Vial: 8
Acq On : 17 Jul 2023 14:21 Operator: SC
Sample : P2303042-001 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 14:50:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

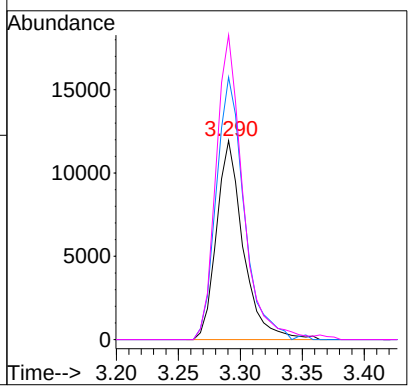


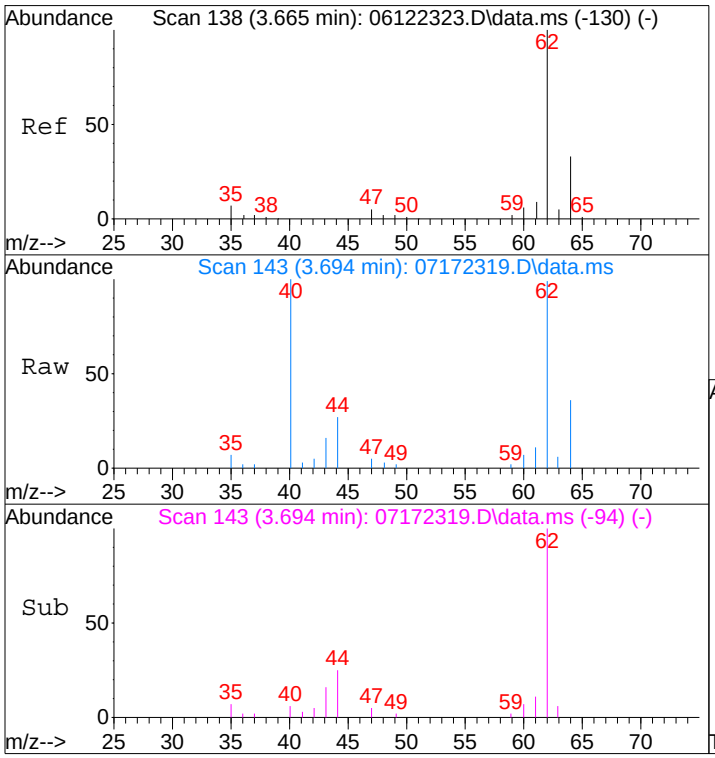


#2
Propene
Concen: 1.09 ng
RT: 3.29 min Scan# 72
Delta R.T. 0.039 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 42 Resp: 18016

Ion	Ratio	Lower	Upper
42	100		
39	137.7	116.6	156.6
41	154.5	134.8	174.8

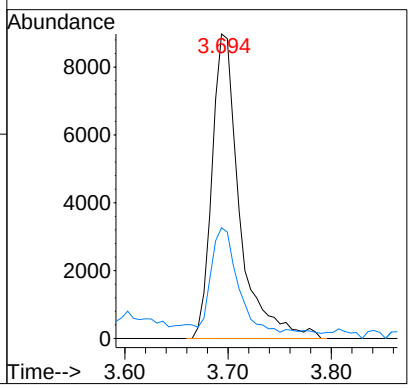


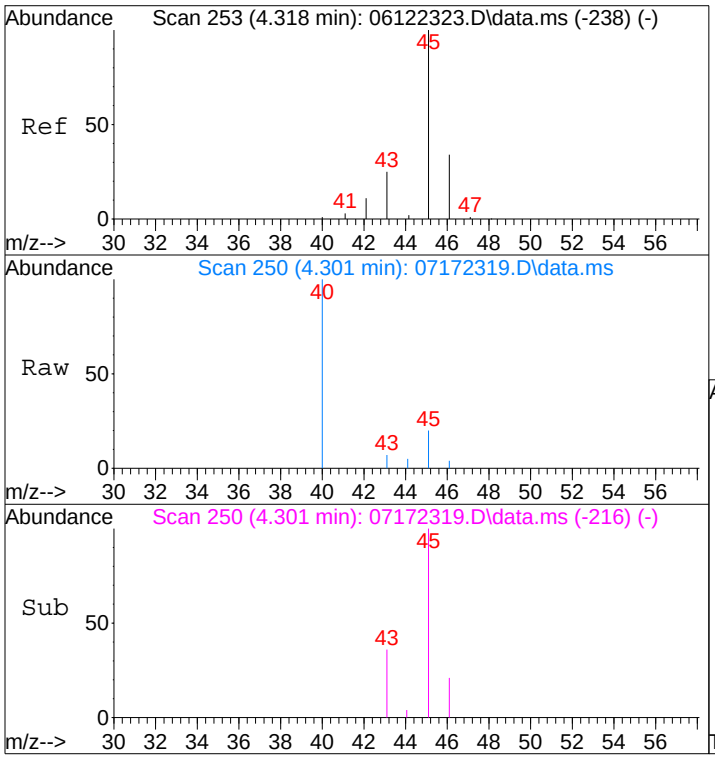


#6
Vinyl Chloride
Concen: 0.65 ng
RT: 3.69 min Scan# 143
Delta R.T. 0.029 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 62 Resp: 16695

Ion	Ratio	Lower	Upper
62	100		
64	34.1	13.4	53.4

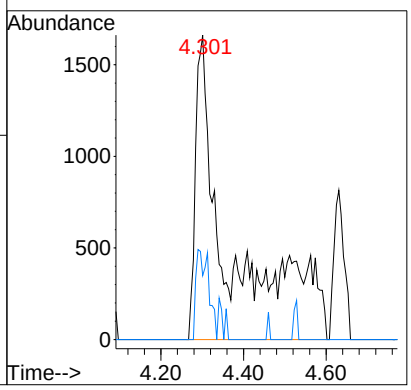


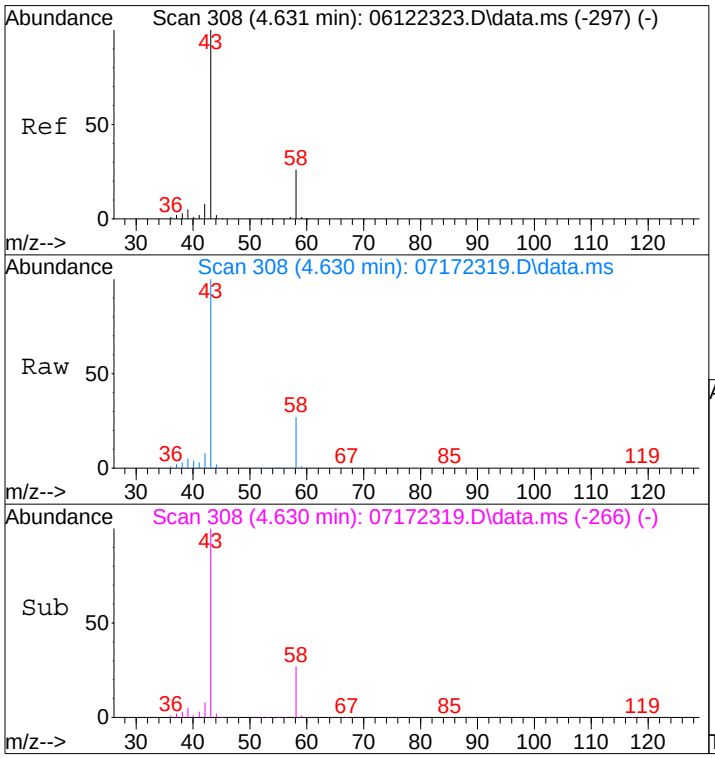


#10
Ethanol
Concen: 0.77 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.054 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 45 Resp: 9485

Ion	Ratio	Lower	Upper
45	100		
46	11.0	13.5	53.5#

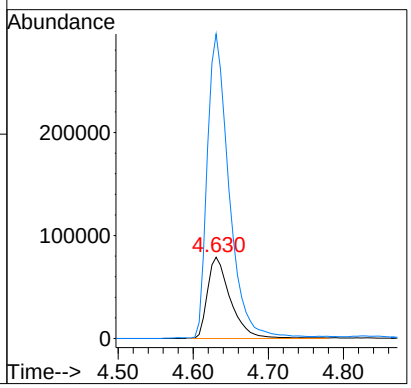


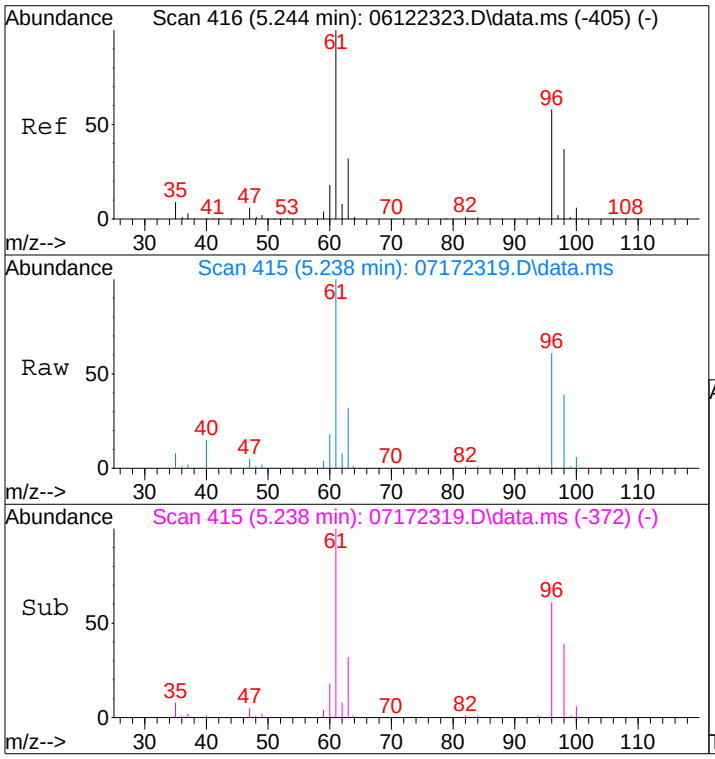


#13
Acetone
Concen: 14.43 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.014 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 58 Resp: 168370

Ion	Ratio	Lower	Upper
58	100		
43	354.0	354.9	414.9#

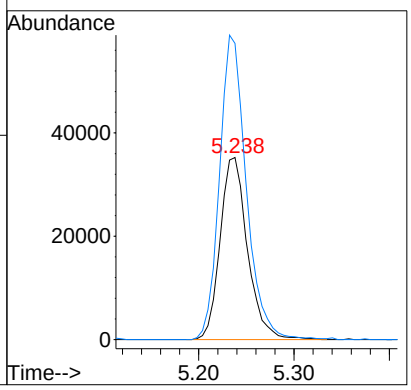


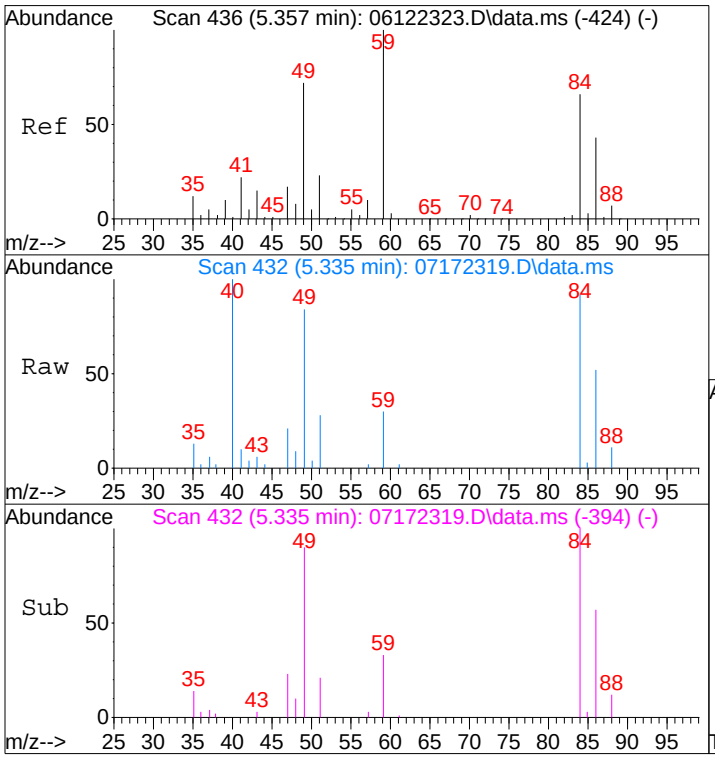


#17
1,1-Dichloroethene
Concen: 4.05 ng
RT: 5.24 min Scan# 415
Delta R.T. -0.006 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 96 Resp: 70287

Ion	Ratio	Lower	Upper
96	100		
61	164.0	153.9	193.9

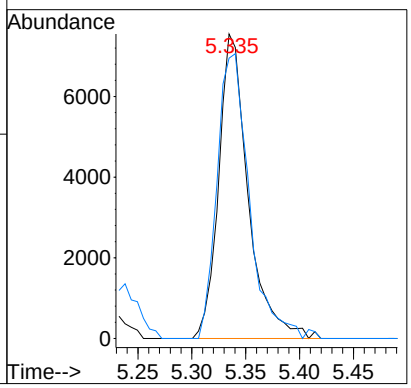


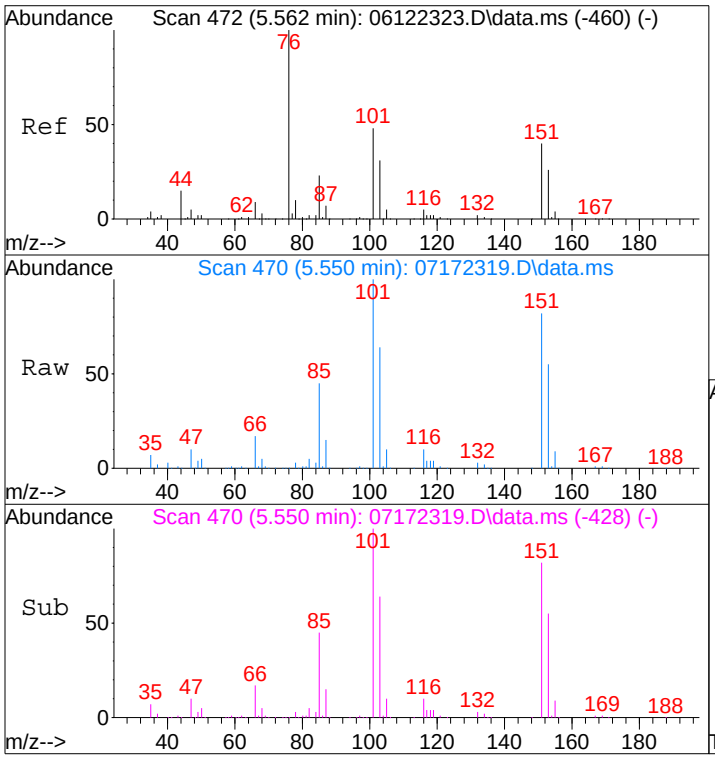


#19
Methylene Chloride
Concen: 0.76 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.034 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 84 Resp: 14387

Ion	Ratio	Lower	Upper
84	100		
49	101.6	83.6	133.6

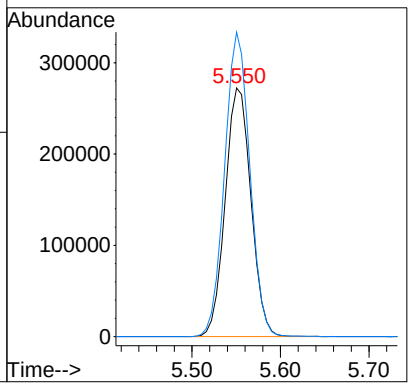


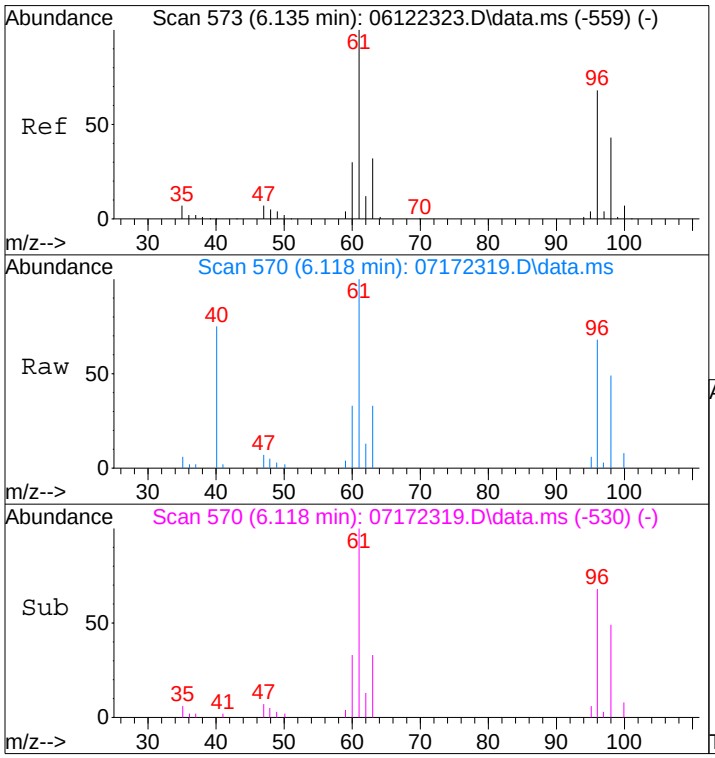


#21
Trichlorotrifluoroethane
Concen: 30.93 ng
RT: 5.55 min Scan# 470
Delta R.T. -0.011 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion:151 Resp: 551110

Ion	Ratio	Lower	Upper
151	100		
101	119.7	101.1	141.1

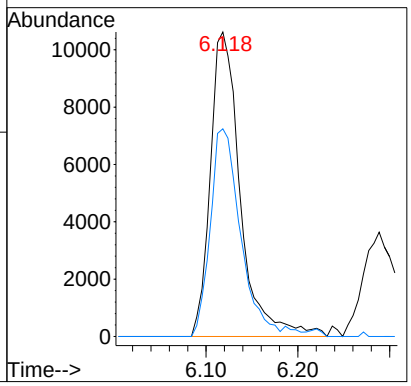


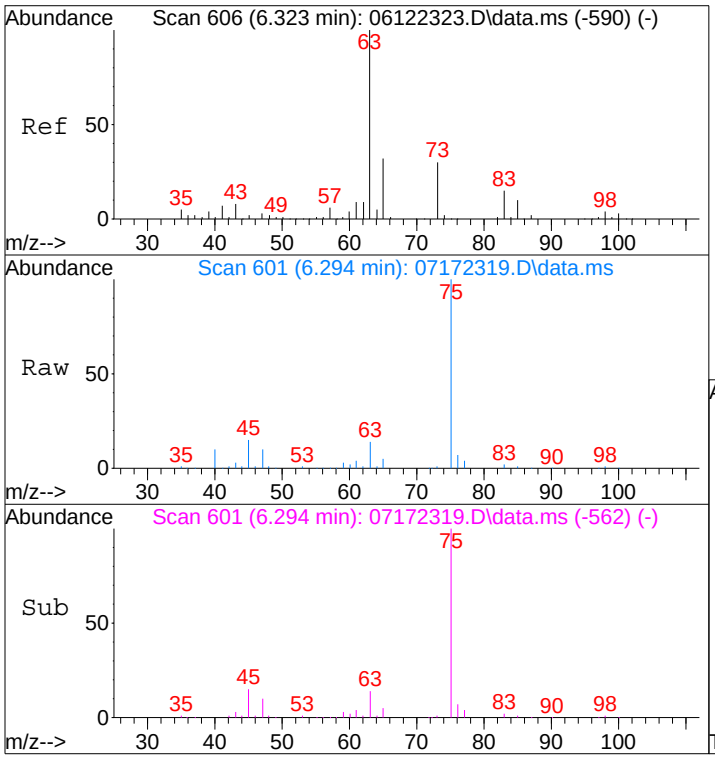


#23
trans-1,2-Dichloroethene
Concen: 0.93 ng
RT: 6.12 min Scan# 570
Delta R.T. -0.020 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 61 Resp: 24072

Ion	Ratio	Lower	Upper
61	100		
96	69.8	48.2	88.2

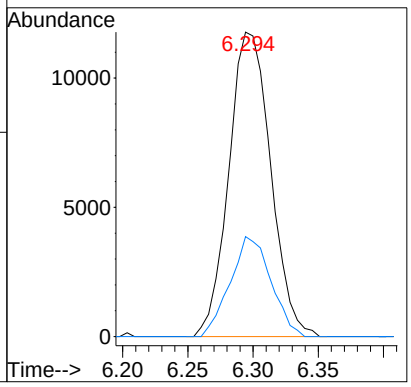


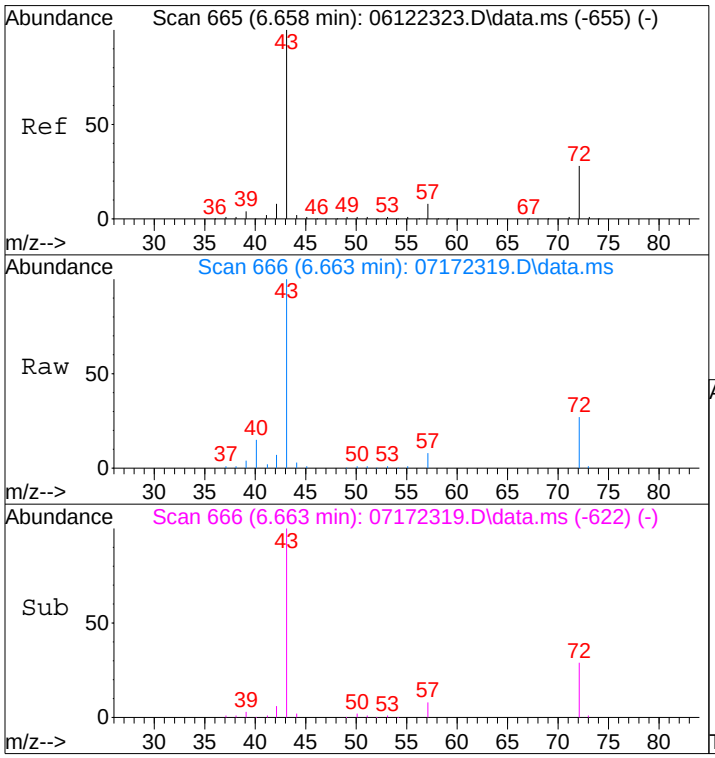


#24
1,1-Dichloroethane
Concen: 0.84 ng
RT: 6.29 min Scan# 601
Delta R.T. -0.031 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 63 Resp: 26252

Ion	Ratio	Lower	Upper
63	100		
65	32.0	13.1	53.1

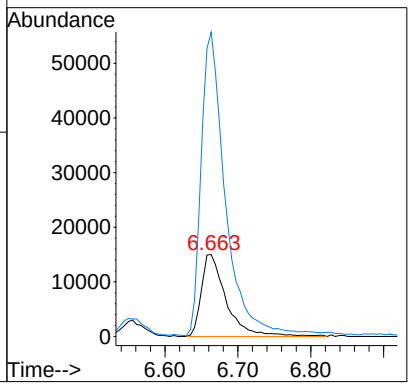


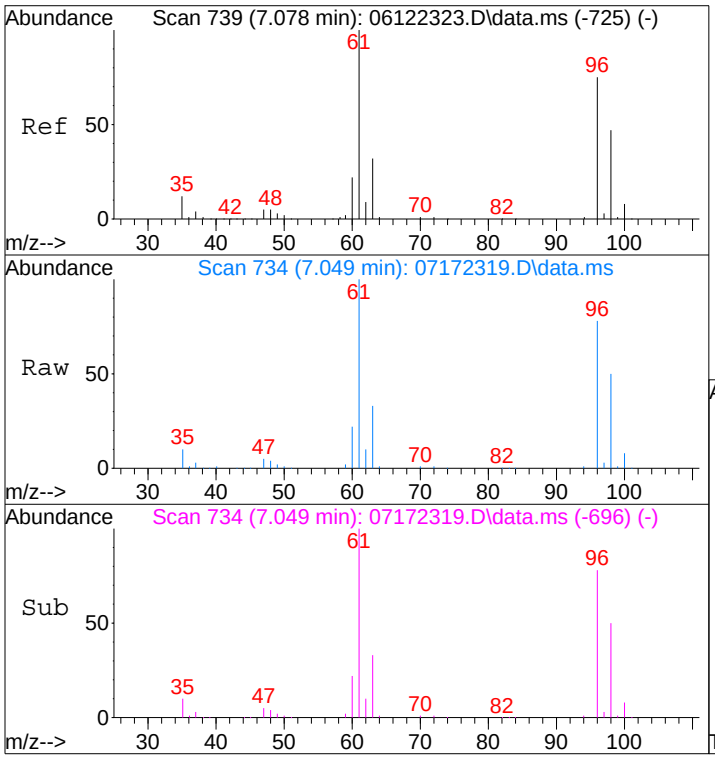


#27
2-Butanone (MEK)
Concen: 3.14 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.002 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 72 Resp: 35649

Ion	Ratio	Lower	Upper
72	100		
43	360.3	349.7	389.7

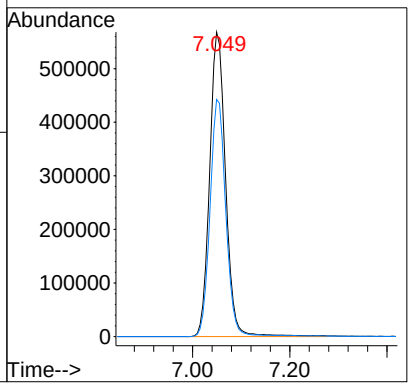


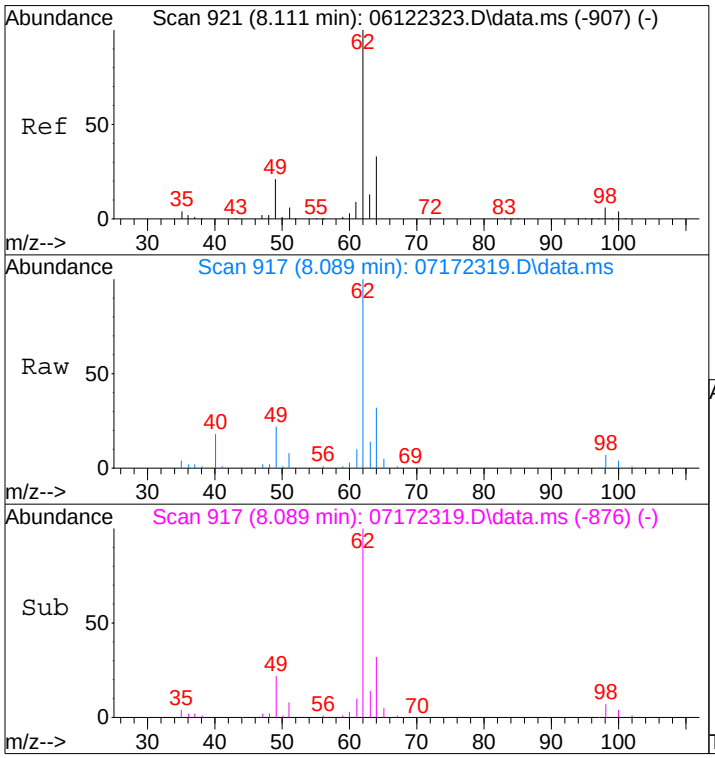


#28
cis-1,2-Dichloroethene
Concen: 51.11 ng
RT: 7.05 min Scan# 734
Delta R.T. -0.035 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 61 Resp: 1292439

Ion	Ratio	Lower	Upper
61	100		
96	77.9	54.3	94.3

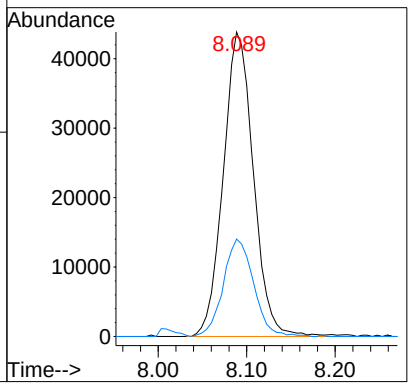


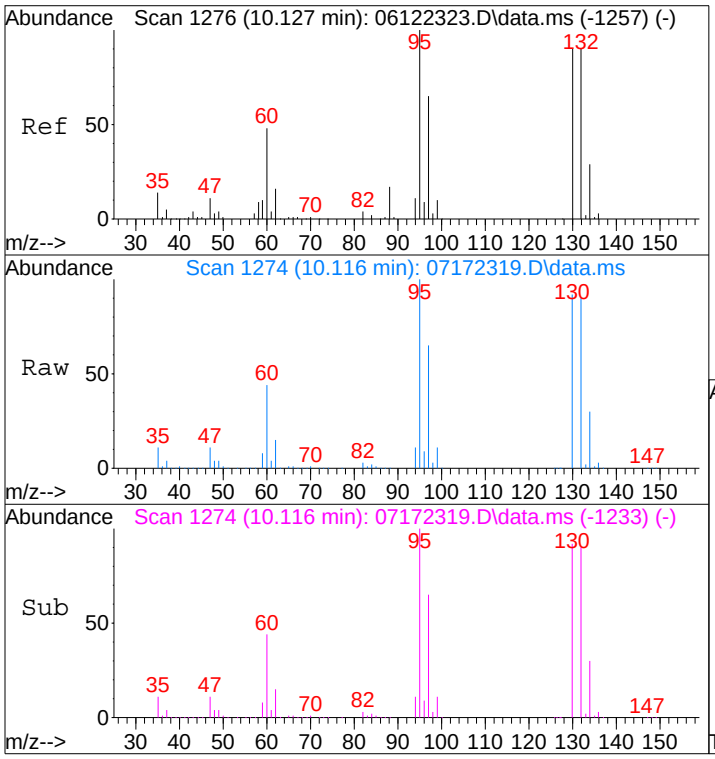


#36
1,2-Dichloroethane
Concen: 3.31 ng
RT: 8.09 min Scan# 917
Delta R.T. -0.020 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 62 Resp: 103738

Ion	Ratio	Lower	Upper
62	100		
64	32.2	13.1	53.1

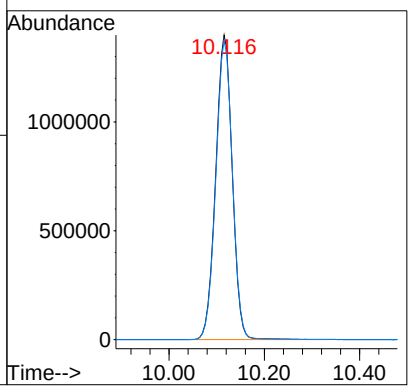


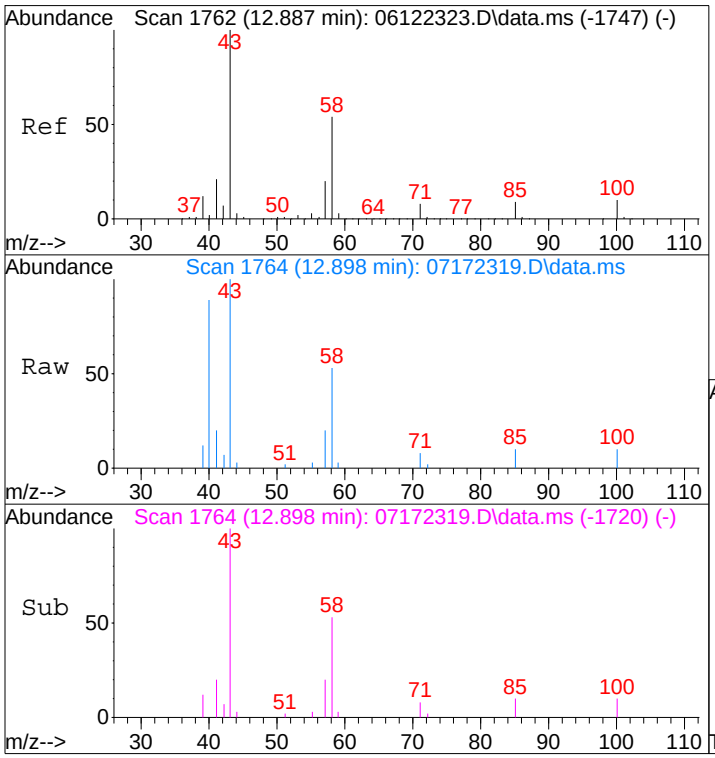


#47
Trichloroethene
Concen: 174.01 ng
RT: 10.12 min Scan# 1274
Delta R.T. -0.015 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion:130 Resp: 3386428

Ion	Ratio	Lower	Upper
130	100		
132	98.6	78.3	118.3

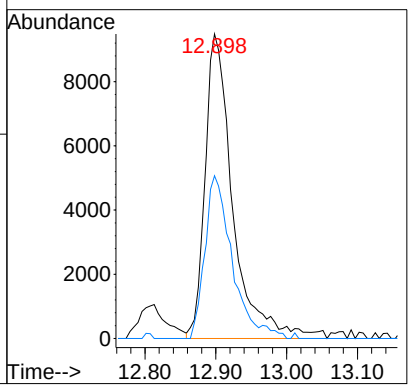


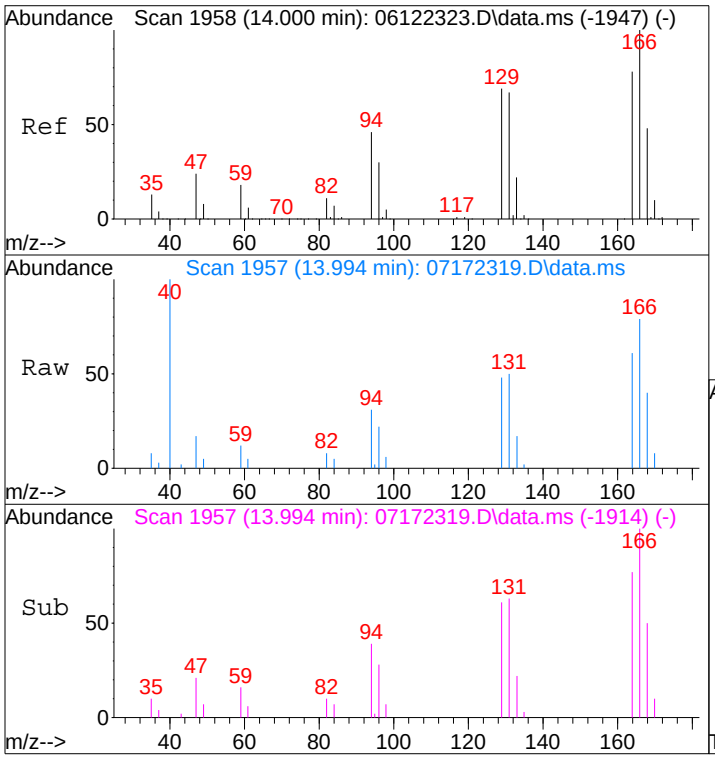


#59
2-Hexanone
Concen: 0.85 ng
RT: 12.90 min Scan# 1764
Delta R.T. -0.002 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion: 43 Resp: 25847

Ion	Ratio	Lower	Upper
43	100		
58	52.5	33.3	73.3

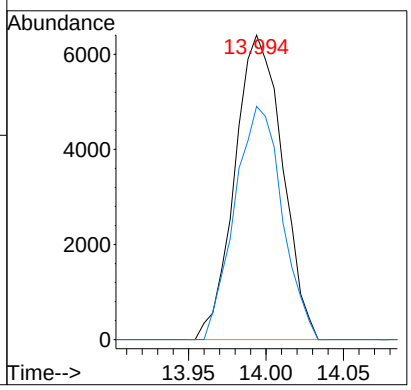




#64
Tetrachloroethene
Concen: 0.66 ng
RT: 13.99 min Scan# 1957
Delta R.T. -0.007 min
Lab File: 07172319.D
Acq: 17 Jul 2023 14:21

Tgt Ion:166 Resp: 13721

Ion	Ratio	Lower	Upper
166	100		
164	76.4	56.5	96.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172321.D Vial: 8
Acq On : 17 Jul 2023 15:25 Operator: SC
Sample : P2303042-001Dil (20mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:47:41 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/17/23

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	182873	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	796777	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	150788	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.97	65	342421	10.967	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.76%			
57) Toluene-d8 (SS2)	12.39	98	924754	13.948	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.60%			
73) Bromofluorobenzene (SS3)	16.79	174	353481	13.589	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.72%			
Target Compounds						Qvalue
2) Propene	3.30	42	4698	N.D.		
3) Dichlorodifluoromethan...	3.32	85	1277	N.D.		
4) Chloromethane	3.52	50	707	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	3.70	62	3956	N.D.		
7) 1,3-Butadiene	3.77	54	351	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.31	45	1773	N.D.		
11) Acetonitrile	4.49	41	51	N.D.		
12) Acrolein	4.53	56	186	N.D.		
13) Acetone	4.62	58	44024	3.824	ng	88
14) Trichlorofluoromethane	4.74	101	1003	N.D.		
15) 2-Propanol (Isopropanol)	4.87	45	2235	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	5.24	96	17084	0.998	ng	93
18) 2-Methyl-2-Propanol (t...	5.25	59	1104	N.D.		
19) Methylene Chloride	5.34	84	3844	N.D.		
20) 3-Chloro-1-propene (Al...	5.42	41	122	N.D.		
21) Trichlorotrifluoroethane	5.55	151	140501	7.991	ng	98
22) Carbon Disulfide	5.60	76	6272	N.D.		
23) trans-1,2-Dichloroethene	6.12	61	5859	N.D.		
24) 1,1-Dichloroethane	6.29	63	6411	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.67	72	8388	0.749	ng	99
28) cis-1,2-Dichloroethene	7.04	61	322633	12.931	ng	97
29) Diisopropyl Ether	7.32	87	108	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	7.27	57	845	N.D.		
32) Chloroform	7.33	83	1464	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.08	62	26215	0.848	ng	100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	23086	No Calib	#	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.87	78	3405	N.D.		
42) Carbon Tetrachloride	9.02	117	300	N.D.		
43) Cyclohexane	9.18	84	472	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.10	83	10623	N.D.		
47) Trichloroethene	10.10	130	842466	43.926	ng	100
48) 1,4-Dioxane	10.16	88	200	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172321.D Vial: 8
Acq On : 17 Jul 2023 15:25 Operator: SC
Sample : P2303042-001Dil (20mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:47:41 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

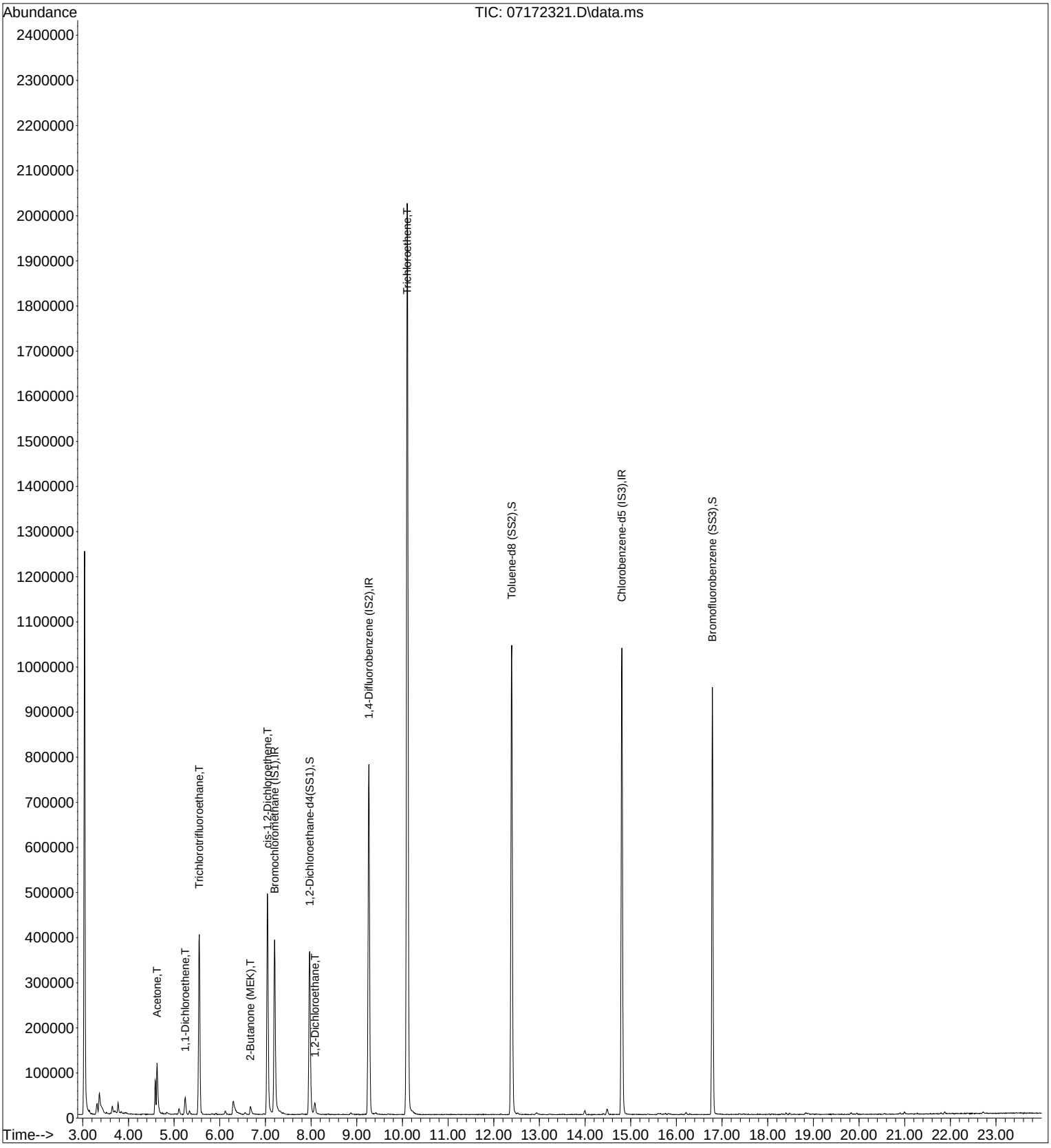
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	12.16	97	424	N.D.		
58) Toluene	12.53	91	2775	N.D.		
59) 2-Hexanone	12.95	43	5095	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.00	166	3455	N.D.		
65) Chlorobenzene	14.86	112	459	N.D.		
66) Ethylbenzene	15.38	91	1807	N.D.		
67) m- & p-Xylenes	15.60	91	4014	N.D.		
68) Bromoform	15.66	173	197	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.21	91	4081	N.D.		
71) n-Nonane	16.58	43	111	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.20	83	128	N.D.		
74) Cumene	17.00	105	265	N.D.		
75) alpha-Pinene	17.49	93	275	N.D.		
76) n-Propylbenzene	17.66	91	633	N.D.		
77) 3-Ethyltoluene	17.00	105	265	No Calib		#
78) 4-Ethyltoluene	17.84	105	792	N.D.		
79) 1,3,5-Trimethylbenzene	17.93	105	411	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	265	No Calib		#
82) 1,2,4-Trimethylbenzene	18.41	105	903	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.64	146	422	N.D.		
86) 1,4-Dichlorobenzene	18.64	146	422	N.D.		
87) sec-Butylbenzene	18.72	105	364	N.D.		
88) 4-Isopropyltoluene (p-...	18.90	119	761	N.D.		
89) 1,2,3-Trimethylbenzene	17.00	105	265	No Calib		#
90) 1,2-Dichlorobenzene	19.01	146	114	N.D.		
91) d-Limonene	19.06	68	313	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.10	58	717	No Calib		#
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.98	128	129	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.27	225	505	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.41	119	495	N.D.		
100) n-Butylbenzene	19.37	91	264	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

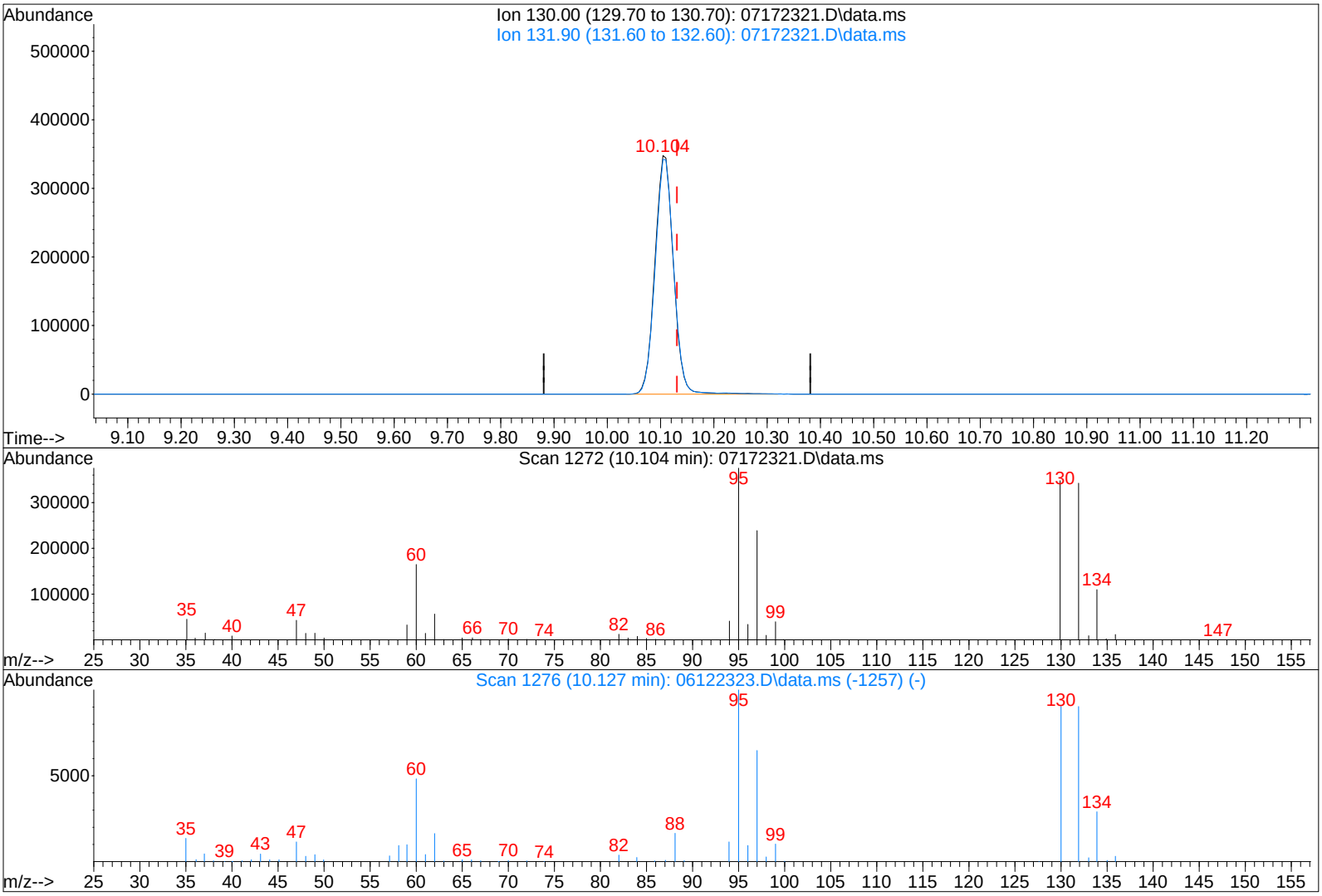
Data File : I:\MS09\DATA\2023 07\17\07172321.D Vial: 8
Acq On : 17 Jul 2023 15:25 Operator: SC
Sample : P2303042-001Dil (20mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:47:41 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS09\DATA\2023 07\17\07172321.D Vial: 8
Acq On : 17 Jul 2023 15:25 Operator: SC
Sample : P2303042-001Dil (20mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:47:41 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07172321.D\data.ms

(47) Trichloroethene (T)

10.104min (-0.027) 43.93ng

response 842466

Ion	Exp%	Act%
130.00	100	100
131.90	98.30	98.53
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172320.D Vial: 9
Acq On : 17 Jul 2023 14:54 Operator: SC
Sample : P2303042-002 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:16:52 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/17/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	183362	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	795862	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	151678	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	344202	10.994	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
57) Toluene-d8 (SS2)	12.39	98	937442	14.056	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.48%				
73) Bromofluorobenzene (SS3)	16.79	174	358172	13.689	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
Target Compounds							Qvalue
2) Propene	3.29	42	7326	N.D.			
3) Dichlorodifluoromethan...	3.36	85	6766	N.D.			
4) Chloromethane	3.45	50	123	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	3.69	62	14241	0.561	ng		95
7) 1,3-Butadiene	3.76	54	277	N.D.			
8) Bromomethane	4.01	94	256	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	2189	N.D.			
11) Acetonitrile	4.46	41	1640	N.D.			
12) Acrolein	4.54	56	1279	N.D.			
13) Acetone	4.63	58	84415	7.313	ng	#	81
14) Trichlorofluoromethane	4.74	101	3186	N.D.			
15) 2-Propanol (Isopropanol)	4.86	45	2033	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	5.23	96	59659	3.474	ng		94
18) 2-Methyl-2-Propanol (t...	5.23	59	3402	N.D.			
19) Methylene Chloride	5.33	84	12637	0.670	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	134	N.D.			
21) Trichlorotrifluoroethane	5.55	151	492955	27.963	ng		99
22) Carbon Disulfide	5.58	76	443279	6.869	ng		93
23) trans-1,2-Dichloroethene	6.12	61	21449	0.835	ng		96
24) 1,1-Dichloroethane	6.29	63	23707	0.766	ng		96
25) Methyl tert-Butyl Ether	6.28	73	3114	N.D.			
26) Vinyl Acetate	6.43	86	795	N.D.			
27) 2-Butanone (MEK)	6.67	72	18402	1.639	ng		98
28) cis-1,2-Dichloroethene	7.05	61	1141439	45.626	ng		95
29) Diisopropyl Ether	7.33	87	424	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.28	57	1450	N.D.			
32) Chloroform	7.33	83	5030	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.09	62	92123	2.974	ng		100
38) 1,1,1-Trichloroethane	8.37	97	342	N.D.			
39) Isopropyl Acetate	9.28	61	23056	No Calib		#	
40) 1-Butanol	8.87	56	4417	No Calib		#	
41) Benzene	8.87	78	9330	N.D.			
42) Carbon Tetrachloride	9.04	117	1367	N.D.			
43) Cyclohexane	9.18	84	1990	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	10.12	130	2977631	155.430	ng		100
48) 1,4-Dioxane	10.16	88	1775	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	568	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\DATA\2023 07\17\07172320.D Vial: 9
Acq On : 17 Jul 2023 14:54 Operator: SC
Sample : P2303042-002 (100mL) Inst : MS09
Misc : S37-06132301

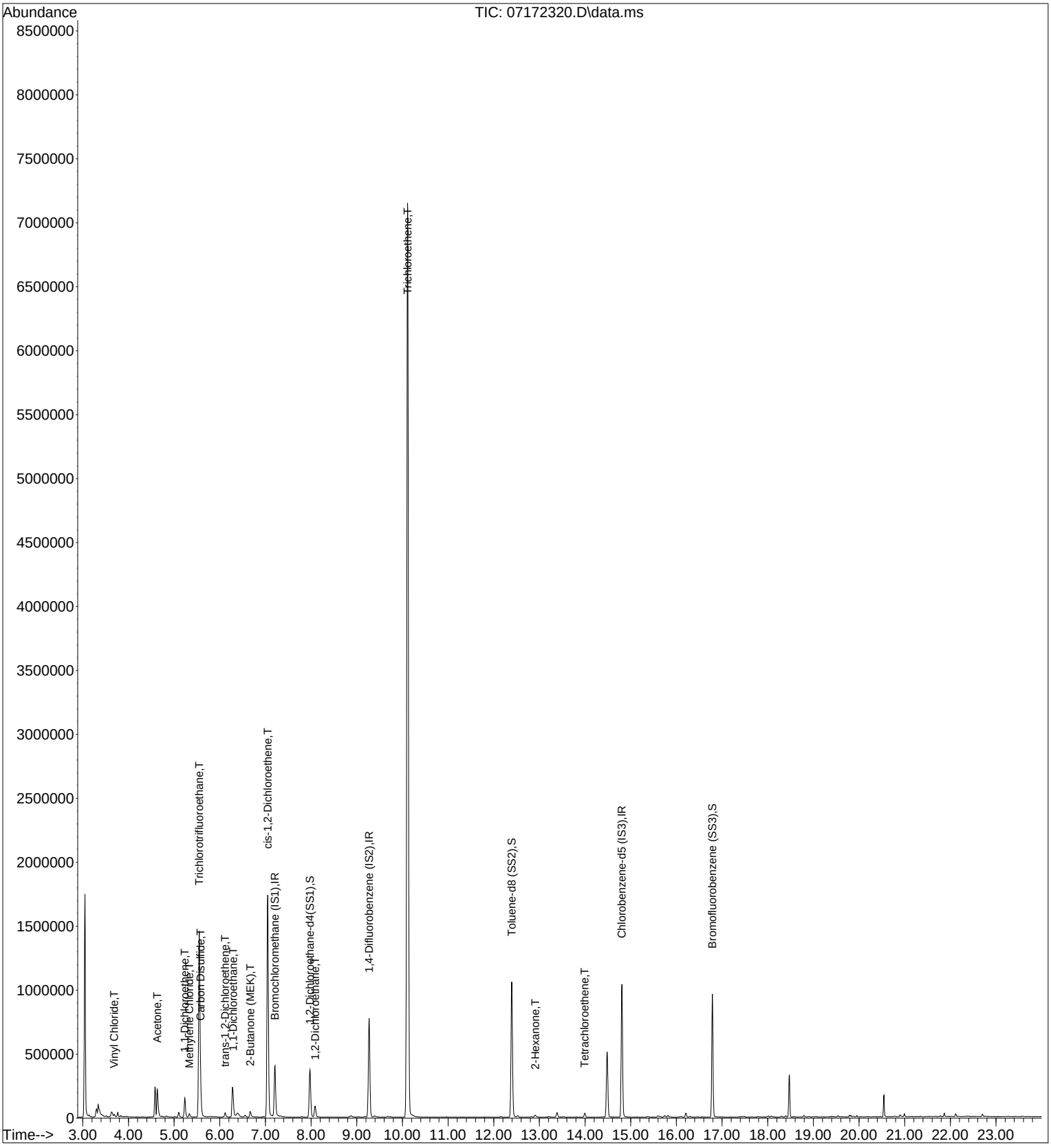
Quant Time: Jul 17 15:16:52 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	12.14	97	1631	N.D.	
58) Toluene	12.53	91	11913	N.D.	
59) 2-Hexanone	12.91	43	16600	0.552 ng	99
60) Dibromochloromethane	13.03	129	121	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	13.99	166	11500	0.558 ng	97
65) Chlorobenzene	14.86	112	512	N.D.	
66) Ethylbenzene	15.38	91	4416	N.D.	
67) m- & p-Xylenes	15.60	91	11895	N.D.	
68) Bromoform	15.65	173	213	N.D.	
69) Styrene	16.07	104	1656	N.D.	
70) o-Xylene	16.20	91	14041	N.D.	
71) n-Nonane	16.57	43	1089	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.19	83	201	N.D.	
74) Cumene	16.99	105	837	N.D.	
75) alpha-Pinene	17.49	93	1588	N.D.	
76) n-Propylbenzene	17.65	91	1104	N.D.	
77) 3-Ethyltoluene	16.99	105	837	No Calib	#
78) 4-Ethyltoluene	17.84	105	1090	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	837	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	16.99	105	837	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	3094	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.56	146	216	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	883	N.D.	
87) sec-Butylbenzene	18.72	105	480	N.D.	
88) 4-Isopropyltoluene (p-...	18.89	119	1794	N.D.	
89) 1,2,3-Trimethylbenzene	16.99	105	837	No Calib	#
90) 1,2-Dichlorobenzene	19.02	146	137	N.D.	
91) d-Limonene	19.06	68	1121	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	3961	No Calib	#
94) 1,2,4-Trichlorobenzene	20.82	180	435	N.D.	
95) Naphthalene	20.93	128	1852	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.28	225	562	N.D.	
98) Cyclohexanone	15.49	55	651	No Calib	#
99) tert-Butylbenzene	18.40	119	873	N.D.	
100) n-Butylbenzene	19.37	91	826	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : I:\MS09\DATA\2023 07\17\07172320.D Vial: 9
Acq On : 17 Jul 2023 14:54 Operator: SC
Sample : P2303042-002 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:16:52 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172320.D Vial: 9
Acq On : 17 Jul 2023 14:54 Operator: SC
Sample : P2303042-002 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:16:52 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/17/23

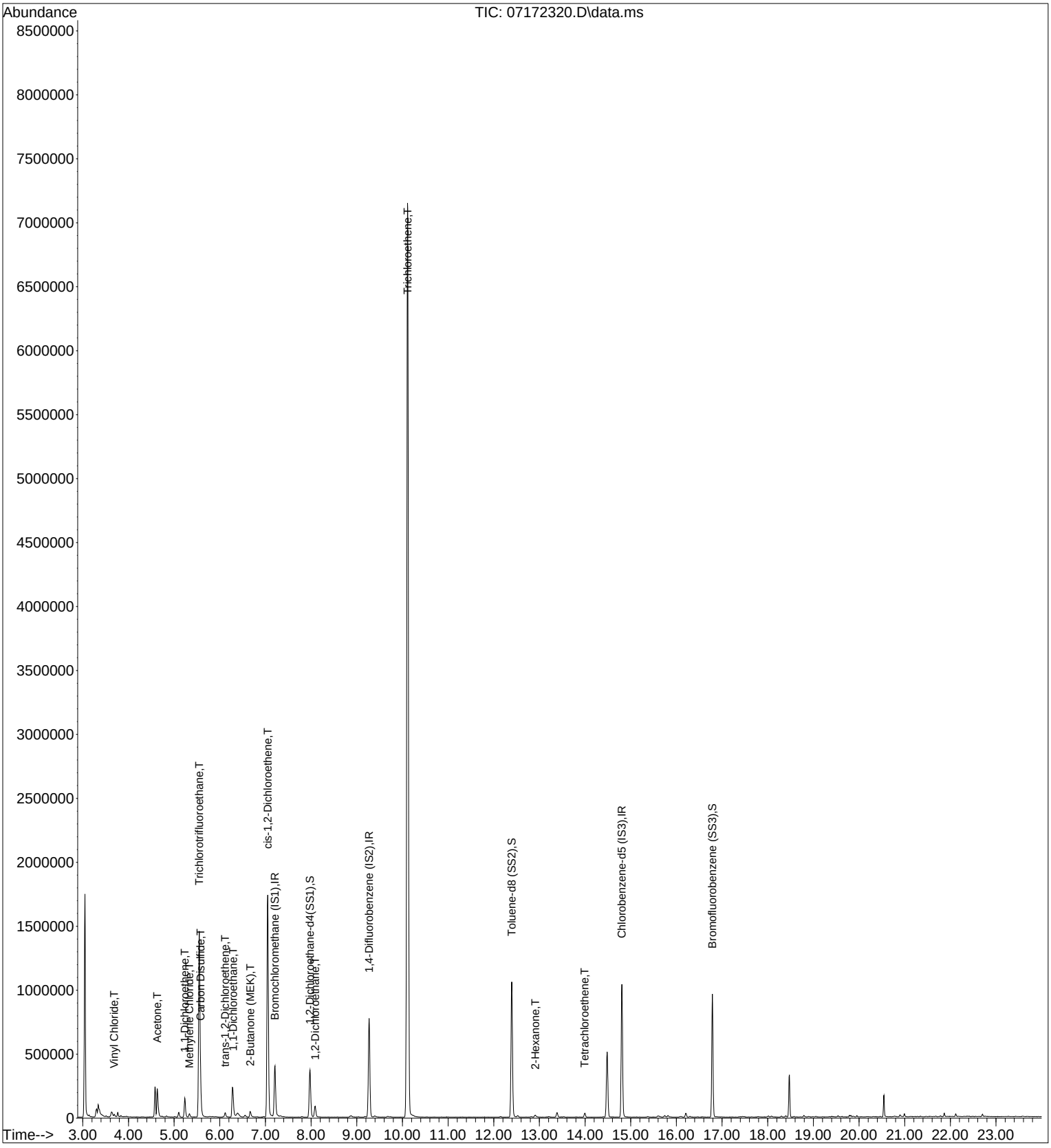
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	183362	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	795862	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	151678	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	344202	10.994	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
57) Toluene-d8 (SS2)	12.39	98	937442	14.056	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.48%				
73) Bromofluorobenzene (SS3)	16.79	174	358172	13.689	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
Target Compounds							Qvalue
6) Vinyl Chloride	3.69	62	14241	0.561	ng		95
13) Acetone	4.63	58	84415	7.313	ng	#	81
17) 1,1-Dichloroethene	5.23	96	59659	3.474	ng		94
19) Methylene Chloride	5.33	84	12637	0.670	ng		99
21) Trichlorotrifluoroethane	5.55	151	492955	27.963	ng		99
22) Carbon Disulfide	5.58	76	443279	6.869	ng		93
23) trans-1,2-Dichloroethene	6.12	61	21449	0.835	ng		96
24) 1,1-Dichloroethane	6.29	63	23707	0.766	ng		96
27) 2-Butanone (MEK)	6.67	72	18402	1.639	ng		98
28) cis-1,2-Dichloroethene	7.05	61	1141439	45.626	ng		95
36) 1,2-Dichloroethane	8.09	62	92123	2.974	ng		100
47) Trichloroethene	10.12	130	2977631	155.430	ng		100
59) 2-Hexanone	12.91	43	16600	0.552	ng		99
64) Tetrachloroethene	13.99	166	11500	0.558	ng		97

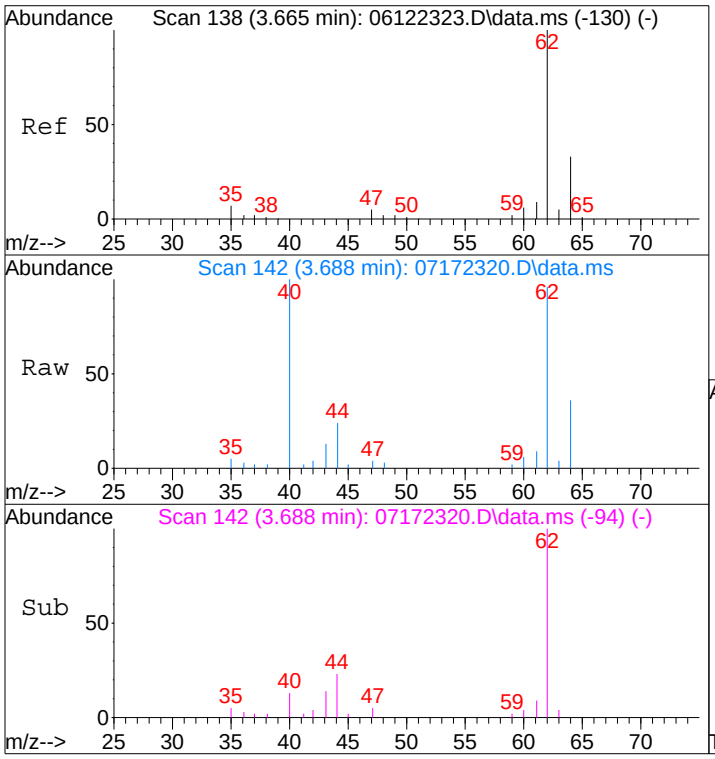
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172320.D Vial: 9
Acq On : 17 Jul 2023 14:54 Operator: SC
Sample : P2303042-002 (100mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 15:16:52 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

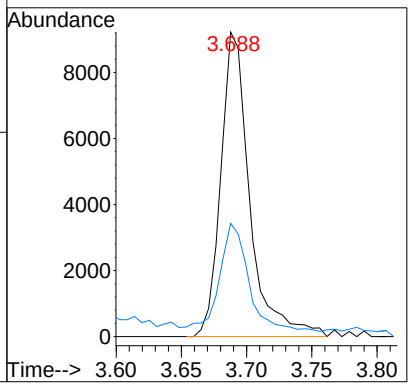


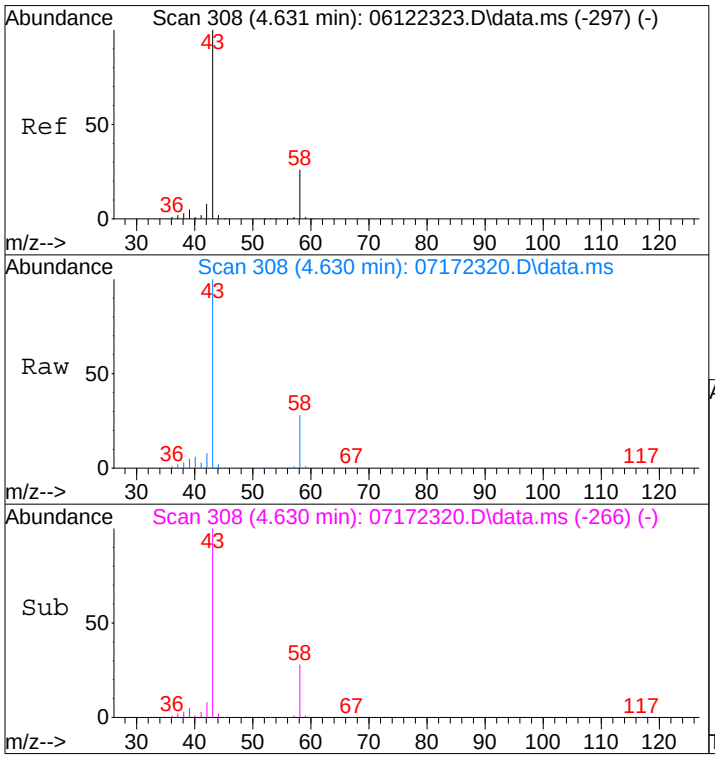


#6
Vinyl Chloride
Concen: 0.56 ng
RT: 3.69 min Scan# 142
Delta R.T. 0.023 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 62 Resp: 14241

Ion	Ratio	Lower	Upper
62	100		
64	36.4	13.4	53.4

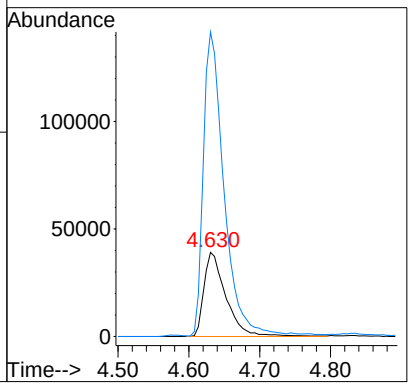


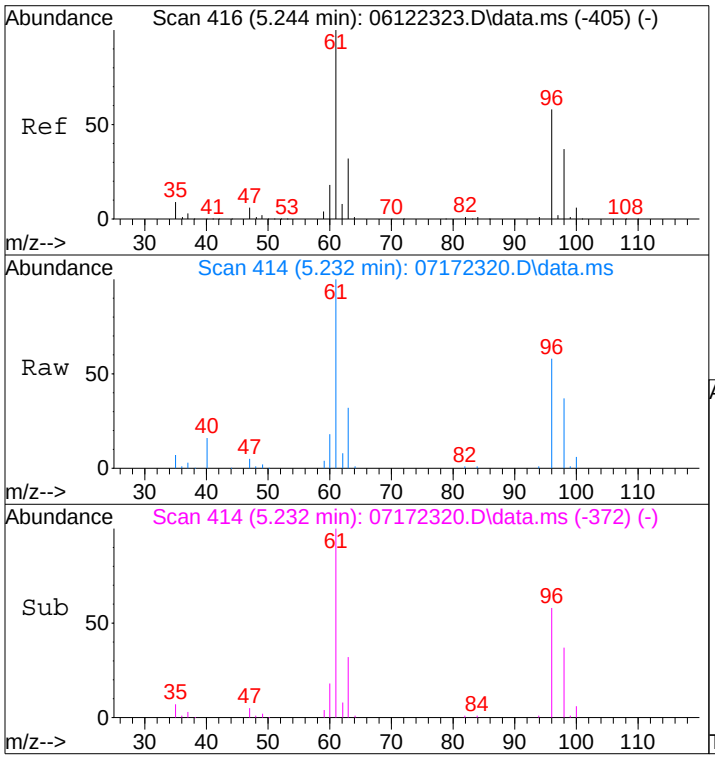


#13
Acetone
Concen: 7.31 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.014 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 58 Resp: 84415

Ion	Ratio	Lower	Upper
58	100		
43	341.7	354.9	414.9#

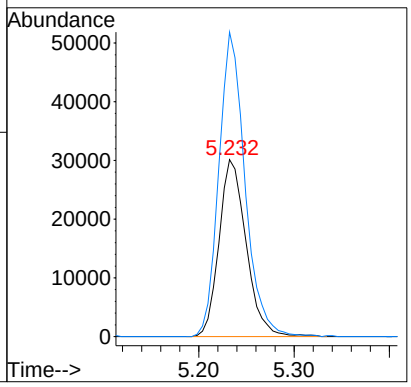


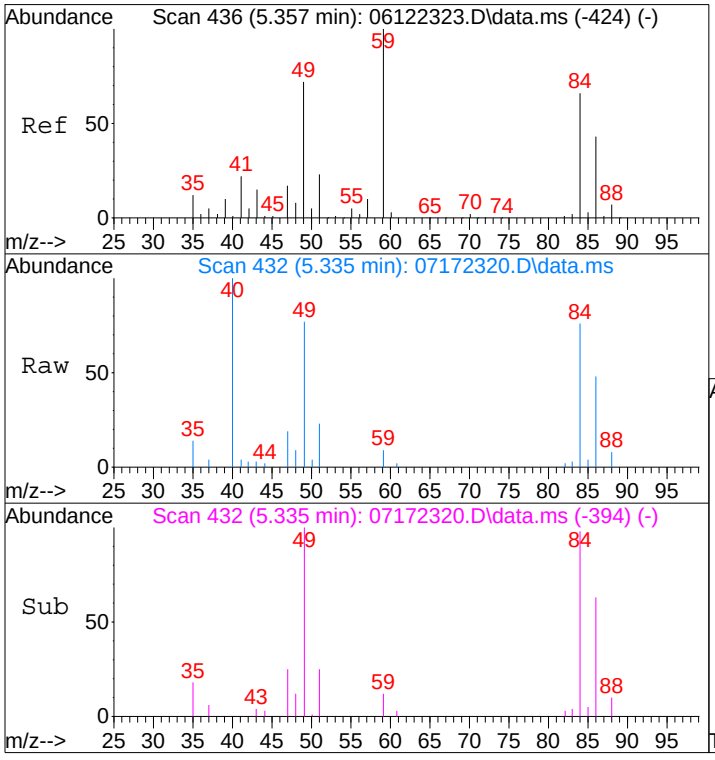


#17
1,1-Dichloroethene
Concen: 3.47 ng
RT: 5.23 min Scan# 414
Delta R.T. -0.012 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 96 Resp: 59659

Ion	Ratio	Lower	Upper
96	100		
61	166.2	153.9	193.9

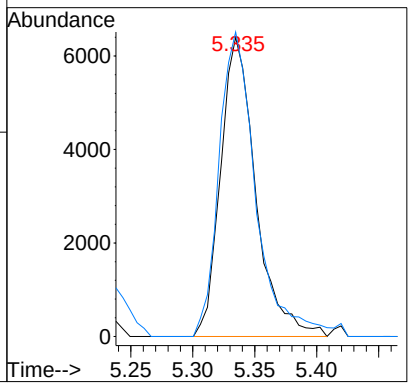


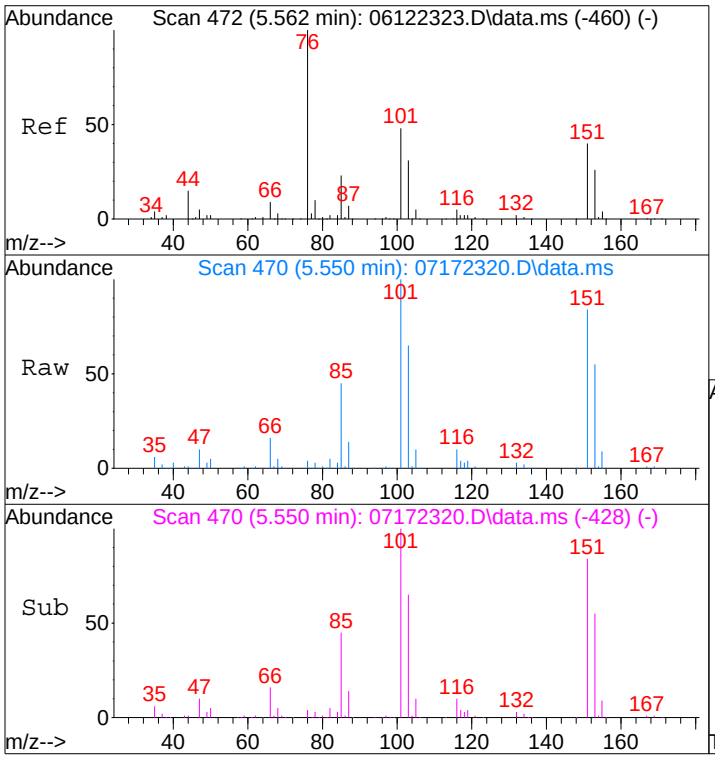


#19
Methylene Chloride
Concen: 0.67 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.034 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 84 Resp: 12637

Ion	Ratio	Lower	Upper
84	100		
49	107.4	83.6	133.6

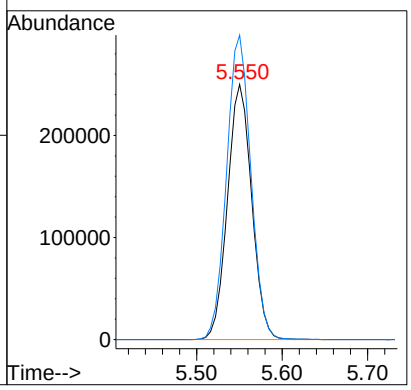


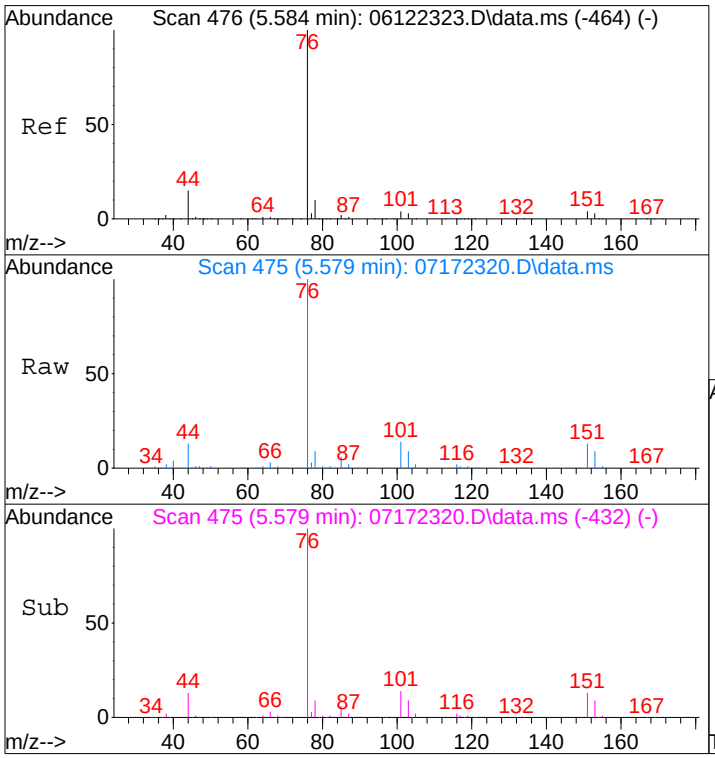


#21
Trichlorotrifluoroethane
Concen: 27.96 ng
RT: 5.55 min Scan# 470
Delta R.T. -0.011 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion:151 Resp: 492955

Ion	Ratio	Lower	Upper
151	100		
101	119.7	101.1	141.1

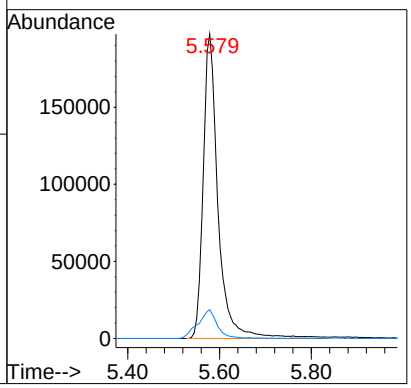


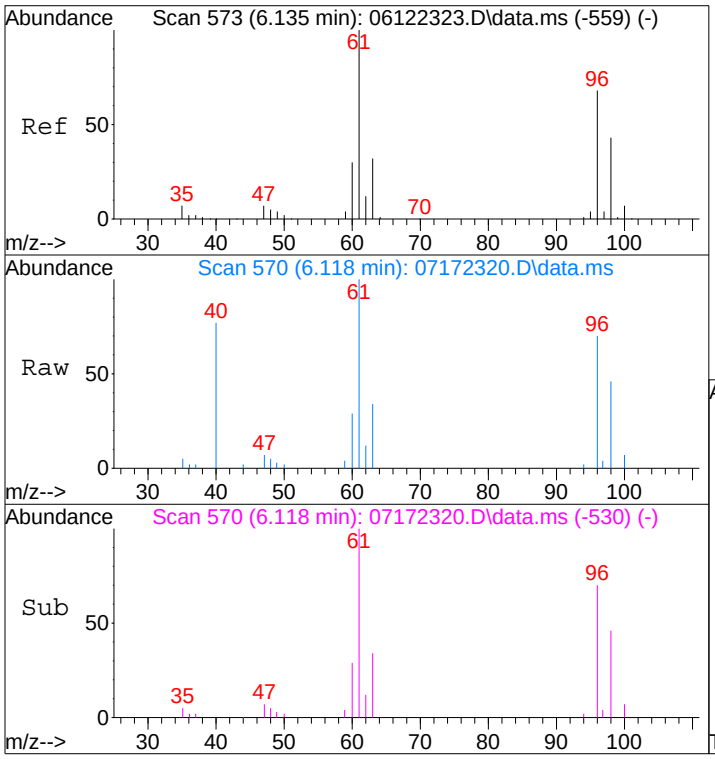


#22
Carbon Disulfide
Concen: 6.87 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.006 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 76 Resp: 443279

Ion	Ratio	Lower	Upper
76	100		
78	12.2	0.0	29.7

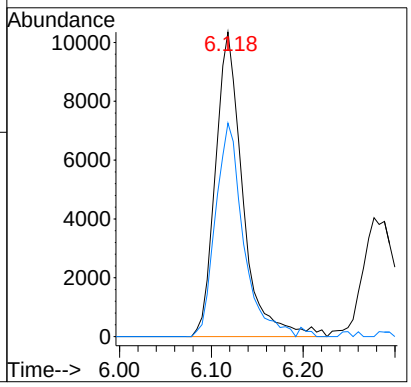


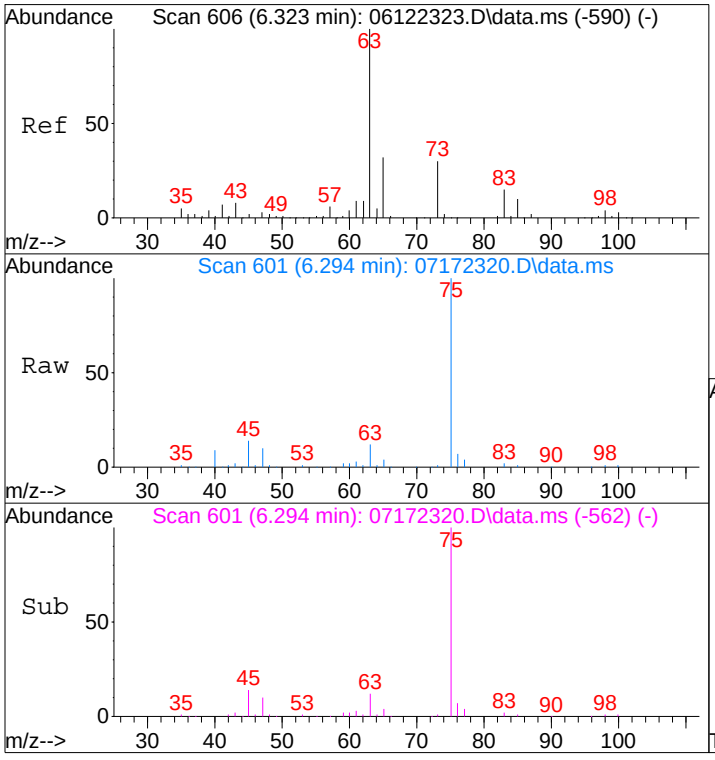


#23
trans-1,2-Dichloroethene
Concen: 0.83 ng
RT: 6.12 min Scan# 570
Delta R.T. -0.021 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 61 Resp: 21449

Ion	Ratio	Lower	Upper
61	100		
96	71.5	48.2	88.2

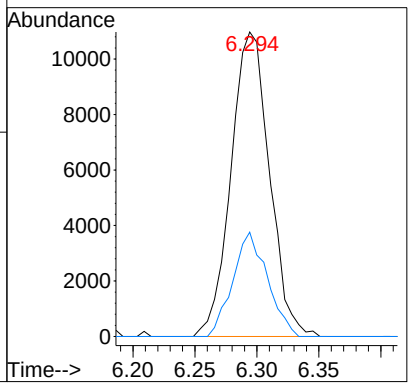


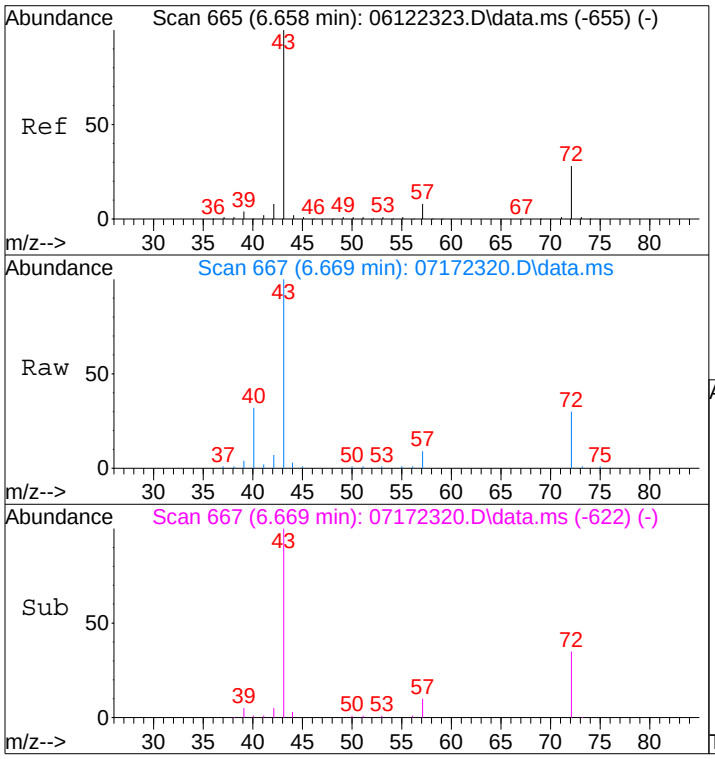


#24
1,1-Dichloroethane
Concen: 0.77 ng
RT: 6.29 min Scan# 601
Delta R.T. -0.031 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 63 Resp: 23707

Ion	Ratio	Lower	Upper
63	100		
65	30.8	13.1	53.1

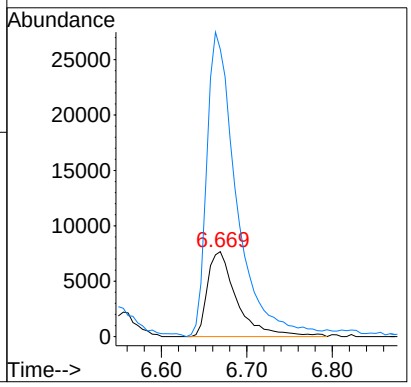


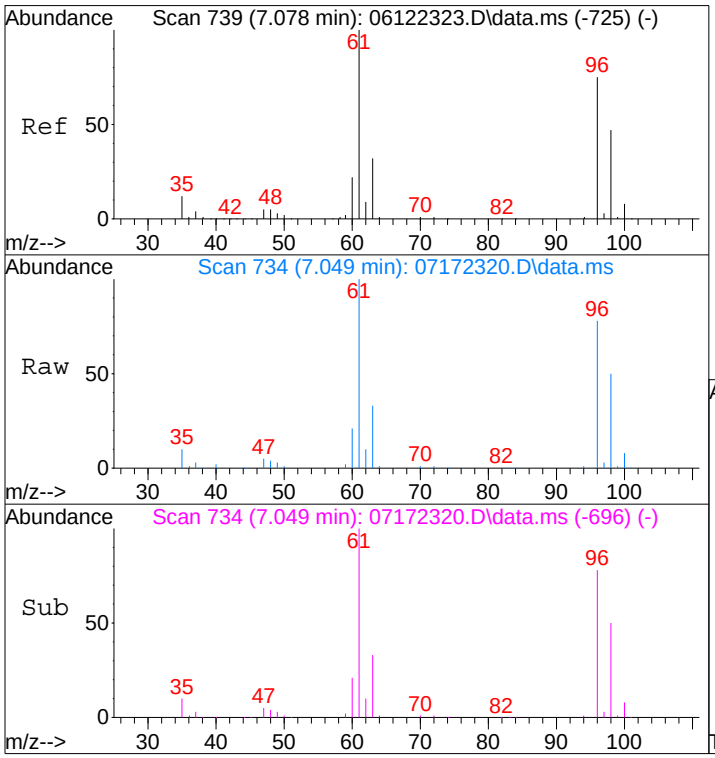


#27
2-Butanone (MEK)
Concen: 1.64 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.004 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 72 Resp: 18402

Ion	Ratio	Lower	Upper
72	100		
43	366.0	349.7	389.7

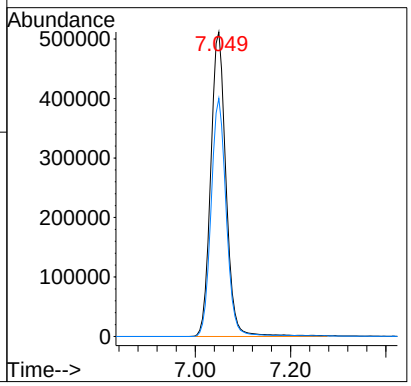


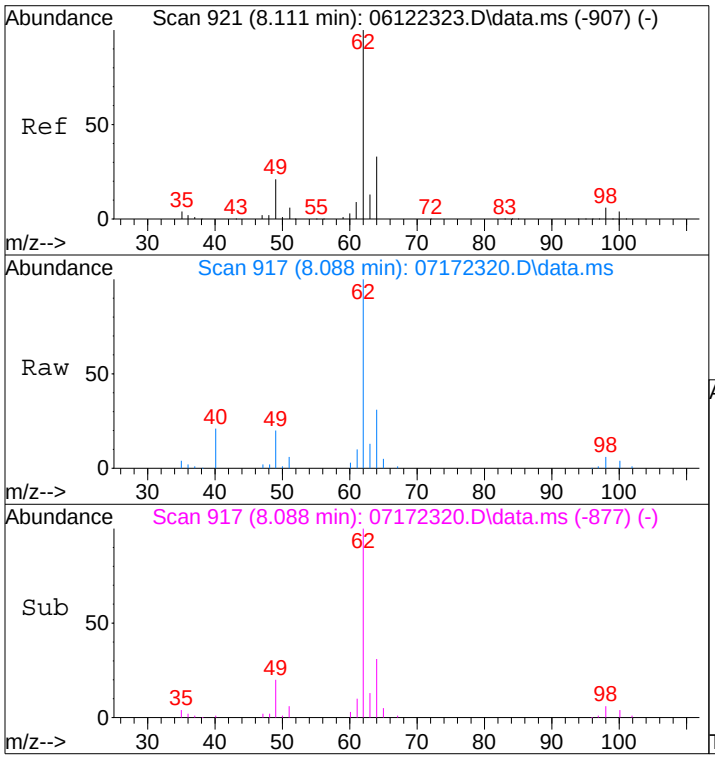


#28
cis-1,2-Dichloroethene
Concen: 45.63 ng
RT: 7.05 min Scan# 734
Delta R.T. -0.035 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 61 Resp: 1141439

Ion	Ratio	Lower	Upper
61	100		
96	78.1	54.3	94.3

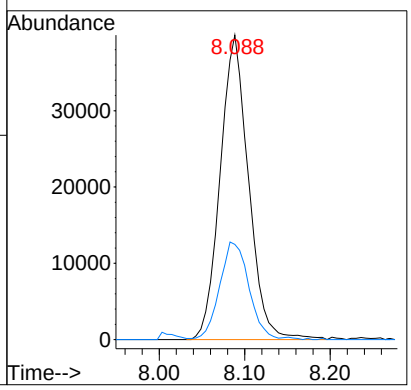


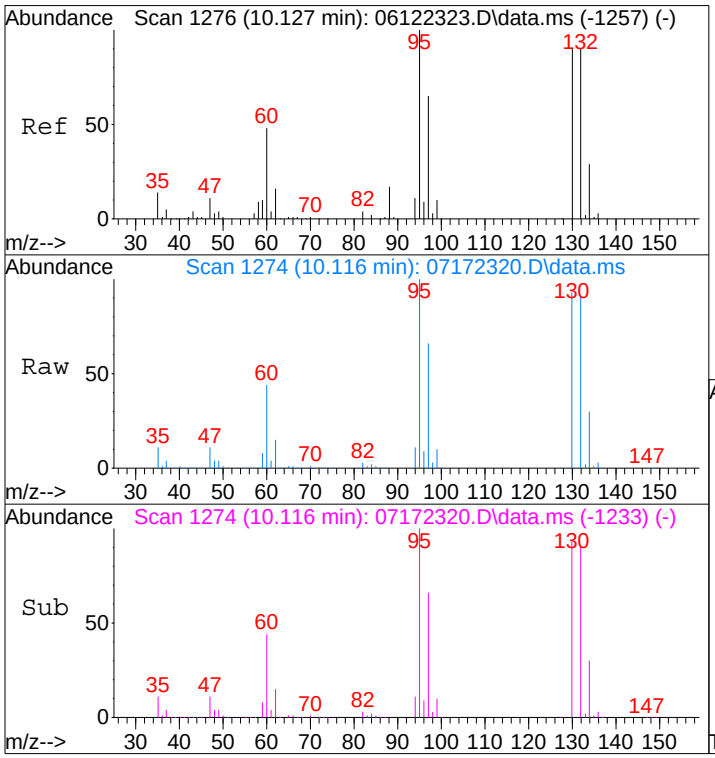


#36
1,2-Dichloroethane
Concen: 2.97 ng
RT: 8.09 min Scan# 917
Delta R.T. -0.020 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 62 Resp: 92123

Ion	Ratio	Lower	Upper
62	100		
64	33.2	13.1	53.1

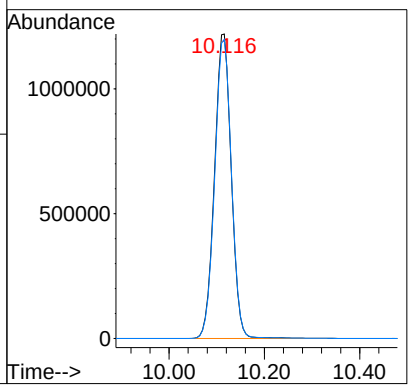


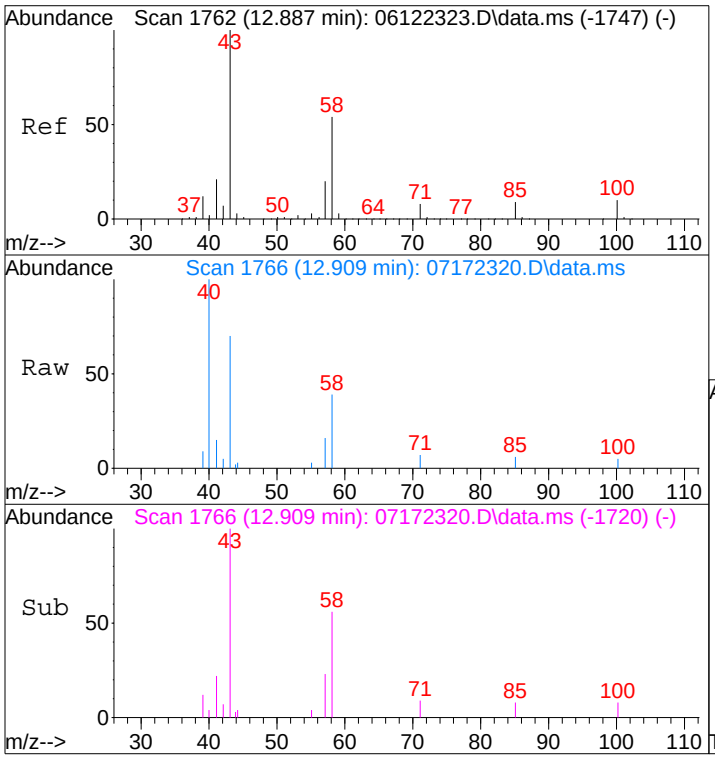


#47
Trichloroethene
Concen: 155.43 ng
RT: 10.12 min Scan# 1274
Delta R.T. -0.015 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion:130 Resp: 2977631

Ion	Ratio	Lower	Upper
130	100		
132	98.7	78.3	118.3

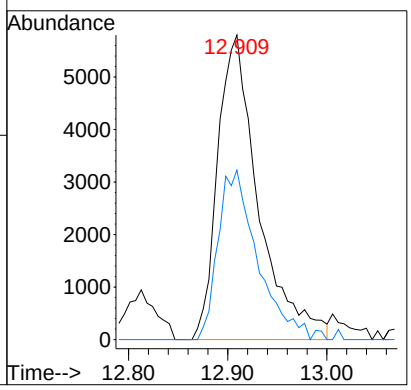


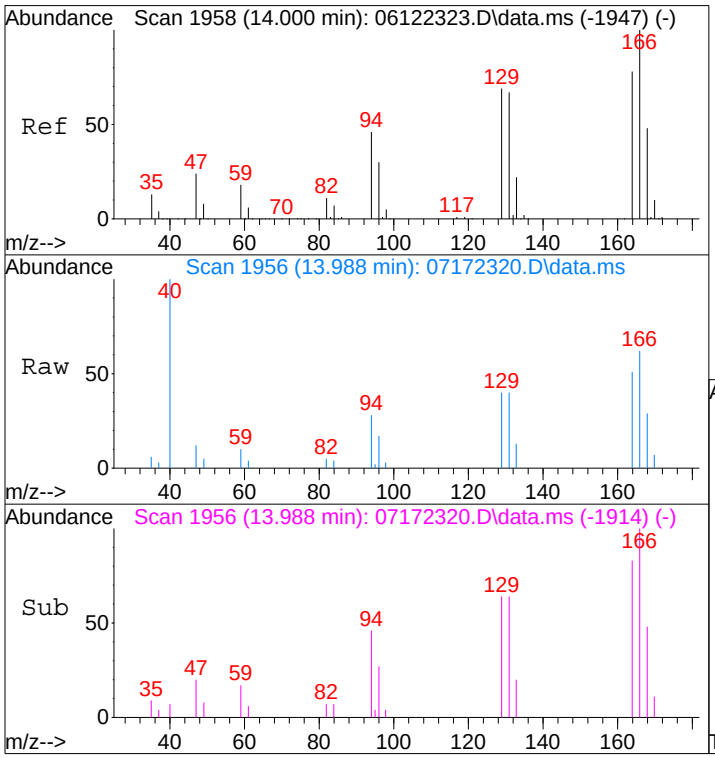


#59
2-Hexanone
Concen: 0.55 ng
RT: 12.91 min Scan# 1766
Delta R.T. 0.010 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion: 43 Resp: 16600

Ion	Ratio	Lower	Upper
43	100		
58	54.1	33.3	73.3

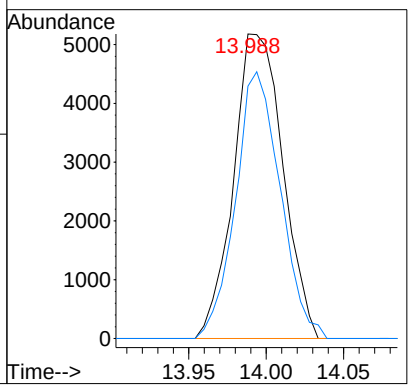




#64
Tetrachloroethene
Concen: 0.56 ng
RT: 13.99 min Scan# 1956
Delta R.T. -0.012 min
Lab File: 07172320.D
Acq: 17 Jul 2023 14:54

Tgt Ion:166 Resp: 11500

Ion	Ratio	Lower	Upper
166	100		
164	79.4	56.5	96.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172322.D Vial: 9
Acq On : 17 Jul 2023 15:58 Operator: SC
Sample : P2303042-002Dil (20mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 16:56:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/17/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	177601	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	773516	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	148279	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	339553	11.198	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
57) Toluene-d8 (SS2)	12.39	98	903384	13.856	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.88%				
73) Bromofluorobenzene (SS3)	16.79	174	344929	13.485	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	3.31	42	1733	N.D.			
3) Dichlorodifluoromethan...	3.32	85	990	N.D.			
4) Chloromethane	3.45	50	177	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	3.70	62	3475	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	1154	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.64	58	21291	1.904	ng	#	80
14) Trichlorofluoromethane	4.74	101	870	N.D.			
15) 2-Propanol (Isopropanol)	4.88	45	684	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	5.25	96	14195	0.854	ng		94
18) 2-Methyl-2-Propanol (t...	5.40	59	444	N.D.			
19) Methylene Chloride	5.34	84	3397	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.56	151	121778	7.132	ng		99
22) Carbon Disulfide	5.60	76	105441	1.687	ng		97
23) trans-1,2-Dichloroethene	6.12	61	5007	N.D.			
24) 1,1-Dichloroethane	6.29	63	5726	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	227	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	4364	N.D.			
28) cis-1,2-Dichloroethene	7.04	61	273471	11.286	ng		96
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.23	61	3048	N.D.			
31) n-Hexane	7.27	57	260	N.D.			
32) Chloroform	7.33	83	1392	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	22856	0.762	ng		100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	22294	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.87	78	2430	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.18	84	404	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.10	83	9026	N.D.			
47) Trichloroethene	10.10	130	722993	38.830	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\DATA\2023 07\17\07172322.D Vial: 9
Acq On : 17 Jul 2023 15:58 Operator: SC
Sample : P2303042-002Dil (20mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 16:56:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

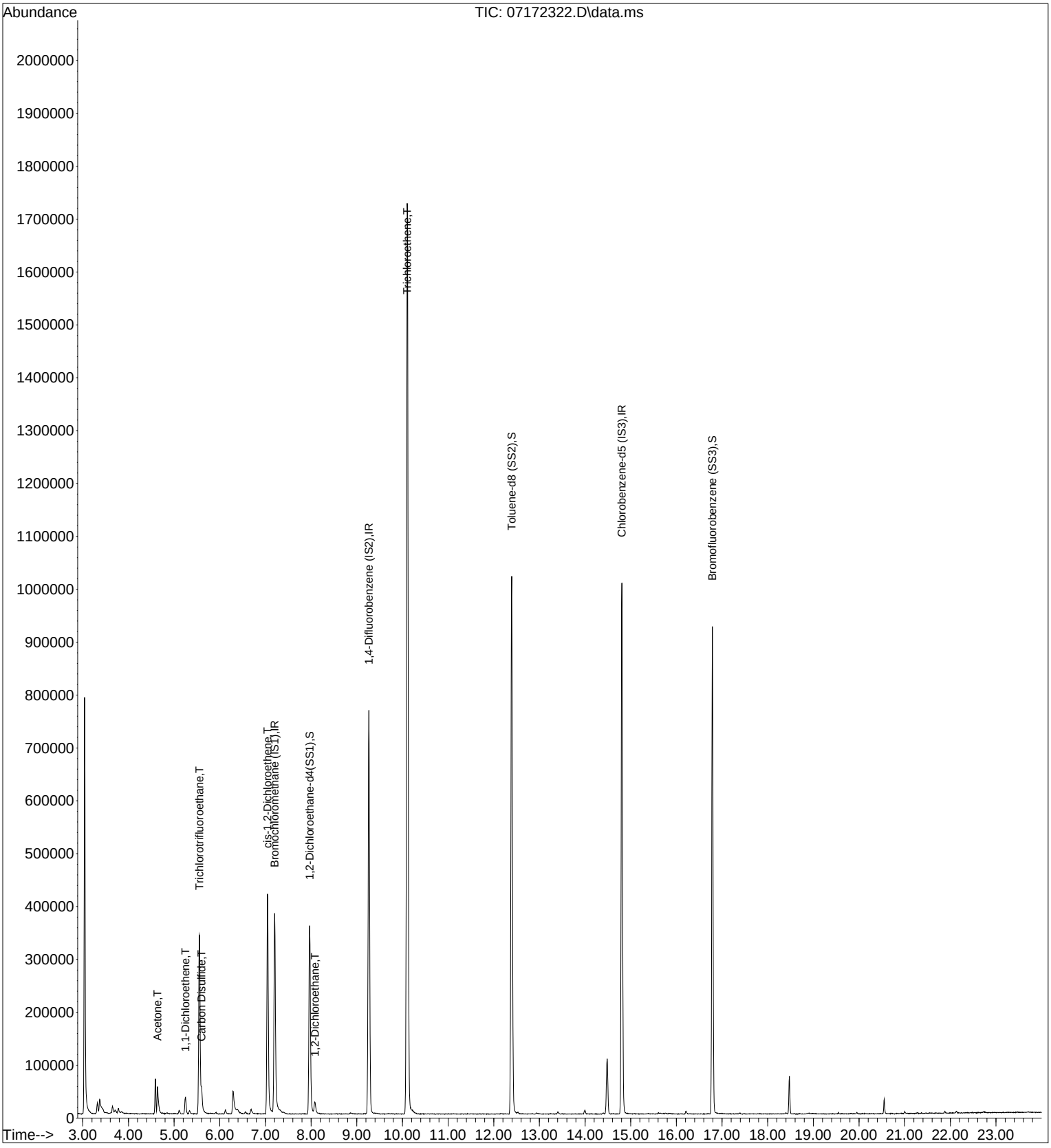
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	12.15	97	199	N.D.		
58) Toluene	12.53	91	3250	N.D.		
59) 2-Hexanone	12.85	43	293	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	13.99	166	3054	N.D.		
65) Chlorobenzene	14.86	112	202	N.D.		
66) Ethylbenzene	15.39	91	1363	N.D.		
67) m- & p-Xylenes	15.60	91	3154	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.09	104	112	N.D.		
70) o-Xylene	16.21	91	3410	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.00	105	418	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.66	91	483	N.D.		
77) 3-Ethyltoluene	17.00	105	418	No Calib		#
78) 4-Ethyltoluene	17.84	105	393	N.D.		
79) 1,3,5-Trimethylbenzene	17.94	105	395	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.00	105	418	No Calib		#
82) 1,2,4-Trimethylbenzene	18.41	105	803	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.40	91	286	N.D.		
85) 1,3-Dichlorobenzene	18.64	146	121	N.D.		
86) 1,4-Dichlorobenzene	18.64	146	121	N.D.		
87) sec-Butylbenzene	18.72	105	351	N.D.		
88) 4-Isopropyltoluene (p-...	18.90	119	626	N.D.		
89) 1,2,3-Trimethylbenzene	17.00	105	418	No Calib		#
90) 1,2-Dichlorobenzene	19.02	146	183	N.D.		
91) d-Limonene	19.05	68	224	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.28	225	466	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.47	119	1435	N.D.		
100) n-Butylbenzene	19.37	91	134	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172322.D Vial: 9
Acq On : 17 Jul 2023 15:58 Operator: SC
Sample : P2303042-002Dil (20mL) Inst : MS09
Misc : S37-06132301

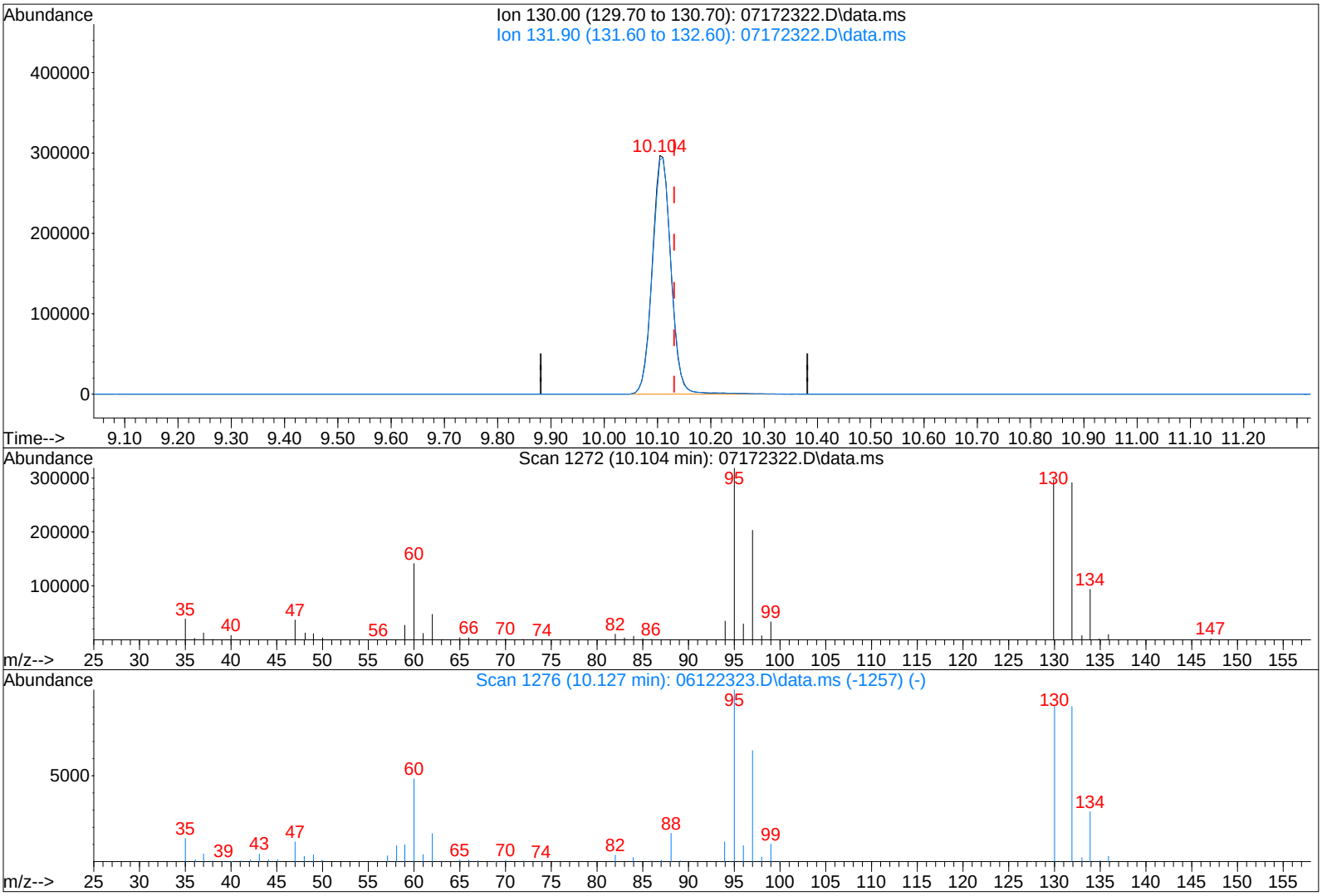
Quant Time: Jul 17 16:56:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



01194143

Data File : I:\MS09\DATA\2023 07\17\07172322.D Vial: 9
Acq On : 17 Jul 2023 15:58 Operator: SC
Sample : P2303042-002Dil (20mL) Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 16:56:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 07172322.D\data.ms

(47) Trichloroethene (T)

10.104min (-0.027) 38.83ng

response 722993

Ion	Exp%	Act%
130.00	100	100
131.90	98.30	98.98
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172323.D Vial: 10
Acq On : 17 Jul 2023 17:10 Operator: SC
Sample : P2303042-003 (1000mL) Inst : MS09
Misc : S37-07172304

Quant Time: Jul 18 12:45:16 2023 7/18/23
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	188225	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	808016	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.80	54	151632	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	362312	11.274	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
57) Toluene-d8 (SS2)	12.39	98	932973	13.994	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%				
73) Bromofluorobenzene (SS3)	16.79	174	349315	13.354	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.34	85	68872	1.508	ng		99
4) Chloromethane	3.48	50	3669	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	1459	N.D.			
6) Vinyl Chloride	3.68	62	170	N.D.			
7) 1,3-Butadiene	3.80	54	563	N.D.			
8) Bromomethane	4.01	94	497	N.D.			
9) Chloroethane	4.13	64	1528	N.D.			
10) Ethanol	4.28	45	99986	7.967	ng		98
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.51	56	185985	19.025	ng		97
13) Acetone	4.61	58	251317	21.211	ng	#	71
14) Trichlorofluoromethane	4.73	101	46921	1.086	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	100978	2.606	ng		94
16) Acrylonitrile	5.01	53	1610	N.D.			
17) 1,1-Dichloroethene	5.23	96	421	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1863	N.D.			
19) Methylene Chloride	5.33	84	6822	N.D.			
20) 3-Chloro-1-propene (Al...	5.43	41	343	N.D.			
21) Trichlorotrifluoroethane	5.55	151	12647	0.699	ng		94
22) Carbon Disulfide	5.57	76	236114	3.564	ng		99
23) trans-1,2-Dichloroethene	6.11	61	201	N.D.			
24) 1,1-Dichloroethane	6.28	63	125	N.D.			
25) Methyl tert-Butyl Ether	6.29	73	512	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.65	72	30021	2.605	ng	#	1
28) cis-1,2-Dichloroethene	7.05	61	12837	0.500	ng		100
29) Diisopropyl Ether	7.26	87	641	N.D.			
30) Ethyl Acetate	7.26	61	4248	0.589	ng		82
31) n-Hexane	7.26	57	57662	2.163	ng		98
32) Chloroform	7.33	83	1908	N.D.			
34) Tetrahydrofuran (THF)	7.75	72	15098	1.354	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.08	62	2204	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.26	61	23847	No Calib		#	
40) 1-Butanol	8.80	56	11171	No Calib		#	
41) Benzene	8.86	78	22475	N.D.			
42) Carbon Tetrachloride	9.03	117	6961	N.D.			
43) Cyclohexane	9.17	84	5444	N.D.			
44) tert-Amyl Methyl Ether	9.53	73	2261	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.05	83	193	N.D.			
47) Trichloroethene	10.10	130	30186	1.552	ng		99
48) 1,4-Dioxane	10.13	88	898	N.D.			
49) 2,2,4-Trimethylpentane...	10.19	57	13151	N.D.			
50) Methyl Methacrylate	10.39	100	198	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172323.D Vial: 10
Acq On : 17 Jul 2023 17:10 Operator: SC
Sample : P2303042-003 (1000mL) Inst : MS09
Misc : S37-07172304

Quant Time: Jul 18 12:45:16 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

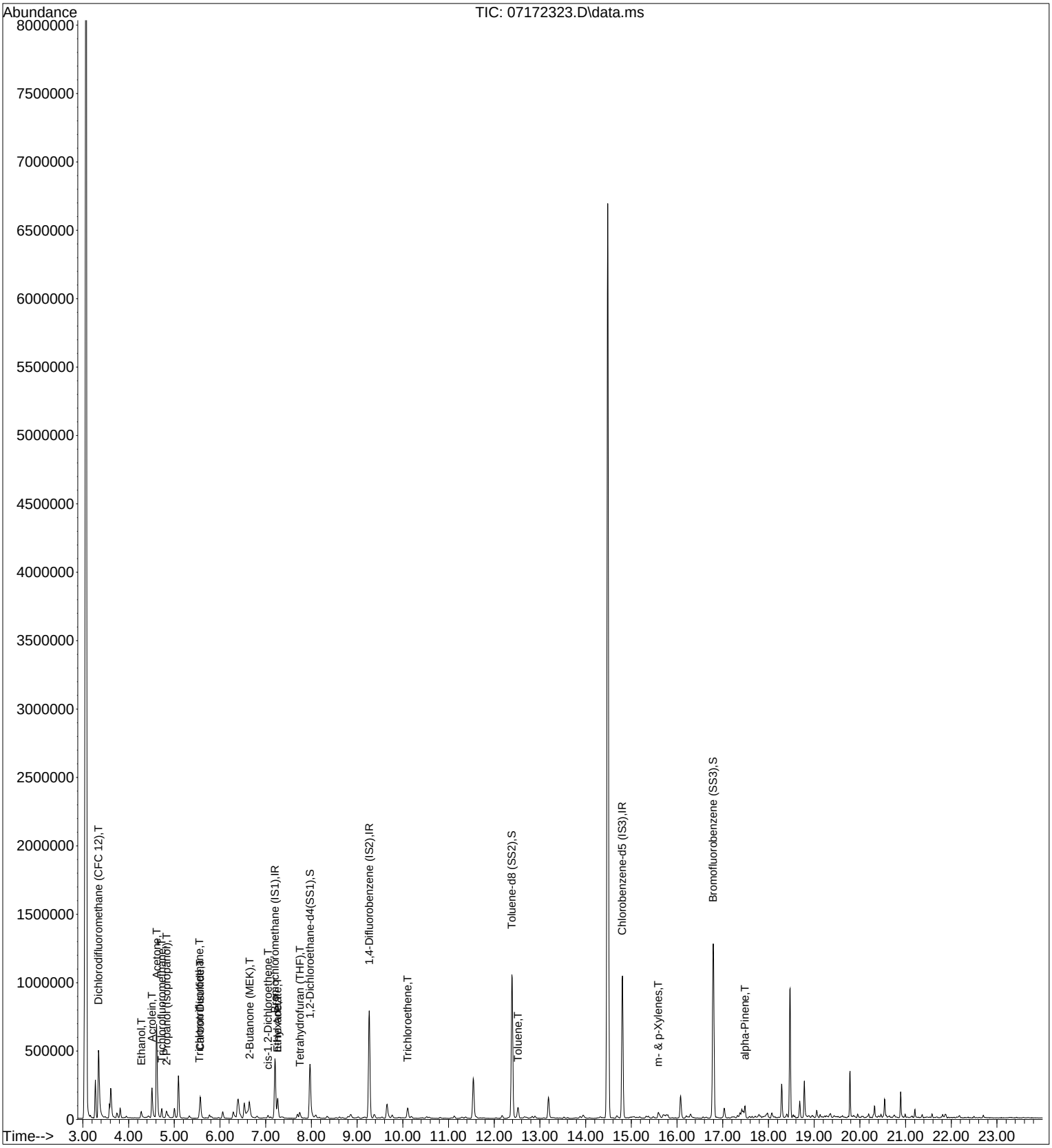
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	3710	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.30	58	2062	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	72850	1.116 ng	100
59) 2-Hexanone	12.89	43	12377	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	2200	N.D.	
63) n-Octane	13.88	57	2068	N.D.	
64) Tetrachloroethene	13.99	166	521	N.D.	
65) Chlorobenzene	14.84	112	1559	N.D.	
66) Ethylbenzene	15.37	91	11842	N.D.	
67) m- & p-Xylenes	15.59	91	30864	0.494 ng	97
68) Bromoform	15.64	173	724	N.D.	
69) Styrene	16.07	104	2145	N.D.	
70) o-Xylene	16.20	91	11626	N.D.	
71) n-Nonane	16.57	43	4023	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.17	83	437	N.D.	
74) Cumene	16.99	105	2445	N.D.	
75) alpha-Pinene	17.49	93	37885	1.083 ng	97
76) n-Propylbenzene	17.65	91	4049	N.D.	
77) 3-Ethyltoluene	16.99	105	2445	No Calib	
78) 4-Ethyltoluene	17.83	105	3876	N.D.	
79) 1,3,5-Trimethylbenzene	17.92	105	3086	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	16.99	105	2445	No Calib	
82) 1,2,4-Trimethylbenzene	18.40	105	10581	N.D.	
83) n-Decane	17.03	58	1765	No Calib	
84) Benzyl Chloride	18.54	91	1339	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	230	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	1401	N.D.	
87) sec-Butylbenzene	18.71	105	942	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	5057	N.D.	
89) 1,2,3-Trimethylbenzene	16.99	105	2445	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	187	N.D.	
91) d-Limonene	19.05	68	10140	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.07	58	7488	No Calib	#
94) 1,2,4-Trichlorobenzene	20.81	180	422	N.D.	
95) Naphthalene	20.92	128	4559	N.D.	
96) n-Dodecane	19.06	58	799	No Calib	#
97) Hexachlorobutadiene	21.28	225	524	N.D.	
98) Cyclohexanone	15.48	55	4209	No Calib	#
99) tert-Butylbenzene	18.40	119	1949	N.D.	
100) n-Butylbenzene	19.35	91	6671	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172323.D Vial: 10
Acq On : 17 Jul 2023 17:10 Operator: SC
Sample : P2303042-003 (1000mL) Inst : MS09
Misc : S37-07172304

Quant Time: Jul 18 12:45:16 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172323.D Vial: 10
Acq On : 17 Jul 2023 17:10 Operator: SC
Sample : P2303042-003 (1000mL) Inst : MS09
Misc : S37-07172304

7/18/23

Quant Time: Jul 18 12:45:16 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

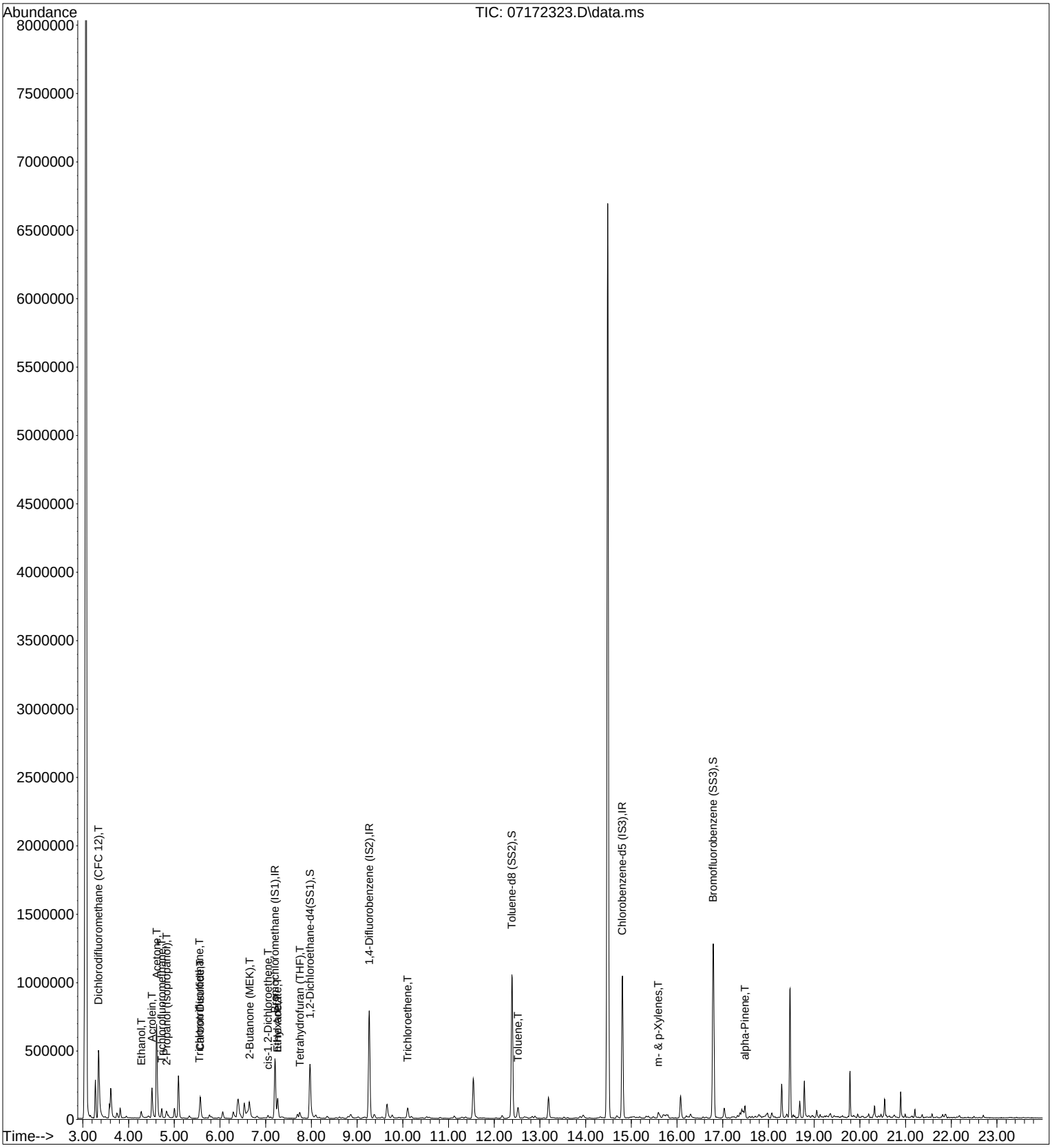
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	188225	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	808016	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.80	54	151632	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	362312	11.274	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
57) Toluene-d8 (SS2)	12.39	98	932973	13.994	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%				
73) Bromofluorobenzene (SS3)	16.79	174	349315	13.354	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.34	85	68872	1.508	ng		99
10) Ethanol	4.28	45	99986	7.967	ng		98
12) Acrolein	4.51	56	185985	19.025	ng		97
13) Acetone	4.61	58	251317	21.211	ng	#	71
14) Trichlorofluoromethane	4.73	101	46921	1.086	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	100978	2.606	ng		94
21) Trichlorotrifluoroethane	5.55	151	12647	0.699	ng		94
22) Carbon Disulfide	5.57	76	236114	3.564	ng		99
27) 2-Butanone (MEK)	6.65	72	30021	2.605	ng	#	1
28) cis-1,2-Dichloroethene	7.05	61	12837	0.500	ng		100
30) Ethyl Acetate	7.26	61	4248	0.589	ng		82
31) n-Hexane	7.26	57	57662	2.163	ng		98
34) Tetrahydrofuran (THF)	7.75	72	15098	1.354	ng		96
47) Trichloroethene	10.10	130	30186	1.552	ng		99
58) Toluene	12.52	91	72850	1.116	ng		100
67) m- & p-Xylenes	15.59	91	30864	0.494	ng		97
75) alpha-Pinene	17.49	93	37885	1.083	ng		97

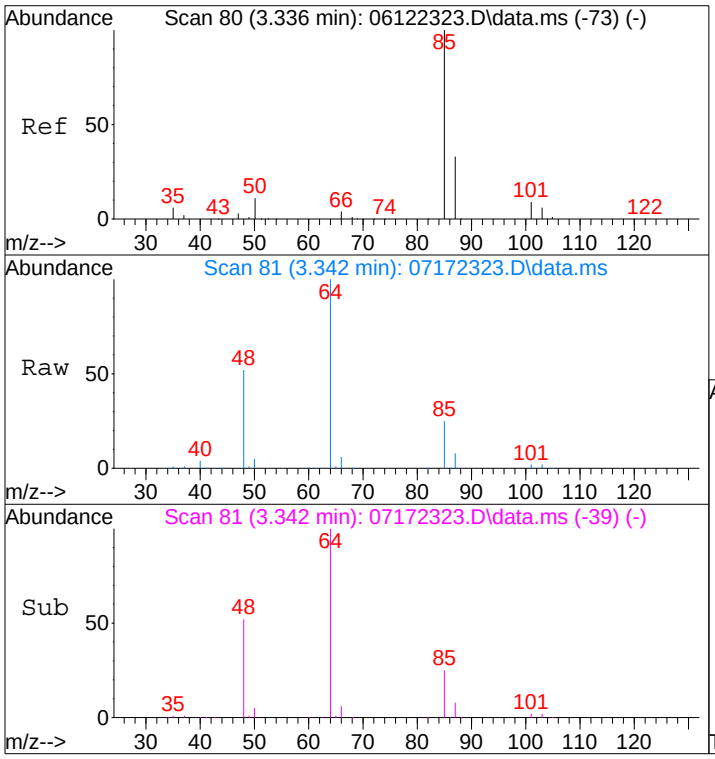
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172323.D Vial: 10
Acq On : 17 Jul 2023 17:10 Operator: SC
Sample : P2303042-003 (1000mL) Inst : MS09
Misc : S37-07172304

Quant Time: Jul 18 12:45:16 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

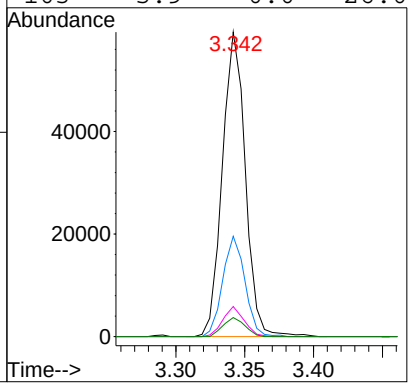


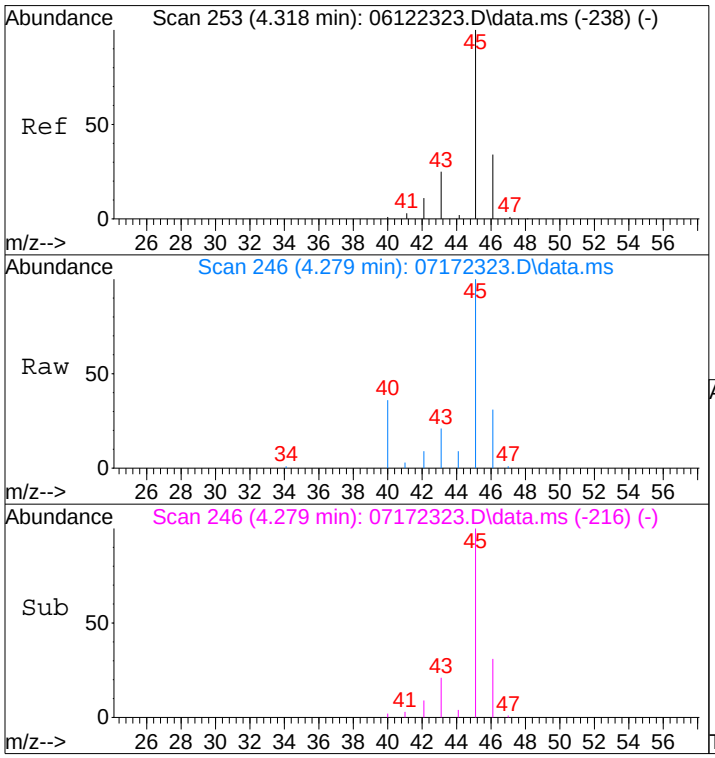


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.51 ng
RT: 3.34 min Scan# 81
Delta R.T. -0.011 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 85 Resp: 68872

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.7	52.7
101	9.1	0.0	29.4
103	5.9	0.0	26.0

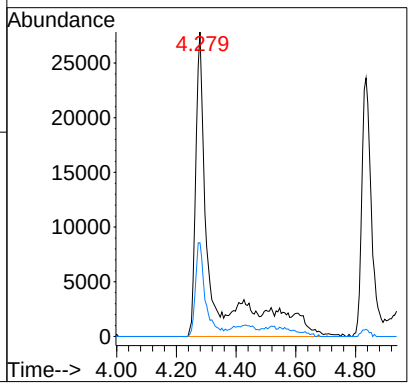


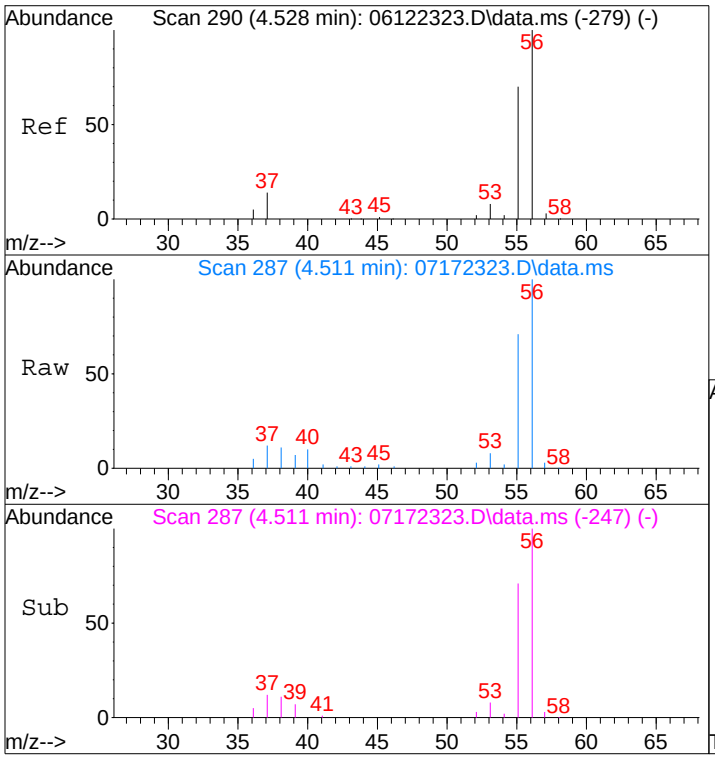


#10
Ethanol
Concen: 7.97 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.077 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 45 Resp: 99986

Ion	Ratio	Lower	Upper
45	100		
46	32.3	13.5	53.5

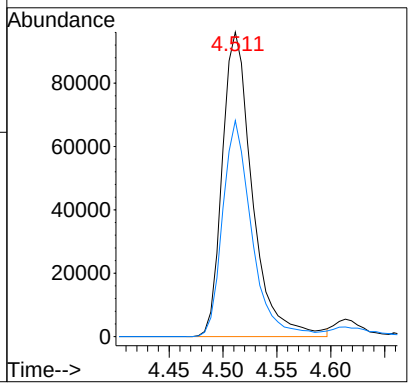


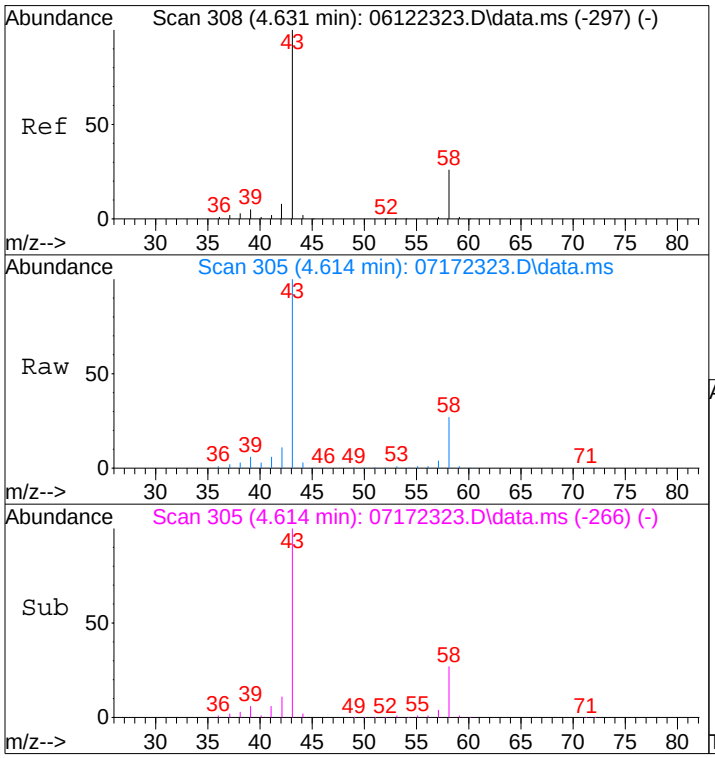


#12
Acrolein
Concen: 19.02 ng
RT: 4.51 min Scan# 287
Delta R.T. -0.025 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 56 Resp: 185985

Ion	Ratio	Lower	Upper
56	100		
55	74.6	52.4	92.4

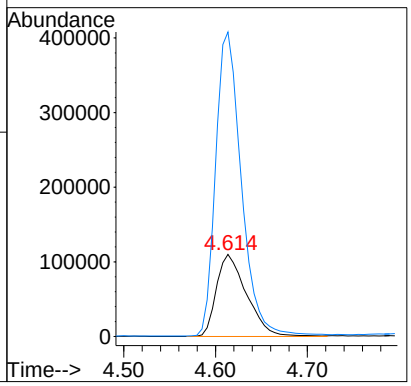


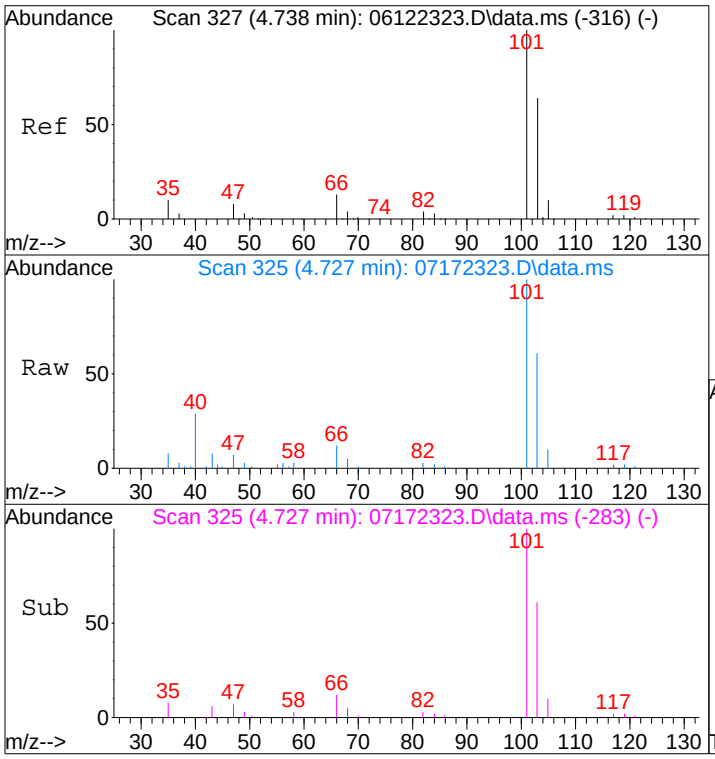


#13
Acetone
Concen: 21.21 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.031 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 58 Resp: 251317

Ion	Ratio	Lower	Upper
58	100		
43	317.6	354.9	414.9#

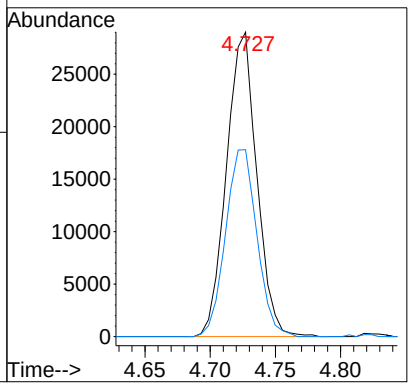


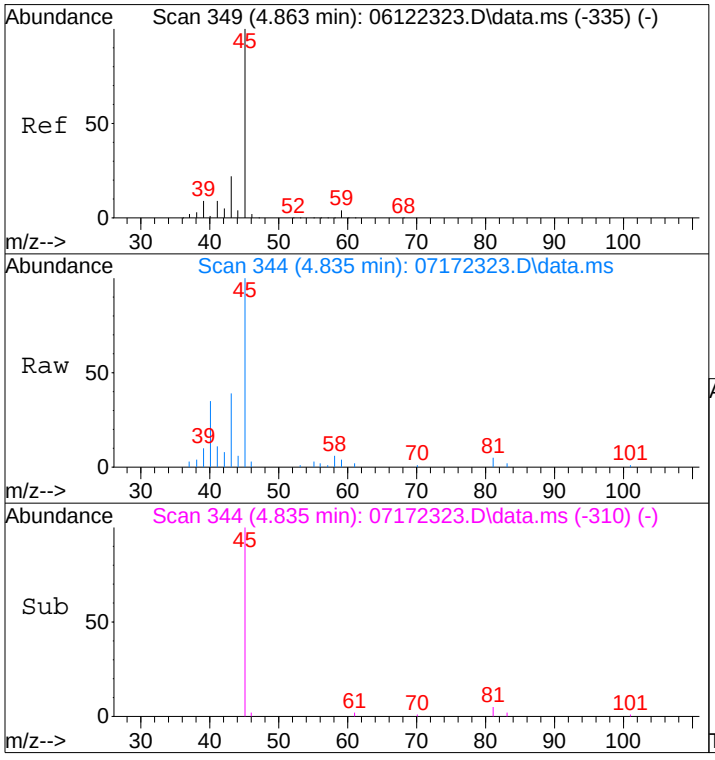


#14
Trichlorofluoromethane
Concen: 1.09 ng
RT: 4.73 min Scan# 325
Delta R.T. -0.013 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion:101 Resp: 46921

Ion	Ratio	Lower	Upper
101	100		
103	63.4	44.3	84.3

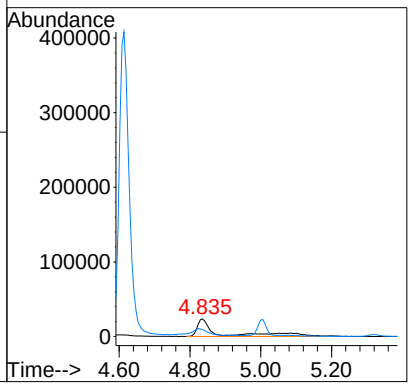


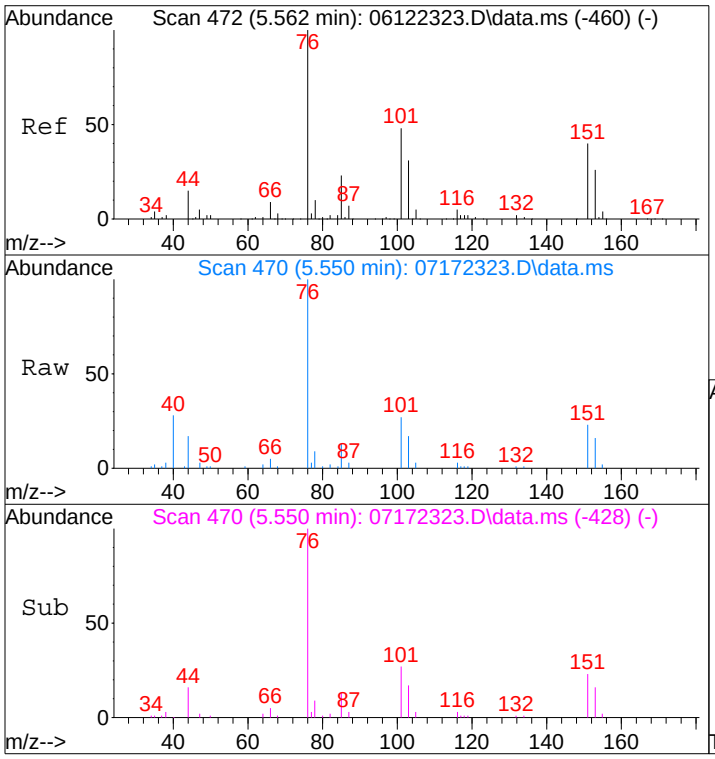


#15
2-Propanol (Isopropanol)
Concen: 2.61 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.058 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 45 Resp: 100978

Ion	Ratio	Lower	Upper
45	100		
43	25.9	3.0	43.0

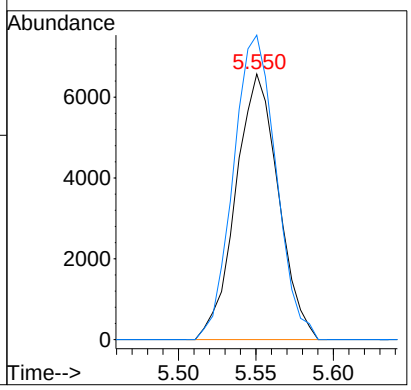


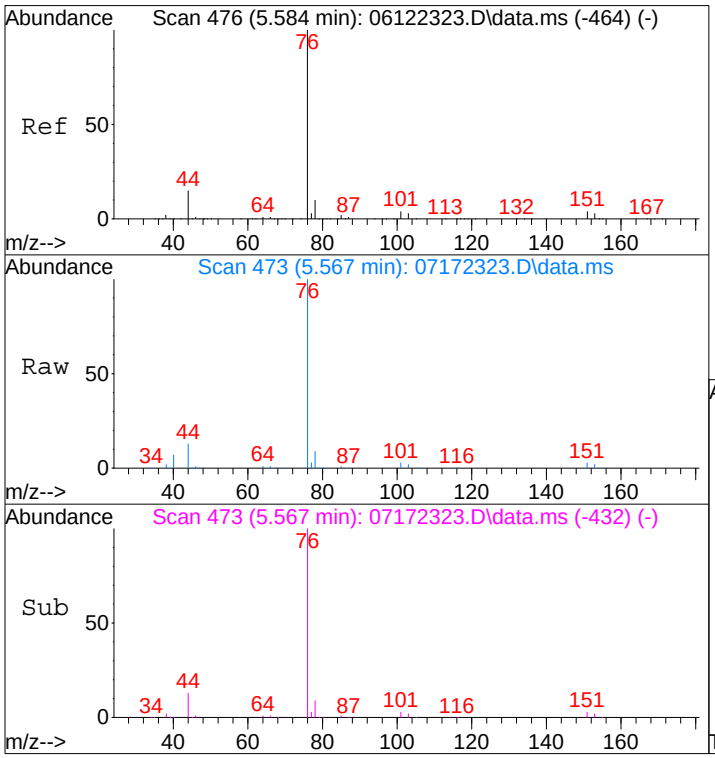


#21
Trichlorotrifluoroethane
Concen: 0.70 ng
RT: 5.55 min Scan# 470
Delta R.T. -0.011 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion:151 Resp: 12647

Ion	Ratio	Lower	Upper
151	100		
101	114.6	101.1	141.1

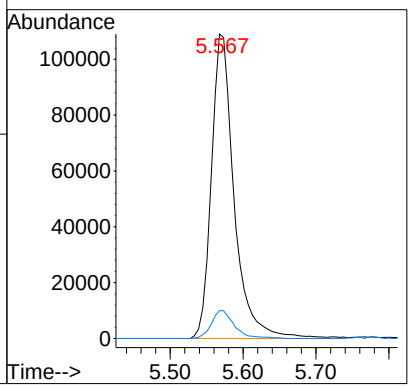


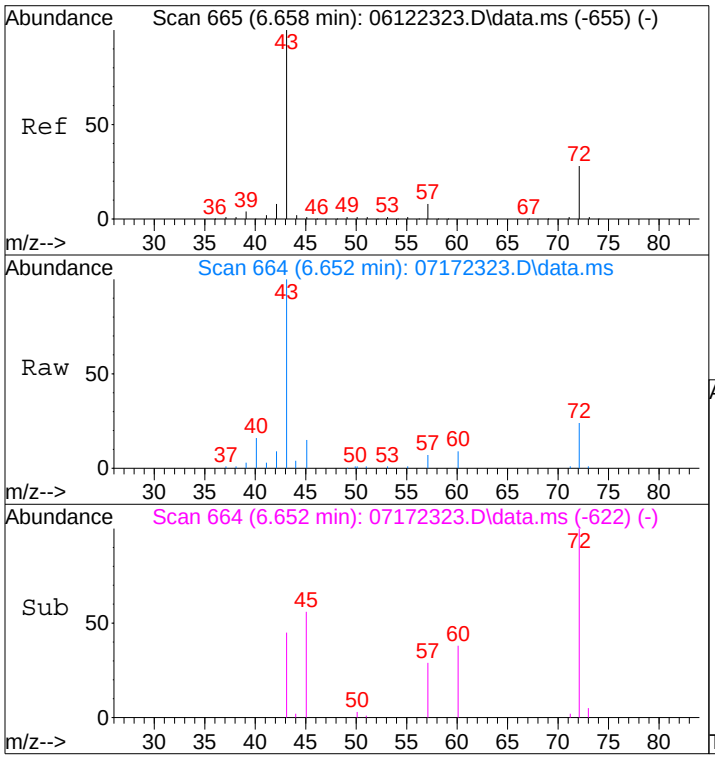


#22
Carbon Disulfide
Concen: 3.56 ng
RT: 5.57 min Scan# 473
Delta R.T. -0.017 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 76 Resp: 236114

Ion	Ratio	Lower	Upper
76	100		
78	9.3	0.0	29.7

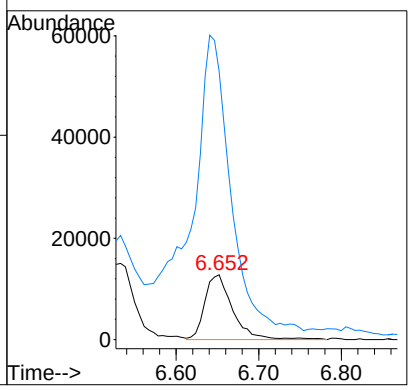


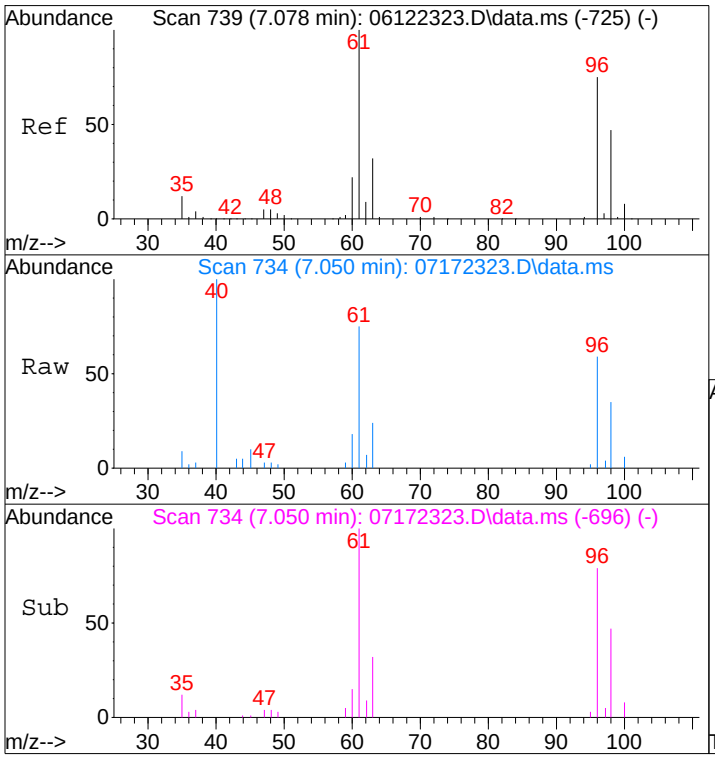


#27
2-Butanone (MEK)
Concen: 2.60 ng
RT: 6.65 min Scan# 664
Delta R.T. -0.013 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 72 Resp: 30021

Ion	Ratio	Lower	Upper
72	100		
43	660.0	349.7	389.7#

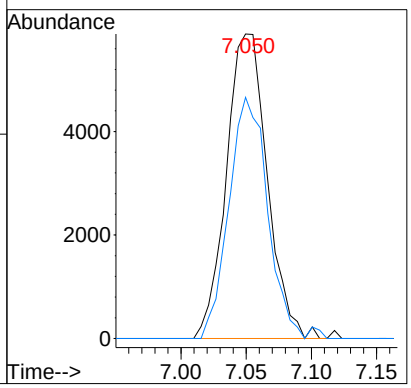


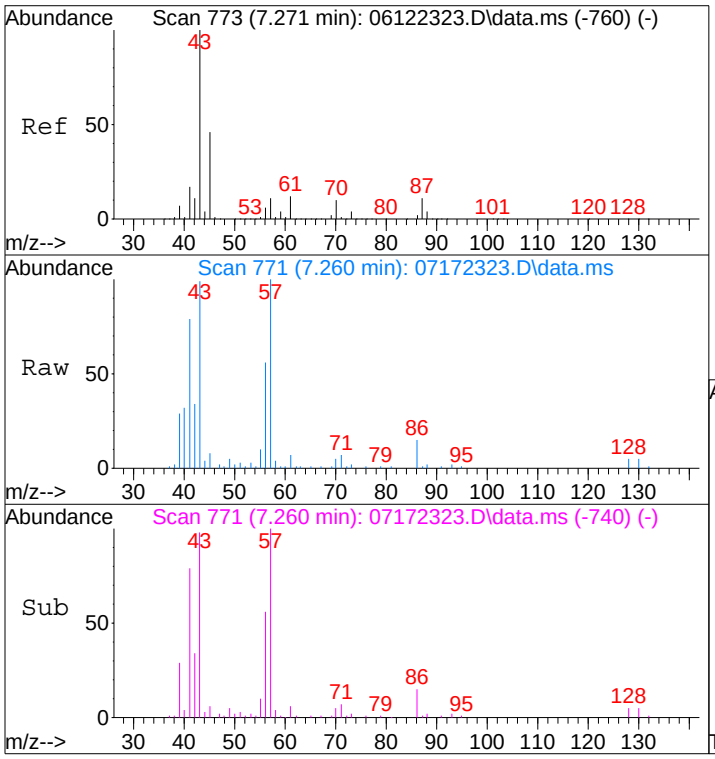


#28
cis-1,2-Dichloroethene
Concen: 0.50 ng
RT: 7.05 min Scan# 734
Delta R.T. -0.034 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 61 Resp: 12837

Ion	Ratio	Lower	Upper
61	100		
96	74.6	54.3	94.3

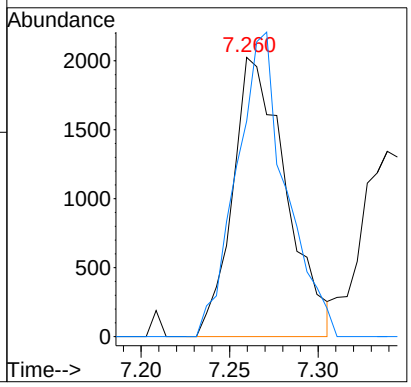


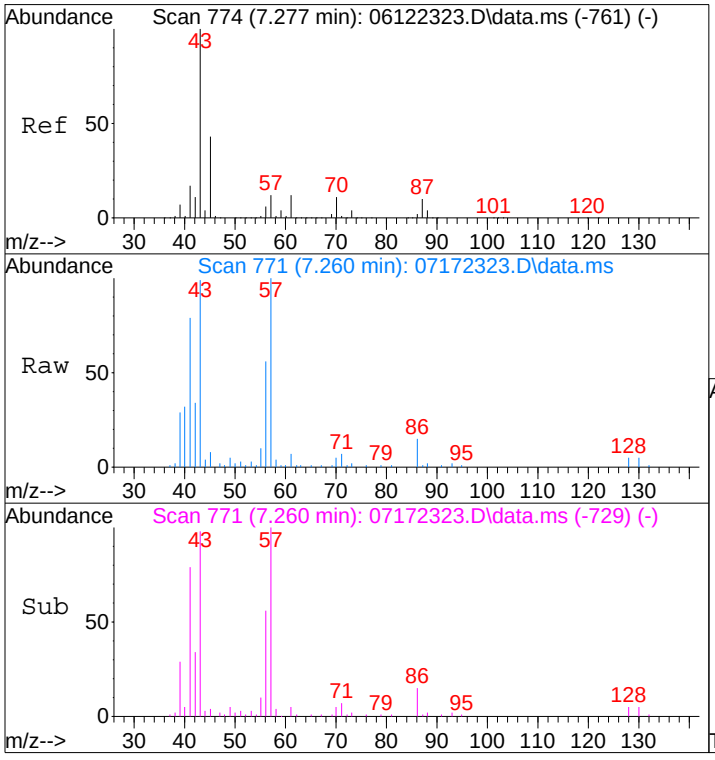


#30
Ethyl Acetate
Concen: 0.59 ng
RT: 7.26 min Scan# 771
Delta R.T. -0.022 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 61 Resp: 4248

Ion	Ratio	Lower	Upper
61	100		
70	101.3	65.3	105.3

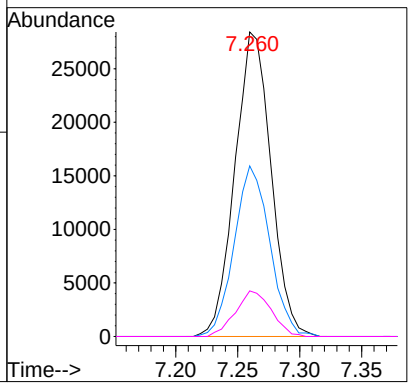


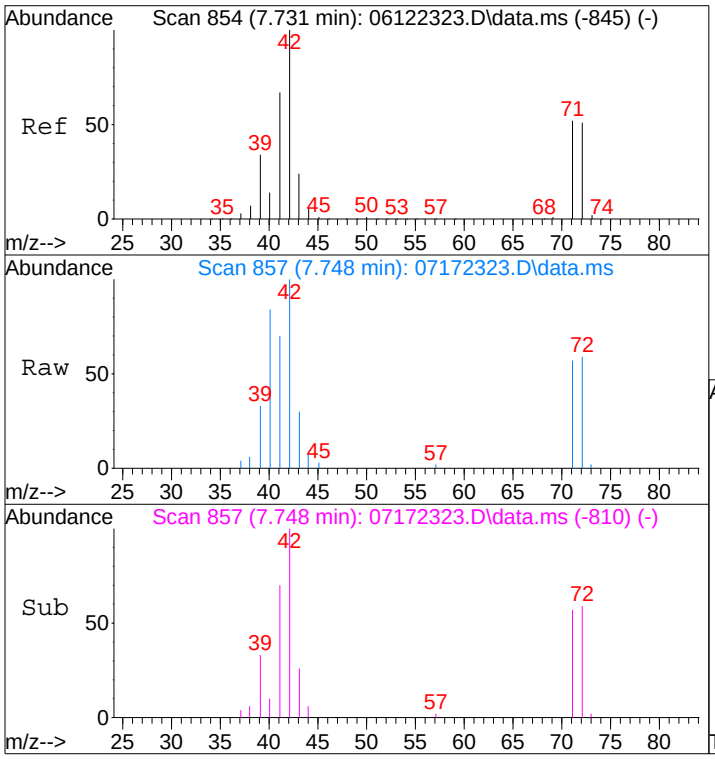


#31
n-Hexane
Concen: 2.16 ng
RT: 7.26 min Scan# 771
Delta R.T. -0.011 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 57 Resp: 57662

Ion	Ratio	Lower	Upper
57	100		
56	55.3	43.0	64.4
86	14.9	11.8	17.6

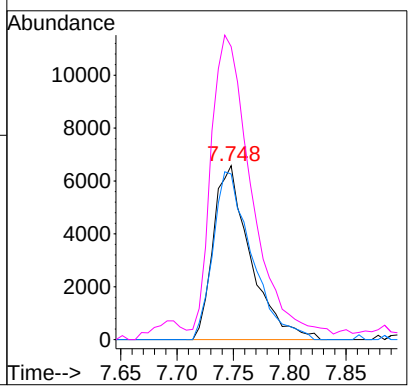


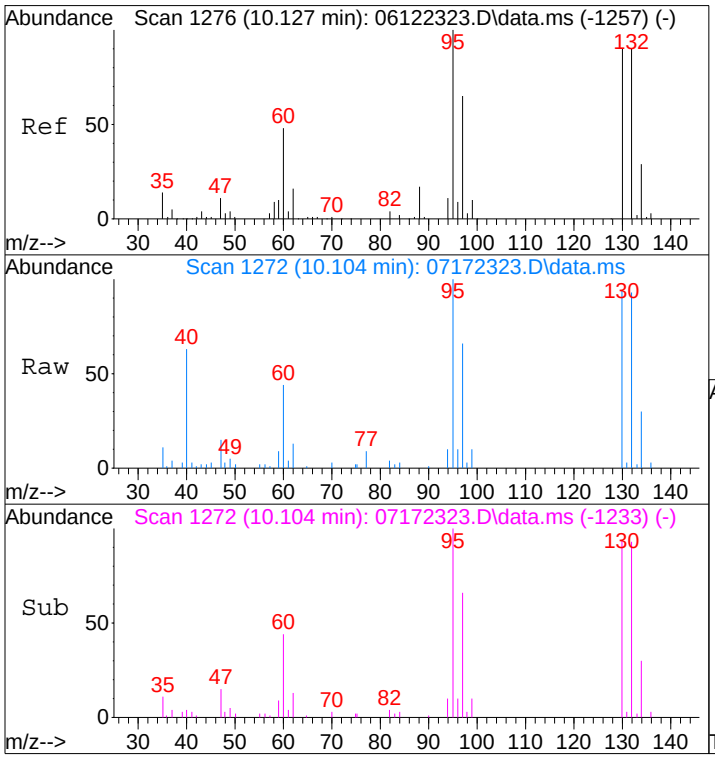


#34
Tetrahydrofuran (THF)
Concen: 1.35 ng
RT: 7.75 min Scan# 857
Delta R.T. 0.019 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 72 Resp: 15098

Ion	Ratio	Lower	Upper
72	100		
71	100.7	79.9	119.9
42	197.4	186.9	226.9

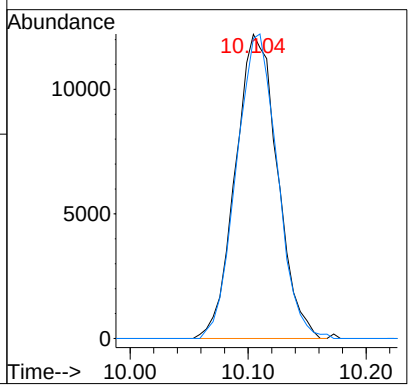


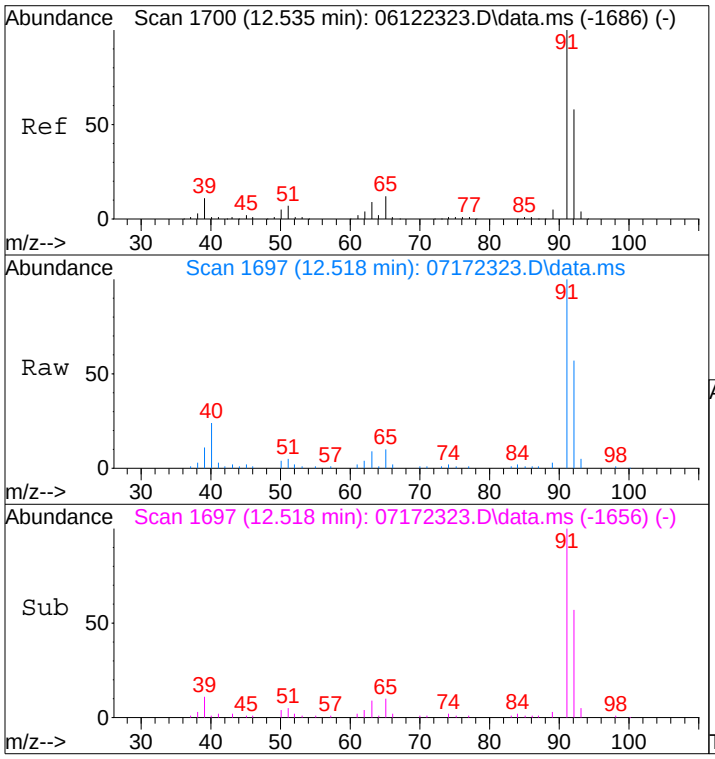


#47
Trichloroethene
Concen: 1.55 ng
RT: 10.10 min Scan# 1272
Delta R.T. -0.027 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion:130 Resp: 30186

Ion	Ratio	Lower	Upper
130	100		
132	97.6	78.3	118.3

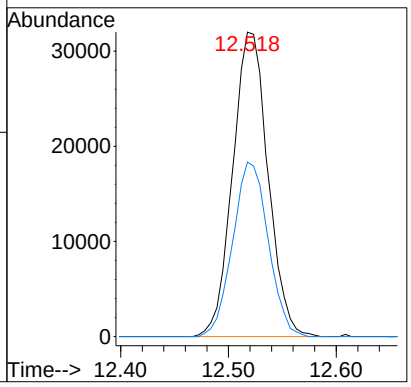


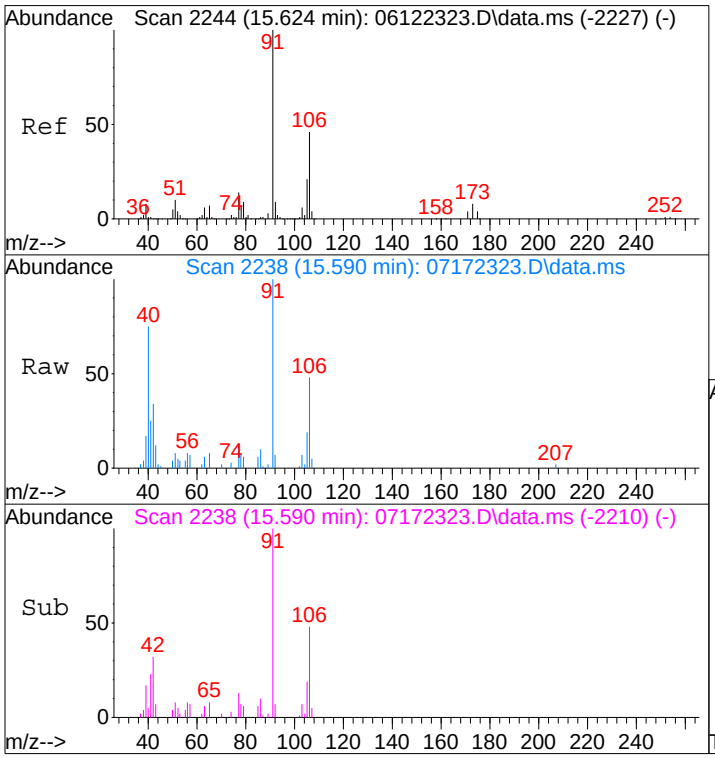


#58
Toluene
Concen: 1.12 ng
RT: 12.52 min Scan# 1697
Delta R.T. -0.019 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 91 Resp: 72850

Ion	Ratio	Lower	Upper
91	100		
92	57.6	37.8	77.8

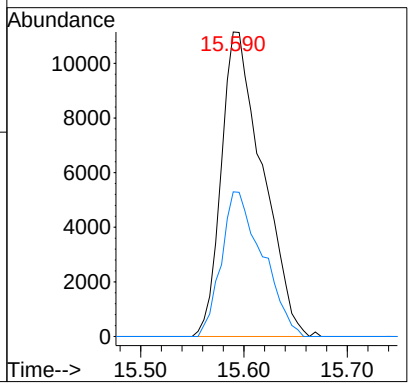


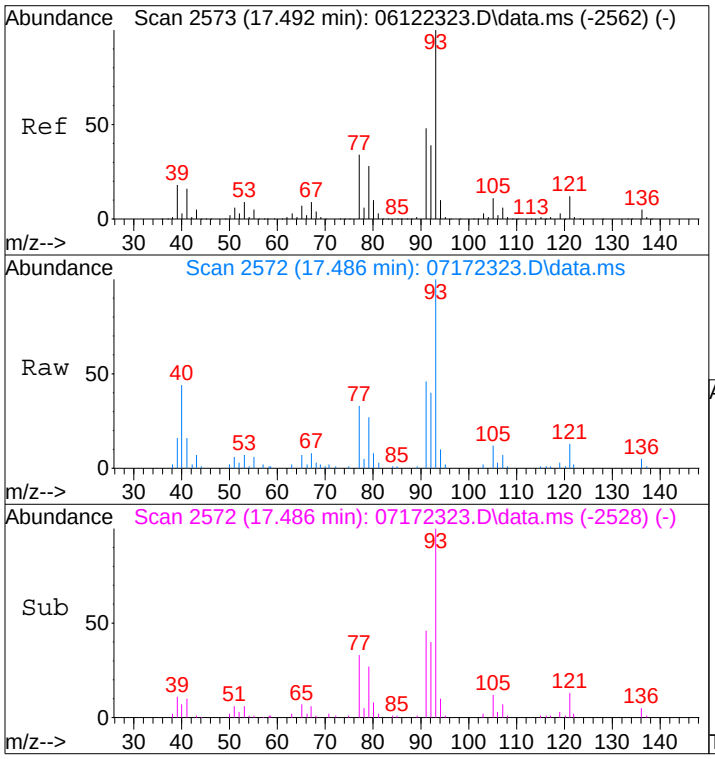


#67
m- & p-Xylenes
Concen: 0.49 ng
RT: 15.59 min Scan# 2238
Delta R.T. -0.039 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 91 Resp: 30864

Ion	Ratio	Lower	Upper
91	100		
106	47.5	25.5	65.5

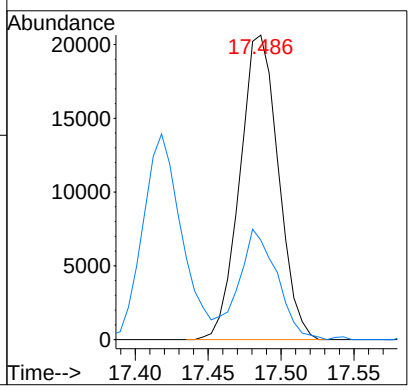




#75
alpha-Pinene
Concen: 1.08 ng
RT: 17.49 min Scan# 2572
Delta R.T. 0.002 min
Lab File: 07172323.D
Acq: 17 Jul 2023 17:10

Tgt Ion: 93 Resp: 37885

Ion	Ratio	Lower	Upper
93	100		
77	36.6	14.7	54.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172324.D Vial: 11
Acq On : 17 Jul 2023 17:42 Operator: SC
Sample : P2303042-004 (1000mL) Inst : MS09
Misc : S37-07172304

Quant Time: Jul 18 12:47:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/18/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	166392	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.27	114	699452	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	124737	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	318621	11.215	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%				
57) Toluene-d8 (SS2)	12.39	98	786835	14.346	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.80%				
73) Bromofluorobenzene (SS3)	16.79	174	274625	12.763	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	65112	1.612	ng		99
4) Chloromethane	3.51	50	1546	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	242	N.D.			
6) Vinyl Chloride	3.65	62	377	N.D.			
7) 1,3-Butadiene	3.78	54	550	N.D.			
8) Bromomethane	4.04	94	512	N.D.			
9) Chloroethane	4.18	64	1124	N.D.			
10) Ethanol	0.00	45	0	N.D. d			
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.55	56	6262	0.725	ng		91
13) Acetone	4.64	58	112402	10.731	ng	#	83
14) Trichlorofluoromethane	4.76	101	29807	0.780	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	44414	1.297	ng		95
16) Acrylonitrile	5.02	53	965	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1740	N.D.			
19) Methylene Chloride	5.36	84	4405	N.D.			
20) 3-Chloro-1-propene (Al...	5.45	41	985	N.D.			
21) Trichlorotrifluoroethane	5.58	151	5780	N.D.			
22) Carbon Disulfide	5.60	76	370454	6.326	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	6.32	63	260	N.D.			
25) Methyl tert-Butyl Ether	6.33	73	1675	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	15749	1.546	ng		99
28) cis-1,2-Dichloroethene	7.07	61	291	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	3374	0.530	ng		95
31) n-Hexane	7.28	57	13517	0.574	ng		98
32) Chloroform	7.34	83	2422	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	4323	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	890	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.27	61	19817	No Calib		#	
40) 1-Butanol	8.82	56	24222	No Calib		#	
41) Benzene	8.86	78	28972	0.480	ng		93
42) Carbon Tetrachloride	9.03	117	6010	N.D.			
43) Cyclohexane	9.17	84	2624	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	195	N.D.			
47) Trichloroethene	10.11	130	495	N.D.			
48) 1,4-Dioxane	10.06	88	309	N.D.			
49) 2,2,4-Trimethylpentane...	10.20	57	3360	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172324.D Vial: 11
Acq On : 17 Jul 2023 17:42 Operator: SC
Sample : P2303042-004 (1000mL) Inst : MS09
Misc : S37-07172304

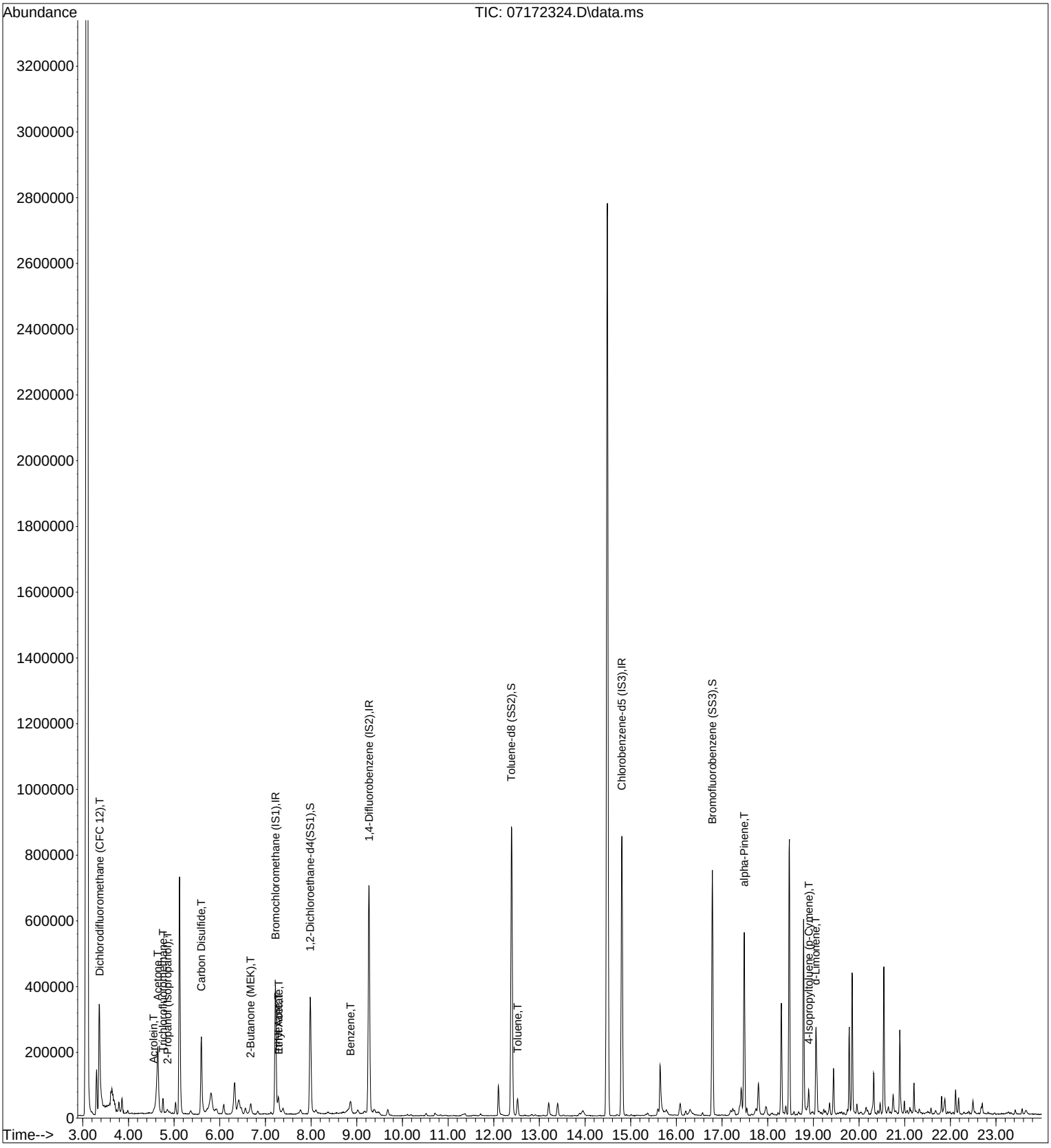
Quant Time: Jul 18 12:47:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.52	71	2109	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	1156	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	45980	0.856 ng	99
59) 2-Hexanone	12.91	43	3178	N.D.	
60) Dibromochloromethane	13.05	129	103	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1696	N.D.	
63) n-Octane	13.87	57	755	N.D.	
64) Tetrachloroethene	13.99	166	406	N.D.	
65) Chlorobenzene	14.86	112	505	N.D.	
66) Ethylbenzene	15.37	91	7087	N.D.	
67) m- & p-Xylenes	15.60	91	20506	N.D.	
68) Bromoform	15.63	173	559	N.D.	
69) Styrene	16.07	104	7190	N.D.	
70) o-Xylene	16.20	91	8058	N.D.	
71) n-Nonane	16.57	43	2266	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.19	83	171	N.D.	
74) Cumene	16.99	105	1468	N.D.	
75) alpha-Pinene	17.49	93	236064	8.205 ng	100
76) n-Propylbenzene	17.64	91	2652	N.D.	
77) 3-Ethyltoluene	16.99	105	1468	No Calib	
78) 4-Ethyltoluene	17.82	105	2508	N.D.	
79) 1,3,5-Trimethylbenzene	17.92	105	2872	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	16.99	105	1468	No Calib	
82) 1,2,4-Trimethylbenzene	18.40	105	10280	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.54	91	523	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	196	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	1394	N.D.	
87) sec-Butylbenzene	18.71	105	892	N.D.	
88) 4-Isopropyltoluene (p-...	18.90	119	38565	0.644 ng	94
89) 1,2,3-Trimethylbenzene	16.99	105	1468	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	207	N.D.	
91) d-Limonene	19.05	68	52815	2.843 ng #	9
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.08	58	2065	No Calib #	
94) 1,2,4-Trichlorobenzene	20.81	180	467	N.D.	
95) Naphthalene	20.92	128	14096	N.D.	
96) n-Dodecane	19.05	58	1597	No Calib #	
97) Hexachlorobutadiene	21.27	225	404	N.D.	
98) Cyclohexanone	15.48	55	221	No Calib #	
99) tert-Butylbenzene	18.40	119	2033	N.D.	
100) n-Butylbenzene	19.36	91	3241	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : I:\MS09\DATA\2023 07\17\07172324.D Vial: 11
Acq On : 17 Jul 2023 17:42 Operator: SC
Sample : P2303042-004 (1000mL) Inst : MS09
Misc : S37-07172304

Quant Time: Jul 18 12:47:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172324.D Vial: 11
Acq On : 17 Jul 2023 17:42 Operator: SC
Sample : P2303042-004 (1000mL) Inst : MS09
Misc : S37-07172304

7/18/23

Quant Time: Jul 18 12:47:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

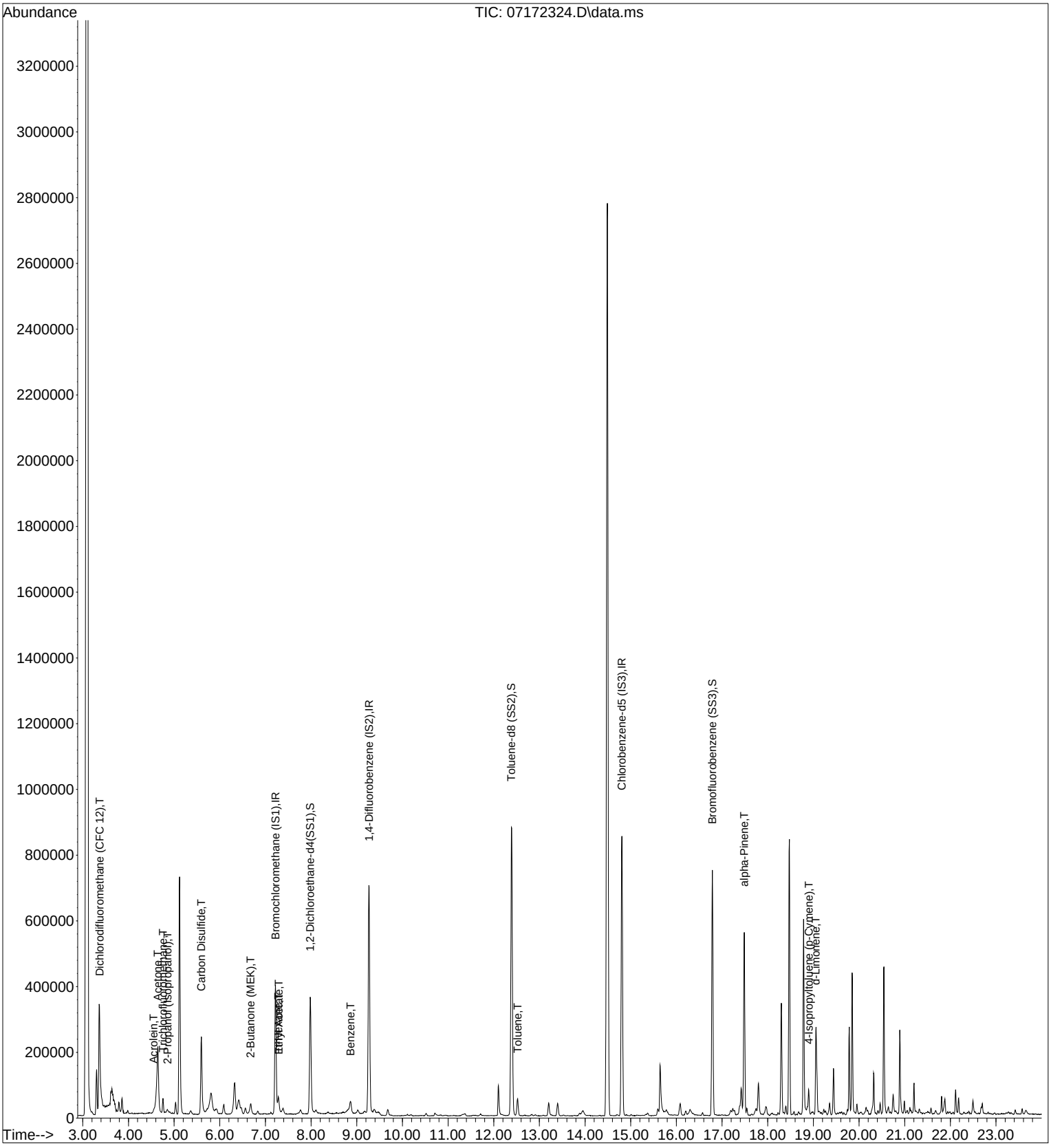
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	166392	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.27	114	699452	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	124737	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	318621	11.215	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%				
57) Toluene-d8 (SS2)	12.39	98	786835	14.346	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.80%				
73) Bromofluorobenzene (SS3)	16.79	174	274625	12.763	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	65112	1.612	ng		99
12) Acrolein	4.55	56	6262	0.725	ng		91
13) Acetone	4.64	58	112402	10.731	ng	#	83
14) Trichlorofluoromethane	4.76	101	29807	0.780	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	44414	1.297	ng		95
22) Carbon Disulfide	5.60	76	370454	6.326	ng		99
27) 2-Butanone (MEK)	6.67	72	15749	1.546	ng		99
30) Ethyl Acetate	7.29	61	3374	0.530	ng		95
31) n-Hexane	7.28	57	13517	0.574	ng		98
41) Benzene	8.86	78	28972	0.480	ng		93
58) Toluene	12.52	91	45980	0.856	ng		99
75) alpha-Pinene	17.49	93	236064	8.205	ng		100
88) 4-Isopropyltoluene (p-...	18.90	119	38565	0.644	ng		94
91) d-Limonene	19.05	68	52815	2.843	ng	#	9

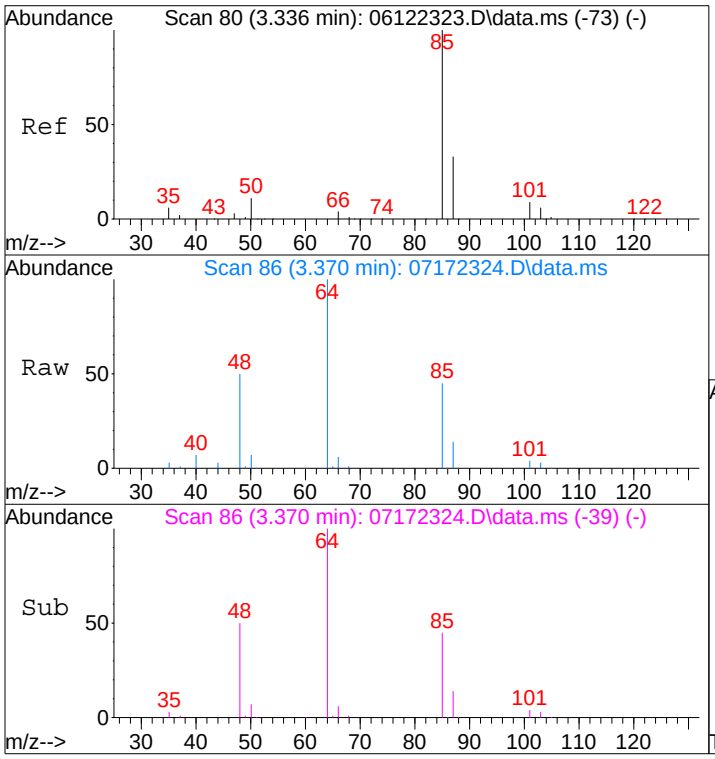
(#) = qualifier out of range (m) = manual integration (+) = signals summed

01194162

Data File : I:\MS09\DATA\2023 07\17\07172324.D Vial: 11
Acq On : 17 Jul 2023 17:42 Operator: SC
Sample : P2303042-004 (1000mL) Inst : MS09
Misc : S37-07172304

Quant Time: Jul 18 12:47:17 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

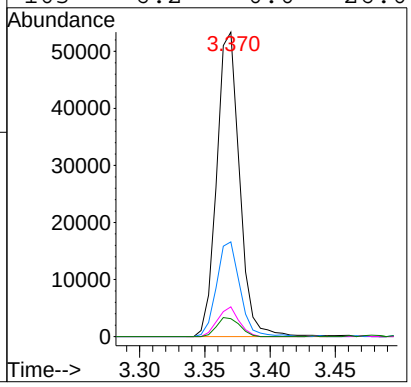


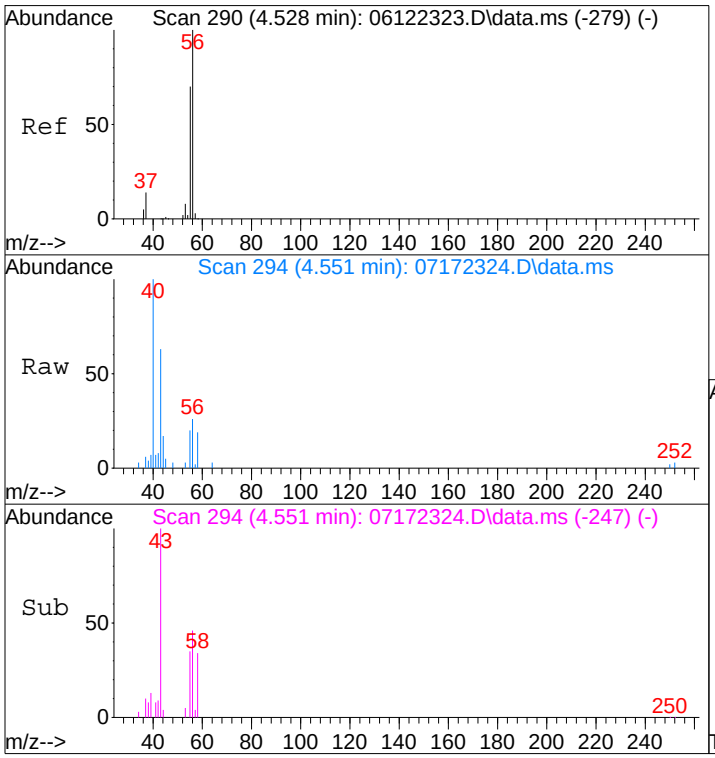


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.61 ng
RT: 3.37 min Scan# 86
Delta R.T. 0.017 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 85 Resp: 65112

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.7	52.7
101	9.1	0.0	29.4
103	6.2	0.0	26.0

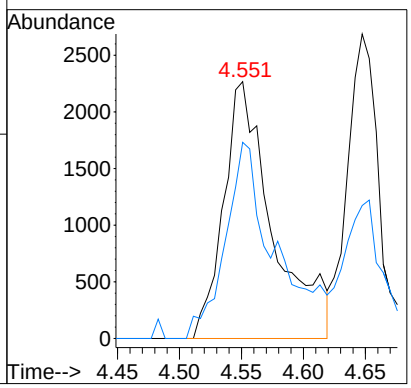


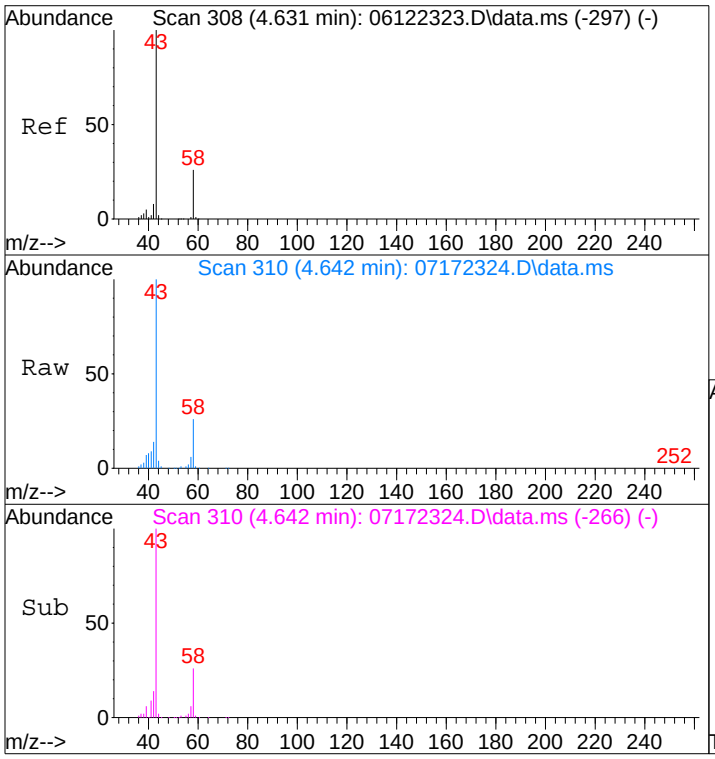


#12
Acrolein
Concen: 0.72 ng
RT: 4.55 min Scan# 294
Delta R.T. 0.014 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 56 Resp: 6262

Ion	Ratio	Lower	Upper
56	100		
55	80.1	52.4	92.4

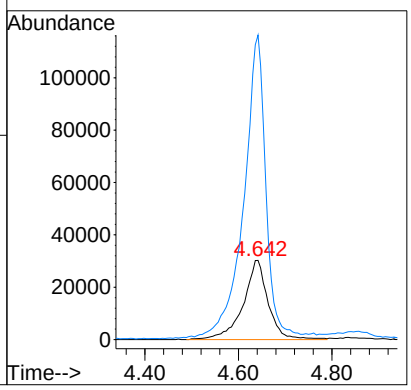


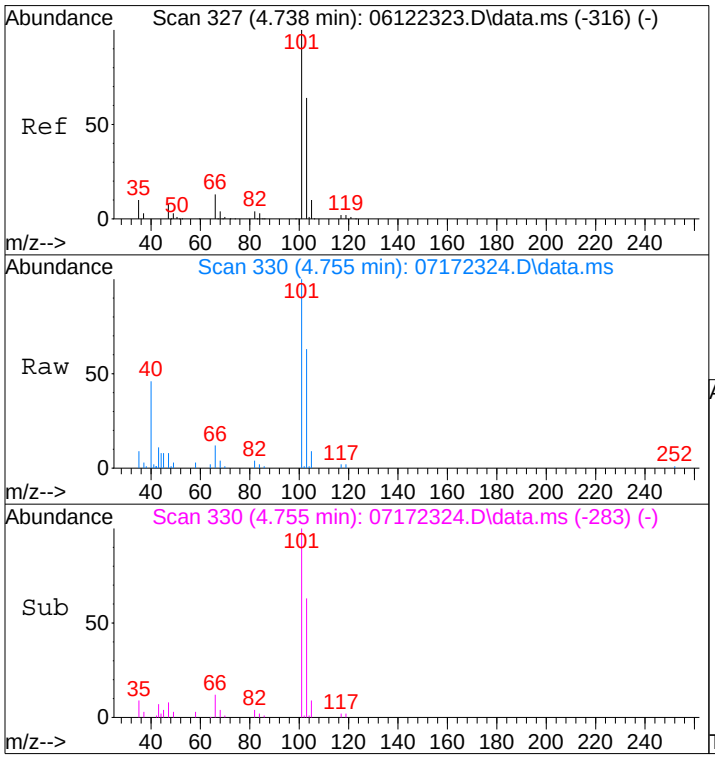


#13
Acetone
Concen: 10.73 ng
RT: 4.64 min Scan# 310
Delta R.T. -0.003 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 58 Resp: 112402

Ion	Ratio	Lower	Upper
58	100		
43	345.7	354.9	414.9#

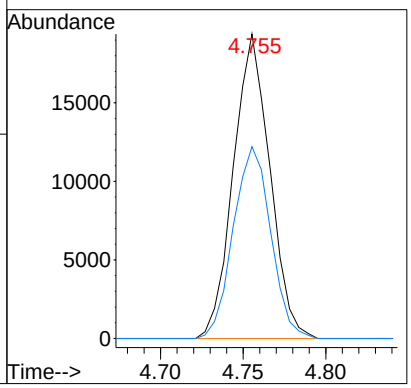


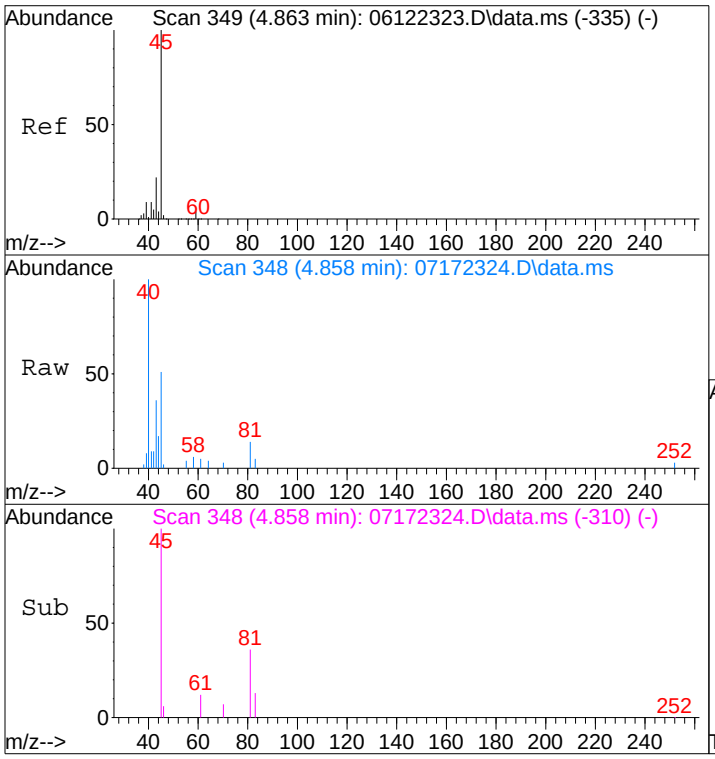


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.015 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion:101 Resp: 29807

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.3	84.3

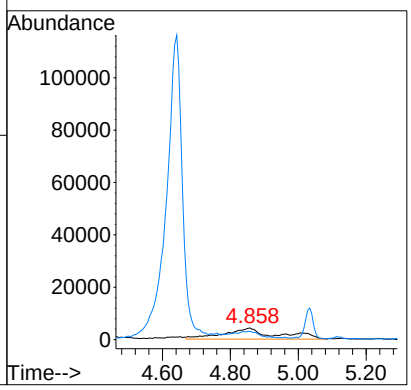


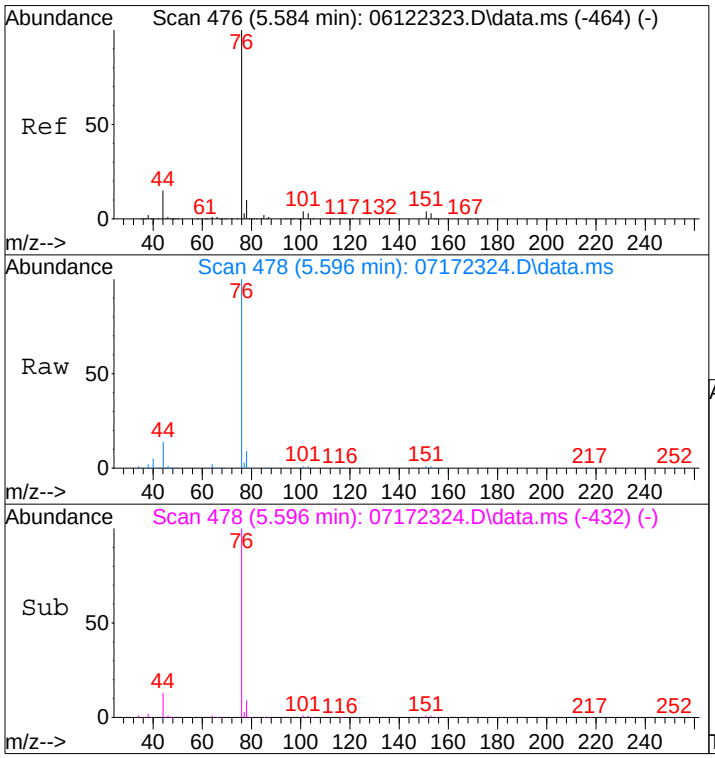


#15
2-Propanol (Isopropanol)
Concen: 1.30 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.036 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 45 Resp: 44414

Ion	Ratio	Lower	Upper
45	100		
43	20.7	3.0	43.0

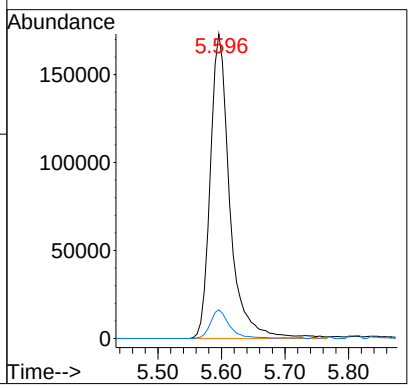


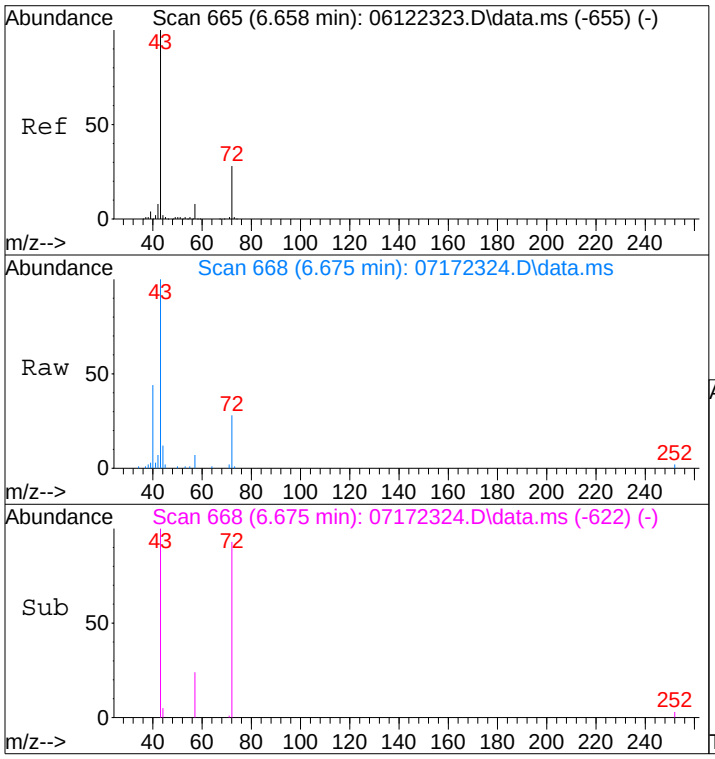


#22
Carbon Disulfide
Concen: 6.33 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.011 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 76 Resp: 370454

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.7

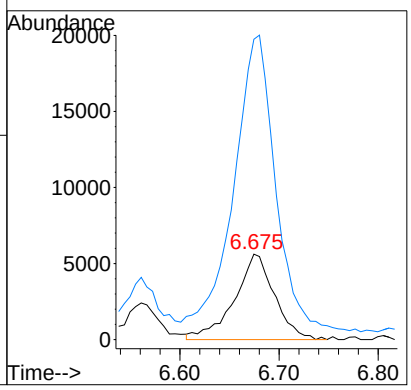


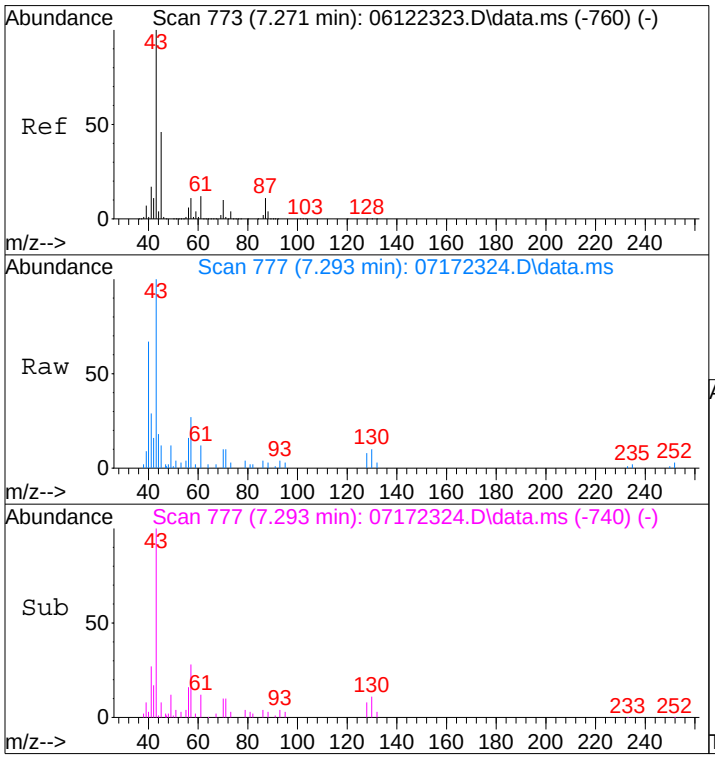


#27
2-Butanone (MEK)
Concen: 1.55 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.009 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 72 Resp: 15749

Ion	Ratio	Lower	Upper
72	100		
43	368.1	349.7	389.7

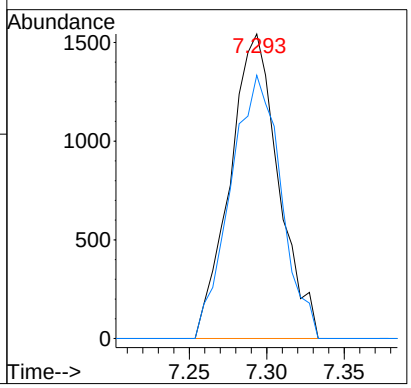


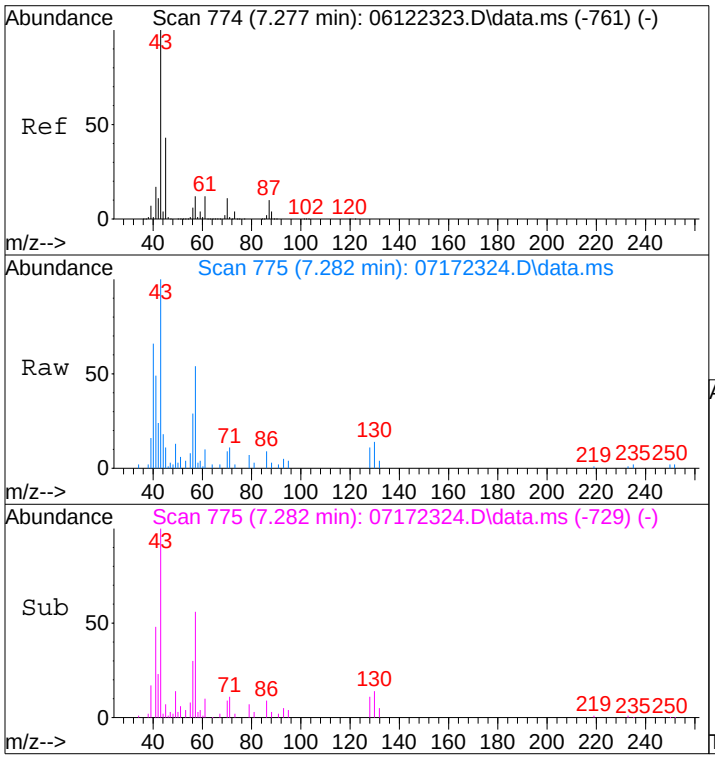


#30
Ethyl Acetate
Concen: 0.53 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.011 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 61 Resp: 3374

Ion	Ratio	Lower	Upper
61	100		
70	89.8	65.3	105.3

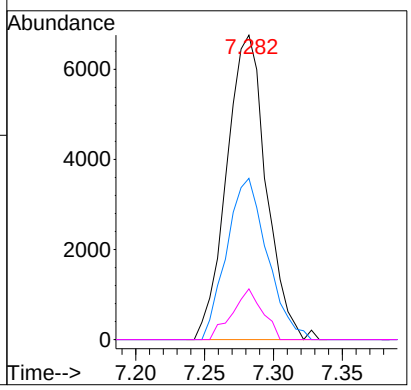


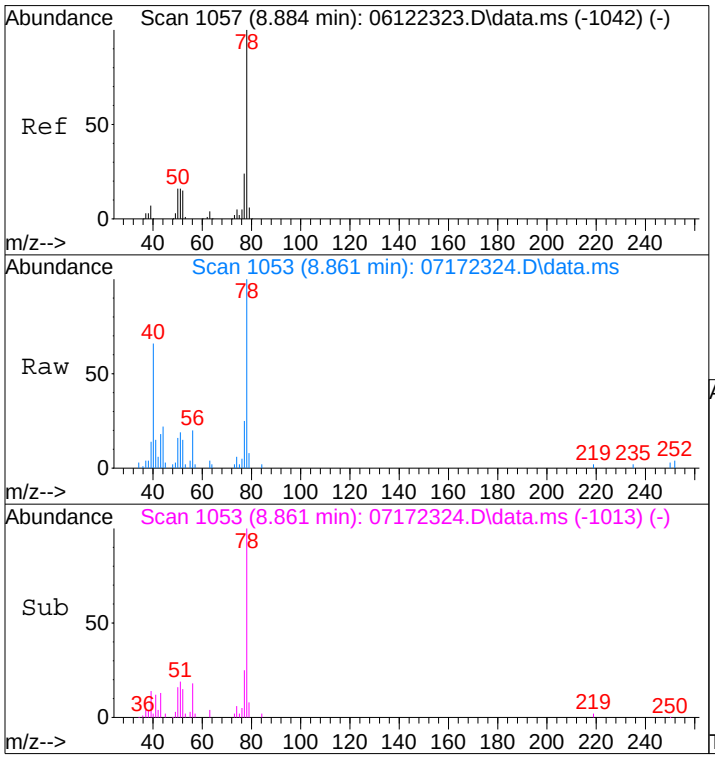


#31
n-Hexane
Concen: 0.57 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.011 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 57 Resp: 13517

Ion	Ratio	Lower	Upper
57	100		
56	54.2	43.0	64.4
86	12.8	11.8	17.6

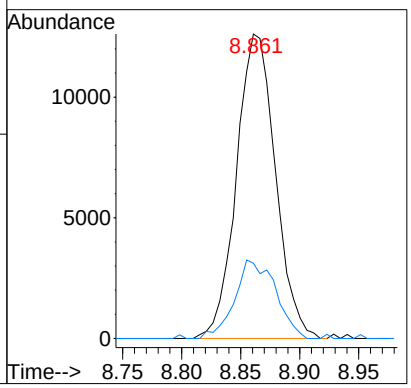


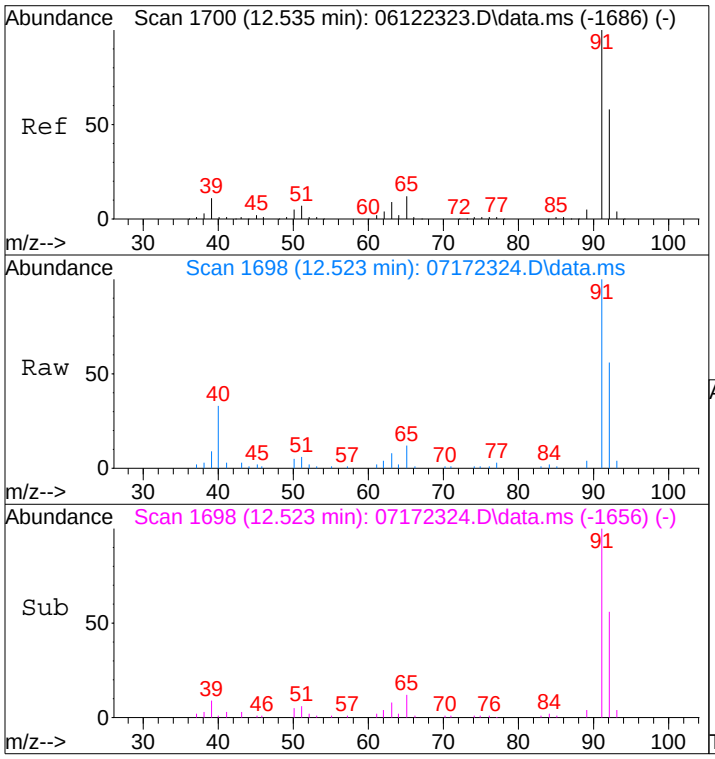


#41
Benzene
Concen: 0.48 ng
RT: 8.86 min Scan# 1053
Delta R.T. -0.024 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 78 Resp: 28972

Ion	Ratio	Lower	Upper
78	100		
77	27.1	3.8	43.8

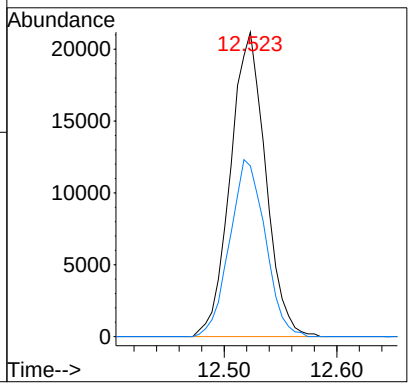


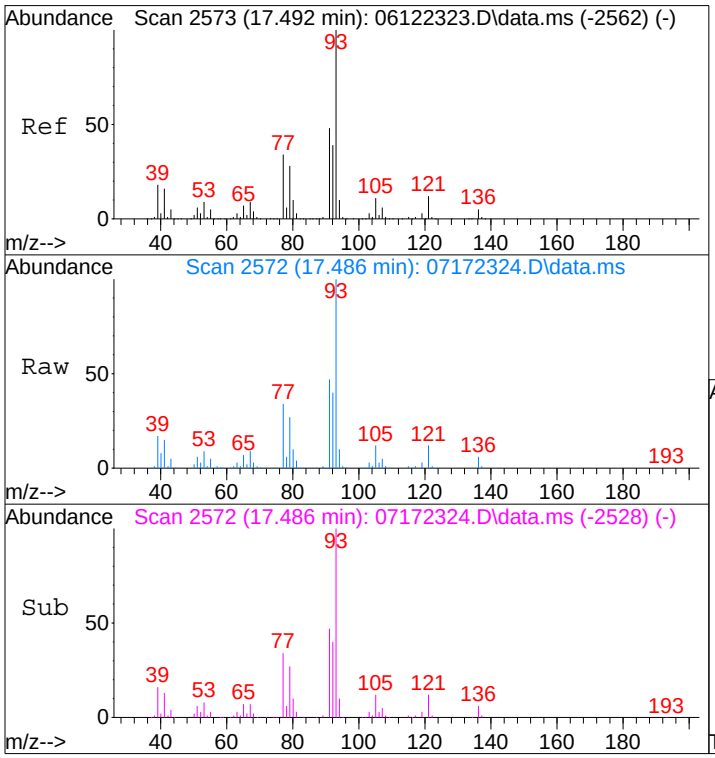


#58
Toluene
Concen: 0.86 ng
RT: 12.52 min Scan# 1698
Delta R.T. -0.013 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 91 Resp: 45980

Ion	Ratio	Lower	Upper
91	100		
92	58.7	37.8	77.8

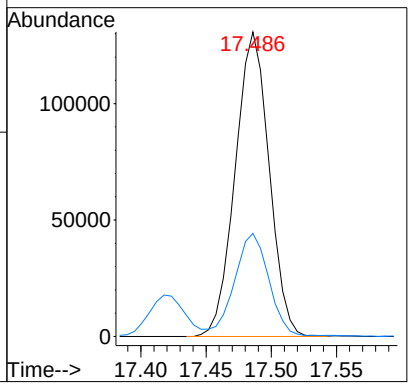


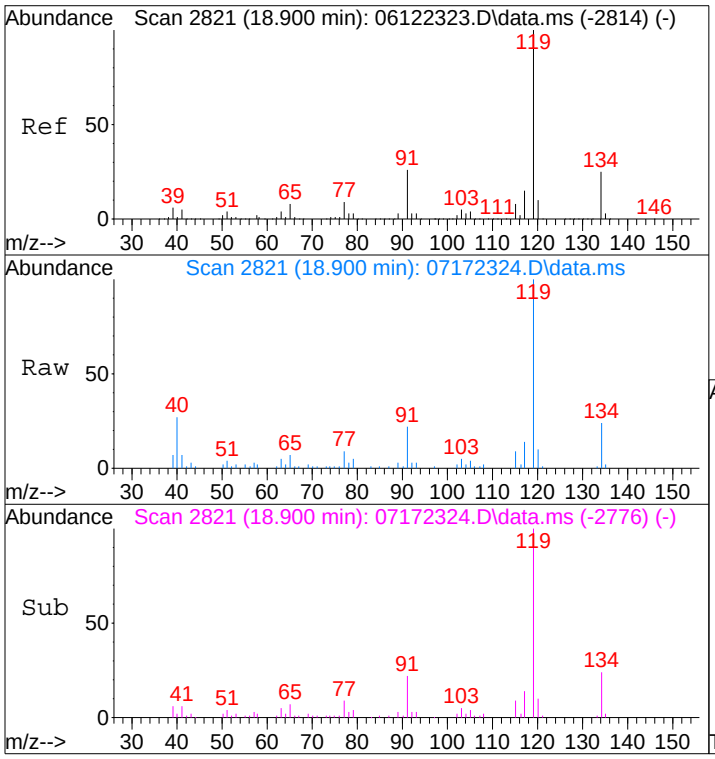


#75
alpha-Pinene
Concen: 8.21 ng
RT: 17.49 min Scan# 2572
Delta R.T. 0.002 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 93 Resp: 236064

Ion	Ratio	Lower	Upper
93	100		
77	34.9	14.7	54.7

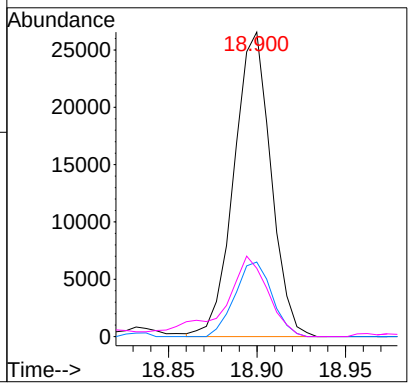


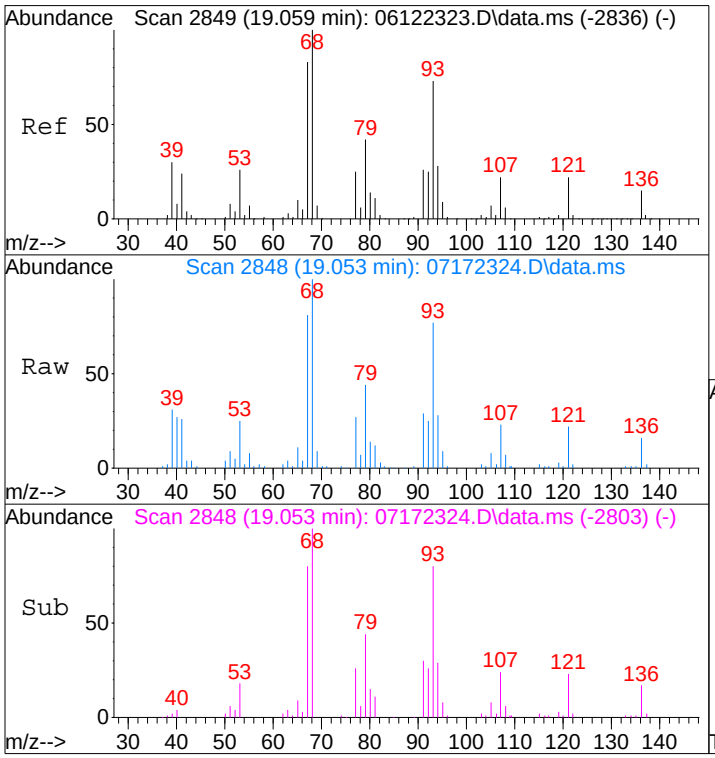


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.64 ng
RT: 18.90 min Scan# 2821
Delta R.T. 0.008 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion:119 Resp: 38565

Ion	Ratio	Lower	Upper
119	100		
134	24.7	4.7	44.7
91	31.7	6.2	46.2

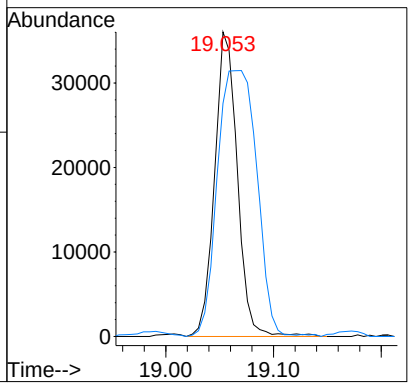




#91
d-Limonene
Concen: 2.84 ng
RT: 19.05 min Scan# 2848
Delta R.T. 0.003 min
Lab File: 07172324.D
Acq: 17 Jul 2023 17:42

Tgt Ion: 68 Resp: 52815

Ion	Ratio	Lower	Upper
68	100		
93	150.6	53.6	93.6#



Data File : I:\MS09\DATA\2023 07\17\07172304.D Vial: 2
Acq On : 17 Jul 2023 5:04 Operator: SC
Sample : MB R9071723 1000mL Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 07:12:22 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 7/17/23

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	195923	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	854914	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.81	54	165622	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.96	65	369079	11.033	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%			
57) Toluene-d8 (SS2)	12.39	98	1016393	13.957	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%			
73) Bromofluorobenzene (SS3)	16.79	174	391109	13.689	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%			
Target Compounds						Qvalue
2) Propene	3.30	42	1400	0.080	ng	97
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	3.49	50	273	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.76	54	209	N.D.		
8) Bromomethane	3.99	94	106	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D. d		
11) Acetonitrile	4.48	41	282	N.D.		
12) Acrolein	4.54	56	63	N.D.		
13) Acetone	4.65	58	6068	0.492	ng	90
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.91	45	670	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.35	84	686	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.61	76	6932	0.101	ng	88
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.26	61	24147	No Calib	#	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.86	78	1639	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.26	84	746	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Data File : I:\MS09\DATA\2023 07\17\07172304.D Vial: 2
Acq On : 17 Jul 2023 5:04 Operator: SC
Sample : MB R9071723 1000mL Inst : MS09
Misc : S37-06132301

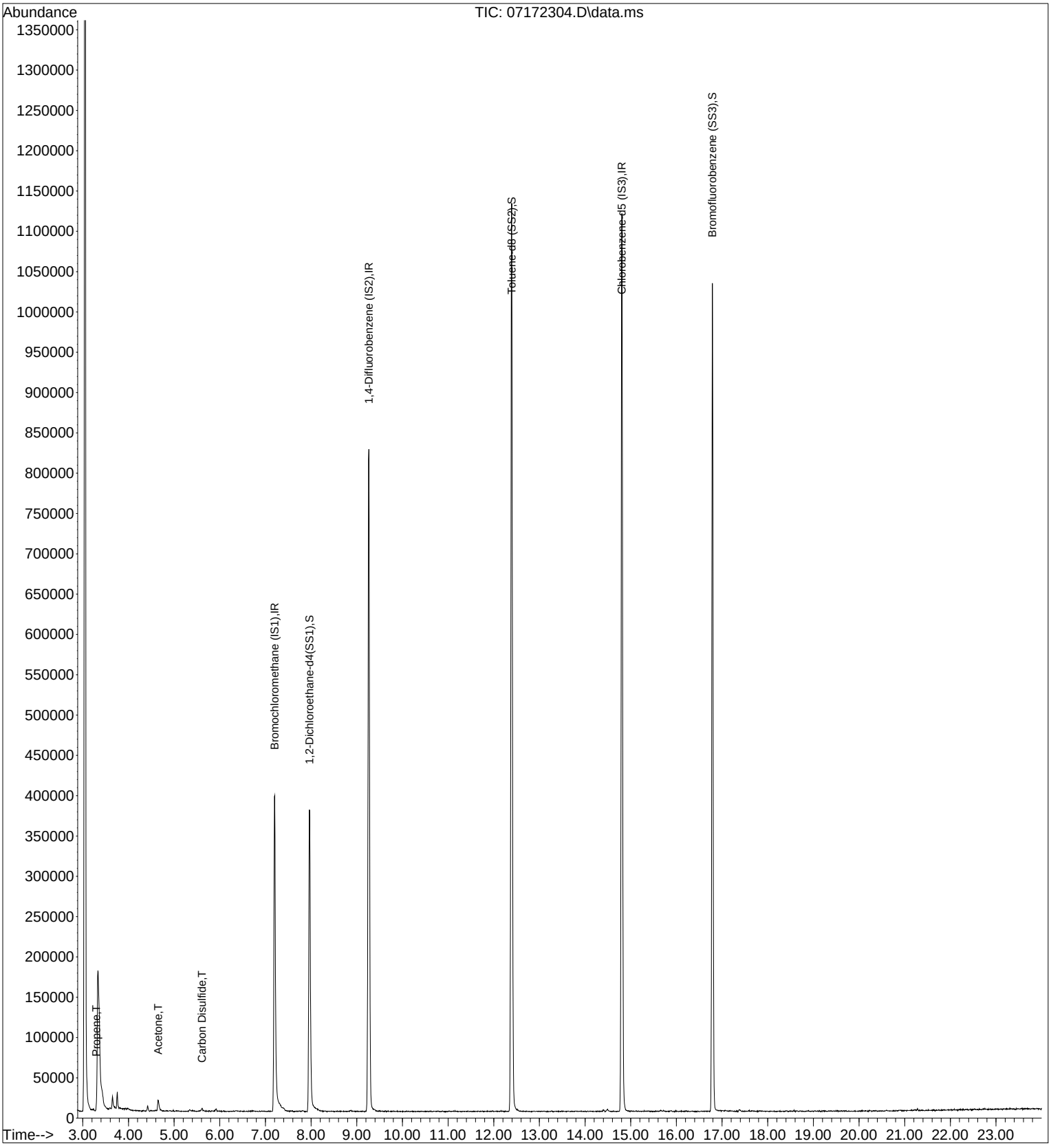
Quant Time: Jul 17 07:12:22 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.52	91	840	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.86	112	254	N.D.	
66) Ethylbenzene	15.39	91	601	N.D.	
67) m- & p-Xylenes	15.62	91	1061	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.21	91	595	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.19	83	133	N.D.	
74) Cumene	17.00	105	545	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.66	91	652	N.D.	
77) 3-Ethyltoluene	17.00	105	545	No Calib	#
78) 4-Ethyltoluene	17.85	105	543	N.D.	
79) 1,3,5-Trimethylbenzene	17.93	105	433	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.00	105	545	No Calib	#
82) 1,2,4-Trimethylbenzene	18.41	105	288	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	299	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	441	N.D.	
87) sec-Butylbenzene	18.71	105	475	N.D.	
88) 4-Isopropyltoluene (p-...	18.91	119	472	N.D.	
89) 1,2,3-Trimethylbenzene	17.00	105	545	No Calib	#
90) 1,2-Dichlorobenzene	19.02	146	240	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.50	157	123	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.27	225	736	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	628	N.D.	
100) n-Butylbenzene	19.38	91	191	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data File : I:\MS09\DATA\2023 07\17\07172304.D Vial: 2
Acq On : 17 Jul 2023 5:04 Operator: SC
Sample : MB R9071723 1000mL Inst : MS09
Misc : S37-06132301

Quant Time: Jul 17 07:12:22 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172305.D Vial: 2
Acq On : 17 Jul 2023 5:37 Operator: SC
Sample : LCS R9071723 5.0ng Inst : MS09
Misc : S37-06132301/S37-07032302 (8/2)

Quant Time: Jul 17 07:11:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023 7/17/23
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	204223	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.27	114	881509	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	170455	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	376148	10.787	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.32%				
57) Toluene-d8 (SS2)	12.39	98	1044570	13.937	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.52%				
73) Bromofluorobenzene (SS3)	16.79	174	409013	13.910	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.28%				
Target Compounds							Qvalue
2) Propene	3.27	42	92974	5.107	ng		97
3) Dichlorodifluoromethan...	3.34	85	249209	5.028	ng		100
4) Chloromethane	3.48	50	127594	5.628	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	125010	5.591	ng		99
6) Vinyl Chloride	3.67	62	163059	5.767	ng		99
7) 1,3-Butadiene	3.78	54	120213	6.207	ng		96
8) Bromomethane	3.99	94	98281	6.269	ng		99
9) Chloroethane	4.13	64	65608	5.518	ng		100
10) Ethanol	4.28	45	346534	25.449	ng		100
11) Acetonitrile	4.43	41	155192	4.807	ng		98
12) Acrolein	4.51	56	123235	11.619	ng		99
13) Acetone	4.61	58	346866	26.981	ng		93
14) Trichlorofluoromethane	4.73	101	223543	4.768	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	497246	11.830	ng		97
16) Acrylonitrile	4.98	53	242347	11.400	ng		100
17) 1,1-Dichloroethene	5.24	96	108697	5.684	ng		93
18) 2-Methyl-2-Propanol (t...	5.31	59	486905	10.877	ng		96
19) Methylene Chloride	5.33	84	113191	5.392	ng		96
20) 3-Chloro-1-propene (Al...	5.43	41	145752	4.635	ng		92
21) Trichlorotrifluoroethane	5.56	151	105116	5.354	ng		99
22) Carbon Disulfide	5.58	76	808565	11.249	ng		100
23) trans-1,2-Dichloroethene	6.11	61	158893	5.551	ng		98
24) 1,1-Dichloroethane	6.30	63	189490	5.500	ng		99
25) Methyl tert-Butyl Ether	6.35	73	358618	5.584	ng		100
26) Vinyl Acetate	6.42	86	68391	23.405	ng	#	94
27) 2-Butanone (MEK)	6.64	72	137181	10.969	ng		99
28) cis-1,2-Dichloroethene	7.06	61	152002	5.455	ng		96
29) Diisopropyl Ether	7.25	87	175857	10.682	ng	#	29
30) Ethyl Acetate	7.26	61	75580	9.664	ng		98
31) n-Hexane	7.27	57	160633	5.554	ng		99
32) Chloroform	7.34	83	217752	5.188	ng		99
34) Tetrahydrofuran (THF)	7.73	72	127270	10.523	ng		98
35) Ethyl tert-Butyl Ether	7.79	87	253585	10.751	ng		100
36) 1,2-Dichloroethane	8.09	62	172883	5.010	ng		100
38) 1,1,1-Trichloroethane	8.37	97	204291	5.129	ng		98
39) Isopropyl Acetate	9.18	61	538	No Calib		#	
40) 1-Butanol	8.81	56	6898	No Calib		#	
41) Benzene	8.87	78	430474	5.663	ng		99
42) Carbon Tetrachloride	9.04	117	177510	5.394	ng		100
43) Cyclohexane	9.18	84	321306	11.505	ng		99
44) tert-Amyl Methyl Ether	9.56	73	601497	10.729	ng		98
45) 1,2-Dichloropropane	9.83	63	98109	5.437	ng		99
46) Bromodichloromethane	10.05	83	176381	5.379	ng		99
47) Trichloroethene	10.12	130	120981	5.702	ng		99
48) 1,4-Dioxane	10.09	88	87559	5.972	ng		96
49) 2,2,4-Trimethylpentane...	10.20	57	387590	5.604	ng		96
50) Methyl Methacrylate	10.37	100	83704	12.272	ng		93

Data File : I:\MS09\DATA\2023 07\17\07172305.D Vial: 2
Acq On : 17 Jul 2023 5:37 Operator: SC
Sample : LCS R9071723 5.0ng Inst : MS09
Misc : S37-06132301/S37-07032302 (8/2)

Quant Time: Jul 17 07:11:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

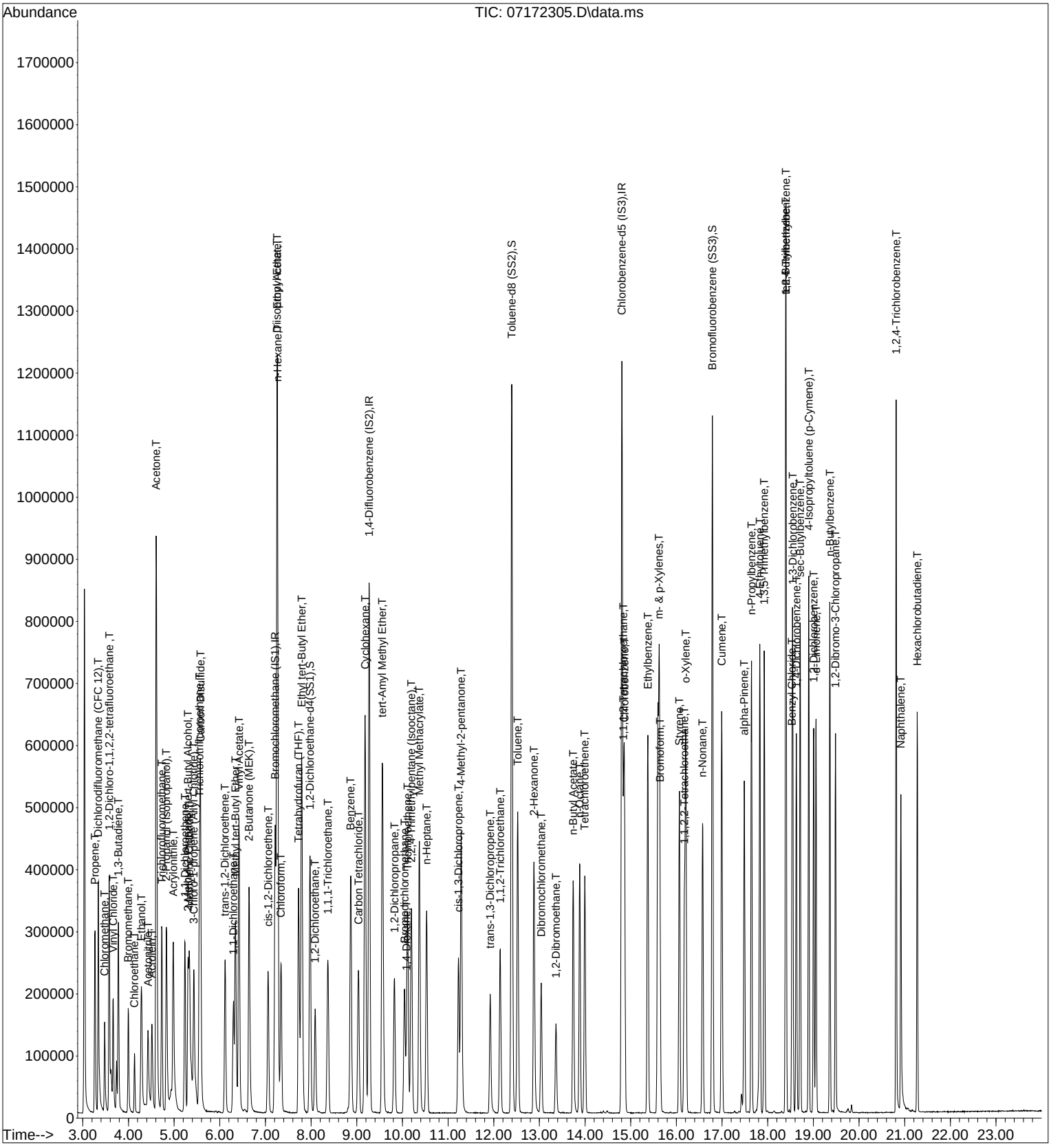
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	105801	5.789 ng	99
52) cis-1,3-Dichloropropene	11.23	75	191462	6.318 ng	100
53) 4-Methyl-2-pentanone	11.29	58	161454	10.778 ng	96
54) trans-1,3-Dichloropropene	11.92	75	149302	5.067 ng	100
55) 1,1,2-Trichloroethane	12.14	97	111318	5.604 ng	98
58) Toluene	12.52	91	461554	6.291 ng	100
59) 2-Hexanone	12.88	43	346536	10.247 ng	98
60) Dibromochloromethane	13.04	129	145075	6.172 ng	99
61) 1,2-Dibromoethane	13.36	107	129042	6.094 ng	100
62) n-Butyl Acetate	13.74	43	333707	9.171 ng	98
63) n-Octane	13.88	57	81314	6.325 ng	98
64) Tetrachloroethene	13.99	166	145810	6.300 ng	99
65) Chlorobenzene	14.86	112	307912	6.158 ng	100
66) Ethylbenzene	15.37	91	535882	6.342 ng	99
67) m- & p-Xylenes	15.62	91	875401	12.457 ng	98
68) Bromoform	15.64	173	135413	6.408 ng	99
69) Styrene	16.07	104	298332	6.373 ng	98
70) o-Xylene	16.20	91	433581	6.251 ng	99
71) n-Nonane	16.57	43	183022	6.174 ng	97
72) 1,1,2,2-Tetrachloroethane	16.17	83	192010	6.070 ng	99
74) Cumene	16.99	105	516348	6.103 ng	100
75) alpha-Pinene	17.49	93	230391	5.860 ng	98
76) n-Propylbenzene	17.65	91	620967	6.107 ng	99
77) 3-Ethyltoluene	16.99	105	516348	No Calib	
78) 4-Ethyltoluene	17.83	105	514796	6.419 ng	99
79) 1,3,5-Trimethylbenzene	17.92	105	438940	6.164 ng	99
80) alpha-Methylstyrene	16.99	118	1310	No Calib #	
81) 2-Ethyltoluene	16.99	105	516348	No Calib	
82) 1,2,4-Trimethylbenzene	18.40	105	442731	6.146 ng	100
83) n-Decane	16.99	58	2974	No Calib	
84) Benzyl Chloride	18.53	91	290466	5.368 ng	100
85) 1,3-Dichlorobenzene	18.55	146	255320	5.881 ng	99
86) 1,4-Dichlorobenzene	18.63	146	250324	5.699 ng	100
87) sec-Butylbenzene	18.71	105	542632	5.895 ng	99
88) 4-Isopropyltoluene (p-...	18.90	119	479332	5.859 ng	97
89) 1,2,3-Trimethylbenzene	16.99	105	516348	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	251909	5.957 ng	98
91) d-Limonene	19.06	68	131383	5.176 ng	97
92) 1,2-Dibromo-3-Chloropr...	19.48	157	165428	10.733 ng	91
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.81	180	330624	9.518 ng	99
95) Naphthalene	20.92	128	402907	4.929 ng	99
96) n-Dodecane	19.06	58	1240	No Calib #	
97) Hexachlorobutadiene	21.27	225	117825	4.081 ng	99
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.39	119	418984	6.004 ng	100
100) n-Butylbenzene	19.36	91	413363	5.386 ng	100
101) 1,1,1,2-Tetrachloroethane	14.84	131	119928	6.191 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172305.D Vial: 2
Acq On : 17 Jul 2023 5:37 Operator: SC
Sample : LCS R9071723 5.0ng Inst : MS09
Misc : S37-06132301/S37-07032302 (8/2)

Quant Time: Jul 17 07:11:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172306.D Vial: 2
Acq On : 17 Jul 2023 6:09 Operator: SC
Sample : LCSD R9071723 5.0ng Inst : MS09
Misc : S37-06132301/S37-07032302 (8/2)

Quant Time: Jul 17 07:11:56 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

7/17/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	203373	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.28	114	892056	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	171109	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	384542	11.074	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
57) Toluene-d8 (SS2)	12.39	98	1049894	13.955	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.60%				
73) Bromofluorobenzene (SS3)	16.79	174	419051	14.197	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.60%				
Target Compounds							Qvalue
2) Propene	3.27	42	92250	5.088	ng		96
3) Dichlorodifluoromethan...	3.34	85	249264	5.050	ng		99
4) Chloromethane	3.48	50	126751	5.614	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	124940	5.611	ng		100
6) Vinyl Chloride	3.67	62	162277	5.763	ng		100
7) 1,3-Butadiene	3.78	54	121993	6.326	ng		95
8) Bromomethane	4.00	94	98311	6.298	ng		99
9) Chloroethane	4.14	64	65271	5.513	ng		98
10) Ethanol	4.29	45	345689	25.493	ng		100
11) Acetonitrile	4.43	41	155914	4.849	ng		98
12) Acrolein	4.52	56	120767	11.433	ng		100
13) Acetone	4.61	58	343939	26.866	ng		93
14) Trichlorofluoromethane	4.73	101	223897	4.796	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	497226	11.879	ng		98
16) Acrylonitrile	4.98	53	241607	11.413	ng		100
17) 1,1-Dichloroethene	5.24	96	106916	5.614	ng		94
18) 2-Methyl-2-Propanol (t...	5.31	59	490488	11.003	ng		96
19) Methylene Chloride	5.34	84	112548	5.383	ng		96
20) 3-Chloro-1-propene (Al...	5.44	41	143910	4.595	ng		93
21) Trichlorotrifluoroethane	5.56	151	105510	5.396	ng		98
22) Carbon Disulfide	5.58	76	806085	11.261	ng		99
23) trans-1,2-Dichloroethene	6.12	61	156651	5.495	ng		96
24) 1,1-Dichloroethane	6.30	63	186883	5.447	ng		100
25) Methyl tert-Butyl Ether	6.35	73	357456	5.590	ng		99
26) Vinyl Acetate	6.42	86	68612	23.579	ng		98
27) 2-Butanone (MEK)	6.65	72	138758	11.142	ng		97
28) cis-1,2-Dichloroethene	7.06	61	151021	5.443	ng		97
29) Diisopropyl Ether	7.26	87	173989	10.612	ng	#	30
30) Ethyl Acetate	7.26	61	75766	9.729	ng		95
31) n-Hexane	7.27	57	159891	5.552	ng		99
32) Chloroform	7.34	83	218151	5.219	ng		99
34) Tetrahydrofuran (THF)	7.73	72	125566	10.426	ng		98
35) Ethyl tert-Butyl Ether	7.79	87	257271	10.953	ng		99
36) 1,2-Dichloroethane	8.09	62	172940	5.033	ng		100
38) 1,1,1-Trichloroethane	8.37	97	205279	5.092	ng		99
39) Isopropyl Acetate	9.18	61	512	No Calib		#	
40) 1-Butanol	8.82	56	8560	No Calib		#	
41) Benzene	8.87	78	429701	5.586	ng		100
42) Carbon Tetrachloride	9.04	117	177797	5.339	ng		98
43) Cyclohexane	9.18	84	319833	11.317	ng		100
44) tert-Amyl Methyl Ether	9.56	73	609876	10.750	ng		98
45) 1,2-Dichloropropane	9.83	63	97758	5.353	ng		100
46) Bromodichloromethane	10.05	83	175613	5.292	ng		100
47) Trichloroethene	10.12	130	120999	5.635	ng		100
48) 1,4-Dioxane	10.09	88	86121	5.805	ng		97
49) 2,2,4-Trimethylpentane...	10.20	57	386885	5.527	ng		95
50) Methyl Methacrylate	10.37	100	83556	12.106	ng		93

Data File : I:\MS09\DATA\2023 07\17\07172306.D Vial: 2
Acq On : 17 Jul 2023 6:09 Operator: SC
Sample : LCSD R9071723 5.0ng Inst : MS09
Misc : S37-06132301/S37-07032302 (8/2)

Quant Time: Jul 17 07:11:56 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

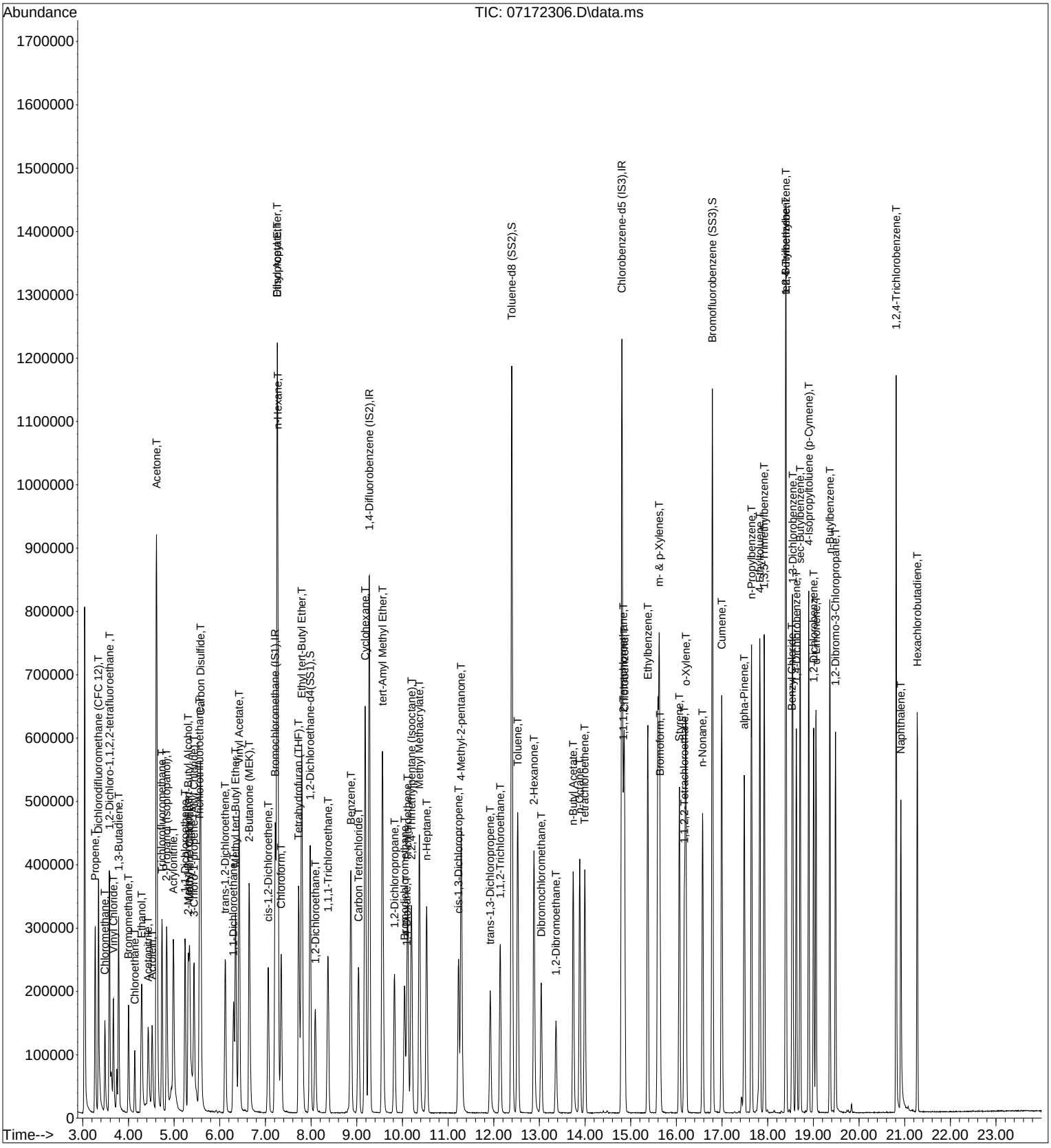
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.53	71	104549	5.653 ng	97
52) cis-1,3-Dichloropropene	11.23	75	191020	6.229 ng	99
53) 4-Methyl-2-pentanone	11.29	58	161671	10.665 ng	96
54) trans-1,3-Dichloropropene	11.92	75	152434	5.112 ng	99
55) 1,1,2-Trichloroethane	12.14	97	112578	5.600 ng	97
58) Toluene	12.52	91	460810	6.257 ng	99
59) 2-Hexanone	12.88	43	347989	10.251 ng	97
60) Dibromochloromethane	13.04	129	144129	6.108 ng	99
61) 1,2-Dibromoethane	13.36	107	129375	6.087 ng	100
62) n-Butyl Acetate	13.74	43	337395	9.237 ng	98
63) n-Octane	13.88	57	81508	6.315 ng	98
64) Tetrachloroethene	13.99	166	145291	6.254 ng	100
65) Chlorobenzene	14.86	112	304894	6.075 ng	99
66) Ethylbenzene	15.37	91	536191	6.321 ng	100
67) m- & p-Xylenes	15.62	91	876253	12.422 ng	99
68) Bromoform	15.64	173	134780	6.353 ng	99
69) Styrene	16.07	104	299602	6.376 ng	98
70) o-Xylene	16.21	91	432771	6.215 ng	99
71) n-Nonane	16.57	43	184211	6.191 ng	98
72) 1,1,2,2-Tetrachloroethane	16.17	83	192203	6.053 ng	100
74) Cumene	16.99	105	520233	6.126 ng	99
75) alpha-Pinene	17.49	93	235459	5.966 ng	98
76) n-Propylbenzene	17.64	91	625527	6.129 ng	99
77) 3-Ethyltoluene	16.99	105	520233	No Calib	
78) 4-Ethyltoluene	17.83	105	516136	6.411 ng	100
79) 1,3,5-Trimethylbenzene	17.92	105	439880	6.153 ng	100
80) alpha-Methylstyrene	17.00	118	1369	No Calib #	
81) 2-Ethyltoluene	16.99	105	520233	No Calib	
82) 1,2,4-Trimethylbenzene	18.40	105	439480	6.077 ng	99
83) n-Decane	16.98	58	3847	No Calib	
84) Benzyl Chloride	18.53	91	302712	5.573 ng	100
85) 1,3-Dichlorobenzene	18.55	146	257511	5.909 ng	100
86) 1,4-Dichlorobenzene	18.63	146	251682	5.708 ng	100
87) sec-Butylbenzene	18.71	105	540893	5.854 ng	99
88) 4-Isopropyltoluene (p-...	18.90	119	467824	5.696 ng	98
89) 1,2,3-Trimethylbenzene	16.99	105	520233	No Calib	
90) 1,2-Dichlorobenzene	19.01	146	249263	5.872 ng	99
91) d-Limonene	19.06	68	135377	5.313 ng	97
92) 1,2-Dibromo-3-Chloropr...	19.48	157	163557	10.571 ng	92
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.81	180	333148	9.554 ng	99
95) Naphthalene	20.92	128	398918	4.861 ng	99
96) n-Dodecane	19.06	58	988	No Calib #	
97) Hexachlorobutadiene	21.27	225	118083	4.074 ng	99
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.39	119	419986	5.996 ng	99
100) n-Butylbenzene	19.36	91	414435	5.380 ng	100
101) 1,1,1,2-Tetrachloroethane	14.84	131	119932	6.167 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172306.D Vial: 2
Acq On : 17 Jul 2023 6:09 Operator: SC
Sample : LCSD R9071723 5.0ng Inst : MS09
Misc : S37-06132301/S37-07032302 (8/2)

Quant Time: Jul 17 07:11:56 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



01194179

Method Path : I:\MS09\METHODS\
Method File : R9061223.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Jun 13 08:48:47 2023
Response Via : Initial Calibration

6/13/23

Calibration Files
0.1 =06122318.D 0.2 =06122319.D 0.5 =06122320.D 1.0 =06122321.D 5.0 =06122322.D 25 =06122
100 =06122325.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.279	1.014	1.205	1.062	1.052	1.043	1.129	1.131	1.114	8.14
3)	T	Dichlorodifluo...	3.586	3.249	3.701	3.163	2.743	2.789	2.633	2.406	3.034	15.32
4)	T	Chloromethane	1.847	1.450	1.683	1.391	1.170	1.301	1.278	0.982	1.388	19.91
5)	T	1,2-Dichloro-1...	1.583	1.507	1.590	1.377	1.220	1.280	1.235	1.157	1.369	12.56
6)	T	Vinyl Chloride	2.040	1.793	2.062	1.705	1.503	1.574	1.615	1.554	1.731	12.57
7)	T	1,3-Butadiene	1.164	1.113	1.326	1.176	1.071	1.187	1.225	1.221	1.185	6.48
8)	T	Bromomethane	1.022	0.931	1.147	0.978	0.819	0.942	0.947	0.890	0.960	10.04
9)	T	Chloroethane	0.843	0.721	0.846	0.730	0.643	0.675	0.689	0.674	0.728	10.60
10)	T	Ethanol	1.073	0.834	0.931	0.802	0.705	0.747	0.782	0.793	0.833	14.06
11)	T	Acetonitrile			2.310	1.985	1.753	1.848	1.968	1.992	1.976	9.55
12)	T	Acrolein	0.607	0.610	0.757	0.667	0.590	0.646	0.663	0.655	0.649	8.02
13)	T	Acetone	0.953	0.819	0.902	0.777	0.670	0.724	0.735	0.716	0.787	12.47
14)	T	Trichlorofluor...	3.586	3.095	3.469	2.948	2.524	2.620	2.464	2.250	2.870	16.98
15)	T	2-Propanol (Is...	3.124	2.737	1.842	2.839	2.334	2.672	2.583	2.452	2.573	14.82
16)	T	Acrylonitrile	1.277	1.238	1.495	1.337	1.184	1.280	1.313	1.284	1.301	7.00
17)	T	1,1-Dichloroet...	1.325	1.144	1.379	1.196	1.044	1.118	1.105	1.054	1.171	10.48
18)	T	2-Methyl-2-Pro...			3.569	3.131	2.602	3.122	2.593	1.423	2.740	27.12
19)	T	Methylene Chlo...	1.686	1.327	1.494	1.233	1.083	1.171	1.168	1.119	1.285	16.22
20)	T	3-Chloro-1-pro...			2.741	2.281	1.838	1.571	1.587	1.532	1.925	25.39
21)	T	Trichlorotrifl...	1.530	1.242	1.433	1.198	1.029	1.108	1.074	1.000	1.202	16.00
22)	T	Carbon Disulfide	5.123	4.319	5.150	4.413	3.910	4.253	4.188	3.840	4.399	11.24
23)	T	trans-1,2-Dich...	1.946	1.733	2.025	1.728	1.567	1.697	1.691	1.629	1.752	8.87
24)	T	1,1-Dichloroet...	2.344	2.171	2.573	2.111	1.846	1.970	1.965	1.891	2.109	11.77
25)	T	Methyl tert-Bu...	4.255	3.762	4.576	3.939	3.626	3.920	3.848	3.519	3.931	8.70
26)	T	Vinyl Acetate			0.173	0.157	0.159	0.197	0.197	0.191	0.179	10.25
27)	T	2-Butanone (MEK)	0.760	0.737	0.873	0.784	0.693	0.767	0.772	0.738	0.765	6.75
28)	T	cis-1,2-Dichlo...	1.872	1.683	1.975	1.718	1.534	1.653	1.638	1.572	1.705	8.74
29)	T	Diisopropyl Ether	1.236	1.048	1.120	0.958	0.862	0.964	0.958	0.916	1.008	12.03
30)	T	Ethyl Acetate	0.441	0.428	0.537	0.473	0.433	0.499	0.514	0.504	0.479	8.59
31)	T	n-Hexane	1.962	1.618	1.985	1.721	1.539	1.766	1.811	1.759	1.770	8.64
32)	T	Chloroform	3.077	2.661	3.069	2.653	2.274	2.384	2.293	2.140	2.569	14.00
33)	S	1,2-Dichloroet...	2.181	2.191	2.195	2.196	2.174	2.086	2.049	2.002	2.134	3.60
34)	T	Tetrahydrofura...	0.800	0.727	0.884	0.724	0.661	0.719	0.721	0.686	0.740	9.49
35)	T	Ethyl tert-But...	1.537	1.424	1.656	1.440	1.315	1.432	1.407	1.340	1.444	7.54
36)	T	1,2-Dichloroet...	2.580	2.191	2.524	2.170	1.886	1.959	1.861	1.725	2.112	14.83
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.684	0.573	0.667	0.563	0.509	0.539	0.512	0.471	0.565	13.39
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.260	1.131	1.263	1.068	0.935	1.019	0.997	0.950	1.078	12.01
42)	T	Carbon Tetrach...	0.538	0.452	0.550	0.481	0.421	0.460	0.434	0.398	0.467	11.54
43)	T	Cyclohexane	0.433	0.386	0.455	0.399	0.353	0.391	0.384	0.366	0.396	8.47
44)	T	tert-Amyl Meth...	0.837	0.761	0.893	0.776	0.730	0.810	0.800	0.753	0.795	6.56
45)	T	1,2-Dichloropr...	0.315	0.266	0.286	0.251	0.215	0.239	0.239	0.235	0.256	12.45
46)	T	Bromodichlorom...	0.550	0.456	0.533	0.465	0.416	0.452	0.435	0.412	0.465	10.96
47)	T	Trichloroethene	0.337	0.303	0.353	0.310	0.265	0.292	0.282	0.267	0.301	10.49
48)	T	1,4-Dioxane	0.223	0.184	0.206	0.214	0.192	0.219	0.216	0.210	0.208	6.48
49)	T	2,2,4-Trimethy...	1.100	0.970	1.134	0.991	0.856	0.944	0.940	0.913	0.981	9.52
50)	T	Methyl Methacr...	0.080	0.086	0.108	0.098	0.093	0.106	0.103	0.100	0.097	10.40
51)	T	n-Heptane	0.282	0.248	0.292	0.258	0.233	0.258	0.256	0.247	0.259	7.39
52)	T	cis-1,3-Dichlo...	0.417	0.402	0.468	0.416	0.398	0.455	0.450	0.432	0.430	6.03
53)	T	4-Methyl-2-pen...	0.193	0.184	0.236	0.211	0.199	0.227	0.226	0.223	0.212	8.76
54)	T	trans-1,3-Dich...	0.364	0.331	0.448	0.404	0.404	0.479	0.467	0.446	0.418	12.34

55)	T	1,1,2-Trichlor...	0.318	0.282	0.326	0.285	0.250	0.273	0.265	0.254	0.282	9.85
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.568	5.521	5.535	5.517	5.436	5.455	5.500	5.438	5.496	0.88
58)	T	Toluene	6.512	5.450	6.193	5.407	4.685	5.144	4.990	4.662	5.380	12.48
59)	T	2-Hexanone	2.398	2.111	2.775	2.454	2.326	2.636	2.628	2.513	2.480	8.37
60)	T	Dibromochlorom...	2.047	1.625	1.974	1.718	1.533	1.706	1.650	1.536	1.724	11.05
61)	T	1,2-Dibromoethane	1.631	1.435	1.798	1.578	1.415	1.572	1.534	1.457	1.553	8.06
62)	T	n-Butyl Acetate	2.401	2.331	2.958	2.611	2.501	2.885	2.903	2.758	2.668	9.07
63)	T	n-Octane	0.958	0.895	1.075	0.918	0.838	0.954	0.961	0.944	0.943	7.17
64)	T	Tetrachloroethene	2.026	1.738	1.966	1.687	1.485	1.645	1.573	1.456	1.697	12.26
65)	T	Chlorobenzene	4.499	3.829	4.269	3.613	3.124	3.481	3.367	3.150	3.667	13.71
66)	T	Ethylbenzene	6.911	6.018	7.169	6.194	5.607	6.222	5.968	5.485	6.197	9.44
67)	T	m- & p-Xylenes	5.713	4.949	5.913	5.191	4.637	5.210	5.020	4.594	5.153	9.08
68)	T	Bromoform	1.642	1.471	1.700	1.475	1.393	1.645	1.594	1.476	1.550	7.08
69)	T	Styrene	3.467	2.984	3.737	3.442	3.229	3.691	3.569	3.343	3.433	7.23
70)	T	o-Xylene	5.682	4.934	5.870	5.138	4.592	5.098	4.874	4.505	5.087	9.47
71)	T	n-Nonane	2.191	1.941	2.456	2.132	1.968	2.252	2.257	2.194	2.174	7.62
72)	T	1,1,2,2-Tetrac...	2.647	2.319	2.621	2.270	2.012	2.290	2.248	2.149	2.320	9.36
73)	S	Bromofluoroben...	2.167	2.145	2.189	2.168	2.191	2.187	2.133	2.070	2.156	1.88
74)	T	Cumene	7.241	6.200	7.234	6.194	5.565	6.128	5.815	5.255	6.204	11.57
75)	T	alpha-Pinene	2.931	2.660	3.158	2.718	2.677	3.084	3.006	2.829	2.883	6.63
76)	T	n-Propylbenzene	8.139	7.175	8.614	7.720	6.838	7.614	7.184	6.367	7.456	9.65
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	6.136	5.676	6.786	5.941	5.478	6.099	5.761	5.175	5.882	8.26
79)	T	1,3,5-Trimethy...	5.785	5.095	6.038	5.304	4.754	5.276	5.012	4.514	5.222	9.63
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.253	4.877	6.102	5.430	4.934	5.624	5.330	4.716	5.283	8.53
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			3.398	3.198	3.730	4.839	4.683	3.960	3.968	16.88
85)	T	1,3-Dichlorobe...	3.443	3.217	3.608	3.212	2.866	3.266	3.074	2.784	3.184	8.63
86)	T	1,4-Dichlorobe...	3.562	3.297	3.752	3.209	2.871	3.234	3.064	2.779	3.221	10.14
87)	T	sec-Butylbenzene	7.181	6.386	7.935	6.991	6.316	6.975	6.506	5.710	6.750	9.95
88)	T	4-Isopropyltol...	6.356	5.697	7.088	6.163	5.631	6.224	5.798	5.039	6.000	10.12
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.584	3.065	3.578	3.114	2.774	3.104	2.930	2.660	3.101	10.86
91)	T	d-Limonene	1.620	1.576	2.035	1.807	1.770	2.089	2.052	1.943	1.861	10.67
92)	T	1,2-Dibromo-3-...	1.068	1.011	1.258	1.128	1.066	1.251	1.181	1.079	1.130	8.07
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.588	2.282	2.777	2.523	2.417	2.859	2.646	2.288	2.547	8.35
95)	T	Naphthalene	5.154	4.496	6.452	6.028	5.968	7.219	6.800	5.841	5.995	14.56
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	2.864	2.270	2.402	1.991	1.811	2.017	1.885	1.698	2.117	17.95
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.571	4.959	5.930	5.207	4.693	5.269	4.947	4.360	5.117	9.64
100)	T	n-Butylbenzene	5.693	5.242	6.551	5.760	5.306	5.944	5.598	4.929	5.628	8.80
101)	T	1,1,1,2-Tetrac...	1.622	1.457	1.591	1.431	1.254	1.407	1.349	1.254	1.421	9.67

(#) = Out of Range

R9061223.M Tue Jun 13 09:06:46 2023

Primary Source Standards Concentrations (Working & Initial Calibration)

6/13/23

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S37-06122305 | 200ng/L Std. ID: S37-06122303
20ng/L Std. ID: S37-06122304 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Freon-114	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Vinyl Chloride	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Ethanol	3.45	3450	690	138.0	69.0	13.80	3.45		0.345	0.690	1.725	3.45	17.25	86.25	172.5	345
Acetonitrile	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Acrolein	1.93	1930	386	77.2	38.6	7.72	1.93		0.193	0.386	0.965	1.93	9.65	48.25	96.5	193
Acetone	5.27	5270	1054	210.8	105.4	21.08	5.27		0.527	1.054	2.635	5.27	26.35	131.75	263.5	527
Trichlorofluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isopropanol	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
Acrylonitrile	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	2.13	2130	426	85.2	42.6	8.52	2.13		0.213	0.426	1.065	2.13	10.65	53.25	106.5	213
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	2.80	2800	560	112.0	56.0	11.20	2.80		0.280	0.560	1.400	2.80	14.00	70.00	140.0	280
2-Butanone	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Ethyl Acetate	4.22	4220	844	168.8	84.4	16.88	4.22		0.422	0.844	2.110	4.22	21.10	105.50	211.0	422
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Ethyl tert-Butyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Carbon Tetrachloride	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,2-Dichloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S37-06122305
20ng/L Std. ID: S37-06122304
40ng/L Std. ID:
200ng/L Std. ID: S37-06122303
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
4-Methyl-2-pentanone	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
trans-1,3-Dichloropropene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,2-Trichloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Toluene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
2-Hexanone	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
Dibromochloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromoethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Butyl Acetate	2.05	2050	410	82.0	41.0	8.20	2.05		0.205	0.410	1.025	2.05	10.25	51.25	102.5	205
n-Octane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrachloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Ethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
m-&p-Xylene	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cumene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
alpha-Pinene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Propylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
4-Ethyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
sec-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
p-Isopropyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromo-3-chloropropane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2,4-Trichlorobenzene	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Naphthalene	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
tert-Butylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,1,2-Tetrachloroethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106

Calibration Status Report MS09

Method : I:\MS09\METHODS\R9061223.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Jun 13 08:48:47 2023
Response via : Initial Calibration

6/13/23

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2023_06\12\06122318.D
2	0.2	0	13	I:\MS09\DATA\2023_06\12\06122319.D
3	0.5	1	13	I:\MS09\DATA\2023_06\12\06122320.D
4	1.0	1	13	I:\MS09\DATA\2023_06\12\06122321.D
5	5.0	5	13	I:\MS09\DATA\2023_06\12\06122322.D
6	25	26	13	I:\MS09\DATA\2023_06\12\06122323.D
7	50	53	13	I:\MS09\DATA\2023_06\12\06122324.D
8	100	105	13	I:\MS09\DATA\2023_06\12\06122325.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jun 13 08:47 2023	Jun 13 08:42 2023	12 Jun 2023 16:41
2	0.2	Jun 13 08:47 2023	Jun 13 08:40 2023	12 Jun 2023 17:13
3	0.5	Jun 13 08:47 2023	Jun 13 08:38 2023	12 Jun 2023 17:46
4	1.0	Jun 13 08:47 2023	Jun 13 08:36 2023	12 Jun 2023 18:18
5	5.0	Jun 13 08:48 2023	Jun 13 08:35 2023	12 Jun 2023 18:50
6	25	Jun 13 08:48 2023	Jun 13 08:34 2023	12 Jun 2023 19:22
7	50	Jun 13 08:48 2023	Jun 13 08:44 2023	12 Jun 2023 19:54
8	100	Jun 13 08:48 2023	Jun 13 08:45 2023	12 Jun 2023 20:26

R9061223.M Tue Jun 13 09:08:04 2023

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122318.D Vial: 5
Acq On : 12 Jun 2023 16:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

Quant Time: Jun 13 08:42:06 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

V 6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	189590	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	834819	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.80	54	174186	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	413403	13.045	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
57) Toluene-d8 (SS2)	12.39	98	969850	14.645	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.12%				
73) Bromofluorobenzene (SS3)	16.79	174	377457	15.769	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 126.16%				
Target Compounds							Qvalue
2) Propene	3.31	42	2037	0.059	ng		96
3) Dichlorodifluoromethan...	3.38	85	5765	0.111	ng		99
4) Chloromethane	3.52	50	2886	0.071	ng		87
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	2497	0.106	ng		100
6) Vinyl Chloride	3.70	62	3125	0.102	ng		91
7) 1,3-Butadiene	3.81	54	1871	0.080	ng		96
8) Bromomethane	4.03	94	1581	0.087	ng		93
9) Chloroethane	4.16	64	1317	0.093	ng		95
10) Ethanol	4.29	45	5616	0.230	ng		83
12) Acrolein	4.53	56	1777	0.114	ng		98
13) Acetone	4.63	58	7620	0.434	ng		88
14) Trichlorofluoromethane	4.75	101	5657	0.117	ng		95
15) 2-Propanol (Isopropanol)	4.87	45	9714	0.135	ng		85
16) Acrylonitrile	4.99	53	3970	0.119	ng		94
17) 1,1-Dichloroethene	5.25	96	2170	0.108	ng		96
18) 2-Methyl-2-Propanol (t...	5.40	59	10901	0.213	ng	#	74
19) Methylene Chloride	5.33	84	2710	0.121	ng		99
20) 3-Chloro-1-propene (Al...	5.44	41	4489	0.089	ng	#	65
21) Trichlorotrifluoroethane	5.56	151	2507	0.120	ng		94
22) Carbon Disulfide	5.60	76	16550	0.219	ng		94
23) trans-1,2-Dichloroethene	6.12	61	3188	0.096	ng		96
24) 1,1-Dichloroethane	6.29	63	3804	0.093	ng		99
25) Methyl tert-Butyl Ether	6.39	73	6905	0.105	ng		97
26) Vinyl Acetate	6.44	86	214	0.070	ng	#	1
27) 2-Butanone (MEK)	6.67	72	2409	0.181	ng	#	72
28) cis-1,2-Dichloroethene	7.04	61	3009	0.091	ng		98
29) Diisopropyl Ether	7.28	87	3975	0.239	ng	#	73
30) Ethyl Acetate	7.28	61	2825	0.312	ng		97
31) n-Hexane	7.27	57	3125	0.081	ng		98
32) Chloroform	7.32	83	4947	0.119	ng		98
34) Tetrahydrofuran (THF)	7.78	72	2475	0.196	ng		93
35) Ethyl tert-Butyl Ether	7.82	87	4941	0.209	ng		99
36) 1,2-Dichloroethane	8.07	62	4227	0.116	ng		100
38) 1,1,1-Trichloroethane	8.36	97	4800	0.118	ng		97
41) Benzene	8.86	78	9003	0.113	ng		97
42) Carbon Tetrachloride	9.03	117	3737	0.104	ng		96
43) Cyclohexane	9.18	84	6074	0.200	ng		99
44) tert-Amyl Methyl Ether	9.59	73	11846	0.212	ng		98
45) 1,2-Dichloropropane	9.82	63	2207	0.099	ng		86
46) Bromodichloromethane	10.04	83	3930	0.121	ng		96
47) Trichloroethene	10.12	130	2360	0.101	ng		91
48) 1,4-Dioxane	10.15	88	1580	0.103	ng	#	53
49) 2,2,4-Trimethylpentane...	10.19	57	7932	0.082	ng		95
50) Methyl Methacrylate	10.39	100	1126	0.158	ng	#	83
51) n-Heptane	10.53	71	1994	0.101	ng		94
52) cis-1,3-Dichloropropene	11.23	75	3008	0.095	ng		83
53) 4-Methyl-2-pentanone	11.32	58	2774	0.145	ng		83

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122318.D Vial: 5
Acq On : 12 Jun 2023 16:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

Quant Time: Jun 13 08:42:06 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

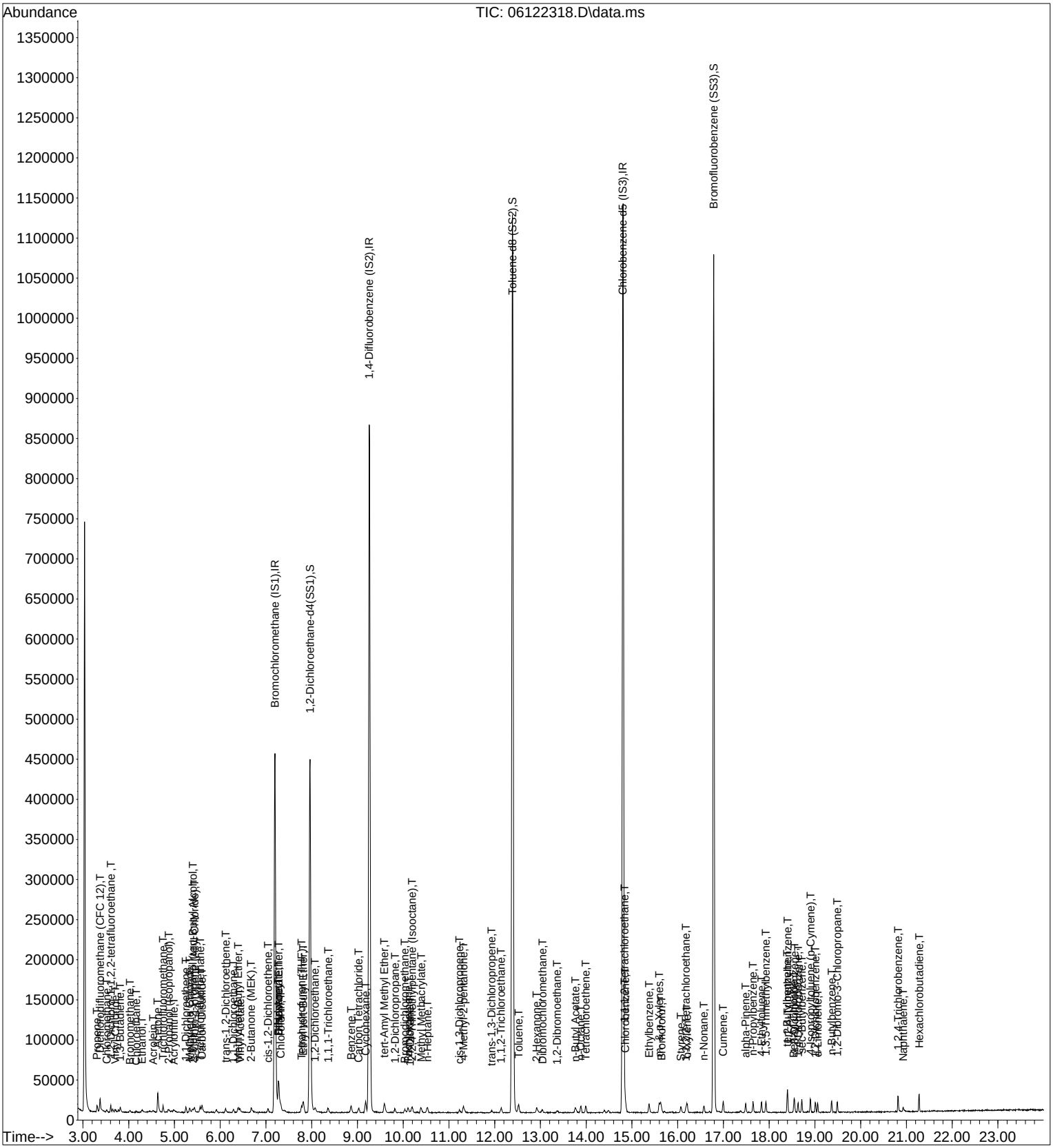
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
54) trans-1,3-Dichloropropene	11.93	75	2479	0.083	ng	97
55) 1,1,2-Trichloroethane	12.14	97	2253	0.111	ng	99
58) Toluene	12.52	91	9528	0.127	ng	100
59) 2-Hexanone	12.91	43	7084	0.143	ng	93
60) Dibromochloromethane	13.05	129	3081	0.133	ng	95
61) 1,2-Dibromoethane	13.36	107	2364	0.112	ng	96
62) n-Butyl Acetate	13.76	43	6858	0.127	ng	97
63) n-Octane	13.88	57	1429	0.084	ng	93
64) Tetrachloroethene	13.99	166	2992	0.123	ng	96
65) Chlorobenzene	14.86	112	6645	0.131	ng	93
66) Ethylbenzene	15.37	91	10112	0.115	ng	100
67) m- & p-Xylenes	15.59	91	16717	0.233	ng	96
68) Bromoform	15.65	173	2449	0.117	ng	99
69) Styrene	16.07	104	5121	0.108	ng	94
70) o-Xylene	16.20	91	8393	0.118	ng	99
71) n-Nonane	16.57	43	3236	0.066	ng	96
72) 1,1,2,2-Tetrachloroethane	16.18	83	3910	0.125	ng	98
74) Cumene	16.99	105	10797	0.123	ng	99
75) alpha-Pinene	17.49	93	4452	0.113	ng	97
76) n-Propylbenzene	17.64	91	12136	0.114	ng	98
78) 4-Ethyltoluene	17.83	105	9320	0.113	ng	95
79) 1,3,5-Trimethylbenzene	17.93	105	8545	0.115	ng	99
82) 1,2,4-Trimethylbenzene	18.40	105	7686	0.103	ng	98
84) Benzyl Chloride	18.54	91	7239	0.151	ng	95
85) 1,3-Dichlorobenzene	18.55	146	5085	0.115	ng	98
86) 1,4-Dichlorobenzene	18.63	146	5261	0.119	ng	99
87) sec-Butylbenzene	18.71	105	10607	0.107	ng	96
88) 4-Isopropyltoluene (p-...	18.91	119	9389	0.110	ng	98
90) 1,2-Dichlorobenzene	19.01	146	5344	0.122	ng	94
91) d-Limonene	19.06	68	2416	0.096	ng	92
92) 1,2-Dibromo-3-Chloropr...	19.49	157	3126	0.199	ng	80
94) 1,2,4-Trichlorobenzene	20.82	180	7536	0.218	ng	98
95) Naphthalene	20.93	128	7901	0.102	ng	94
97) Hexachlorobutadiene	21.28	225	4230	0.145	ng	99
99) tert-Butylbenzene	18.39	119	8229	0.114	ng	99
100) n-Butylbenzene	19.37	91	8489	0.106	ng	97
101) 1,1,1,2-Tetrachloroethane	14.84	131	2396	0.123	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122318.D Vial: 5
Acq On : 12 Jun 2023 16:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

Quant Time: Jun 13 08:42:06 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122319.D Vial: 5
Acq On : 12 Jun 2023 17:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

Quant Time: Jun 13 08:40:42 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	186866	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	816269	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	173275	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	409359	13.105	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%				
57) Toluene-d8 (SS2)	12.39	98	956612	14.521	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.16%				
73) Bromofluorobenzene (SS3)	16.79	174	371610	15.606	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.88%				
Target Compounds							Qvalue
2) Propene	3.31	42	3184	0.093	ng	#	86
3) Dichlorodifluoromethan...	3.38	85	10298	0.201	ng		99
4) Chloromethane	3.52	50	4466	0.111	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	4686	0.203	ng		97
6) Vinyl Chloride	3.70	62	5413	0.180	ng		88
7) 1,3-Butadiene	3.81	54	3528	0.153	ng		97
8) Bromomethane	4.03	94	2839	0.159	ng		99
9) Chloroethane	4.16	64	2221	0.159	ng		100
10) Ethanol	4.28	45	8607	0.358	ng		78
11) Acetonitrile	4.44	41	5506	0.096	ng	#	36
12) Acrolein	4.53	56	3518	0.228	ng		84
13) Acetone	4.63	58	12901	0.746	ng		92
14) Trichlorofluoromethane	4.75	101	9625	0.202	ng		97
15) 2-Propanol (Isopropanol)	4.86	45	16774	0.237	ng		79
16) Acrylonitrile	4.98	53	7589	0.231	ng		97
17) 1,1-Dichloroethene	5.25	96	3694	0.186	ng		91
18) 2-Methyl-2-Propanol (t...	5.43	59	18810m	0.373	ng		
19) Methylene Chloride	5.33	84	4205	0.191	ng		98
20) 3-Chloro-1-propene (Al...	5.44	41	6993	0.141	ng		70
21) Trichlorotrifluoroethane	5.56	151	4010	0.195	ng		94
22) Carbon Disulfide	5.60	76	27507	0.370	ng		99
23) trans-1,2-Dichloroethene	6.11	61	5596	0.172	ng		99
24) 1,1-Dichloroethane	6.29	63	6944	0.172	ng		97
25) Methyl tert-Butyl Ether	6.38	73	12035	0.186	ng		98
26) Vinyl Acetate	6.42	86	917	0.302	ng	#	14
27) 2-Butanone (MEK)	6.67	72	4608	0.352	ng		92
28) cis-1,2-Dichloroethene	7.05	61	5334	0.164	ng		99
29) Diisopropyl Ether	7.28	87	6640	0.406	ng	#	79
30) Ethyl Acetate	7.27	61	5401	0.605	ng		98
31) n-Hexane	7.27	57	5081	0.134	ng		98
32) Chloroform	7.33	83	8432	0.205	ng		97
34) Tetrahydrofuran (THF)	7.77	72	4437	0.357	ng		98
35) Ethyl tert-Butyl Ether	7.81	87	9023	0.388	ng		96
36) 1,2-Dichloroethane	8.08	62	7075	0.197	ng		96
38) 1,1,1-Trichloroethane	8.36	97	7864	0.198	ng		97
41) Benzene	8.86	78	15801	0.202	ng		98
42) Carbon Tetrachloride	9.03	117	6136	0.175	ng		99
43) Cyclohexane	9.18	84	10593	0.357	ng		98
44) tert-Amyl Methyl Ether	9.59	73	21083	0.386	ng		98
45) 1,2-Dichloropropane	9.82	63	3652	0.168	ng		99
46) Bromodichloromethane	10.03	83	6371	0.200	ng		100
47) Trichloroethene	10.10	130	4155	0.182	ng		95
48) 1,4-Dioxane	10.14	88	2553	0.170	ng		83
49) 2,2,4-Trimethylpentane...	10.20	57	13678	0.145	ng		100
50) Methyl Methacrylate	10.38	100	2375	0.341	ng		95
51) n-Heptane	10.53	71	3429	0.178	ng		97
52) cis-1,3-Dichloropropene	11.23	75	5669	0.182	ng		96

Data File : I:\MS09\DATA\2023 06\12\06122319.D Vial: 5
Acq On : 12 Jun 2023 17:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

Quant Time: Jun 13 08:40:42 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

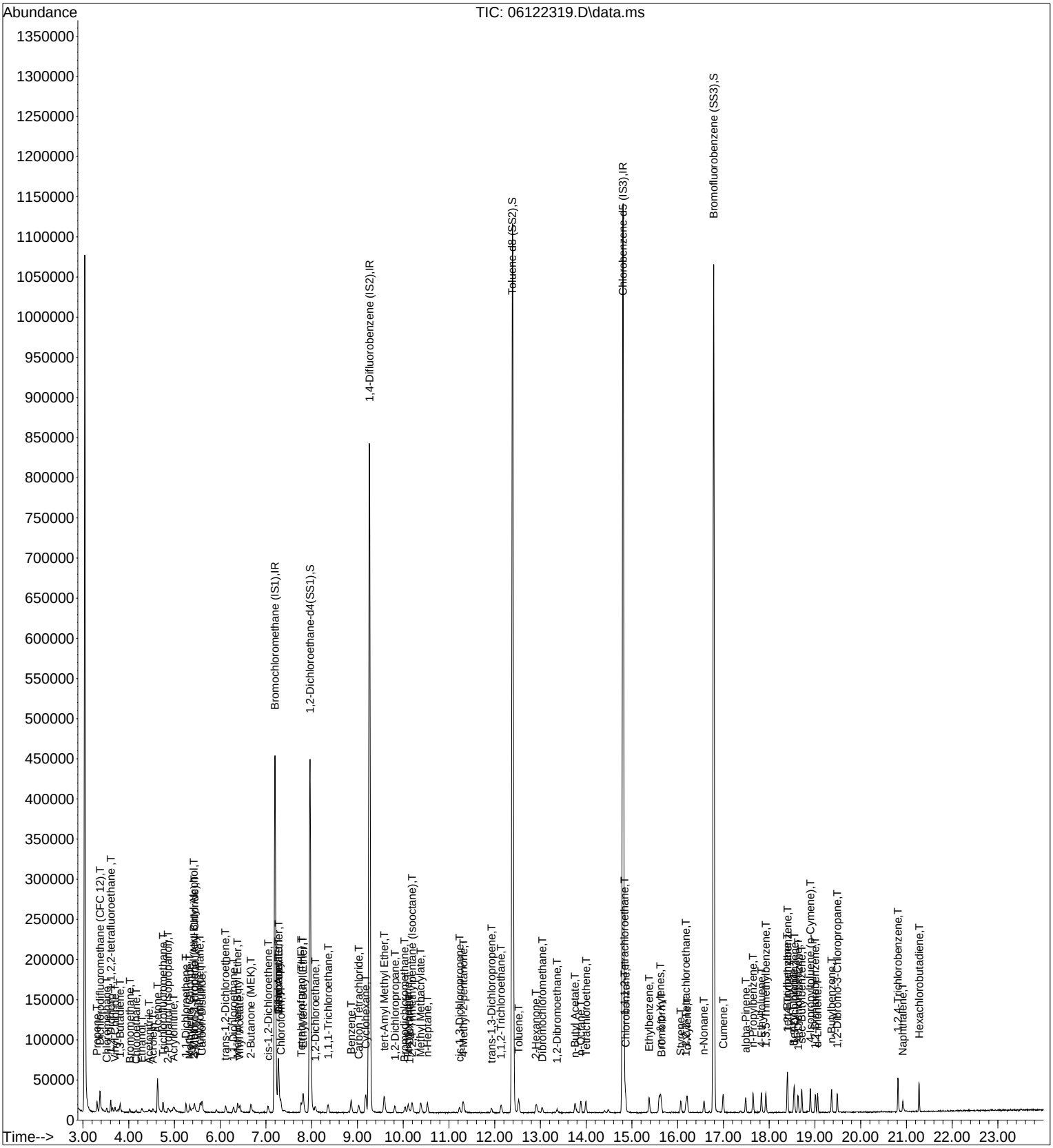
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.32	58	5166	0.277	ng	87
54) trans-1,3-Dichloropropene	11.93	75	4414	0.152	ng	92
55) 1,1,2-Trichloroethane	12.14	97	3901	0.197	ng	92
58) Toluene	12.52	91	15865	0.212	ng	98
59) 2-Hexanone	12.90	43	12405	0.251	ng	94
60) Dibromochloromethane	13.04	129	4865	0.210	ng	98
61) 1,2-Dibromoethane	13.36	107	4138	0.198	ng	98
62) n-Butyl Acetate	13.76	43	13248	0.246	ng	97
63) n-Octane	13.88	57	2655	0.156	ng	92
64) Tetrachloroethene	14.00	166	5109	0.212	ng	98
65) Chlorobenzene	14.86	112	11251	0.224	ng	100
66) Ethylbenzene	15.37	91	17519	0.200	ng	99
67) m- & p-Xylenes	15.62	91	28813	0.404	ng	100
68) Bromoform	15.65	173	4365	0.210	ng	97
69) Styrene	16.07	104	8769	0.186	ng	100
70) o-Xylene	16.21	91	14501	0.204	ng	99
71) n-Nonane	16.57	43	5703	0.117	ng	97
72) 1,1,2,2-Tetrachloroethane	16.18	83	6816	0.218	ng	100
74) Cumene	17.00	105	18393	0.211	ng	98
75) alpha-Pinene	17.49	93	8039	0.206	ng	99
76) n-Propylbenzene	17.65	91	21283	0.201	ng	100
78) 4-Ethyltoluene	17.83	105	17151	0.208	ng	95
79) 1,3,5-Trimethylbenzene	17.93	105	14973	0.203	ng	95
82) 1,2,4-Trimethylbenzene	18.41	105	14196	0.191	ng	97
84) Benzyl Chloride	18.54	91	13719	0.287	ng	98
85) 1,3-Dichlorobenzene	18.55	146	9455	0.215	ng	100
86) 1,4-Dichlorobenzene	18.63	146	9688	0.220	ng	99
87) sec-Butylbenzene	18.71	105	18768	0.190	ng	99
88) 4-Isopropyltoluene (p-...	18.90	119	16742	0.197	ng	98
90) 1,2-Dichlorobenzene	19.01	146	9091	0.208	ng	99
91) d-Limonene	19.06	68	4674	0.187	ng	90
92) 1,2-Dibromo-3-Chloropr...	19.49	157	5888	0.377	ng	90
94) 1,2,4-Trichlorobenzene	20.81	180	13223	0.385	ng	98
95) Naphthalene	20.92	128	13712	0.179	ng	98
97) Hexachlorobutadiene	21.28	225	6670	0.230	ng	96
99) tert-Butylbenzene	18.39	119	14573	0.203	ng	99
100) n-Butylbenzene	19.37	91	15549	0.196	ng	95
101) 1,1,1,2-Tetrachloroethane	14.84	131	4283	0.220	ng	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

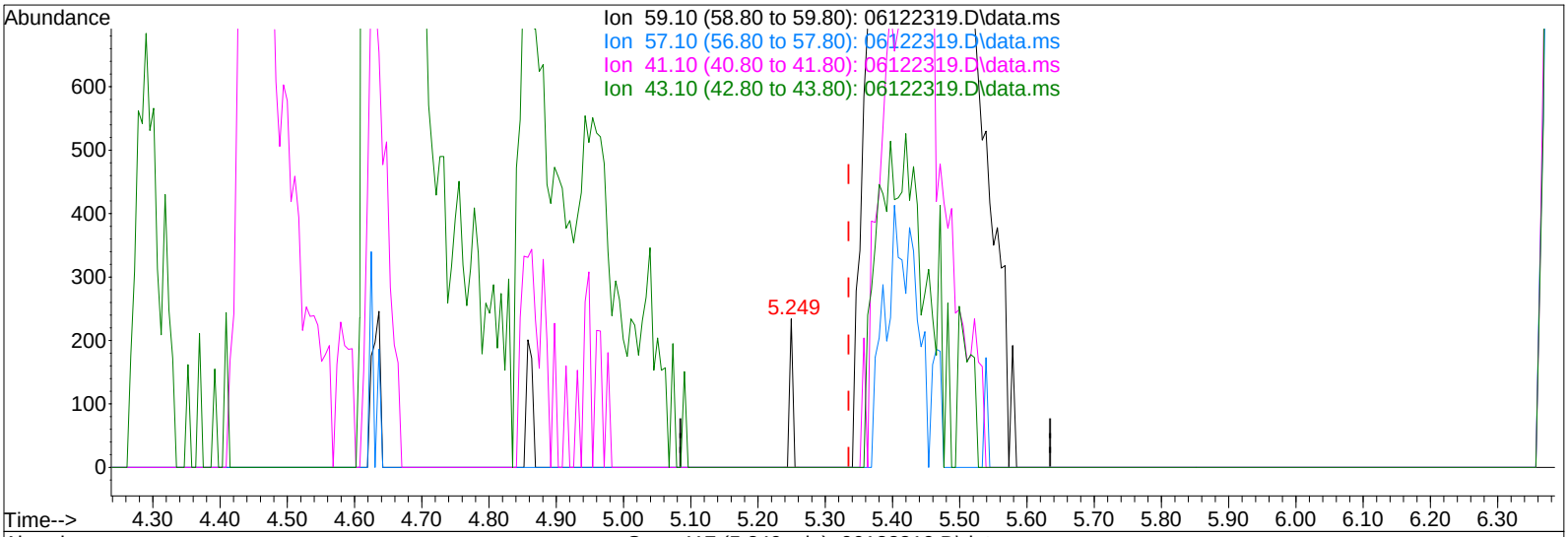
Data File : I:\MS09\DATA\2023 06\12\06122319.D Vial: 5
Acq On : 12 Jun 2023 17:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

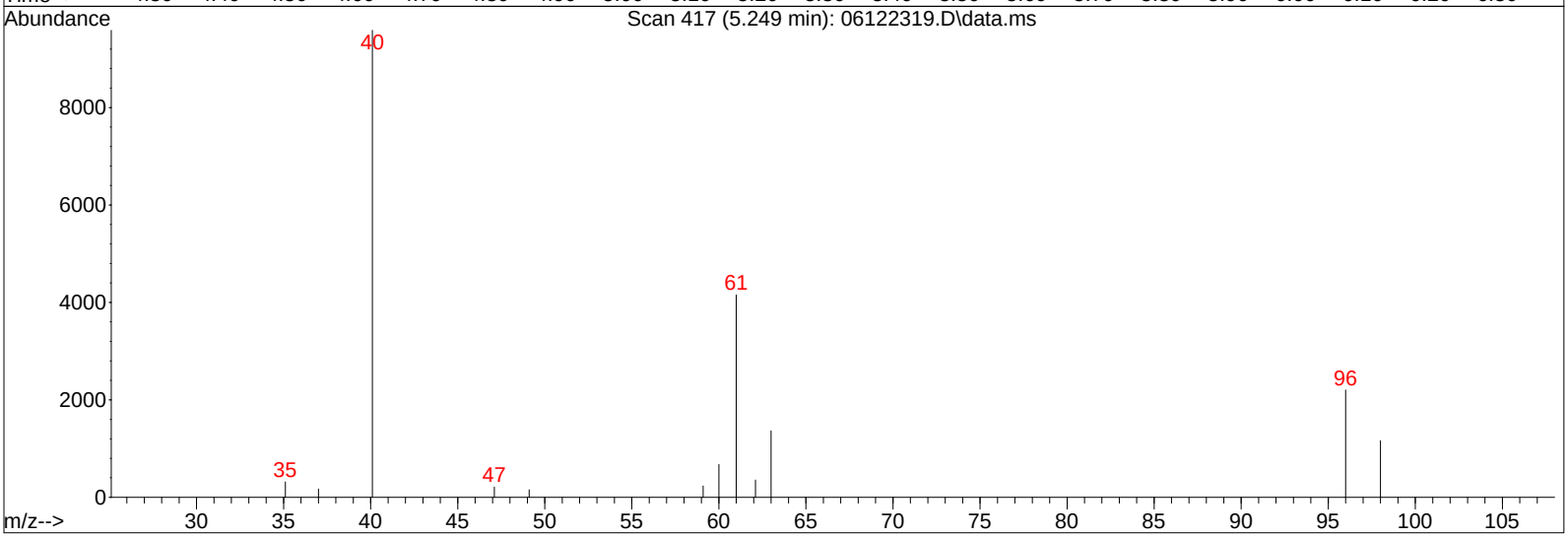
Quant Time: Jun 13 08:40:42 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS09\DATA\2023 06\12\06122319.D Vial: 5
Acq On : 12 Jun 2023 17:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

Quant Time: Jun 13 08:40:14 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 06122319.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

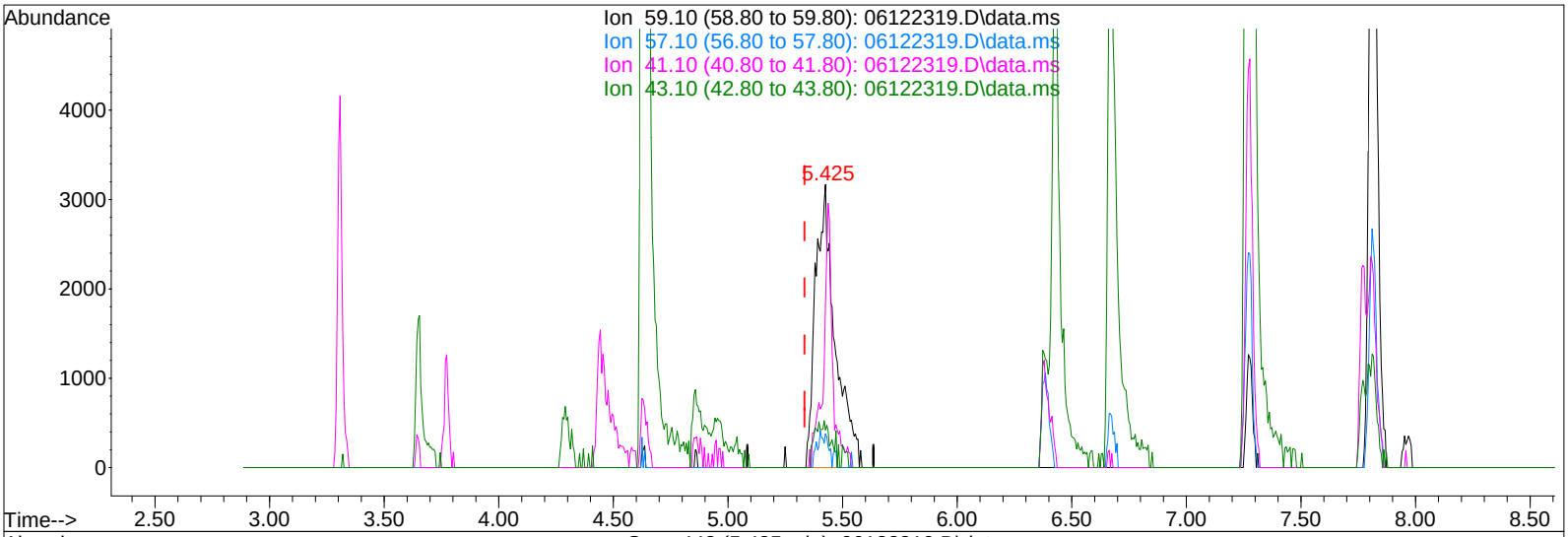
5.249min (-0.085) 0.00ng

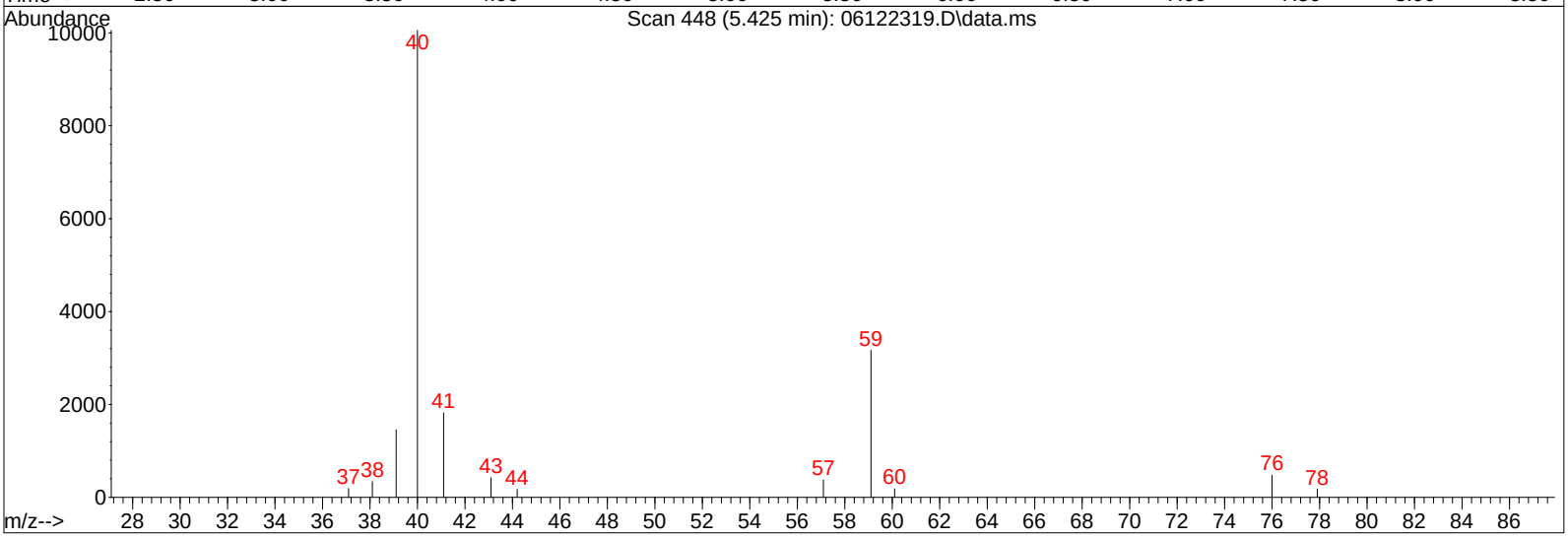
response 80

Ion	Exp%	Act%
59.10	100	100
57.10	10.40	0.00
41.10	19.70	0.00
43.10	16.00	0.00

Data File : I:\MS09\DATA\2023 06\12\06122319.D Vial: 5
Acq On : 12 Jun 2023 17:13 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122305 (7/12)

Quant Time: Jun 13 08:40:14 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 06122319.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.425min (+0.091) 0.37ng m

response 18810

Ion	Exp%	Act%
59.10	100	100
57.10	10.40	0.00
41.10	19.70	0.00
43.10	16.00	0.00

MP

6/13/23

Tz 6/30/23

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122320.D Vial: 6
Acq On : 12 Jun 2023 17:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:38:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	186096	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.26	114	813774	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.80	54	172995	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.96	65	408545	13.133	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	12.39	98	957486	14.558	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.48%				
73) Bromofluorobenzene (SS3)	16.79	174	378668	15.928	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.44%				
Target Compounds							Qvalue
2) Propene	3.29	42	9416	0.277	ng		94
3) Dichlorodifluoromethan...	3.36	85	29200	0.571	ng		100
4) Chloromethane	3.50	50	12902	0.321	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	12307	0.534	ng		98
6) Vinyl Chloride	3.68	62	15505	0.518	ng		98
7) 1,3-Butadiene	3.80	54	10459	0.457	ng		100
8) Bromomethane	4.01	94	8706	0.490	ng		98
9) Chloroethane	4.15	64	6485	0.466	ng		100
10) Ethanol	4.27	45	23900	0.997	ng		83
11) Acetonitrile	4.43	41	15650	0.273	ng		89
12) Acrolein	4.52	56	10873	0.709	ng		93
13) Acetone	4.62	58	35374	2.054	ng		90
14) Trichlorofluoromethane	4.74	101	26859	0.565	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	28104	0.398	ng	#	33
16) Acrylonitrile	4.98	53	22814	0.697	ng		100
17) 1,1-Dichloroethene	5.24	96	11087	0.560	ng		98
18) 2-Methyl-2-Propanol (t...	5.40	59	56052m	1.115	ng		
19) Methylene Chloride	5.33	84	11789	0.538	ng		95
20) 3-Chloro-1-propene (Al...	5.43	41	21627	0.439	ng		76
21) Trichlorotrifluoroethane	5.56	151	11518	0.564	ng		99
22) Carbon Disulfide	5.59	76	81652	1.103	ng		99
23) trans-1,2-Dichloroethene	6.11	61	16278	0.502	ng		99
24) 1,1-Dichloroethane	6.29	63	20491	0.511	ng		99
25) Methyl tert-Butyl Ether	6.36	73	36447	0.565	ng		99
26) Vinyl Acetate	6.42	86	3612	1.196	ng	#	95
27) 2-Butanone (MEK)	6.65	72	13577	1.041	ng	#	87
28) cis-1,2-Dichloroethene	7.04	61	15585	0.480	ng		97
29) Diisopropyl Ether	7.26	87	17670	1.084	ng	#	96
30) Ethyl Acetate	7.26	61	16873	1.898	ng		98
31) n-Hexane	7.27	57	15515	0.412	ng		96
32) Chloroform	7.33	83	24219	0.592	ng		99
34) Tetrahydrofuran (THF)	7.75	72	13418	1.084	ng		96
35) Ethyl tert-Butyl Ether	7.80	87	26133	1.128	ng		99
36) 1,2-Dichloroethane	8.08	62	20295	0.568	ng		99
38) 1,1,1-Trichloroethane	8.36	97	22782	0.575	ng		99
41) Benzene	8.86	78	44002	0.564	ng		98
42) Carbon Tetrachloride	9.03	117	18603	0.533	ng		99
43) Cyclohexane	9.18	84	31121	1.051	ng		100
44) tert-Amyl Methyl Ether	9.57	73	61604	1.131	ng		99
45) 1,2-Dichloropropane	9.81	63	9764	0.450	ng		96
46) Bromodichloromethane	10.04	83	18566	0.585	ng		100
47) Trichloroethene	10.10	130	12061	0.530	ng		100
48) 1,4-Dioxane	10.12	88	7112	0.476	ng		97
49) 2,2,4-Trimethylpentane...	10.20	57	39858	0.424	ng		98
50) Methyl Methacrylate	10.37	100	7486	1.079	ng		97
51) n-Heptane	10.53	71	10077	0.524	ng		99
52) cis-1,3-Dichloropropene	11.23	75	16460	0.531	ng		100

Data File : I:\MS09\DATA\2023 06\12\06122320.D Vial: 6
Acq On : 12 Jun 2023 17:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:38:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

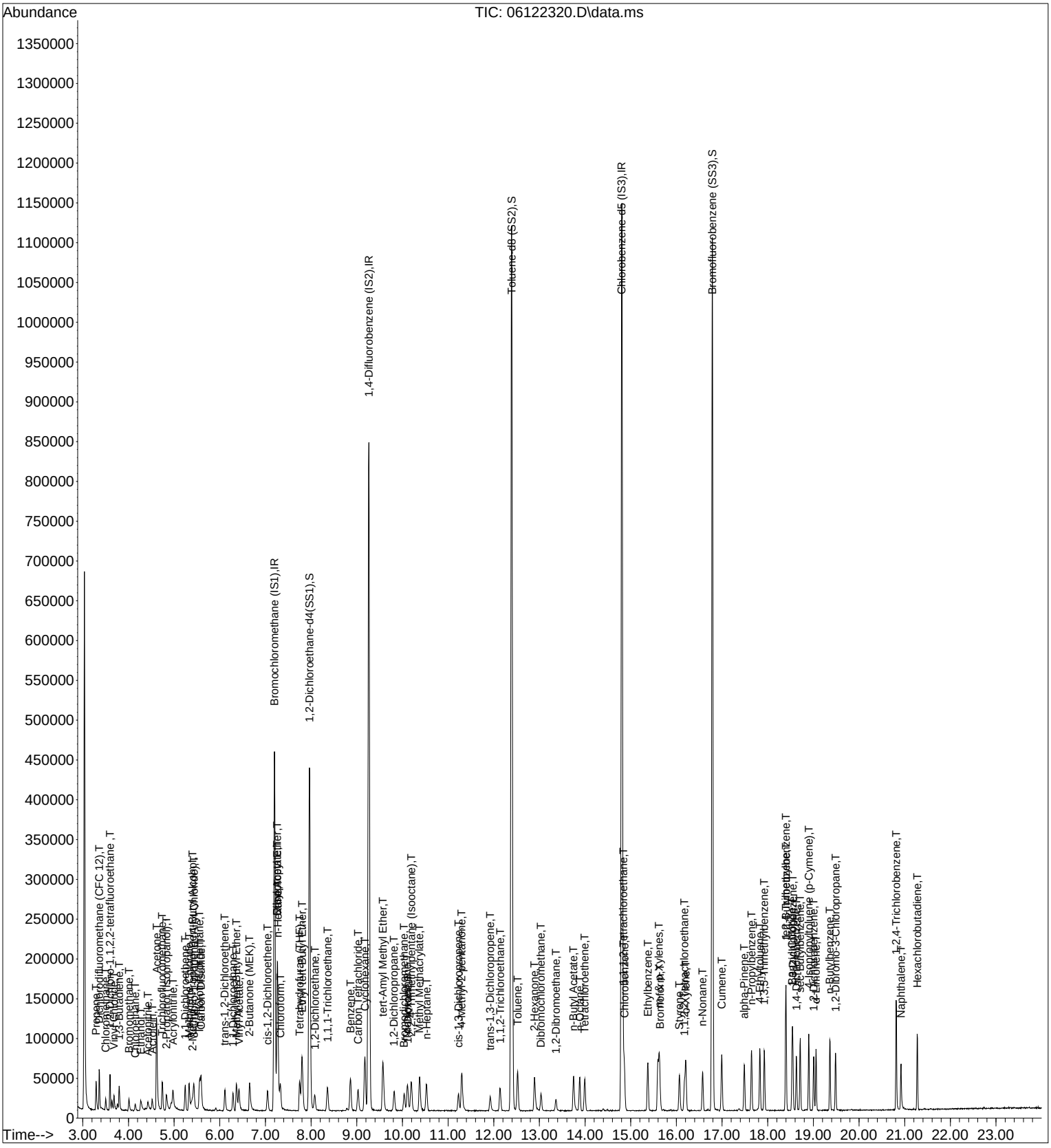
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.30	58	16520	0.888	ng	93
54) trans-1,3-Dichloropropene	11.92	75	14861	0.513	ng	99
55) 1,1,2-Trichloroethane	12.14	97	11242	0.570	ng	98
58) Toluene	12.52	91	44994	0.603	ng	99
59) 2-Hexanone	12.89	43	40715	0.826	ng	95
60) Dibromochloromethane	13.03	129	14749	0.639	ng	97
61) 1,2-Dibromoethane	13.36	107	12942	0.620	ng	99
62) n-Butyl Acetate	13.74	43	41963	0.781	ng	98
63) n-Octane	13.89	57	7957	0.469	ng	97
64) Tetrachloroethene	13.99	166	14424	0.598	ng	97
65) Chlorobenzene	14.86	112	31311	0.623	ng	100
66) Ethylbenzene	15.37	91	52091	0.596	ng	98
67) m- & p-Xylenes	15.62	91	85926	1.207	ng	99
68) Bromoform	15.64	173	12590	0.607	ng	100
69) Styrene	16.07	104	27414	0.583	ng	98
70) o-Xylene	16.20	91	43059	0.607	ng	100
71) n-Nonane	16.57	43	18015	0.371	ng	99
72) 1,1,2,2-Tetrachloroethane	16.17	83	19224	0.617	ng	96
74) Cumene	16.99	105	53564	0.615	ng	98
75) alpha-Pinene	17.49	93	23821	0.611	ng	92
76) n-Propylbenzene	17.64	91	63780	0.604	ng	99
78) 4-Ethyltoluene	17.83	105	51184	0.623	ng	98
79) 1,3,5-Trimethylbenzene	17.92	105	44286	0.601	ng	98
82) 1,2,4-Trimethylbenzene	18.40	105	44337	0.596	ng	100
84) Benzyl Chloride	18.54	91	49849	1.045	ng	98
85) 1,3-Dichlorobenzene	18.55	146	26465	0.604	ng	100
86) 1,4-Dichlorobenzene	18.63	146	27521	0.627	ng	99
87) sec-Butylbenzene	18.71	105	58206	0.590	ng	98
88) 4-Isopropyltoluene (p-...	18.90	119	51989	0.611	ng	99
90) 1,2-Dichlorobenzene	19.01	146	26493	0.607	ng	100
91) d-Limonene	19.06	68	15064	0.603	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	18280	1.171	ng	96
94) 1,2,4-Trichlorobenzene	20.81	180	40159	1.170	ng	99
95) Naphthalene	20.92	128	49110	0.641	ng	98
97) Hexachlorobutadiene	21.27	225	17619	0.609	ng	98
99) tert-Butylbenzene	18.40	119	43494	0.608	ng	100
100) n-Butylbenzene	19.36	91	48502	0.612	ng	96
101) 1,1,1,2-Tetrachloroethane	14.84	131	11668	0.601	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

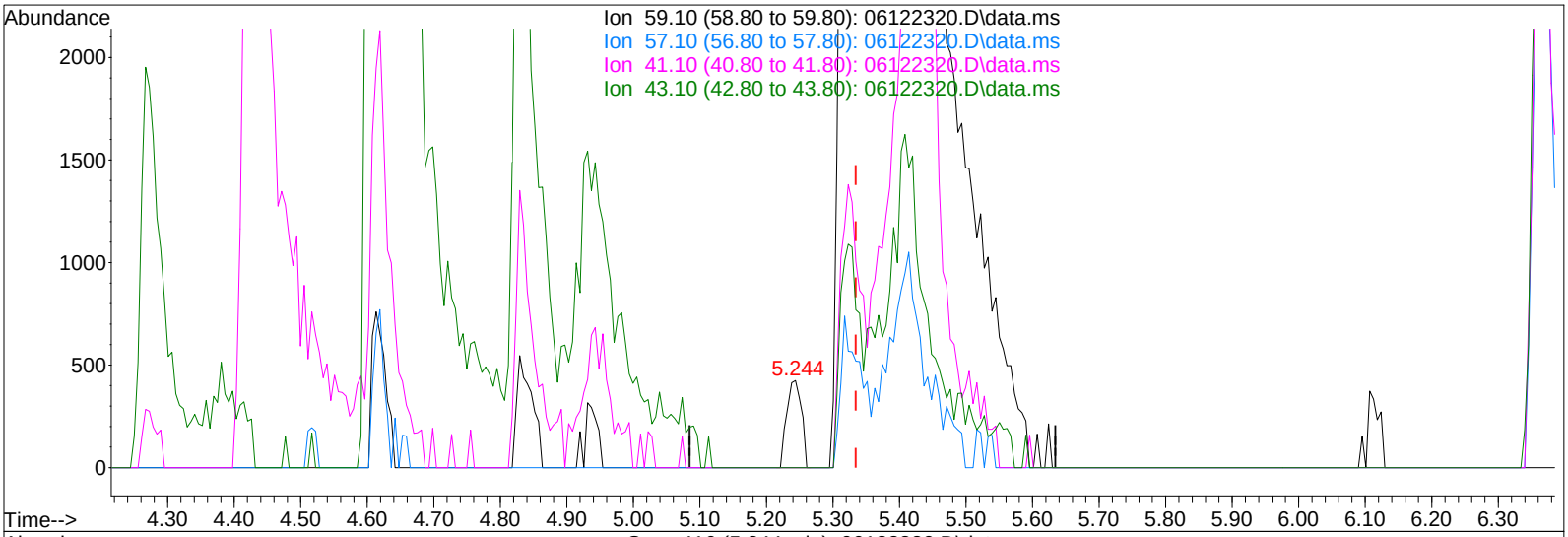
Data File : I:\MS09\DATA\2023 06\12\06122320.D Vial: 6
Acq On : 12 Jun 2023 17:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

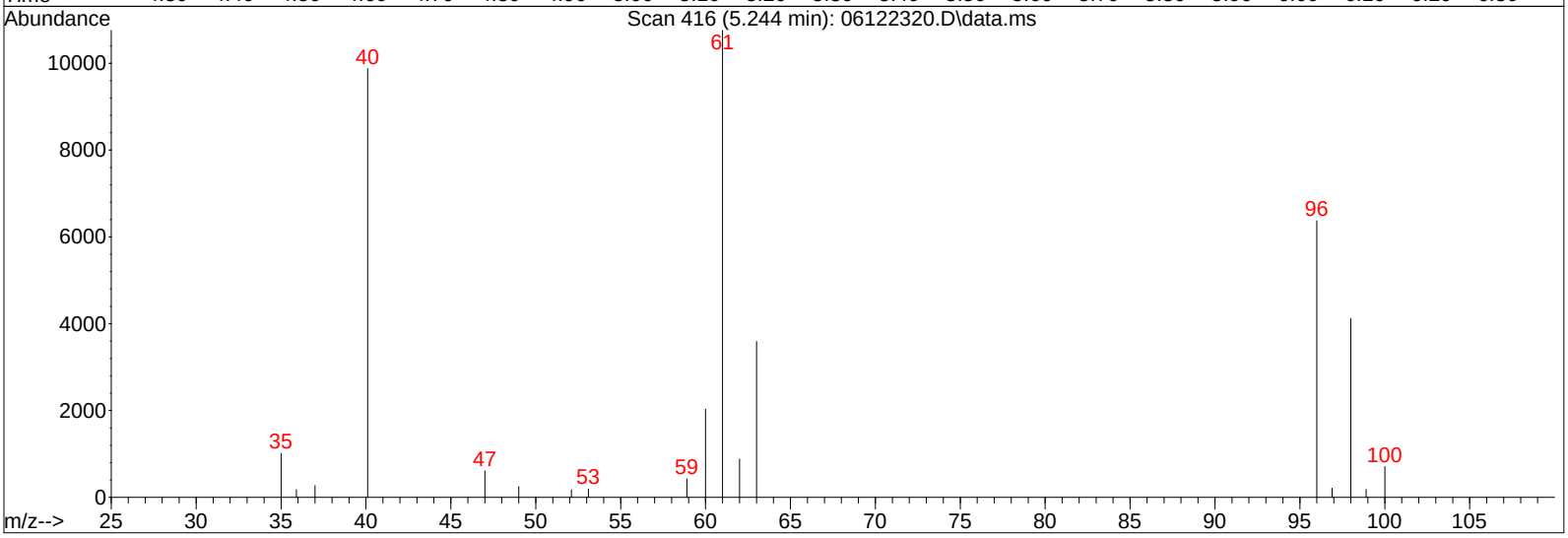
Quant Time: Jun 13 08:38:55 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS09\DATA\2023 06\12\06122320.D Vial: 6
Acq On : 12 Jun 2023 17:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:38:33 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 06122320.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.244min (-0.091) 0.01ng

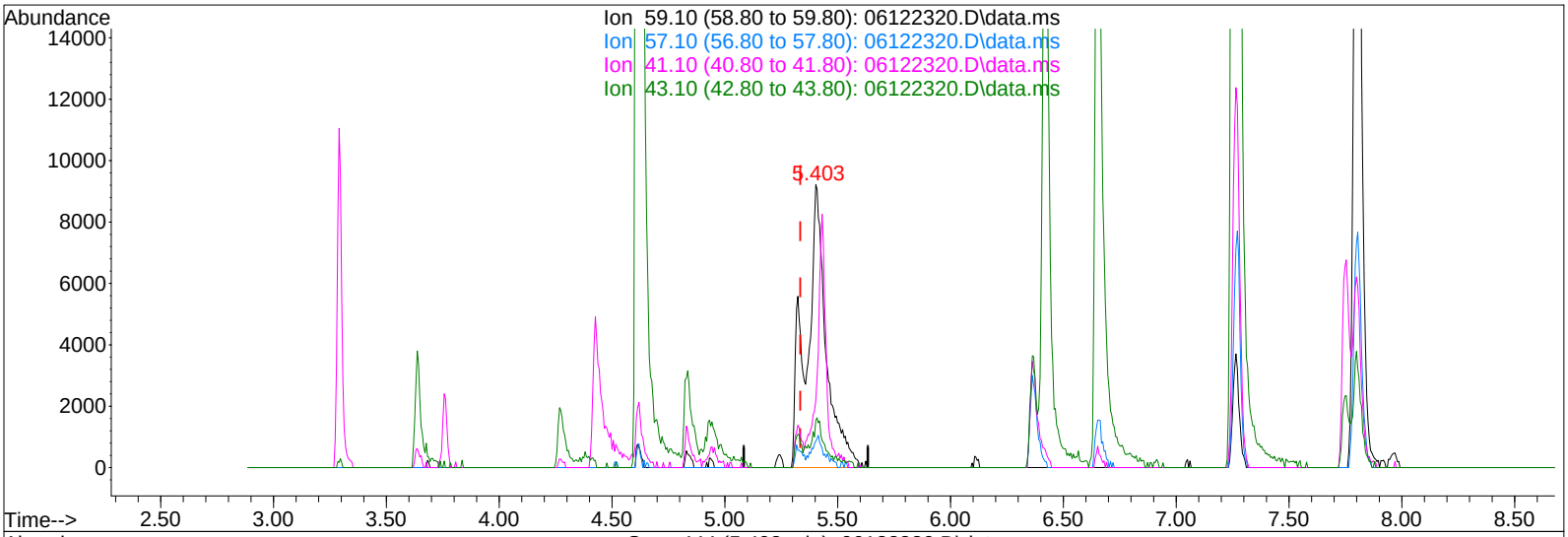
response 651

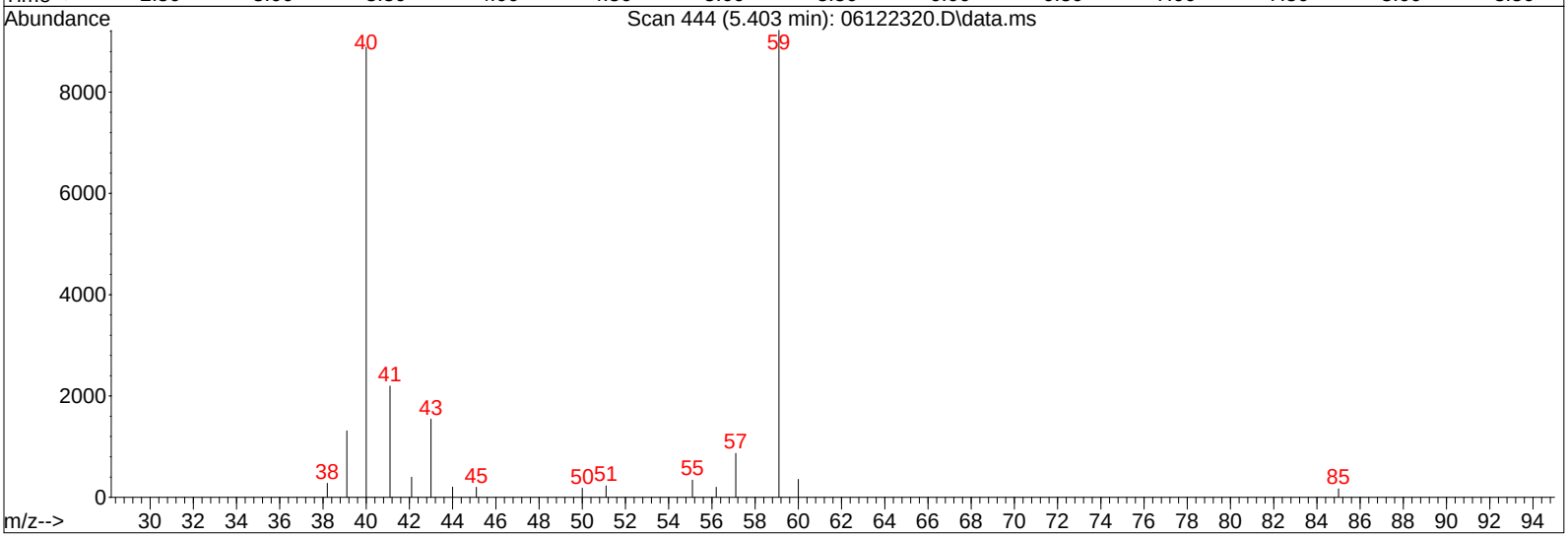
Ion	Exp%	Act%
59.10	100	100
57.10	10.40	0.00
41.10	19.70	0.00
43.10	16.00	0.00

01194196

Data File : I:\MS09\DATA\2023 06\12\06122320.D Vial: 6
Acq On : 12 Jun 2023 17:46 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:38:33 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 06122320.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.403min (+0.068) 1.12ng m

response 56052

Ion	Exp%	Act%
59.10	100	100
57.10	10.40	0.00
41.10	19.70	0.00
43.10	16.00	0.00

MP

6/13/23

TZ 6/30/23

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122321.D Vial: 6
Acq On : 12 Jun 2023 18:18 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:36:43 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.20	130	187781	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.26	114	813808	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	173327	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.97	65	412385	13.138	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
57) Toluene-d8 (SS2)	12.39	98	956291	14.512	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.08%				
73) Bromofluorobenzene (SS3)	16.79	174	375821	15.778	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 126.24%				
Target Compounds							Qvalue
2) Propene	3.28	42	16744	0.488	ng		97
3) Dichlorodifluoromethan...	3.35	85	50363	0.976	ng		99
4) Chloromethane	3.49	50	21519	0.531	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	21513	0.926	ng		99
6) Vinyl Chloride	3.68	62	25864	0.856	ng		95
7) 1,3-Butadiene	3.79	54	18720	0.810	ng		98
8) Bromomethane	4.01	94	14983	0.836	ng		99
9) Chloroethane	4.14	64	11301	0.804	ng		98
10) Ethanol	4.27	45	41584	1.719	ng		98
11) Acetonitrile	4.43	41	27131	0.468	ng		95
12) Acrolein	4.51	56	19327	1.248	ng		98
13) Acetone	4.61	58	61492	3.539	ng		95
14) Trichlorofluoromethane	4.74	101	46055	0.961	ng		100
15) 2-Propanol (Isopropanol)	4.82	45	87444	1.228	ng		90
16) Acrylonitrile	4.98	53	41189	1.247	ng		98
17) 1,1-Dichloroethene	5.24	96	19400	0.971	ng		99
18) 2-Methyl-2-Propanol (t...	5.31	59	99258	1.958	ng	#	84
19) Methylene Chloride	5.33	84	19628	0.888	ng		97
20) 3-Chloro-1-propene (Al...	5.43	41	36322	0.730	ng		77
21) Trichlorotrifluoroethane	5.56	151	19439	0.943	ng		100
22) Carbon Disulfide	5.58	76	141202	1.889	ng		99
23) trans-1,2-Dichloroethene	6.11	61	28037	0.856	ng		99
24) 1,1-Dichloroethane	6.29	63	33927	0.838	ng		100
25) Methyl tert-Butyl Ether	6.36	73	63317	0.973	ng		98
26) Vinyl Acetate	6.42	86	6599	2.166	ng	#	90
27) 2-Butanone (MEK)	6.65	72	24620	1.871	ng		98
28) cis-1,2-Dichloroethene	7.05	61	27353	0.836	ng		99
29) Diisopropyl Ether	7.26	87	30515	1.855	ng		98
30) Ethyl Acetate	7.25	61	29995	3.344	ng		98
31) n-Hexane	7.27	57	27148	0.715	ng		98
32) Chloroform	7.33	83	42239	1.023	ng		100
34) Tetrahydrofuran (THF)	7.74	72	22182	1.777	ng		100
35) Ethyl tert-Butyl Ether	7.80	87	45871	1.963	ng		100
36) 1,2-Dichloroethane	8.08	62	35204	0.977	ng		99
38) 1,1,1-Trichloroethane	8.36	97	38481	0.972	ng		98
41) Benzene	8.86	78	74383	0.954	ng		100
42) Carbon Tetrachloride	9.03	117	32573	0.934	ng		98
43) Cyclohexane	9.18	84	54570	1.843	ng		98
44) tert-Amyl Methyl Ether	9.57	73	107088	1.965	ng		99
45) 1,2-Dichloropropane	9.81	63	17186	0.791	ng		100
46) Bromodichloromethane	10.04	83	32425	1.021	ng		99
47) Trichloroethene	10.11	130	21164	0.931	ng		98
48) 1,4-Dioxane	10.11	88	14781	0.989	ng		90
49) 2,2,4-Trimethylpentane...	10.19	57	69679	0.741	ng		99
50) Methyl Methacrylate	10.38	100	13501	1.946	ng		97
51) n-Heptane	10.52	71	17809	0.926	ng		99
52) cis-1,3-Dichloropropene	11.23	75	29244	0.943	ng		100

Data File : I:\MS09\DATA\2023 06\12\06122321.D Vial: 6
Acq On : 12 Jun 2023 18:18 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:36:43 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

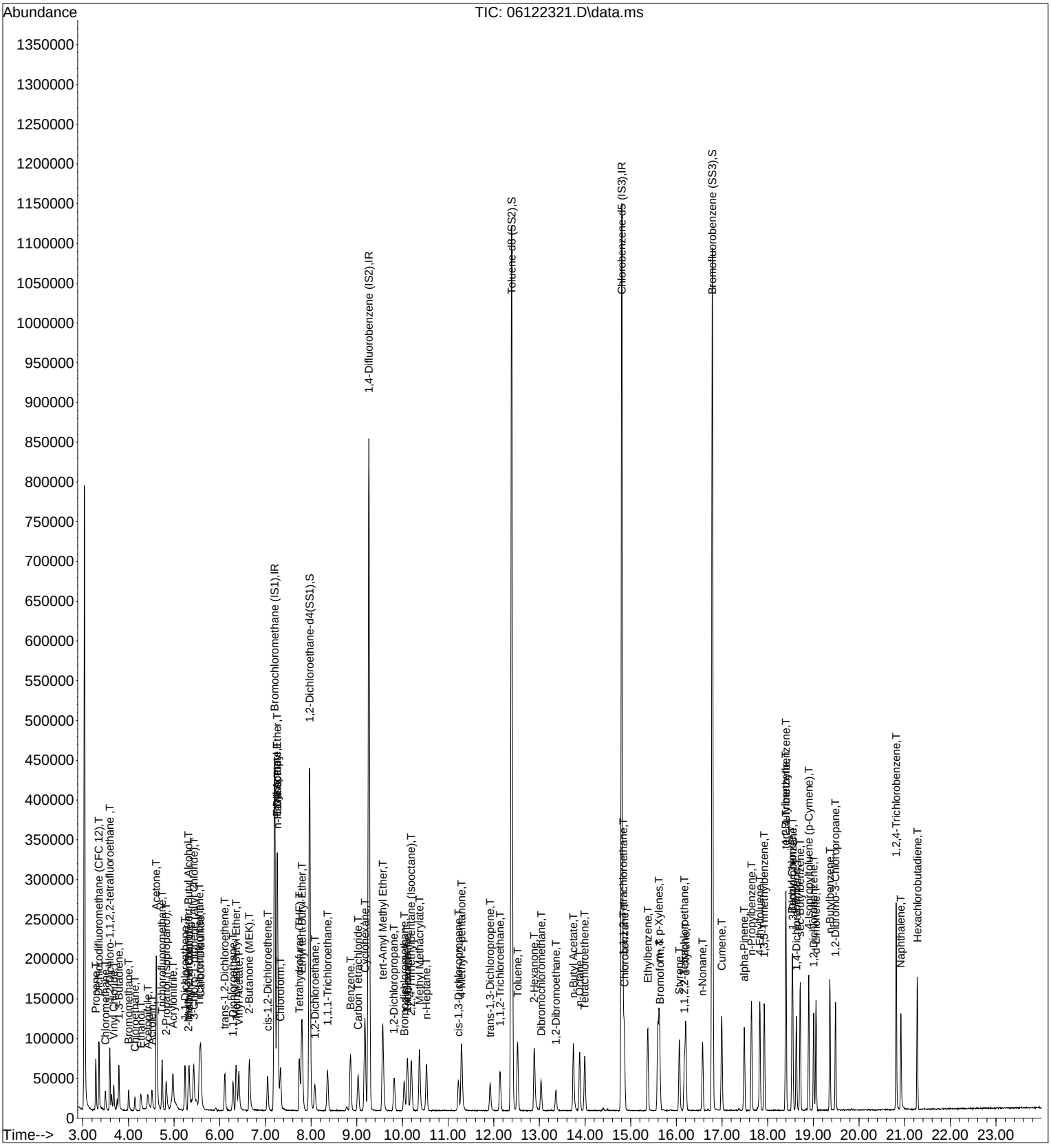
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.30	58	29585	1.589	ng	96
54) trans-1,3-Dichloropropene	11.92	75	26809	0.925	ng	98
55) 1,1,2-Trichloroethane	12.14	97	19654	0.997	ng	99
58) Toluene	12.52	91	78723	1.053	ng	99
59) 2-Hexanone	12.89	43	72140	1.460	ng	99
60) Dibromochloromethane	13.04	129	25731	1.112	ng	97
61) 1,2-Dibromoethane	13.36	107	22762	1.088	ng	100
62) n-Butyl Acetate	13.74	43	74219	1.379	ng	100
63) n-Octane	13.88	57	13623	0.801	ng	95
64) Tetrachloroethene	13.99	166	24800	1.027	ng	97
65) Chlorobenzene	14.86	112	53110	1.056	ng	100
66) Ethylbenzene	15.37	91	90177	1.030	ng	99
67) m- & p-Xylenes	15.62	91	151143	2.119	ng	98
68) Bromoform	15.64	173	21886	1.053	ng	100
69) Styrene	16.07	104	50589	1.073	ng	99
70) o-Xylene	16.20	91	75519	1.063	ng	100
71) n-Nonane	16.57	43	31334	0.644	ng	100
72) 1,1,2,2-Tetrachloroethane	16.17	83	33360	1.068	ng	99
74) Cumene	16.99	105	91900	1.054	ng	99
75) alpha-Pinene	17.49	93	41074	1.051	ng	93
76) n-Propylbenzene	17.65	91	114538	1.082	ng	99
78) 4-Ethyltoluene	17.83	105	89789	1.090	ng	99
79) 1,3,5-Trimethylbenzene	17.92	105	77957	1.055	ng	99
82) 1,2,4-Trimethylbenzene	18.40	105	79051	1.061	ng	100
84) Benzyl Chloride	18.54	91	94020	1.967	ng	99
85) 1,3-Dichlorobenzene	18.55	146	47210	1.076	ng	100
86) 1,4-Dichlorobenzene	18.63	146	47168	1.073	ng	98
87) sec-Butylbenzene	18.71	105	102757	1.040	ng	99
88) 4-Isopropyltoluene (p-...	18.90	119	90579	1.063	ng	99
90) 1,2-Dichlorobenzene	19.01	146	46202	1.057	ng	99
91) d-Limonene	19.06	68	26810	1.072	ng	94
92) 1,2-Dibromo-3-Chloropr...	19.48	157	32851	2.100	ng	95
94) 1,2,4-Trichlorobenzene	20.81	180	73117	2.126	ng	97
95) Naphthalene	20.92	128	91938	1.198	ng	97
97) Hexachlorobutadiene	21.28	225	29268	1.009	ng	99
99) tert-Butylbenzene	18.39	119	76537	1.067	ng	99
100) n-Butylbenzene	19.36	91	85459	1.076	ng	98
101) 1,1,1,2-Tetrachloroethane	14.84	131	21036	1.082	ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122321.D Vial: 6
Acq On : 12 Jun 2023 18:18 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:36:43 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122322.D Vial: 6
Acq On : 12 Jun 2023 18:50 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:35:26 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	188740	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.28	114	820559	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.81	54	177912	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.98	65	410295	13.005	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%				
57) Toluene-d8 (SS2)	12.40	98	967118	14.298	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.40%				
73) Bromofluorobenzene (SS3)	16.79	174	389880	15.947	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.60%				
Target Compounds							Qvalue
2) Propene	3.27	42	83420	2.417	ng		98
3) Dichlorodifluoromethan...	3.35	85	219530	4.233	ng		100
4) Chloromethane	3.48	50	90972	2.234	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	95818	4.102	ng		99
6) Vinyl Chloride	3.67	62	114606	3.775	ng		100
7) 1,3-Butadiene	3.78	54	85735	3.690	ng		99
8) Bromomethane	3.99	94	63101	3.501	ng		97
9) Chloroethane	4.14	64	49968	3.538	ng		100
10) Ethanol	4.28	45	183673	7.554	ng		99
11) Acetonitrile	4.43	41	120449	2.069	ng		93
12) Acrolein	4.51	56	85967	5.524	ng		96
13) Acetone	4.61	58	266561	15.263	ng		96
14) Trichlorofluoromethane	4.73	101	198182	4.113	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	361170	5.047	ng		95
16) Acrylonitrile	4.98	53	183242	5.520	ng		99
17) 1,1-Dichloroethene	5.24	96	85114	4.239	ng		98
18) 2-Methyl-2-Propanol (t...	5.31	59	414475	8.133	ng		96
19) Methylene Chloride	5.34	84	86650	3.899	ng		99
20) 3-Chloro-1-propene (Al...	5.43	41	147053	2.940	ng		85
21) Trichlorotrifluoroethane	5.56	151	83911	4.049	ng		99
22) Carbon Disulfide	5.57	76	628768	8.371	ng		99
23) trans-1,2-Dichloroethene	6.12	61	127806	3.884	ng		100
24) 1,1-Dichloroethane	6.30	63	149088	3.665	ng		100
25) Methyl tert-Butyl Ether	6.35	73	292909	4.480	ng		99
26) Vinyl Acetate	6.42	86	33607	10.974	ng	#	93
27) 2-Butanone (MEK)	6.65	72	109359	8.271	ng		98
28) cis-1,2-Dichloroethene	7.06	61	122773	3.731	ng		100
29) Diisopropyl Ether	7.26	87	137914	8.343	ng	#	96
30) Ethyl Acetate	7.26	61	137831	15.288	ng		99
31) n-Hexane	7.27	57	121969	3.195	ng		99
32) Chloroform	7.34	83	181994	4.385	ng		100
34) Tetrahydrofuran (THF)	7.73	72	101809	8.113	ng		100
35) Ethyl tert-Butyl Ether	7.80	87	210404	8.958	ng		100
36) 1,2-Dichloroethane	8.09	62	153741	4.246	ng		99
38) 1,1,1-Trichloroethane	8.37	97	175437	4.393	ng		99
41) Benzene	8.87	78	328307	4.176	ng		100
42) Carbon Tetrachloride	9.04	117	143671	4.084	ng		100
43) Cyclohexane	9.18	84	243478	8.155	ng		98
44) tert-Amyl Methyl Ether	9.56	73	507904	9.245	ng		100
45) 1,2-Dichloropropane	9.83	63	74210	3.389	ng		100
46) Bromodichloromethane	10.05	83	146102	4.564	ng		99
47) Trichloroethene	10.12	130	91262	3.980	ng		99
48) 1,4-Dioxane	10.10	88	66664	4.424	ng		95
49) 2,2,4-Trimethylpentane...	10.20	57	303283	3.197	ng		99
50) Methyl Methacrylate	10.38	100	64687	9.249	ng		99
51) n-Heptane	10.53	71	81091	4.183	ng		99
52) cis-1,3-Dichloropropene	11.23	75	140941	4.509	ng		100

Data File : I:\MS09\DATA\2023 06\12\06122322.D Vial: 6
Acq On : 12 Jun 2023 18:50 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:35:26 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

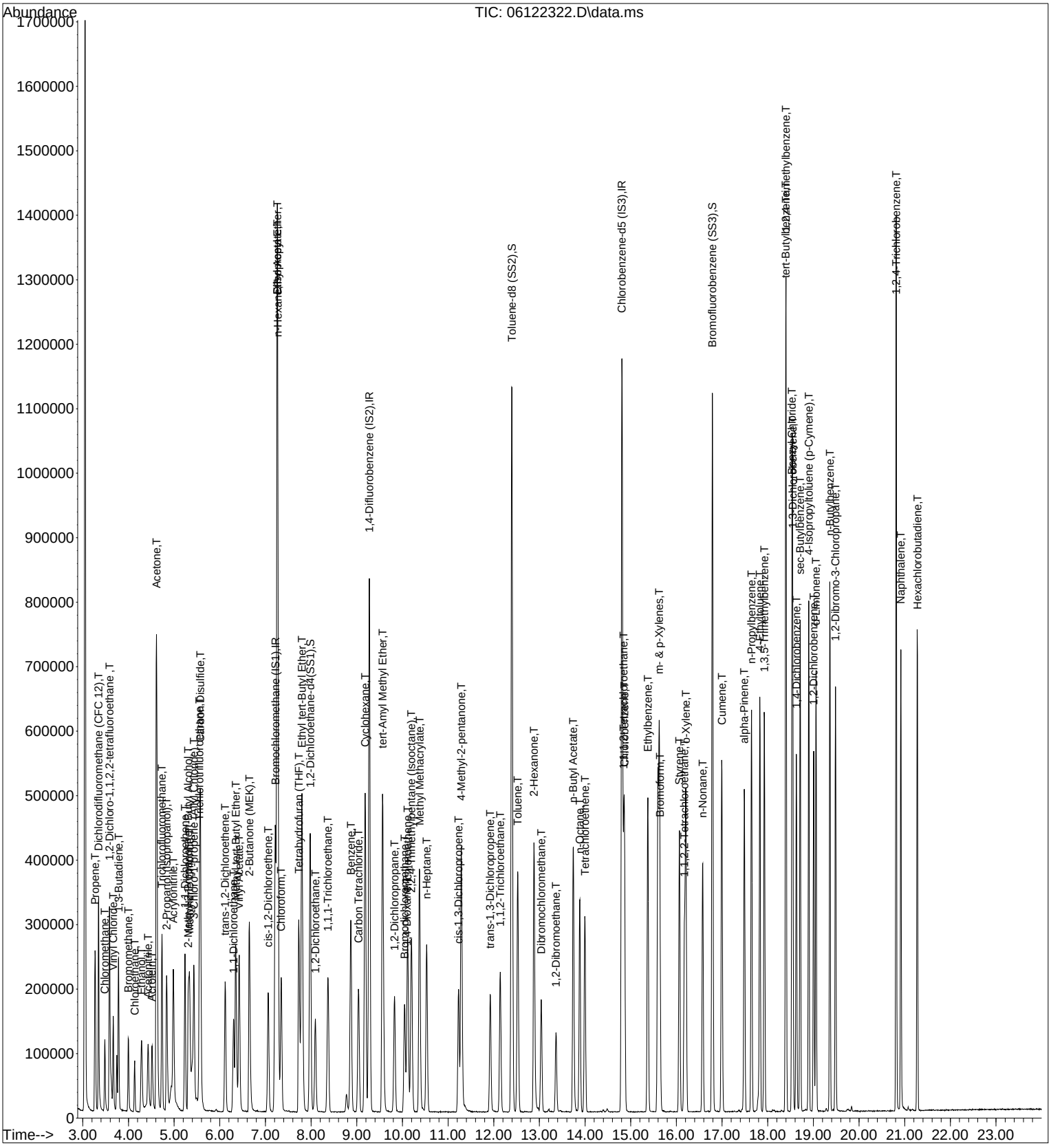
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.29	58	140438	7.483	ng	98
54) trans-1,3-Dichloropropene	11.92	75	135207	4.625	ng	99
55) 1,1,2-Trichloroethane	12.14	97	87003	4.377	ng	100
58) Toluene	12.52	91	350071	4.563	ng	99
59) 2-Hexanone	12.88	43	350961	6.920	ng	98
60) Dibromochloromethane	13.04	129	117856	4.964	ng	98
61) 1,2-Dibromoethane	13.36	107	104756	4.879	ng	99
62) n-Butyl Acetate	13.74	43	364890	6.604	ng	99
63) n-Octane	13.89	57	63794	3.656	ng	98
64) Tetrachloroethene	14.00	166	112023	4.519	ng	100
65) Chlorobenzene	14.86	112	235681	4.563	ng	99
66) Ethylbenzene	15.37	91	418967	4.662	ng	99
67) m- & p-Xylenes	15.62	91	693000	9.463	ng	100
68) Bromoform	15.64	173	106047	4.970	ng	100
69) Styrene	16.07	104	243542	5.033	ng	100
70) o-Xylene	16.21	91	346421	4.750	ng	100
71) n-Nonane	16.58	43	148461	2.971	ng	99
72) 1,1,2,2-Tetrachloroethane	16.17	83	151806	4.736	ng	99
74) Cumene	17.00	105	423773	4.734	ng	99
75) alpha-Pinene	17.49	93	207688	5.177	ng	98
76) n-Propylbenzene	17.64	91	520666	4.792	ng	100
78) 4-Ethyltoluene	17.83	105	424961	5.027	ng	99
79) 1,3,5-Trimethylbenzene	17.93	105	358644	4.730	ng	100
82) 1,2,4-Trimethylbenzene	18.40	105	368655	4.818	ng	100
84) Benzyl Chloride	18.53	91	562815	11.472	ng	99
85) 1,3-Dichlorobenzene	18.55	146	216207	4.799	ng	100
86) 1,4-Dichlorobenzene	18.63	146	216599	4.800	ng	99
87) sec-Butylbenzene	18.71	105	476463	4.696	ng	100
88) 4-Isopropyltoluene (p-...	18.90	119	424798	4.858	ng	99
90) 1,2-Dichlorobenzene	19.01	146	211208	4.709	ng	99
91) d-Limonene	19.06	68	134773	5.249	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.48	157	159325	9.923	ng	98
94) 1,2,4-Trichlorobenzene	20.81	180	359493	10.182	ng	99
95) Naphthalene	20.92	128	467193	5.931	ng	99
97) Hexachlorobutadiene	21.28	225	136625	4.589	ng	100
99) tert-Butylbenzene	18.39	119	354045	4.810	ng	100
100) n-Butylbenzene	19.36	91	404058	4.957	ng	100
101) 1,1,1,2-Tetrachloroethane	14.85	131	94577	4.739	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122322.D Vial: 6
Acq On : 12 Jun 2023 18:50 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122304 (7/12)

Quant Time: Jun 13 08:35:26 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122323.D Vial: 7
Acq On : 12 Jun 2023 19:22 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:34:48 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:34:35 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	207725	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	888250	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	192545	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	433390	12.481	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
57) Toluene-d8 (SS2)	12.40	98	1050367	14.348	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.80%			
73) Bromofluorobenzene (SS3)	16.79	174	421089	15.914	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 127.28%			
Target Compounds						Qvalue
2) Propene	3.26	42	454999	11.978	ng	100
3) Dichlorodifluoromethan...	3.34	85	1228386	21.523	ng	100
4) Chloromethane	3.47	50	556768	12.424	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	553095	21.514	ng	100
6) Vinyl Chloride	3.67	62	660522	19.767	ng	100
7) 1,3-Butadiene	3.78	54	522926	20.448	ng	100
8) Bromomethane	3.99	94	399221	20.128	ng	100
9) Chloroethane	4.14	64	288956	18.588	ng	100
10) Ethanol	4.32	45	1070682	40.008	ng	100
11) Acetonitrile	4.45	41	698796	10.908	ng	100
12) Acrolein	4.53	56	517610	30.223	ng	100
13) Acetone	4.63	58	1584162	82.417	ng	100
14) Trichlorofluoromethane	4.74	101	1131976	21.348	ng	100
15) 2-Propanol (Isopropanol)	4.86	45	2275254	28.891	ng	100
16) Acrylonitrile	5.01	53	1090543	29.852	ng	100
17) 1,1-Dichloroethene	5.24	96	501519	22.694	ng	100
18) 2-Methyl-2-Propanol (t...	5.33	59	2736626	48.790	ng	100
19) Methylene Chloride	5.36	84	515649	21.084	ng	100
20) 3-Chloro-1-propene (Al...	5.45	41	691752	12.568	ng	100
21) Trichlorotrifluoroethane	5.56	151	497133	21.797	ng	100
22) Carbon Disulfide	5.58	76	3763378	45.524	ng	100
23) trans-1,2-Dichloroethene	6.14	61	761283	21.021	ng	100
24) 1,1-Dichloroethane	6.32	63	875890	19.564	ng	100
25) Methyl tert-Butyl Ether	6.35	73	1742507	24.218	ng	100
26) Vinyl Acetate	6.44	86	228748	67.866	ng	100
27) 2-Butanone (MEK)	6.66	72	665800	45.752	ng	100
28) cis-1,2-Dichloroethene	7.08	61	727836	20.098	ng	100
29) Diisopropyl Ether	7.27	87	849466	46.691	ng	100
30) Ethyl Acetate	7.27	61	875205	88.205	ng	100
31) n-Hexane	7.28	57	770573	18.341	ng	100
32) Chloroform	7.37	83	1049990	22.984	ng	100
34) Tetrahydrofuran (THF)	7.73	72	609742	44.148	ng	100
35) Ethyl tert-Butyl Ether	7.80	87	1261023	48.782	ng	100
36) 1,2-Dichloroethane	8.11	62	878766	22.051	ng	100
38) 1,1,1-Trichloroethane	8.38	97	1005678	23.265	ng	100
41) Benzene	8.88	78	1937494	22.769	ng	100
42) Carbon Tetrachloride	9.05	117	849540	22.310	ng	100
43) Cyclohexane	9.20	84	1458344	45.121	ng	100
44) tert-Amyl Methyl Ether	9.57	73	3050538	51.293	ng	100
45) 1,2-Dichloropropane	9.84	63	446420	18.836	ng	100
46) Bromodichloromethane	10.06	83	859050	24.792	ng	100
47) Trichloroethene	10.13	130	543892	21.910	ng	100
48) 1,4-Dioxane	10.09	88	411717	25.239	ng	100
49) 2,2,4-Trimethylpentane...	10.21	57	1810522	17.629	ng	100
50) Methyl Methacrylate	10.38	100	398830	52.677	ng	100
51) n-Heptane	10.54	71	486401	23.176	ng	100
52) cis-1,3-Dichloropropene	11.23	75	873587	25.819	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122323.D Vial: 7
Acq On : 12 Jun 2023 19:22 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:34:48 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:34:35 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

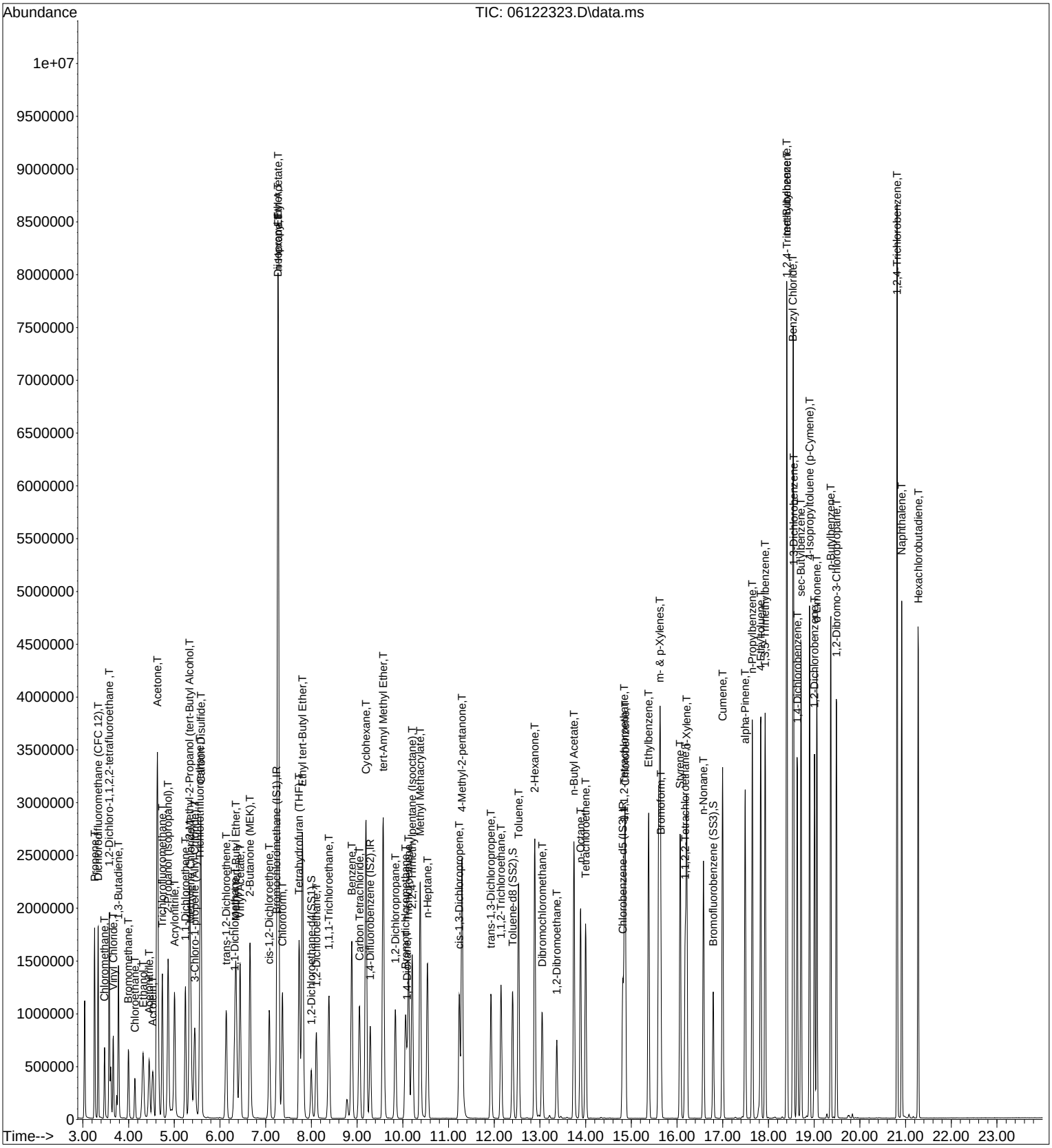
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.30	58	866687	42.659	ng	100
54) trans-1,3-Dichloropropene	11.93	75	868180	27.434	ng	100
55) 1,1,2-Trichloroethane	12.15	97	515013	23.935	ng	100
58) Toluene	12.53	91	2080129	25.053	ng	100
59) 2-Hexanone	12.89	43	2151734	39.202	ng	100
60) Dibromochloromethane	13.05	129	709659	27.617	ng	100
61) 1,2-Dibromoethane	13.37	107	629704	27.101	ng	100
62) n-Butyl Acetate	13.74	43	2277644	38.089	ng	100
63) n-Octane	13.89	57	393172	20.819	ng	100
64) Tetrachloroethene	14.00	166	671674	25.038	ng	100
65) Chlorobenzene	14.87	112	1420937	25.421	ng	100
66) Ethylbenzene	15.38	91	2515760	25.866	ng	100
67) m- & p-Xylenes	15.62	91	4213264	53.161	ng	100
68) Bromoform	15.65	173	677974	29.361	ng	100
69) Styrene	16.07	104	1506850	28.771	ng	100
70) o-Xylene	16.21	91	2080938	26.365	ng	100
71) n-Nonane	16.58	43	919119	16.996	ng	100
72) 1,1,2,2-Tetrachloroethane	16.18	83	934565	26.939	ng	100
74) Cumene	17.00	105	2525059	26.063	ng	100
75) alpha-Pinene	17.49	93	1294662	29.820	ng	100
76) n-Propylbenzene	17.65	91	3137164	26.681	ng	100
78) 4-Ethyltoluene	17.83	105	2560159	27.981	ng	100
79) 1,3,5-Trimethylbenzene	17.93	105	2153602	26.245	ng	100
82) 1,2,4-Trimethylbenzene	18.41	105	2273857	27.461	ng	100
84) Benzyl Chloride	18.54	91	3950424	74.406	ng	100
85) 1,3-Dichlorobenzene	18.55	146	1333236	27.345	ng	100
86) 1,4-Dichlorobenzene	18.63	146	1319976	27.027	ng	100
87) sec-Butylbenzene	18.71	105	2847312	25.932	ng	100
88) 4-Isopropyltoluene (p-...	18.90	119	2540584	26.846	ng	100
90) 1,2-Dichlorobenzene	19.01	146	1278921	26.349	ng	100
91) d-Limonene	19.06	68	860690	30.972	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.49	157	1011750	58.225	ng	100
94) 1,2,4-Trichlorobenzene	20.81	180	2301197	60.224	ng	100
95) Naphthalene	20.92	128	3057793	35.867	ng	100
97) Hexachlorobutadiene	21.28	225	823385	25.553	ng	100
99) tert-Butylbenzene	18.40	119	2150853	27.002	ng	100
100) n-Butylbenzene	19.37	91	2449133	27.761	ng	100
101) 1,1,1,2-Tetrachloroethane	14.85	131	574492	26.598	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122323.D Vial: 7
Acq On : 12 Jun 2023 19:22 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:34:48 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:34:35 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data File : I:\MS09\DATA\2023 06\12\06122324.D Vial: 7
Acq On : 12 Jun 2023 19:54 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

6/13/23

Quant Time: Jun 13 08:44:11 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	218827	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	937709	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.82	54	201633	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	448364	12.258	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	12.41	98	1108905	14.465	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.76%				
73) Bromofluorobenzene (SS3)	16.79	174	430147	15.524	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.16%				
Target Compounds							Qvalue
2) Propene	3.26	42	1037949	25.938	ng		98
3) Dichlorodifluoromethan...	3.34	85	2443404	40.639	ng		100
4) Chloromethane	3.48	50	1152134	24.405	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.58	135	1124008	41.504	ng		100
6) Vinyl Chloride	3.67	62	1427447	40.551	ng		100
7) 1,3-Butadiene	3.78	54	1136457	42.185	ng		96
8) Bromomethane	4.00	94	845793	40.480	ng		99
9) Chloroethane	4.15	64	621486	37.952	ng		99
10) Ethanol	4.34	45	2362103	83.786	ng		100
11) Acetonitrile	4.47	41	1567793	23.231	ng		99
12) Acrolein	4.54	56	1119329	62.041	ng		100
13) Acetone	4.65	58	3391173	167.476	ng		92
14) Trichlorofluoromethane	4.74	101	2243070	40.155	ng		100
15) 2-Propanol (Isopropanol)	4.89	45	4635003	55.868	ng		99
16) Acrylonitrile	5.02	53	2356780	61.240	ng		100
17) 1,1-Dichloroethene	5.25	96	1044941	44.886	ng		99
18) 2-Methyl-2-Propanol (t...	5.36	59	4788477	81.040	ng		99
19) Methylene Chloride	5.37	84	1083809	42.067	ng		98
20) 3-Chloro-1-propene (Al...	5.46	41	1472533	25.396	ng		100
21) Trichlorotrifluoroethane	5.57	151	1015559	42.269	ng		99
22) Carbon Disulfide	5.59	76	7807967	89.657	ng		100
23) trans-1,2-Dichloroethene	6.15	61	1598518	41.899	ng		100
24) 1,1-Dichloroethane	6.33	63	1840333	39.020	ng		100
25) Methyl tert-Butyl Ether	6.36	73	3604106	47.549	ng		99
26) Vinyl Acetate	6.45	86	481944	135.730	ng	#	94
27) 2-Butanone (MEK)	6.67	72	1411590	92.079	ng		100
28) cis-1,2-Dichloroethene	7.09	61	1519579	39.832	ng		100
29) Diisopropyl Ether	7.28	87	1778170	92.778	ng		96
30) Ethyl Acetate	7.29	61	1898712	181.648	ng		99
31) n-Hexane	7.28	57	1664706	37.613	ng		99
32) Chloroform	7.38	83	2127467	44.207	ng		100
34) Tetrahydrofuran (THF)	7.74	72	1287020	88.458	ng		99
35) Ethyl tert-Butyl Ether	7.82	87	2610277	95.854	ng		98
36) 1,2-Dichloroethane	8.12	62	1759732	41.917	ng		100
38) 1,1,1-Trichloroethane	8.40	97	2016585	44.190	ng		100
41) Benzene	8.89	78	4001479	44.543	ng		99
42) Carbon Tetrachloride	9.06	117	1692891	42.113	ng		99
43) Cyclohexane	9.20	84	3022120	88.572	ng		98
44) tert-Amyl Methyl Ether	9.58	73	6364288	101.368	ng		100
45) 1,2-Dichloropropane	9.85	63	941954	37.647	ng		99
46) Bromodichloromethane	10.07	83	1746270	47.738	ng		100
47) Trichloroethene	10.14	130	1110593	42.379	ng		100
48) 1,4-Dioxane	10.10	88	856878	49.758	ng		97
49) 2,2,4-Trimethylpentane...	10.21	57	3807540	35.119	ng		99
50) Methyl Methacrylate	10.39	100	822653	102.925	ng		97
51) n-Heptane	10.55	71	1016623	45.885	ng		99
52) cis-1,3-Dichloropropene	11.25	75	1821184	50.986	ng		100

Data File : I:\MS09\DATA\2023 06\12\06122324.D Vial: 7
Acq On : 12 Jun 2023 19:54 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:44:11 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

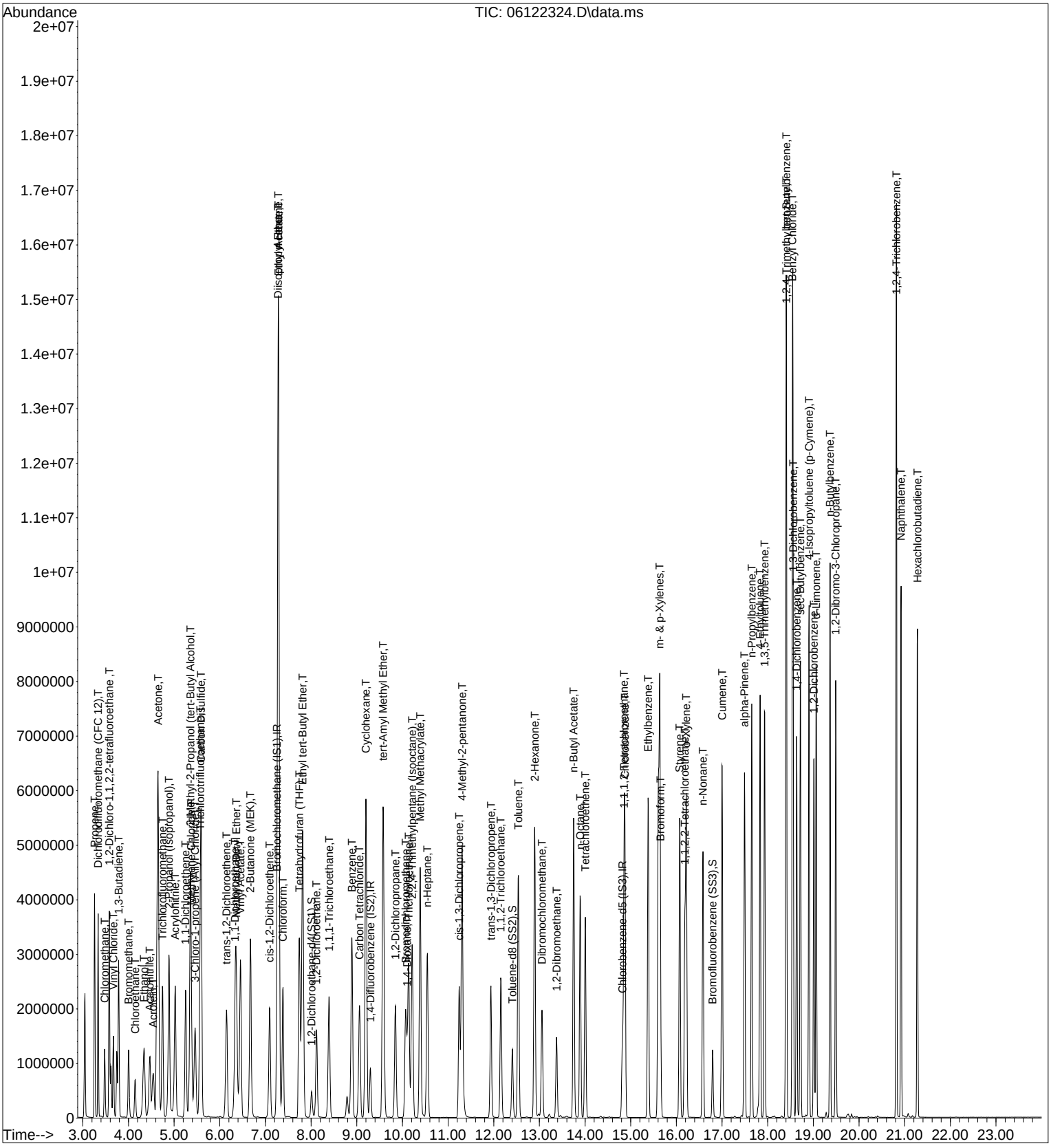
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.31	58	1824947	85.087	ng	99
54) trans-1,3-Dichloropropene	11.94	75	1785497	53.444	ng	99
55) 1,1,2-Trichloroethane	12.15	97	1053724	46.388	ng	100
58) Toluene	12.54	91	4225876	48.601	ng	100
59) 2-Hexanone	12.90	43	4492850	78.166	ng	99
60) Dibromochloromethane	13.06	129	1437568	53.422	ng	100
61) 1,2-Dibromoethane	13.37	107	1286679	52.879	ng	99
62) n-Butyl Acetate	13.75	43	4799055	76.637	ng	99
63) n-Octane	13.89	57	828987	41.917	ng	98
64) Tetrachloroethene	14.01	166	1345014	47.878	ng	100
65) Chlorobenzene	14.87	112	2878939	49.184	ng	100
66) Ethylbenzene	15.38	91	5054109	49.622	ng	99
67) m- & p-Xylenes	15.63	91	8502355	102.444	ng	99
68) Bromoform	15.65	173	1375661	56.891	ng	100
69) Styrene	16.07	104	3051247	55.633	ng	99
70) o-Xylene	16.21	91	4166944	50.414	ng	99
71) n-Nonane	16.58	43	1929909	34.078	ng	99
72) 1,1,2,2-Tetrachloroethane	16.19	83	1922133	52.908	ng	100
74) Cumene	17.00	105	5018395	49.463	ng	100
75) alpha-Pinene	17.49	93	2643006	58.133	ng	100
76) n-Propylbenzene	17.65	91	6199837	50.352	ng	100
78) 4-Ethyltoluene	17.83	105	5064519	52.858	ng	100
79) 1,3,5-Trimethylbenzene	17.93	105	4284644	49.861	ng	99
82) 1,2,4-Trimethylbenzene	18.41	105	4513637	52.053	ng	100
84) Benzyl Chloride	18.54	91	8007537	144.024	ng	99
85) 1,3-Dichlorobenzene	18.56	146	2628355	51.478	ng	100
86) 1,4-Dichlorobenzene	18.63	146	2619407	51.215	ng	100
87) sec-Butylbenzene	18.72	105	5562270	48.376	ng	99
88) 4-Isopropyltoluene (p-...	18.91	119	4957142	50.020	ng	99
90) 1,2-Dichlorobenzene	19.01	146	2528894	49.752	ng	100
91) d-Limonene	19.06	68	1771129	60.862	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.49	157	1999909	109.904	ng	99
94) 1,2,4-Trichlorobenzene	20.82	180	4460405	111.470	ng	100
95) Naphthalene	20.92	128	6032521	67.571	ng	99
97) Hexachlorobutadiene	21.28	225	1611168	47.748	ng	100
99) tert-Butylbenzene	18.41	119	4229246	50.702	ng	99
100) n-Butylbenzene	19.37	91	4831273	52.295	ng	99
101) 1,1,1,2-Tetrachloroethane	14.85	131	1152918	50.972	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122324.D Vial: 7
Acq On : 12 Jun 2023 19:54 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:44:11 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122325.D Vial: 7
Acq On : 12 Jun 2023 20:26 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:45:24 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	233724	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.31	114	998887	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.82	54	216190	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	468015	11.979	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	12.42	98	1175625	14.303	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.40%				
73) Bromofluorobenzene (SS3)	16.80	174	447579	15.065	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.56%				
Target Compounds							Qvalue
2) Propene	3.26	42	2219585	51.931	ng		97
3) Dichlorodifluoromethan...	3.34	85	4768120	74.250	ng		99
4) Chloromethane	3.48	50	1890430	37.492	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	2249478	77.767	ng		99
6) Vinyl Chloride	3.68	62	2935326	78.073	ng		100
7) 1,3-Butadiene	3.80	54	2420496	84.122	ng		90
8) Bromomethane	4.01	94	1697252	76.054	ng		100
9) Chloroethane	4.15	64	1298634	74.248	ng		99
10) Ethanol	4.37	45	5112263	169.779	ng		100
11) Acetonitrile	4.49	41	3389355	47.022	ng		100
12) Acrolein	4.55	56	2365296	122.746	ng		99
13) Acetone	4.66	58	7052579	326.099	ng	#	81
14) Trichlorofluoromethane	4.76	101	4374766	73.325	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	9398594	106.066	ng		98
16) Acrylonitrile	5.04	53	4921485	119.731	ng		100
17) 1,1-Dichloroethene	5.26	96	2128034	85.585	ng		100
18) 2-Methyl-2-Propanol (t...	5.37	59	5614876	88.969	ng		97
19) Methylene Chloride	5.39	84	2217348	80.579	ng		97
20) 3-Chloro-1-propene (Al...	5.47	41	3035836	49.020	ng		99
21) Trichlorotrifluoroethane	5.58	151	2018636	78.663	ng		97
22) Carbon Disulfide	5.60	76	15294470	164.430	ng		98
23) trans-1,2-Dichloroethene	6.16	61	3289938	80.737	ng		99
24) 1,1-Dichloroethane	6.35	63	3782997	75.098	ng		100
25) Methyl tert-Butyl Ether	6.37	73	7039869	86.957	ng		98
26) Vinyl Acetate	6.47	86	998171	263.198	ng		97
27) 2-Butanone (MEK)	6.69	72	2884031	176.137	ng		100
28) cis-1,2-Dichloroethene	7.11	61	3114715	76.442	ng		99
29) Diisopropyl Ether	7.29	87	3629276	177.292	ng	#	85
30) Ethyl Acetate	7.30	61	3975570	356.097	ng		98
31) n-Hexane	7.29	57	3452615	73.038	ng		99
32) Chloroform	7.40	83	4242071	82.529	ng		99
34) Tetrahydrofuran (THF)	7.75	72	2616956	168.402	ng		97
35) Ethyl tert-Butyl Ether	7.83	87	5313205	182.675	ng		99
36) 1,2-Dichloroethane	8.13	62	3482672	77.669	ng		99
38) 1,1,1-Trichloroethane	8.40	97	3953609	81.331	ng		99
41) Benzene	8.90	78	8120721	84.861	ng		99
42) Carbon Tetrachloride	9.07	117	3309221	77.280	ng		99
43) Cyclohexane	9.21	84	6149991	169.205	ng		95
44) tert-Amyl Methyl Ether	9.59	73	12752299	190.673	ng		98
45) 1,2-Dichloropropane	9.85	63	1972466	74.005	ng		99
46) Bromodichloromethane	10.08	83	3525366	90.471	ng		100
47) Trichloroethene	10.15	130	2238010	80.169	ng		100
48) 1,4-Dioxane	10.12	88	1774902	96.755	ng		95
49) 2,2,4-Trimethylpentane...	10.22	57	7881191	68.240	ng		98
50) Methyl Methacrylate	10.41	100	1690946	198.603	ng		97
51) n-Heptane	10.55	71	2090983	88.597	ng		97
52) cis-1,3-Dichloropropene	11.25	75	3729210	98.009	ng		100

Data File : I:\MS09\DATA\2023 06\12\06122325.D Vial: 7
Acq On : 12 Jun 2023 20:26 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:45:24 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

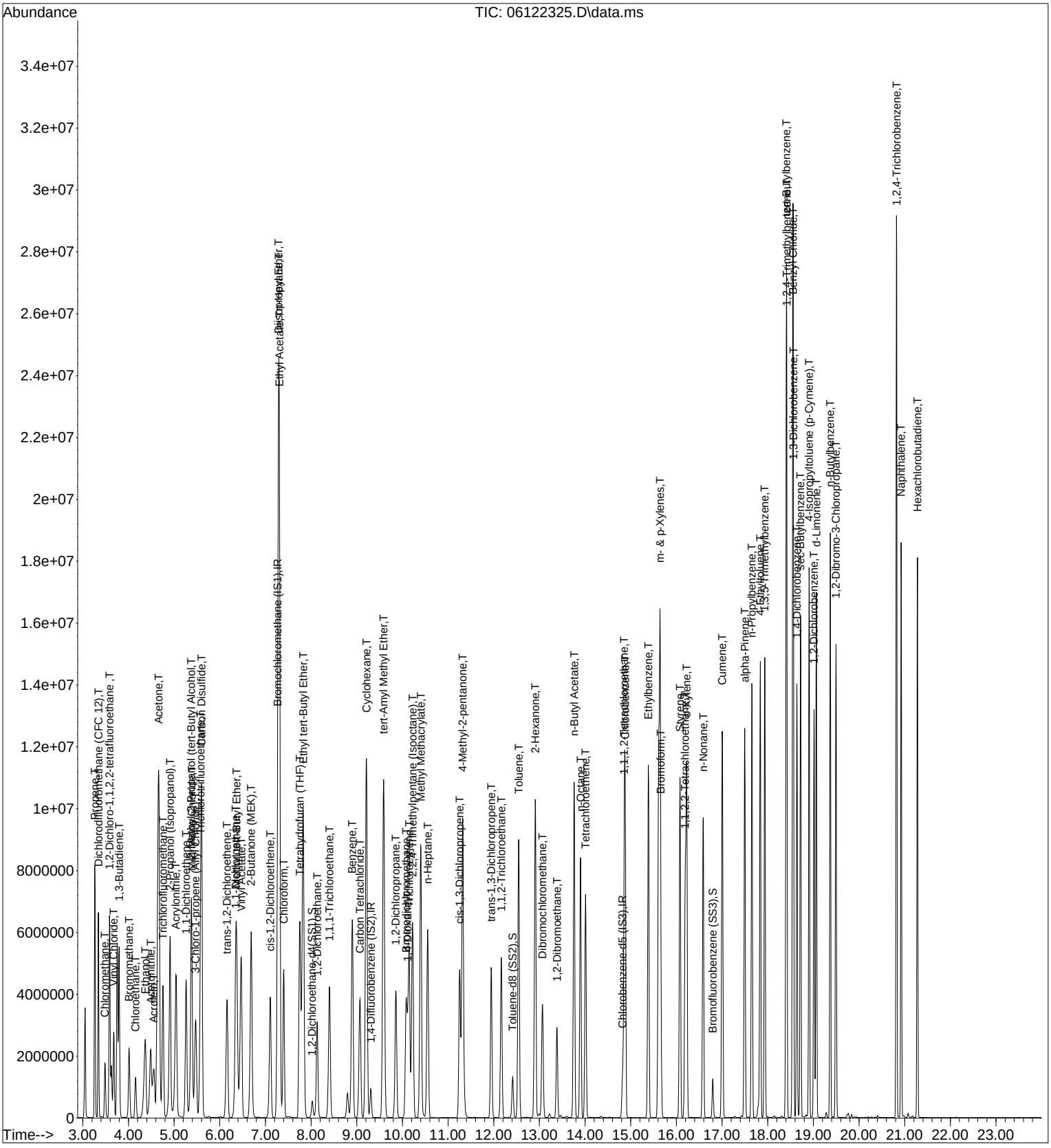
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.32	58	3822989	167.329	ng	96
54) trans-1,3-Dichloropropene	11.94	75	3637520	102.211	ng	99
55) 1,1,2-Trichloroethane	12.17	97	2153654	89.003	ng	98
58) Toluene	12.55	91	8465301	90.803	ng	99
59) 2-Hexanone	12.91	43	9212542	149.486	ng	98
60) Dibromochloromethane	13.07	129	2869440	99.453	ng	99
61) 1,2-Dibromoethane	13.39	107	2620795	100.455	ng	99
62) n-Butyl Acetate	13.76	43	9777033	145.618	ng	98
63) n-Octane	13.90	57	1746755	82.376	ng	96
64) Tetrachloroethene	14.01	166	2669549	88.629	ng	99
65) Chlorobenzene	14.88	112	5775405	92.024	ng	99
66) Ethylbenzene	15.39	91	9961495	91.218	ng	98
67) m- & p-Xylenes	15.64	91	16686131	187.511	ng	98
68) Bromoform	15.66	173	2732149	105.382	ng	100
69) Styrene	16.08	104	6128273	104.213	ng	99
70) o-Xylene	16.23	91	8258562	93.189	ng	99
71) n-Nonane	16.59	43	4022394	66.245	ng	99
72) 1,1,2,2-Tetrachloroethane	16.19	83	3940656	101.166	ng	100
74) Cumene	17.00	105	9724126	89.391	ng	98
75) alpha-Pinene	17.50	93	5332550	109.392	ng	100
76) n-Propylbenzene	17.65	91	11782549	89.249	ng	97
78) 4-Ethyltoluene	17.84	105	9756519	94.971	ng	98
79) 1,3,5-Trimethylbenzene	17.93	105	8276164	89.826	ng	98
82) 1,2,4-Trimethylbenzene	18.42	105	8563591	92.109	ng	99
84) Benzyl Chloride	18.55	91	14521254	243.593	ng	94
85) 1,3-Dichlorobenzene	18.56	146	5103102	93.217	ng	99
86) 1,4-Dichlorobenzene	18.64	146	5094120	92.895	ng	99
87) sec-Butylbenzene	18.72	105	10468459	84.915	ng	97
88) 4-Isopropyltoluene (p-...	18.91	119	9237307	86.933	ng	96
90) 1,2-Dichlorobenzene	19.01	146	4922443	90.321	ng	100
91) d-Limonene	19.06	68	3595734	115.242	ng	97
92) 1,2-Dibromo-3-Chloropr...	19.50	157	3917633	200.795	ng	99
94) 1,2,4-Trichlorobenzene	20.82	180	8269782	192.754	ng	99
95) Naphthalene	20.92	128	11112874	116.095	ng	96
97) Hexachlorobutadiene	21.28	225	3113195	86.048	ng	99
99) tert-Butylbenzene	18.41	119	7993826	89.380	ng	98
100) n-Butylbenzene	19.37	91	9120781	92.079	ng	96
101) 1,1,1,2-Tetrachloroethane	14.86	131	2298639	94.783	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122325.D Vial: 7
Acq On : 12 Jun 2023 20:26 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S37-05082301/S37-06122303 (7/12)

Quant Time: Jun 13 08:45:24 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:35:01 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122327.D Vial: 2
Acq On : 12 Jun 2023 21:30 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S37-05082301/S37-05252301 (6/23)

Quant Time: Jun 13 08:55:45 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:48:47 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

6/13/23

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	251812	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.29	114	1086766	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.81	54	226525	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	499463	11.617	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	12.40	98	1292771	12.979	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
73) Bromofluorobenzene (SS3)	16.79	174	483417	12.371	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
Target Compounds							Qvalue
2) Propene	3.25	42	568762	25.336	ng		97
3) Dichlorodifluoromethan...	3.33	85	1298594	21.248	ng		100
4) Chloromethane	3.47	50	713789	25.533	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	594573	21.566	ng		100
6) Vinyl Chloride	3.66	62	819984	23.519	ng		99
7) 1,3-Butadiene	3.77	54	589813	24.700	ng		98
8) Bromomethane	3.99	94	491692	25.438	ng		99
9) Chloroethane	4.13	64	368314	25.123	ng		100
10) Ethanol	4.32	45	2119193	126.220	ng		100
11) Acetonitrile	4.45	41	969339	24.350	ng		100
12) Acrolein	4.52	56	739920	56.576	ng		99
13) Acetone	4.63	58	1946065	122.769	ng		91
14) Trichlorofluoromethane	4.73	101	1172430	20.282	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2965127	57.210	ng		97
16) Acrylonitrile	5.00	53	1379379	52.624	ng		100
17) 1,1-Dichloroethene	5.24	96	567148	24.051	ng		100
18) 2-Methyl-2-Propanol (t...	5.33	59	3144025	56.961	ng		99
19) Methylene Chloride	5.36	84	604311	23.346	ng		96
20) 3-Chloro-1-propene (Al...	5.44	41	807177	20.816	ng		95
21) Trichlorotrifluoroethane	5.56	151	526625	21.753	ng		97
22) Carbon Disulfide	5.58	76	4355130	49.140	ng		100
23) trans-1,2-Dichloroethene	6.13	61	886955	25.130	ng		99
24) 1,1-Dichloroethane	6.32	63	1030338	24.255	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1958615	24.736	ng		98
26) Vinyl Acetate	6.44	86	624160	173.236	ng	#	92
27) 2-Butanone (MEK)	6.65	72	785013	50.908	ng		95
28) cis-1,2-Dichloroethene	7.08	61	838560	24.407	ng		99
29) Diisopropyl Ether	7.27	87	934263	46.023	ng	#	41
30) Ethyl Acetate	7.27	61	426920	44.273	ng		100
31) n-Hexane	7.27	57	907146	25.438	ng		99
32) Chloroform	7.36	83	1145477	22.135	ng		100
34) Tetrahydrofuran (THF)	7.73	72	705107	47.283	ng		96
35) Ethyl tert-Butyl Ether	7.80	87	1398011	48.068	ng		96
36) 1,2-Dichloroethane	8.11	62	936309	22.007	ng		100
38) 1,1,1-Trichloroethane	8.38	97	1061255	21.610	ng		99
41) Benzene	8.88	78	2268992	24.214	ng		100
42) Carbon Tetrachloride	9.05	117	935386	23.055	ng		99
43) Cyclohexane	9.19	84	1688327	49.038	ng		95
44) tert-Amyl Methyl Ether	9.57	73	3432250	49.660	ng		99
45) 1,2-Dichloropropane	9.84	63	544911	24.494	ng		100
46) Bromodichloromethane	10.06	83	943010	23.328	ng		100
47) Trichloroethene	10.13	130	606132	23.170	ng		100
48) 1,4-Dioxane	10.09	88	487656	26.979	ng		96
49) 2,2,4-Trimethylpentane...	10.21	57	2142086	25.120	ng		96
50) Methyl Methacrylate	10.38	100	451969	53.750	ng		95
51) n-Heptane	10.54	71	575010	25.519	ng		97
52) cis-1,3-Dichloropropene	11.23	75	1087690	29.114	ng		100

Data File : I:\MS09\DATA\2023 06\12\06122327.D Vial: 2
Acq On : 12 Jun 2023 21:30 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S37-05082301/S37-05252301 (6/23)

Quant Time: Jun 13 08:55:45 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:48:47 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

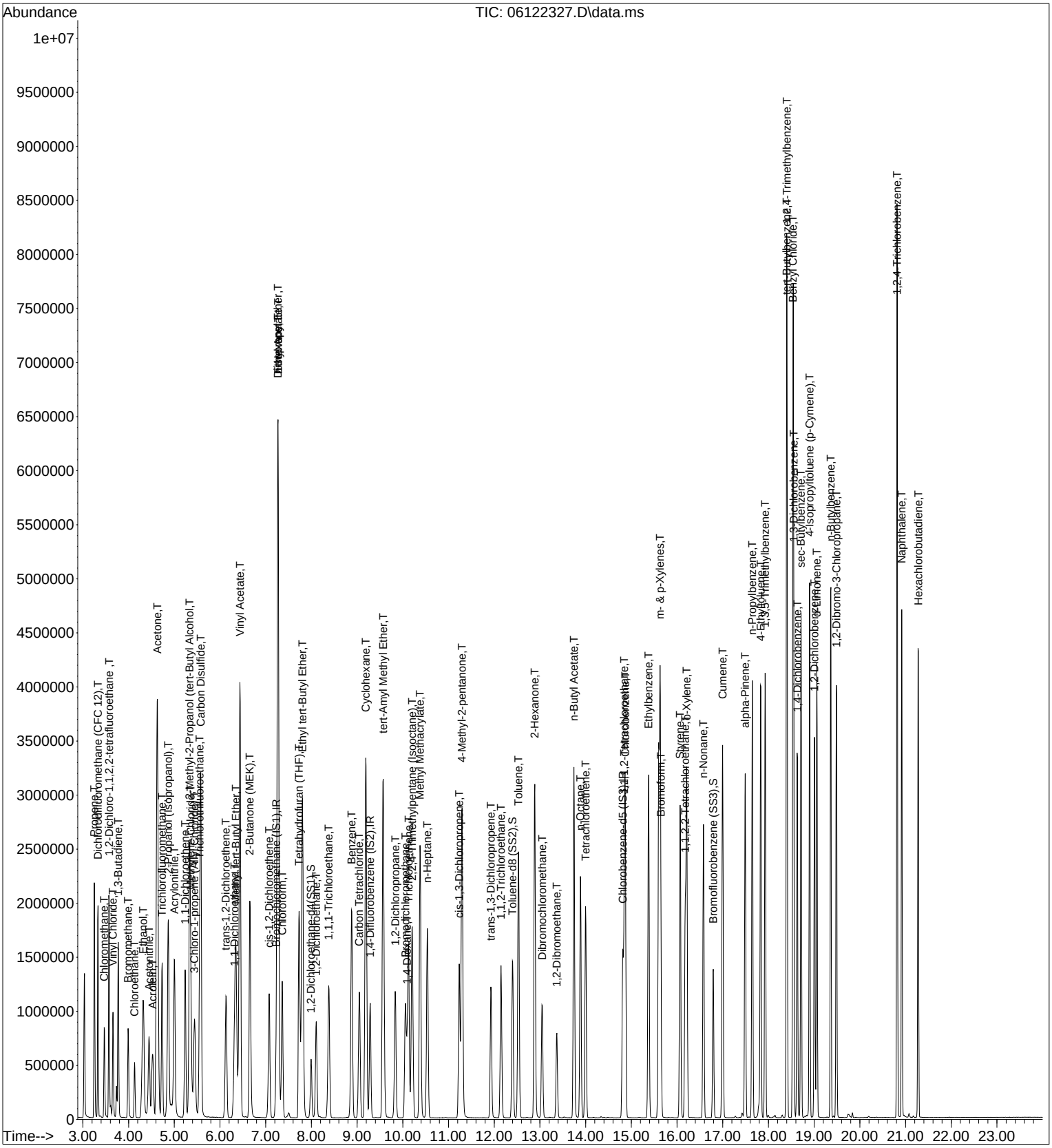
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
53) 4-Methyl-2-pentanone	11.30	58	1049174	56.812	ng	99
54) trans-1,3-Dichloropropene	11.93	75	896733	24.686	ng	100
55) 1,1,2-Trichloroethane	12.15	97	583116	23.810	ng	99
58) Toluene	12.53	91	2356463	24.168	ng	100
59) 2-Hexanone	12.89	43	2589977	57.628	ng	99
60) Dibromochloromethane	13.05	129	742624	23.773	ng	100
61) 1,2-Dibromoethane	13.37	107	689273	24.496	ng	99
62) n-Butyl Acetate	13.74	43	2849195	58.920	ng	99
63) n-Octane	13.89	57	459777	26.909	ng	96
64) Tetrachloroethene	14.00	166	718335	23.355	ng	100
65) Chlorobenzene	14.87	112	1560098	23.479	ng	100
66) Ethylbenzene	15.38	91	2797103	24.908	ng	100
67) m- & p-Xylenes	15.63	91	4592940	49.181	ng	99
68) Bromoform	15.65	173	713094	25.391	ng	100
69) Styrene	16.07	104	1627044	26.155	ng	99
70) o-Xylene	16.21	91	2256941	24.484	ng	99
71) n-Nonane	16.58	43	1087714	27.611	ng	98
72) 1,1,2,2-Tetrachloroethane	16.18	83	1074937	25.572	ng	99
74) Cumene	17.00	105	2678096	23.820	ng	100
75) alpha-Pinene	17.49	93	1354189	25.920	ng	99
76) n-Propylbenzene	17.64	91	3336537	24.693	ng	99
78) 4-Ethyltoluene	17.83	105	2663014	24.985	ng	100
79) 1,3,5-Trimethylbenzene	17.93	105	2311197	24.422	ng	100
82) 1,2,4-Trimethylbenzene	18.41	105	2393981	25.005	ng	100
84) Benzyl Chloride	18.54	91	4121543	57.313	ng	100
85) 1,3-Dichlorobenzene	18.55	146	1367165	23.696	ng	100
86) 1,4-Dichlorobenzene	18.63	146	1339504	22.949	ng	100
87) sec-Butylbenzene	18.71	105	2988466	24.430	ng	100
88) 4-Isopropyltoluene (p-...	18.90	119	2632401	24.212	ng	99
90) 1,2-Dichlorobenzene	19.01	146	1319645	23.482	ng	99
91) d-Limonene	19.06	68	883252	26.184	ng	97
92) 1,2-Dibromo-3-Chloropr...	19.49	157	1036462	50.601	ng	99
94) 1,2,4-Trichlorobenzene	20.81	180	2222491	48.143	ng	100
95) Naphthalene	20.92	128	2950533	27.160	ng	100
97) Hexachlorobutadiene	21.28	225	790969	20.615	ng	100
99) tert-Butylbenzene	18.40	119	2263989	24.414	ng	100
100) n-Butylbenzene	19.37	91	2543506	24.939	ng	99
101) 1,1,1,2-Tetrachloroethane	14.85	131	610504	23.714	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 06\12\06122327.D Vial: 2
Acq On : 12 Jun 2023 21:30 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S37-05082301/S37-05252301 (6/23)

Quant Time: Jun 13 08:55:45 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jun 13 08:48:47 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

6/13/23

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.23
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 06122327.D
Instrument: MS-09
Date: 6/12/2023

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	25.336	26.5	96	56-128	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	21.248	26.5	80	71-112	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	25.533	26.3	97	53-126	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	21.566	26.8	80	62-121	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	23.519	26.3	89	63-123	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	24.700	26.3	94	63-135	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	25.438	26.3	97	71-112	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	25.123	26.5	95	66-117	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	126.220	138	91	57-117	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	24.350	26.8	91	59-131	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	56.576	55.0	103	71-123	ok	70-130	ok	62-126	ok
67-64-1	Acetone	122.769	133	92	60-117	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	20.282	26.3	77	71-114	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	57.210	51.8	110	61-124	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	52.624	52.3	101	65-130	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	24.051	25.5	94	74-114	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	56.961	51.0	112	56-135	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	23.346	25.5	92	75-112	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	20.816	26.5	79	57-127	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	21.753	26.3	83	73-114	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	49.140	53.8	91	70-113	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	25.130	27.0	93	76-119	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	24.255	27.0	90	70-114	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	24.736	27.0	92	72-118	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	173.236	138	126	56-137	ok	70-130	ok	56-139	ok
78-93-3	2-Butanone	50.908	51.8	98	74-121	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	24.407	26.8	91	73-117	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	46.023	53.3	86	58-124	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	44.273	49.8	89	59-161	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	25.438	26.5	96	55-130	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	22.135	27.0	82	71-114	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	47.283	50.3	94	73-114	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	48.068	53.3	90	76-119	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	22.007	25.5	86	71-119	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	21.610	26.3	82	73-119	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	24.214	25.5	95	72-113	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	23.055	26.3	88	67-123	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	49.038	53.3	92	70-119	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	49.660	53.3	93	74-120	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	24.494	26.8	91	70-118	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	23.328	27.0	86	74-119	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	23.170	26.5	87	74-115	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	26.979	26.5	102	77-124	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	25.120	26.8	94	65-120	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	53.750	53.5	100	78-126	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	25.519	26.8	95	70-119	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	29.114	26.5	110	81-126	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	56.812	53.3	107	73-129	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

25ng TO-15 ICV STD

	RT
Bromochloromethane (IS1)	7.23
1,4-Difluorobenzene (IS2)	9.29
Chlorobenzene-d5 (IS3)	14.81

Datafile: 06122327.D
Instrument: MS-09
Date: 6/12/2023

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	24.686	24.5	101	80-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	23.810	27.0	88	78-117	ok	70-130	ok	73-119	ok
108-88-3	Toluene	24.168	26.8	90	70-118	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	57.628	53.3	108	74-132	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	23.773	26.8	89	69-137	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	24.496	25.5	96	76-128	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	58.920	53.0	111	75-134	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	26.909	26.5	102	68-120	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	23.355	26.8	87	63-130	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	23.479	27.0	87	70-118	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	24.908	27.3	91	71-123	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	49.181	53.8	91	67-127	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	25.391	27.3	93	65-149	ok	70-130	ok	66-139	ok
100-42-5	Styrene	26.155	26.8	98	76-132	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	24.484	27.0	91	69-124	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	27.611	26.8	103	64-127	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	25.572	27.0	95	69-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	23.820	26.5	90	69-125	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	25.920	27.0	96	68-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	24.693	26.5	93	70-127	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	24.985	27.3	92	69-127	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	24.422	27.0	90	66-129	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	25.005	26.5	94	63-142	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	57.313	53.5	107	73-145	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	23.696	26.8	88	67-136	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	22.949	26.8	86	63-134	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	24.430	26.3	93	68-130	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	24.212	26.3	92	60-139	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	23.482	26.5	89	64-139	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	26.184	26.0	101	63-137	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	50.601	52.0	97	72-145	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	48.143	55.0	88	62-154	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	27.160	27.5	99	62-156	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	20.615	27.3	76	55-142	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	0	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	24.414	26.5	92	61-140	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	24.939	26.0	96	70-131	ok	70-130	ok	66-130	ok

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2023 07\17\07172302.D Vial: 2
Acq On : 17 Jul 2023 4:00 Operator: SC
Sample : CCV R9071723 25ng Inst : MS09
Misc : S37-06132301/S37-07102303 (8/9)

Quant Time: Jul 17 04:48:01 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

WJA 7/17/23

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	111	0.00
2	T	Propene	1.114	0.998	10.4	106	0.00
3	T	Dichlorodifluoromethane (CF	3.034	2.395	21.1	95	-0.02
4	T	Chloromethane	1.388	1.248	10.1	106	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.369	1.236	9.7	107	0.00
6	T	Vinyl Chloride	1.731	1.634	5.6	115	0.00
7	T	1,3-Butadiene	1.185	1.232	-4.0	115	-0.02
8	T	Bromomethane	0.960	0.996	-3.8	117	0.00
9	T	Chloroethane	0.728	0.642	11.8	105	0.00
10	T	Ethanol	0.833	0.734	11.9	109	-0.04
11	T	Acetonitrile	1.976	1.790	9.4	107	-0.03
12	T	Acrolein	0.649	0.641	1.2	110	0.00
13	T	Acetone	0.787	0.698	11.3	107	-0.01
14	T	Trichlorofluoromethane	2.870	2.194	23.6	93	0.00
15	T	2-Propanol (Isopropanol)	2.573	2.420	5.9	100	-0.03
16	T	Acrylonitrile	1.301	1.242	4.5	108	-0.02
17	T	1,1-Dichloroethene	1.171	1.056	9.8	105	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.740	2.824	-3.1	100	-0.03
19	T	Methylene Chloride	1.285	1.106	13.9	105	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.925	1.517	21.2	107	0.00
21	T	Trichlorotrifluoroethane	1.202	1.023	14.9	102	0.00
22	T	Carbon Disulfide	4.399	3.955	10.1	103	0.00
23	T	trans-1,2-Dichloroethene	1.752	1.544	11.9	101	0.00
24	T	1,1-Dichloroethane	2.109	1.810	14.2	102	0.00
25	T	Methyl tert-Butyl Ether	3.931	3.493	11.1	99	0.00
26	T	Vinyl Acetate	0.179	0.190	-6.1	107	0.00
27	T	2-Butanone (MEK)	0.765	0.726	5.1	105	-0.01
28	T	cis-1,2-Dichloroethene	1.705	1.495	12.3	100	0.00
29	T	Diisopropyl Ether	1.008	0.914	9.3	105	0.00
30	T	Ethyl Acetate	0.479	0.486	-1.5	108	-0.01
31	T	n-Hexane	1.770	1.690	4.5	106	0.00
32	T	Chloroform	2.569	2.088	18.7	97	-0.01
33	S	1,2-Dichloroethane-d4(SS1)	2.134	1.813	15.0	96	0.00
34	T	Tetrahydrofuran (THF)	0.740	0.677	8.5	104	0.00
35	T	Ethyl tert-Butyl Ether	1.444	1.310	9.3	101	0.00
36	T	1,2-Dichloroethane	2.112	1.634	22.6	93	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	110	0.00
38	T	1,1,1-Trichloroethane	0.565	0.466	17.5	95	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	94	-0.01
40	T	1-Butanol	0.000	0.000	0.0	107	0.00
41	T	Benzene	1.078	0.971	9.9	104	0.00
42	T	Carbon Tetrachloride	0.467	0.393	15.8	94	0.00
43	T	Cyclohexane	0.396	0.370	6.6	104	0.00
44	T	tert-Amyl Methyl Ether	0.795	0.737	7.3	100	0.00
45	T	1,2-Dichloropropane	0.256	0.226	11.7	104	0.00
46	T	Bromodichloromethane	0.465	0.395	15.1	96	0.00
47	T	Trichloroethene	0.301	0.277	8.0	104	0.00
48	T	1,4-Dioxane	0.208	0.209	-0.5	105	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.981	0.893	9.0	104	0.00
50	T	Methyl Methacrylate	0.097	0.103	-6.2	107	0.00
51	T	n-Heptane	0.259	0.242	6.6	103	0.00
52	T	cis-1,3-Dichloropropene	0.430	0.420	2.3	101	0.00
53	T	4-Methyl-2-pentanone	0.212	0.215	-1.4	104	0.00
54	T	trans-1,3-Dichloropropene	0.418	0.424	-1.4	97	0.00
55	T	1,1,2-Trichloroethane	0.282	0.256	9.2	102	0.00

01194218

Data File : I:\MS09\DATA\2023 07\17\07172302.D Vial: 2
Acq On : 17 Jul 2023 4:00 Operator: SC
Sample : CCV R9071723 25ng Inst : MS09
Misc : S37-06132301/S37-07102303 (8/9)

Quant Time: Jul 17 04:48:01 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	97	0.00
57	S	Toluene-d8 (SS2)	5.496	6.175	-12.4	110	0.00
58	T	Toluene	5.380	5.476	-1.8	103	0.00
59	T	2-Hexanone	2.480	2.689	-8.4	99	-0.01
60	T	Dibromochloromethane	1.724	1.756	-1.9	100	-0.01
61	T	1,2-Dibromoethane	1.553	1.649	-6.2	102	0.00
62	T	n-Butyl Acetate	2.668	2.964	-11.1	99	0.00
63	T	n-Octane	0.943	0.997	-5.7	101	0.00
64	T	Tetrachloroethene	1.697	1.728	-1.8	102	0.00
65	T	Chlorobenzene	3.667	3.666	0.0	102	0.00
66	T	Ethylbenzene	6.197	6.419	-3.6	100	0.00
67	T	m- & p-Xylenes	5.153	5.338	-3.6	99	0.00
68	T	Bromoform	1.550	1.673	-7.9	98	0.00
69	T	Styrene	3.433	3.903	-13.7	102	0.00
70	T	o-Xylene	5.087	5.203	-2.3	99	0.00
71	T	n-Nonane	2.174	2.272	-4.5	98	0.00
72	T	1,1,2,2-Tetrachloroethane	2.320	2.376	-2.4	100	0.00
73	S	Bromofluorobenzene (SS3)	2.156	2.438	-13.1	108	0.00
74	T	Cumene	6.204	6.329	-2.0	100	0.00
75	T	alpha-Pinene	2.883	3.097	-7.4	97	0.00
76	T	n-Propylbenzene	7.456	7.723	-3.6	98	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	100	0.00
78	T	4-Ethyltoluene	5.882	6.162	-4.8	98	0.00
79	T	1,3,5-Trimethylbenzene	5.222	5.429	-4.0	100	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	94	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	100	0.00
82	T	1,2,4-Trimethylbenzene	5.283	5.738	-8.6	99	0.00
83	T	n-Decane	0.000	0.000	0.0	101	0.02
84	T	Benzyl Chloride	3.968	4.731	-19.2	95	0.00
85	T	1,3-Dichlorobenzene	3.184	3.367	-5.7	100	0.00
86	T	1,4-Dichlorobenzene	3.221	3.329	-3.4	100	0.00
87	T	sec-Butylbenzene	6.750	7.120	-5.5	99	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.000	6.365	-6.1	99	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	100	0.00
90	T	1,2-Dichlorobenzene	3.101	3.187	-2.8	99	0.00
91	T	d-Limonene	1.861	2.056	-10.5	95	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.130	1.280	-13.3	99	0.00
93	T	n-Undecane	0.000	0.000	0.0	97	0.03
94	T	1,2,4-Trichlorobenzene	2.547	2.876	-12.9	97	0.00
95	T	Naphthalene	5.995	7.363	-22.8	99	0.00
96	T	n-Dodecane	0.000	0.000	0.0	100	0.00
97	T	Hexachlorobutadiene	2.117	1.967	7.1	94	0.02
98	T	Cyclohexanone	0.000	0.000	0.0	198	0.00
99	T	tert-Butylbenzene	5.117	5.415	-5.8	100	0.00
100	T	n-Butylbenzene	5.628	5.929	-5.3	97	0.00
101	T	1,1,1,2-Tetrachloroethane	1.421	1.447	-1.8	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172302.D Vial: 2
Acq On : 17 Jul 2023 4:00 Operator: SC
Sample : CCV R9071723 25ng Inst : MS09
Misc : S37-06132301/S37-07102303 (8/9)

7/17/23

Quant Time: Jul 17 04:48:01 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	230372	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	973160	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.81	54	186445	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	417564	10.616	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%				
57) Toluene-d8 (SS2)	12.40	98	1151372	14.045	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.32%				
73) Bromofluorobenzene (SS3)	16.79	174	454607	14.134	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.04%				
Target Compounds							Qvalue
2) Propene	3.26	42	482928	23.515	ng		97
3) Dichlorodifluoromethan...	3.33	85	1169552	20.918	ng		100
4) Chloromethane	3.48	50	592455	23.165	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.57	135	592373	23.486	ng		100
6) Vinyl Chloride	3.67	62	760256	23.835	ng		99
7) 1,3-Butadiene	3.78	54	601610	27.539	ng		96
8) Bromomethane	3.99	94	468263	26.480	ng		99
9) Chloroethane	4.14	64	304754	22.722	ng		99
10) Ethanol	4.31	45	1166892	75.969	ng		99
11) Acetonitrile	4.45	41	750513	20.607	ng		100
12) Acrolein	4.53	56	569961	47.636	ng		100
13) Acetone	4.63	58	1693624	116.787	ng	#	87
14) Trichlorofluoromethane	4.74	101	1051251	19.878	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	2286077	48.213	ng		98
16) Acrylonitrile	5.01	53	1173249	48.926	ng		100
17) 1,1-Dichloroethene	5.24	96	525306	24.350	ng		92
18) 2-Methyl-2-Propanol (t...	5.33	59	2745605	54.372	ng		97
19) Methylene Chloride	5.36	84	540110	22.807	ng		98
20) 3-Chloro-1-propene (Al...	5.45	41	740982	20.888	ng		97
21) Trichlorotrifluoroethane	5.56	151	508985	22.981	ng		100
22) Carbon Disulfide	5.58	76	3881324	47.869	ng		100
23) trans-1,2-Dichloroethene	6.14	61	768114	23.788	ng		97
24) 1,1-Dichloroethane	6.32	63	892368	22.962	ng		100
25) Methyl tert-Butyl Ether	6.35	73	1721798	23.769	ng		99
26) Vinyl Acetate	6.44	86	244524	74.184	ng	#	93
27) 2-Butanone (MEK)	6.65	72	698856	49.539	ng		95
28) cis-1,2-Dichloroethene	7.08	61	730069	23.227	ng		96
29) Diisopropyl Ether	7.27	87	892704	48.068	ng	#	95
30) Ethyl Acetate	7.27	61	944119	107.020	ng		100
31) n-Hexane	7.28	57	817553	25.059	ng		99
32) Chloroform	7.37	83	1019829	21.541	ng		99
34) Tetrahydrofuran (THF)	7.73	72	636064	46.622	ng		98
35) Ethyl tert-Butyl Ether	7.80	87	1279107	48.073	ng		98
36) 1,2-Dichloroethane	8.11	62	812919	20.885	ng		100
38) 1,1,1-Trichloroethane	8.38	97	952648	21.663	ng		99
39) Isopropyl Acetate	9.18	61	2831	No Calib		#	
40) 1-Butanol	8.80	56	26006	No Calib			
41) Benzene	8.88	78	2021904	24.096	ng		100
42) Carbon Tetrachloride	9.05	117	795561	21.898	ng		100
43) Cyclohexane	9.19	84	1514068	49.110	ng		100
44) tert-Amyl Methyl Ether	9.57	73	3042755	49.164	ng		98
45) 1,2-Dichloropropane	9.84	63	462693	23.227	ng		99
46) Bromodichloromethane	10.06	83	823249	22.742	ng		100
47) Trichloroethene	10.13	130	566687	24.191	ng		100
48) 1,4-Dioxane	10.09	88	431692	26.671	ng		99
49) 2,2,4-Trimethylpentane...	10.21	57	1878009	24.594	ng		95
50) Methyl Methacrylate	10.38	100	426269	56.612	ng		93

Data File : I:\MS09\DATA\2023 07\17\07172302.D Vial: 2
Acq On : 17 Jul 2023 4:00 Operator: SC
Sample : CCV R9071723 25ng Inst : MS09
Misc : S37-06132301/S37-07102303 (8/9)

Quant Time: Jul 17 04:48:01 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M

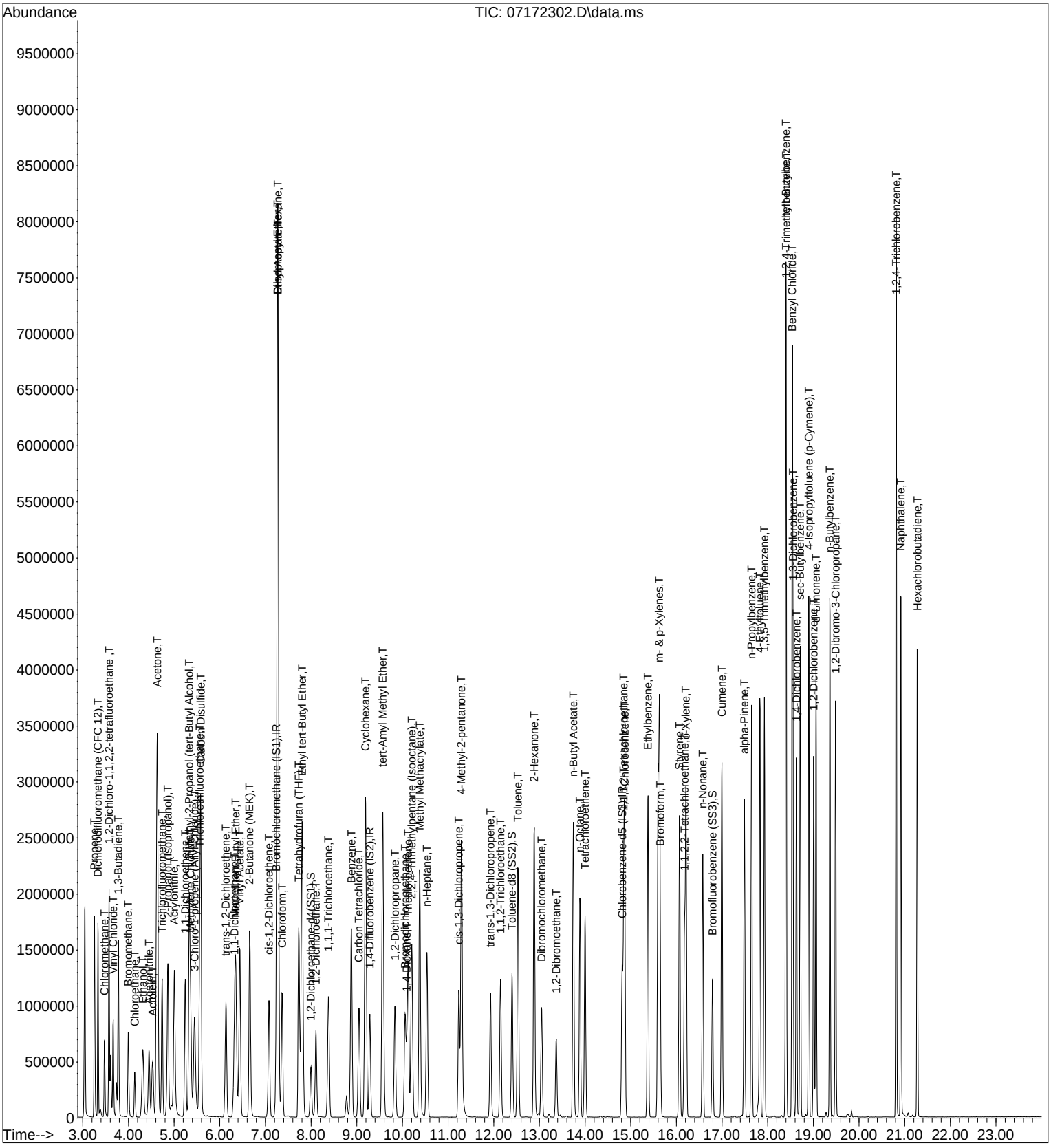
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.54	71	499837	24.772 ng		99
52) cis-1,3-Dichloropropene	11.23	75	883638	26.414 ng		100
53) 4-Methyl-2-pentanone	11.29	58	898481	54.331 ng		95
54) trans-1,3-Dichloropropene	11.93	75	841333	25.865 ng		100
55) 1,1,2-Trichloroethane	12.15	97	527634	24.060 ng		98
58) Toluene	12.53	91	2144214	26.719 ng		100
59) 2-Hexanone	12.89	43	2126086	57.476 ng		96
60) Dibromochloromethane	13.05	129	707088	27.501 ng		100
61) 1,2-Dibromoethane	13.37	107	639357	27.606 ng		100
62) n-Butyl Acetate	13.74	43	2265672	56.925 ng		97
63) n-Octane	13.89	57	397968	28.299 ng		99
64) Tetrachloroethene	14.00	166	682979	26.979 ng		99
65) Chlorobenzene	14.87	112	1449201	26.499 ng		100
66) Ethylbenzene	15.38	91	2513225	27.191 ng		99
67) m- & p-Xylenes	15.62	91	4180158	54.383 ng		98
68) Bromoform	15.65	173	667384	28.872 ng		100
69) Styrene	16.07	104	1542821	30.132 ng		98
70) o-Xylene	16.21	91	2056423	27.104 ng		98
71) n-Nonane	16.58	43	898156	27.701 ng		97
72) 1,1,2,2-Tetrachloroethane	16.18	83	939003	27.140 ng		100
74) Cumene	17.00	105	2525170	27.288 ng		100
75) alpha-Pinene	17.49	93	1258801	29.273 ng		97
76) n-Propylbenzene	17.64	91	3081547	27.708 ng		99
77) 3-Ethyltoluene	17.00	105	2525170	No Calib		
78) 4-Ethyltoluene	17.83	105	2504556	28.550 ng		99
79) 1,3,5-Trimethylbenzene	17.93	105	2145782	27.548 ng		99
80) alpha-Methylstyrene	16.99	118	4706	No Calib	#	
81) 2-Ethyltoluene	17.00	105	2525170	No Calib		
82) 1,2,4-Trimethylbenzene	18.41	105	2246498	28.509 ng		99
83) n-Decane	17.01	58	17720	No Calib		
84) Benzyl Chloride	18.54	91	3740301	63.193 ng		98
85) 1,3-Dichlorobenzene	18.55	146	1330901	28.026 ng		100
86) 1,4-Dichlorobenzene	18.63	146	1315692	27.387 ng		100
87) sec-Butylbenzene	18.71	105	2814197	27.951 ng		99
88) 4-Isopropyltoluene (p-...	18.90	119	2515693	28.113 ng		98
89) 1,2,3-Trimethylbenzene	17.00	105	2525170	No Calib		
90) 1,2-Dichlorobenzene	19.01	146	1271670	27.493 ng		99
91) d-Limonene	19.06	68	820273	29.544 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.49	157	1002064	59.438 ng		90
93) n-Undecane	18.10	58	288	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.81	180	2241223	58.985 ng		100
95) Naphthalene	20.92	128	3020129	33.777 ng		100
96) n-Dodecane	19.06	58	6278	No Calib	#	
97) Hexachlorobutadiene	21.28	225	777461	24.619 ng		99
98) Cyclohexanone	15.47	55	222	No Calib	#	
99) tert-Butylbenzene	18.40	119	2140208	28.041 ng		100
100) n-Butylbenzene	19.36	91	2365567	28.181 ng		99
101) 1,1,1,2-Tetrachloroethane	14.85	131	571758	26.983 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2023 07\17\07172302.D Vial: 2
Acq On : 17 Jul 2023 4:00 Operator: SC
Sample : CCV R9071723 25ng Inst : MS09
Misc : S37-06132301/S37-07102303 (8/9)

Quant Time: Jul 17 04:48:01 2023
Quant Method : I:\MS09\METHODS\R9061223.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Jul 11 11:12:22 2023
Response via : Initial Calibration
DataAcq Meth:TO15.M



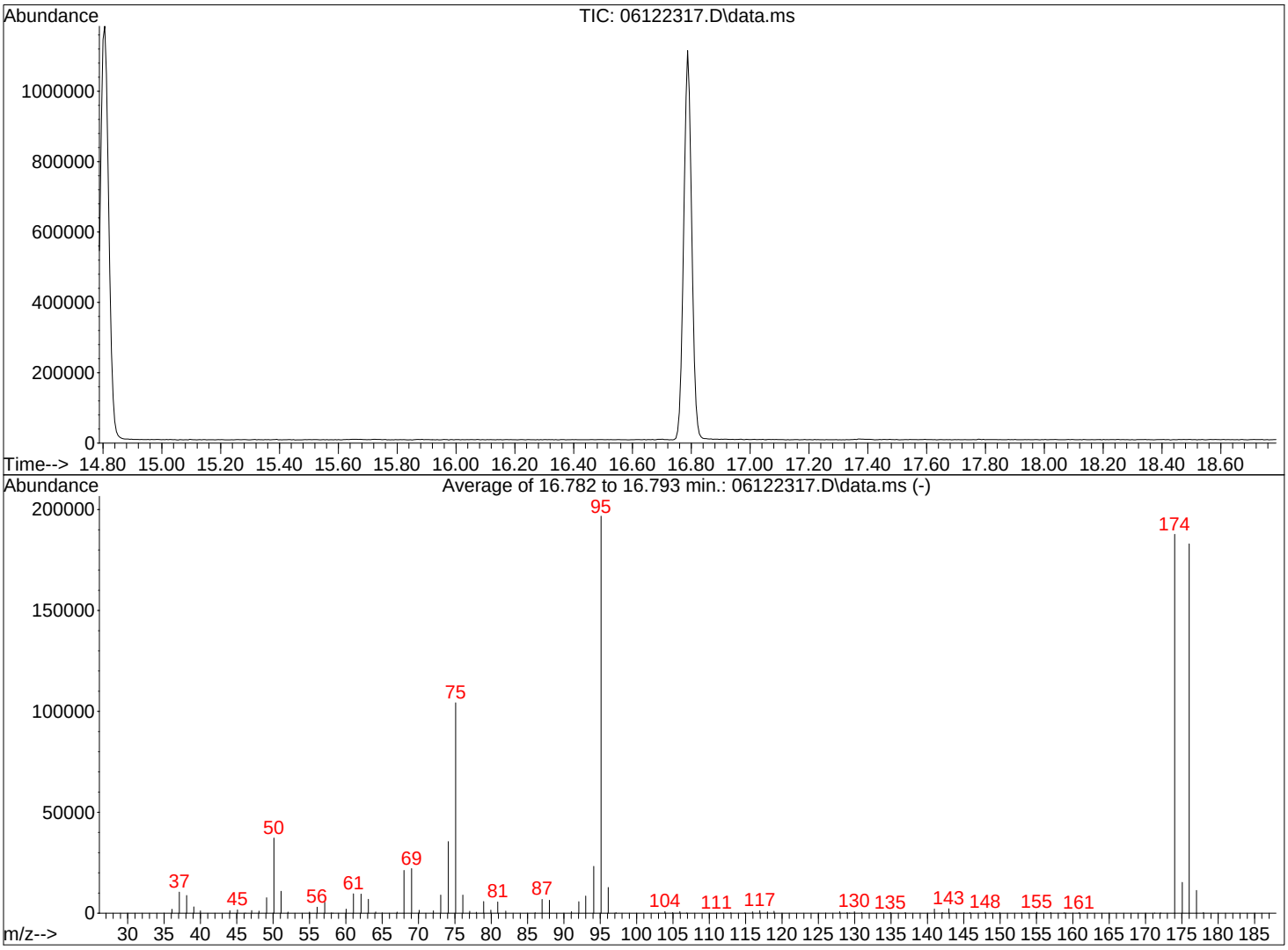
01194222

Data Path : I:\MS09\DATA\2023 06\12\
Data File : 06122317.D
Acq On : 12 Jun 2023 16:09
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S37-05082301
ALS Vial : 2 Sample Multiplier: 1

6/13/23

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9061223.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Jun 13 08:35:01 2023



AutoFind: Scans 2448, 2449, 2450; Background Corrected with Scan 2440

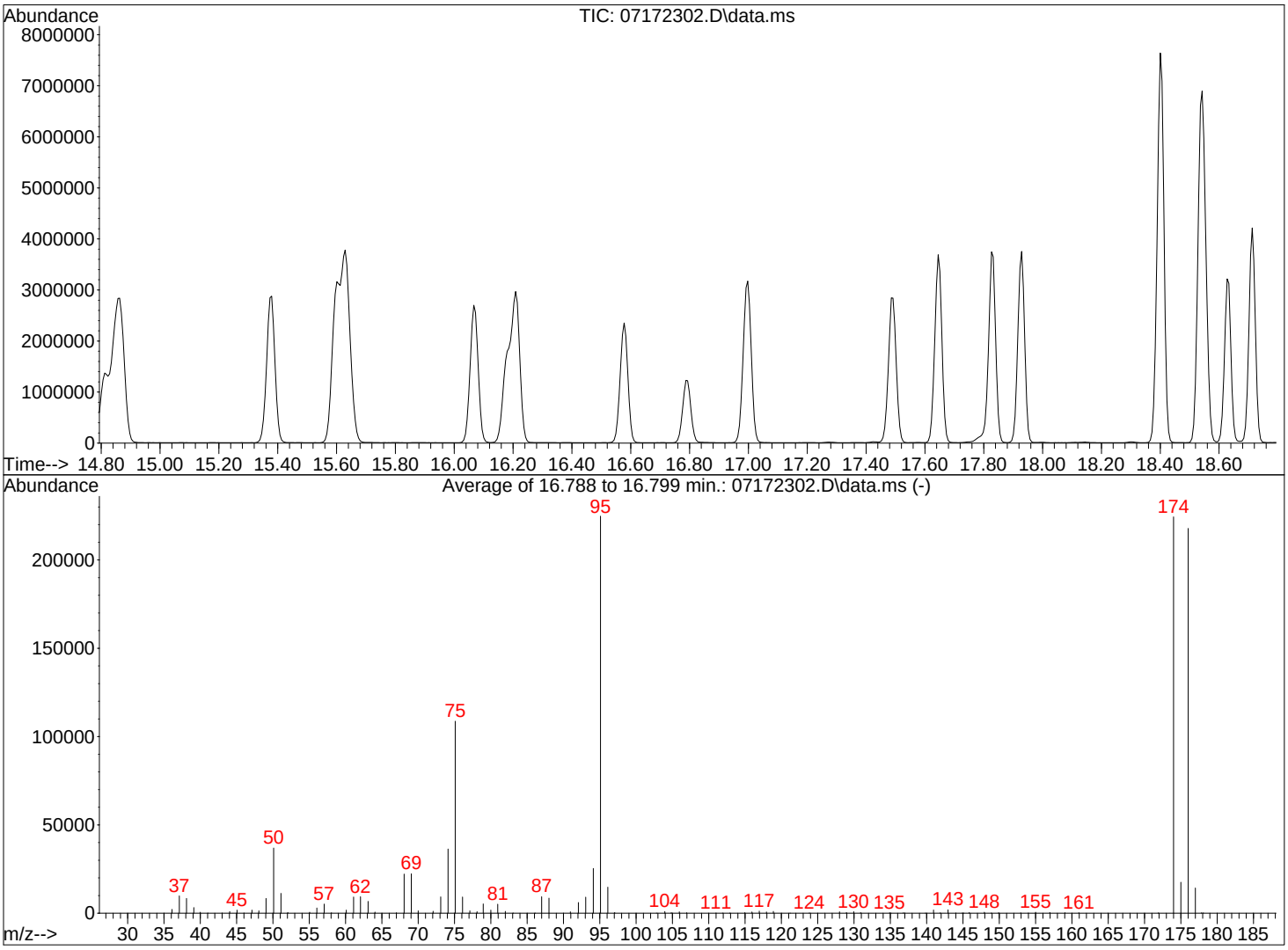
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	37261	PASS
75	95	30	66	53.0	104243	PASS
95	95	100	100	100.0	196736	PASS
96	95	5	9	6.5	12760	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.4	187733	PASS
175	174	4	9	8.1	15257	PASS
176	174	93	101	97.5	182997	PASS
177	176	5	9	6.2	11314	PASS

01194223

Data Path : I:\MS09\DATA\2023 07\17\
Data File : 07172302.D
Acq On : 17 Jul 2023 4:00
Operator : SC
Sample : CCV R9071723 25ng
Misc : S37-06132301/S37-07102303 (8/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R9061223.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Jul 11 11:12:22 2023



AutoFind: Scans 2449, 2450, 2451; Background Corrected with Scan 2440

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.4	36869	PASS
75	95	30	66	48.3	108685	PASS
95	95	100	100	100.0	224789	PASS
96	95	5	9	6.6	14778	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	99.8	224363	PASS
175	174	4	9	7.8	17507	PASS
176	174	93	101	97.1	217835	PASS
177	176	5	9	6.6	14272	PASS

7/17/23

Injection Log

Directory: J:\MS09\DATA\2023_06\12\

17	6/12/23 16:09	06122317.D	12.5ng TO-15 BFB STD	S37-05082301	SC	2	pass
18	6/12/23 16:41	06122318.D	0.1ng TO-15 ICAL STD	S37-05082301/S37-06122305 (7/12)	SC	5	
19	6/12/23 17:13	06122319.D	0.2ng TO-15 ICAL STD	S37-05082301/S37-06122305 (7/12)	SC	5	
20	6/12/23 17:46	06122320.D	0.5ng TO-15 ICAL STD	S37-05082301/S37-06122304 (7/12)	SC	6	
21	6/12/23 18:18	06122321.D	1.0ng TO-15 ICAL STD	S37-05082301/S37-06122304 (7/12)	SC	6	
22	6/12/23 18:50	06122322.D	5.0ng TO-15 ICAL STD	S37-05082301/S37-06122304 (7/12)	SC	6	
23	6/12/23 19:22	06122323.D	25ng TO-15 ICAL STD	S37-05082301/S37-06122303 (7/12)	SC	7	
24	6/12/23 19:54	06122324.D	50ng TO-15 ICAL STD	S37-05082301/S37-06122303 (7/12)	SC	7	
25	6/12/23 20:26	06122325.D	100ng TO-15 ICAL STD	S37-05082301/S37-06122303 (7/12)	SC	7	
26	6/12/23 20:58	06122326.D	Blank	S37-05082301	SC	2	
27	6/12/23 21:30	06122327.D	25ng TO-15 ICV STD	S37-05082301/S37-05252301 (6/23)	SC	2	pass
28	6/12/23 22:02	06122328.D	5.0ng TO-15 ICV STD	S37-05082301/S37-05252301 (6/23)	SC	2	not used
29							
30							
31							
32							
33							6/13/23
34							
35							
36							
37							
38							

Injection Log

01194225

Directory: I:\MS09\DATA\2023_07\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	7/17/23 3:28	07172301.D	Blank (100mL)	S37-06132301	SC	1	
2	7/17/23 4:00	07172302.D	CCV R9071723_25ng	S37-06132301/S37-07102303 (8/9)	SC	2	Pass
3	7/17/23 4:32	07172303.D	CCV C9071723_5.0ng	S37-06132301/S37-07022313 (8/2)	SC	3	Pass
4	7/17/23 5:04	07172304.D	MB R9071723_1000mL	S37-06132301	SC	2	Pass
5	7/17/23 5:37	07172305.D	LCS R9071723_5.0ng	S37-06132301/S37-07032302 (8/2)	SC	2	Pass
6	7/17/23 6:09	07172306.D	LCSD R9071723_5.0ng	S37-06132301/S37-07032302 (8/2)	SC	2	Pass
7	7/17/23 7:45	07172307.D	P2303144-004 (1000mL)	S37-06132301	SC	5	
8	7/17/23 8:17	07172308.D	Conf P2303144-005 (1000mL)	S37-06132301	SC	6	
9	7/17/23 8:51	07172309.D	P2303140-001 (5.0mL)	S37-06132301	SC	1	
10	7/17/23 9:23	07172310.D	P2302989-013Dil (1.0mL)	S37-06132301	SC	1	
11	7/17/23 10:02	07172311.D	P2302989-014Dil (1.0mL)	S37-06132301	SC	1	
12	7/17/23 10:35	07172312.D	P2302989-015Dil (1.0mL)	S37-06132301	SC	1	
13	7/17/23 11:09	07172313.D	P2302989-016Dil (1.0mL)	S37-06132301	SC	1	
14	7/17/23 11:41	07172314.D	P2302989-017Dil (1.0mL)	S37-06132301	SC	1	
15	7/17/23 12:13	07172315.D	P2303202-001 (1000mL)	S37-06132301	SC	5	
16	7/17/23 12:45	07172316.D	P2303202-002 (1000mL)	S37-06132301	SC	6	
17	7/17/23 13:17	07172317.D	P2303202-003 (1000mL)	S37-06132301	SC	7	
18	7/17/23 13:49	07172318.D	P2303202-003dup (1000mL)	S37-06132301	SC	7	Pass
19	7/17/23 14:21	07172319.D	P2303042-001 (100mL)	S37-06132301	SC	8	
20	7/17/23 14:54	07172320.D	P2303042-002 (100mL)	S37-06132301	SC	9	
21	7/17/23 15:25	07172321.D	P2303042-001Dil (20mL)	S37-06132301	SC	8	
22	7/17/23 15:58	07172322.D	P2303042-002Dil (20mL)	S37-06132301	SC	9	
23	7/17/23 17:10	07172323.D	P2303042-003 (1000mL)	S37-07172304	SC	10	
24	7/17/23 17:42	07172324.D	P2303042-004 (1000mL)	S37-07172304	SC	11	
25	7/17/23 18:14	07172325.D	P2303209-001 (400mL)	S37-07172304	SC	12	
26	7/17/23 18:46	07172326.D	P2303209-002 (400mL)	S37-07172304	SC	13	
27	7/17/23 19:18	07172327.D	P2303209-003 (400mL)	S37-07172304	SC	14	
28	7/17/23 19:51	07172328.D	P2303209-004 (400mL)	S37-07172304	SC	15	
29	7/17/23 20:23	07172329.D	P2303174-001 (1000mL)	S37-07172304	SC	4	
30	7/17/23 20:56	07172330.D	P2303174-002 (1000mL)	S37-07172304	SC	5	
31	7/17/23 21:30	07172331.D	P2303174-003 (1000mL)	S37-07172304	SC	6	
32	7/17/23 22:02	07172332.D	P2303174-004 (1000mL)	S37-07172304	SC	7	
33	7/17/23 22:35	07172333.D	P2303174-005 (1000mL)	S37-07172304	SC	8	
34	7/17/23 23:07	07172334.D	Chamber QC_AS01503	S37-07172304	SC	9	Pass
35	7/17/23 23:39	07172335.D	RL R9071723_0.5ng	S37-07172304/S37-06212315 (7/20)	SC	16	Pass
							7/18/23

APPENDIX J
PROTOCOL FOR DISCHARGING GWTP EFFLUENT

This page intentionally left blank.

MEMORANDUM

DATE: August 28, 2017

PROJECT NAME: Remediation of Multiple Sites, Longhorn Army Ammunition Plant, Karnack, TX

TO:	Richard Mayer	Senior Project Engineer US Environmental Protection Agency Federal Facilities Section (6PD-F)
	April Palmie	Project and Grant Manager Superfund Section, Remediation Division Texas Commission on Environmental Quality
FROM:	Rose M. Zeiler, Ph.D.	Longhorn AAP Site Manager

SUBJECT: **Protocol for Discharging GWTP Effluent**
Longhorn Army Ammunition Plant, Karnack, TX
(Contract: W912DY-09-D-0059, Task Order DS01)

INTRODUCTION

The purpose of this memo is to document the protocol for discharging Longhorn Army Ammunition Plant groundwater treatment plant (GWTP) effluent to Harrison Bayou, the INF-Pond, or LHAAP-18/24.

The GWTP is designed to:

- Extract groundwater from LHAAP-18/24 and LHAAP-16 for hydraulic control;
- Remove metals by pH adjustment, polymer addition, and gravity separation;
- Remove volatile organic compounds (VOCs) by air stripping;
- Remove perchlorate in a fluidized bed reactor (FBR) and an ion exchange scavenger system; and
- Discharge the effluent continuously.

DISCHARGE CRITERIA

The discharge criteria established for discharge to Harrison Bayou are:

Parameter	Discharge Criteria (µg/L)	
	Daily Average	Daily Maximum
Volatiles		
1,1,1-Trichloroethane	3,417	7,230
1,1,2-Trichloroethane	102.5	216.9
1,1-Dichloroethane	6,633	14,032
1,1-Dichloroethene	119	253
1,2-Dichloroethane	85	181
Acetone	1,132	2,395
Benzene	85	181
Carbon Tetrachloride	85	181
Chlorobenzene	22,300	47,180
Chloroform	1,708	3,615
Ethylbenzene	26,954	57,025
Xylenes	39.5	83.6
Methylene Chloride	803	1,699
Styrene	2,829	5,987
Tetrachloroethene	85.4	180.7
Toluene	1,980	4,189
Trichloroethene	85	181
Vinyl Chloride	34	72
Anions		
Chloride	*	*
Sulfate	*	*
Perchlorate**	278	589
Metals		
Aluminum	777	1,644
Arsenic	365	772
Barium	1,000	2,000
Cadmium	1.6	3.4
Chromium, Total	355	752
Chromium, Hexavalent	58	124
Cobalt	5,433	11,495
Iron	1,132	2,395
Lead	2.2	4.6
Nickel	87	184
Manganese	7,323	15,494
Silver	1.4	3
Selenium	5.7	12
Vanadium	1,698	3,592
Zinc	146	310
Other		
Hexachlorobenzene	0.22	0.47
1,4-Dioxane		134.2
Oil and Grease		15
Chemical Oxygen Demand		200

* - Based upon flow in Harrison Bayou

** - Discharge criteria, when diverted to the INF Pond, is 17 µg/L

PROTOCOL FOR DISCHARGING GWTP EFFLUENT

In accordance with the *Sampling and Analysis Plan, Groundwater Treatment Plant and Well Fields* (SAP) Table 2-2, indicator parameters for the FBR, such as temperature, pH and oxidation reduction potential (ORP), are monitored in real time to predict FBR performance and perchlorate removal. Based upon these indicator parameters, the operator of the GWTP can make adjustments such as:

- Bring the ion exchange system online;
- Increase or decrease the addition rate of electron donor (acetic acid);
- Increase or decrease the nutrient addition rate (urea or phosphoric acid); or
- Increase or decrease the FBR recirculation rate

Samples of the GWTP effluent are collected weekly, analyzed for perchlorate, nutrients (ammonia-nitrogen and ortho-phosphate), total organic carbon (TOC), chloride, and sulfate, with the results received from the laboratory 14 days later. Other parameters (e.g. Record of Decision metals and volatiles) are collected and analyzed in GWTP effluent samples according to the frequencies listed in Table 2-1 of the SAP.

As shown in Figure 1, groundwater is continuously extracted, treated, and discharged. If Harrison Bayou is flowing and indicator parameters are within their historical optimal ranges, then the ion exchange vessels can be bypassed and the GWTP effluent sample will be collected after the FBR. If Harrison Bayou is not flowing or the indicator parameters are not within historical optimal ranges, then the ion exchange vessels will be put on line, and the GWTP effluent sample will be collected between the lead and lag ion exchange vessel. Professional judgement may also be used as to when to bring the ion exchange vessels online, such as after a power outage or during anticipated cold temperatures when the FBR has historically not performed optimally.

If a parameter is measured in the effluent at a concentration above the discharge criteria, then a confirmation sample and an effluent sample after the lag ion exchange vessel will be collected and analyzed for the parameter with a 24-hour turnaround time. Corrective measures (e.g. increased nutrient or electron donor addition rates, bring ion exchange vessels on line) will be implemented as appropriate to bring the parameter back within the discharge criteria. ***If an upset condition in the FBR leads to high concentrations of perchlorate going into the lead ion exchange vessel and breaking through at the sample location between the vessels, the lag vessel will still remove perchlorate before it is discharged to Harrison Bayou, the INF Pond, or LHAAP-18/24.*** It is estimated that the lag ion exchange vessel can remove all of the perchlorate from two weeks of typical groundwater extraction at a concentration of 920 µg/L. If the residual perchlorate concentration after the FBR and lead ion exchange vessel is only 600 µg/L, the lag ion exchange vessel could last almost 2.5 years before perchlorate would be detected in the discharged effluent.

If a parameter exceeds the discharge criteria by more than 40% (see Appendix A-2, SAP, Section 7c of Monitoring and Reporting Requirements) or reaches 920 µg/L of perchlorate, then the GWTP will be put into full recycle mode (no discharge) until the parameter is below the discharge criteria again. Appendix A-2 of the SAP requires GWTP data to be provided to TCEQ monthly including a list of noncompliance(s), if applicable.

Discharge to Harrison Bayou

As shown in Figure 1, the GWTP effluent will be discharged to Harrison Bayou as long as it has a measurable flow. The flowrate in Harrison Bayou is estimated by measuring the height of water with a staff gauge and velocity in feet/sec at intervals along the width as described in the Installation-Wide Work Plan, Standard Operating Procedures, Attachment 18 – Water Depth and Velocity Measurements (AECOM, July 2014).

The allowable flow rate of GWTP effluent that can be discharged to Harrison Bayou is given by:

$$QE \leq \frac{QS\ (CC - CA)}{(CE - CC)}$$

where Q_E = GWTP effluent flow Q_S = Harrison Bayou flow

C_C = Criteria concentration (100 mg/L for chloride, 50 mg/L for sulfate)

C_A = Ambient concentration = 10 mg/L

C_E = Chloride or sulfate concentration in GWTP effluent

The allowable GWTP effluent flow will be the lower of the calculated values given the measured concentrations of chloride and sulfate in the discharge stream. For each day that GWTP effluent is discharged to Harrison Bayou, the measured Harrison Bayou flow, the allowable effluent flow, and the actual effluent flow are recorded.

Discharge to INF Pond

If Harrison Bayou is not flowing, then GWTP effluent will be discharged to the Intermediate-Range Nuclear Forces (INF) Pond for temporary storage until Harrison Bayou flow resumes. Perchlorate concentration detected in the effluent must be 17 µg/L or less, when this occurs.

The INF Pond has a flexible membrane liner protected by a soil cover with a gravity discharge pipe (and valve) to Harrison Bayou. The INF Pond has a nominal capacity of 3 million gallons with a staff gage to measure the height of water stored in the pond. The GWTP operator maintains the INF Pond by visually inspecting for erosion, vegetative growth including tree growth along the anchor trench, and liner integrity and making necessary repairs. Periodically, accumulated debris must be removed from the influent and effluent piping to the INF Pond.

Prior to discharging to the INF Pond, a lead and lag ion exchange vessel will be brought online. The GWTP Operator will also confirm that the discharge valve is closed, will record the reading on the effluent totalizer, and will record the height of water using the staff gage. The GWTP Operator will then configure valves and pumps to direct GWTP effluent to the INF Pond. The height of water in the INF Pond and totalizer reading will be recorded at the beginning and end of each shift for the duration of active discharge. When the height of water in the pond reaches 3 feet below the height of the berm (freeboard), the GWTP Operator will stop discharging to the INF Pond and TCEQ will be notified. After the TCEQ acknowledges the INF Pond level, GWTP effluent may be discharged to the INF Pond again until 2 feet of freeboard is reached. The GWTP Operator will stop discharging to the INF Pond and TCEQ will be notified again. After the TCEQ acknowledges 2 feet of freeboard in the INF Pond,GWTP effluent may be discharged again until 1 foot of freeboard remains. No additional GWTP effluent can be accepted at the INF Pond until greater than 1 foot of freeboard is measured.

As soon as flow in Harrison Bayou returns, stored GWTP effluent from the INF Pond will be discharged. As with direct discharges from the GWTP to Harrison Bayou, the allowable flowrate of effluent from the INF Pond is calculated based upon the chloride and sulfate concentrations in the pond and the flow in Harrison Bayou. If effluent from the INF Pond and the GWTP are discharged simultaneously, total flow of both streams together should not exceed the calculated discharge level for either discharge location. For each day that INF Pond contents are discharged to Harrison Bayou, the measured Harrison Bayou flow, the allowable effluent flow, and the actual effluent flow are recorded.

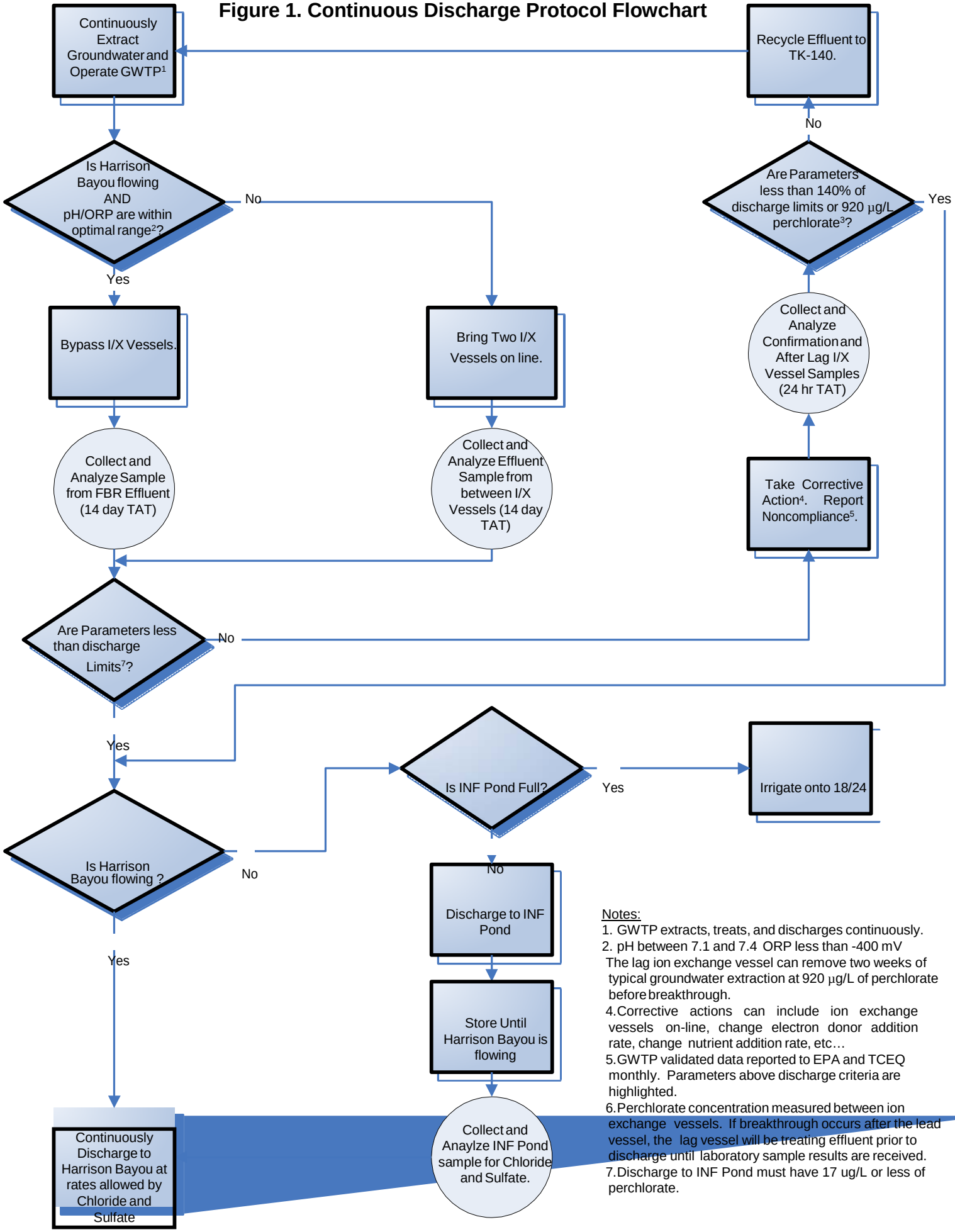
Irrigation onto LHAAP-18/24

If Harrison Bayou is not flowing and the INF Pond has less than 1 foot of freeboard, then GWTP effluent will be irrigated onto LHAAP-18/24 using one of the three main sprinkler lines. To avoid pooling and runoff of irrigation water, only one line will be used for half a day at a time, with a separate line being used the second half of the day. If needed, the irrigation will occur 5 days a week for 8 hours each day (using 3 sprinklers in each line). If conditions are wet due to rain events, irrigation will not be conducted to avoid ponding and potential runoff, the GWTP will be put into recycle mode, and groundwater extraction will be interrupted if storage space is not available.

While irrigating, site inspections will be performed to ensure pooling and runoff are not occurring. During the irrigation activities, inspections will be performed twice a day, once approximately three hours and again approximately six hours into the 8-hour irrigation shift. The system will be inspected to ensure that the sprinkler heads are operating properly and not leaking large amounts of water. If ponding or runoff is observed, irrigation at that sprinkler line will cease, and irrigation at another sprinkler line will be started if possible. Volumes of GWTP effluent and twice daily inspections will be recorded daily and reported monthly until flow resumes in Harrison Bayou or greater than 1 foot of freeboard is available in the INF Pond.

This page intentionally left blank.

Figure 1. Continuous Discharge Protocol Flowchart



Notes:

1. GWTP extracts, treats, and discharges continuously.
2. pH between 7.1 and 7.4 ORP less than -400 mV
   The lag ion exchange vessel can remove two weeks of typical groundwater extraction at 920 µg/L of perchlorate before breakthrough.
4. Corrective actions can include ion exchange vessels on-line, change electron donor addition rate, change nutrient addition rate, etc…
5. GWTP validated data reported to EPA and TCEQ monthly. Parameters above discharge criteria are highlighted.
6. Perchlorate concentration measured between ion exchange vessels. If breakthrough occurs after the lead vessel, the lag vessel will be treating effluent prior to discharge until laboratory sample results are received.
7. Discharge to INF Pond must have 17 ug/L or less of perchlorate.

This page intentionally left blank.

APPENDIX K
AIR DATA TABLES, PID READINGS, AND CALIBRATION LOGS

This page intentionally left blank.

Appendix K Table 1. Ambient Air Data - June 2023
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

Pollutant	CAS #	Short Term ESL March 2012	AMCVs (Short Term Health)	GWTP Ambient Air Concentrations (1)		Status (3)	Downwind Ambient Air Concentrations (2)		Status (3)
		µg/m^3	µg/m^3	µg/m^3			µg/m^3		
1,1-Dichloroethane	75-34-3	4,000	4,047	0.77	U	PASS	0.70	U	PASS
1,1-Dichloroethene	75-35-4	210	714	0.77	U	PASS	0.70	U	PASS
1,2-Dichloroethane	107-06-2	160	162	0.77	U	PASS	0.70	U	PASS
Acetone	67-64-1	5,900	NA	**30**		PASS	**14**		PASS
Benzene	71-43-2	170	575	0.77	U	PASS	0.70	U	PASS
Carbon disulfide	75-15-0	30	NA	**5.1**		PASS	**8.2**		PASS
Chloroform	67-66-3	100	98	0.75	U	PASS	0.69	U	PASS
cis-1,2-Dichloroethene	156-59-2	7,900	NA	0.75	U	PASS	0.69	U	PASS
Methylene chloride	75-09-2	3,600	12,158	0.75	U	PASS	0.69	U	PASS
Tetrachloroethene	127-18-4	2,000	6,782	0.75	U	PASS	0.69	U	PASS
trans-1,2-Dichloroethene	156-60-5	7,900	NA	0.77	U	PASS	0.70	U	PASS
Trichloroethene	79-01-6	540	537	**2.2**		PASS	0.69	U	PASS
Vinyl chloride	75-01-4	20,000	66,460	0.72	U	PASS	0.66	U	PASS
n-Hexane	110-54-3	5,300	6,336	**3.1**		PASS	**0.75**		PASS
Styrene	100-42-5	110	21,725	0.75	U	PASS	0.69	U	PASS
Toluene	108-88-3	640	15,074	**1.6**		PASS	**1.1**		PASS
Ethylbenzene	100-41-4	740	86,844	0.75	U	PASS	0.69	U	PASS
m,p-Xylenes	179601-23-1	180	7,382	1.6	U	PASS	1.4	U	PASS
o-Xylene	95-47-6	1,600	7,382	0.75	U	PASS	0.69	U	PASS
1,3-Dichlorobenzene	541-73-1	720	NA	0.75	U	PASS	0.69	U	PASS
Propene (C3H6)	115-07-1	Asphyxiant	Asphyxiant	0.75	U	NA	0.69	U	NA
Dichlorodifluoromethane (CFC 12)	75-71-8	50,000	49,452	**2.1**		PASS	**2.1**		PASS
Ethanol	64-17-5	18,800	NA	**11**		PASS	6.5	U	PASS
Trichlorofluoromethane (CFC 11)	75-69-4	28,000	56,184	**1.5**		PASS	**1.0**		PASS
Trichlorotrifluoroethane (CFC 113)	76-13-1	38,000	NA	**0.99**		PASS	0.70	U	PASS
alpha-Pinene	80-56-8	60	3,499	1.6	U	PASS	**11**		PASS
d-Limonene	5989-27-5	1,100	NA	1.6	U	PASS	**3.7**		PASS

Notes:

(1) Sample collected over an 8-hour period on June 26, 2023, between 07:00 AM and 03:00 PM

(2) Sample collected over a 24-hour period beginning on June 25, 2023 at 07:00 AM and ending on June 26, 2023 at 07:00 AM

(3) Status based on comparison of air sample result to Air Monitoring Comparison Values (AMCVs). When there is no AMCV value for a chemical, the air sample concentration is compared to the short-term Effects Screening Level (ESL).

CAS # = Chemical Abstracts Service Number

GWTP = Groundwater Treatment Plant

U = non-detect

µg/m^3 = micrograms per cubic meter

g/mole = gram/mole

mol/m3 = mole per cubic meter

NA - Not applicable

Bold text denotes detections

UJ - esimtated non-detect due to quality control issues

J - estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

Appendix K Table 2. Emission Stack Air Data - June 2023
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

Pollutant	CAS #	Measured Air Stripper Stack Concentrations (1)		Air Stripper Emission Rates (2)		Air Stripper Emission Rates (2a)		Allowable Annual Emission (3)	Status (4)	TLV (5)	TLV Reference	Compliance section	Distance Downwind to nearest off-site Receptor (D)	(K) conversion value	Allowable Maximum Hourly Emission Limit at Nearest off-site Receptor (6)(7) (E) = L/K	Status (8)
		µg/m^3		lb/hr		tpy		tpy		mg/m^3			feet		lb/hr	
1,1-Dichloroethane	75-34-3	**11**		1.80E-04		1.17E-04		5	PASS	405	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
1,1-Dichloroethene	75-35-4	**52**		8.53E-04		5.54E-04		5	PASS	20	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.4	PASS
1,2-Dichloroethane	107-06-2	**43**		7.05E-04		4.58E-04		5	PASS	40	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	2.9	PASS
Acetone	67-64-1	**180**	J	2.95E-03		1.92E-03		5	PASS	590	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Benzene	71-43-2	7.7	U	6.31E-05	U	4.10E-05	U	5	PASS	3	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	0.21	PASS
Carbon disulfide	75-15-0	**98**		1.61E-03		1.04E-03		5	PASS	31	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	2.2	PASS
Chloroform	67-66-3	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	10	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	0.71	PASS
cis-1,2-Dichloroethene	156-59-2	**650**		1.07E-02		6.93E-03		5	PASS	793	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Methylene chloride	75-09-2	**9.7**		1.59E-04		1.03E-04		5	PASS	26	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.9	PASS
Tetrachloroethene	127-18-4	**8.5**		1.39E-04		9.06E-05		5	PASS	33.5	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	2.4	PASS
trans-1,2-Dichloroethene	156-60-5	**12**		1.97E-04		1.28E-04		5	PASS	793	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Trichloroethene	79-01-6	**2,800**		4.59E-02		2.98E-02		5	PASS	135	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	6.0	PASS
Vinyl chloride	75-01-4	**8.3**		1.36E-04		8.84E-05		5	PASS	2	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	0.14	PASS
n-Hexane	110-54-3	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	1,800	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Styrene	100-42-5	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	21	106.262 List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.5	PASS
Toluene	108-88-3	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	188	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	6.0	PASS
Ethylbenzene	100-41-4	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	434	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
m,p-Xylenes	179601-23-1	16	U	1.31E-04	U	8.53E-05	U	5	PASS	434	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
o-Xylene	95-47-6	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	434	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
1,3-Dichlorobenzene	541-73-1	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
Propene (C3H6)	115-07-1	**14**		2.30E-04		1.49E-04		5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	6.0	PASS
Dichlorodifluoromethane (CFC 12)	75-71-8	7.6	U	6.23E-05	U	4.05E-05	U	5	PASS	4,950	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Ethanol	64-17-5	72	U	5.90E-04	U	3.84E-04	U	5	PASS	1,880	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Trichlorofluoromethane (CFC 11)	75-69-4	7.4	U	6.07E-05	U	3.94E-05	U	5	PASS	5,620	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
Trichlorotrifluoroethane (CFC 113)	76-13-1	**400**		6.56E-03		4.26E-03		5	PASS	7,670	ACGIH List	30 TAC 106.533(f)(1)(A)(ii)	2,000	14	1.0	PASS
alpha-Pinene	80-56-8	16	U	1.31E-04	U	8.53E-05	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
d-Limonene	5989-27-5	16	U	1.31E-04	U	8.53E-05	U	5	PASS	(5)	--	30 TAC 106.533(f)(1)(A)(i)	2,000	14	1.0	PASS
	TOTAL			0.072												

Notes:

(1) Sample collected on June 26,2023. The higher value of the sample or duplicate is reported.

(2) Based on a blower flow rate of 4,390 cubic feet per minute (cfm). Note that plant operates less than or equal to 25 hours per week. 1/2 of detection limit was used for estimating mass rate.

(2a) Based on operation of 25 hours per week, 52 weeks per year.

(3) Per 30TAC 106.533(f)(1)(B)

(4) Based on comparing the calculated air stripper stack sample emission rate in tons per year (tpy) to the allowable annual emission limit per chemical of 5 tpy.

(5) No Threshold Limit Values (TLVs) for these chemicals

(6) The maximum hourly limit allowed by 30 Texas Administrative Code (TAC) 106.262, per pollutant, is 6 pounds per hour (lb/hr) per "Figure 1: 30 TAC 106.262(a)". The E value was overridden with 6 lb/hr when the calculated E was higher.

(7) The maximum hourly emission rate allowed by 30 TAC 106.261(a)(3) for chemicals with a limit value (L) greater than 200 mg/m^3 is 1 lb/hr.

(8) Based on comparing the calculated air stripper stack sample emission rate in pounds per hour (lb/hr) to the allowable maximum emission limit per chemical based on distance downwind to nearest off-site receptor.

CAS # = Chemical Abstracts Service Number

mg/m^3 = milligrams per cubic meter

µg/m^3 = micrograms per cubic meter

ACGIH = American Conference of Governmental Industrial Hygienists

U = non-detect

J - estimated value between the detection limit and limit of quantitation and/or due to quality contol issues

UJ - esimtated non-detect due to quality control issues

Appendix K Table 3. PID Readings - 2nd Quarter 2023
Longhorn Army Ammunition Plant
Groundwater Treatment Plant

Date	Time	Location	Air Flow Rate at Blower	Instrument ID	Person Collecting	PID Reading	Weather Conditions
5/4/2023	8:00	Outside GWTP Office	2312 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 57°F
5/4/2023	8:00	Downwind	2312 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 57°F
5/4/2023	8:00	Stripper	2312 ACFM	MiniRAE 3000	Kennie Moore	Max. 25.7 ppm Steady State 8.3 ppm	Clear 57°F
5/4/2023	11:30	Outside GWTP Office	2262 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 76°F
5/4/2023	11:30	Downwind	2262 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 76°F
5/4/2023	11:30	Stripper	2262 ACFM	MiniRAE 3000	Scott Beesinger	Max. 23.3 ppm Steady State 8.0 ppm	Clear 76°F
6/8/2023	8:00	Outside GWTP Office	2367 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 70°F
6/8/2023	8:00	Downwind	2367 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 70°F
6/8/2023	8:00	Stripper	2367 ACFM	MiniRAE 3000	Kennie Moore	Max. 23.1 ppm Steady State 6.5 ppm	Clear 70°F
6/8/2023	12:00	Outside GWTP Office	2268 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 89°F
6/8/2023	12:00	Downwind	2268 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 89°F
6/8/2023	12:00	Stripper	2268 ACFM	MiniRAE 3000	Scott Beesinger	Max. 22.2 ppm Steady State 6.1 ppm	Clear 89°F
6/26/2023	8:00	Outside GWTP Office	2317 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 78°F
6/26/2023	8:00	Downwind	2317 ACFM	MiniRAE 3000	Kennie Moore	0.0 ppm	Clear 78°F
6/26/2023	8:00	Stripper	2317 ACFM	MiniRAE 3000	Kennie Moore	Max. 22.1 ppm Steady State 6.2 ppm	Clear 78°F
6/26/2023	14:00	Outside GWTP Office	2277 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 90°F
6/26/2023	14:00	Downwind	2277 ACFM	MiniRAE 3000	Scott Beesinger	0.0 ppm	Clear 90°F
6/26/2023	14:00	Stripper	2277 ACFM	MiniRAE 3000	Scott Beesinger	Max. 24.4 ppm Steady State 6.9 ppm	Clear 90°F

01194241

EQUIPMENT CALIBRATION DAILY LOG

Date: 5/4/23

Project Number: JUPCIBH-0001

Project Name: LHAAP - GWTP

Recorded By: Scott Beasinbar

PID

Model: MiniRAE 3000 Equipment ID #: Bulk: 11.8

	Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib. Check if necessary
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0630 Initials: SB	Time: Initials:	Time: Initials:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	IGB-250-100-20	Value: TO2420 SB	Value:	Value:

COMB. GAS/O2 METER

Model: Equipment ID #:

	Parameter	Standard	Exp. Date	Lot#	Morning Calibration	Evening Check	Additional Calib. Check if necessary
First Point Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	%LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model: Equipment ID #:

	Parameter	Standard	Exp. Date	Lot#	Morning Calibration Check	Evening Check (one point only)	Additional Calib. Check if necessary
1st Point Calibration (Daily)	pH	4.00			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	1.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.3-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration (Weekly)	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	58.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	62.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

01194242

EQUIPMENT CALIBRATION DAILY LOG

Date: 6/8/23

Project Number: JUPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beasinbar

PID

Model: Mini RAE 3000 Build: 11.8

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Time: 0620 Initials: SB Value: TO ZERO SB	Time: Initials: Value:	Time: Initials: Value:
Second Point Calibration	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23	JGB-250-100-20	Value: SB	Value:	Value:

COMS. GAS/O2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration	O2 (%)				Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	% LEL Pentane				Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration/Check	Evening Check (one point only)	Additional Calib. Check (if necessary)
First Point Calibration (Buffer)	pH	4.00			Time: Initials: Value:	Time: Initials: Value:	Time: Initials: Value:
	Conductivity (mS/cm)	4.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.3-9.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	99.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

Additional Remarks:

01194243

EQUIPMENT CALIBRATION DAILY LOG

Date: 6/26/23

Project Number: JUPCIBH.0001

Project Name: LHAAP-GWTP

Recorded By: Scott Beesinger

PID

Model: M.W. RAE 3000

Equipment ID #: Batt. 11.8 ~~10.5~~ mV

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration					Time: 0635	Time:	Time:
	Vapor conc. (ppm)	0.0 (ambient air)	NA	NA	Initials: SB	Initials:	Initials:
Second Point Calibration					Value: TO 2400 SB	Value:	Value:
	Vapor conc. (ppm)	100 ppm (isobutylene)	12/28/23 ~~100-250~~ 100-20	UGB-250-100-20	Value: SB	Value:	Value:

COMB. GAS/O2 METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration	Evening Check	Additional Calib. Check (if necessary)
First Point Calibration					Time:	Time:	Time:
	O2 (%)				Initials:	Initials:	Initials:
	% LEL Pentane				Value:	Value:	Value:
					Value:	Value:	Value:

WATER QUALITY METER

Model:

Equipment ID #:

	Parameter	Standard	Exp. Date	Lot #	Morning Calibration Check	Evening Check (one point only)	Additional Calib. Check (if necessary)
First Point Calibration (Buffer)					Time:	Time:	Time:
	pH	4.00			Initials:	Initials:	Initials:
	Conductivity (mS/cm)	1.49			Value:	Value:	Value:
	Turbidity (NTU)	0			Value:	Value:	Value:
	DO (mg/L)	8.3-8.1 (ambient air)	NA	NA	Value:	Value:	Value:
Second Point Calibration							
	pH	6.86			Value:	Value:	Value:
	Conductivity (mS/cm)	99.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:
Third Point Calibration							
	pH	9.18			Value:	Value:	Value:
	Conductivity (mS/cm)	82.7			Value:	Value:	Value:
	Turbidity (NTU)	100			Value:	Value:	Value:

HS23060739 LHAAP 18 24 Cover Page

ALS WO# HS23060739

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

Table of Contents

HS23060739 LHAAP 18 24 Cover Page
- CoverPage
- HS23060739 LHAAP 18 24 Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - MW5_060923
  - 18CPTMW08DW_060923
  - 18CPTMW08SW_060923
  - 18CPTMW04SW_060923
  - 18CPTMW04_060923
  - 18CPTMW04_060923_a
  - Trip Blank
  - Weight/Volume Log
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - SampleReceiptCheckList
  - COC
  - HS23060739-E2300559 Perchlorate Report II
- HS23060739-MSVOA-SW8260

Table of Contents (continued)

Form 1 - Sample Results
Form 2 - Surrogates
Form 3A - MS/MSD
Form 3B - LCS/LCSD
Form 4 - MB Assoc
Form 5 - Tune
Form 6 - ICAL
Form 6I - ICV
Form 7 - CCV
Form 8 - ISTD
Run Log
Raw Data VOA6 438076
Raw Data VOA6 439205
HS23060739-MSSEMI-SW8270SIM
Form 1 - Sample Results
Form 2 - Surrogates
Form 3B - LCS/LCSD
Form 4 - MB Assoc
Form 5 - Tune
Form 6 - ICAL
Form 6I - ICV
Form 7 - CCV
Prep Log
Run Log
Raw Data SV 6 439923
Raw Data SV 6 439307
HS23060739 - ME - HG_W_DODICP_W_DOD
Form 11 - ICPMS06 Internal Standard Association
Form 13 - HG04_439735 Run Log
Form 13 - ICPMS06_439681 Run Log
Form 2 - HG04_439735 CCV
Form 2 - ICPMS06_439681 CCV
Form 3 - HG04_439735 CCB
Form 3 - ICPMS06_439681 CCB
Form 4 - ICPMS06_439681 ICSA

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

right solutions.
right partner.

WorkOrder: HS23060739

LHAAP 18 24

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

21-Jun-2023

HS23060739 LHAAP 18 24 Final

ALS WO# HS23060739

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

July 12, 2023

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

Work Order: **HS23060739**

Laboratory Results for: **LHAAP 18 24**

Dear Marcia Olive,

ALS Environmental received 7 sample(s) on Jun 10, 2023 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
James Guin

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Work Order: HS23060739

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23060739-01	MW5_060923	Groundwater		09-Jun-2023 06:50	10-Jun-2023 11:10	☐
HS23060739-02	18CPTMW08DW_060923	Groundwater		09-Jun-2023 07:35	10-Jun-2023 11:10	☐
HS23060739-03	18CPTMW08SW_060923	Groundwater		09-Jun-2023 08:20	10-Jun-2023 11:10	☐
HS23060739-04	18CPTMW04SW_060923	Groundwater		09-Jun-2023 09:05	10-Jun-2023 11:10	☐
HS23060739-05	18CPTMW04_060923	Groundwater		09-Jun-2023 09:55	10-Jun-2023 11:10	☐
HS23060739-06	18CPTMW04_060923_a	Groundwater		09-Jun-2023 09:55	10-Jun-2023 11:10	☐
HS23060739-07	Trip Blank	Water	CG-041923-805	09-Jun-2023 00:00	10-Jun-2023 11:10	☐

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP 18 24
Work Order: HS23060739

Work Order Comments

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

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 195305

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

GCMS Volatiles by Method SW8260

Batch ID: R439205

Sample ID: HS23060722-05MS

• MS and MSD are for an unrelated sample

Metals by Method SW7470A

Batch ID: 196674

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

Metals by Method SW6020A

Batch ID: 196499

Sample ID: HS23060757-08MS

• MS and MSD are for an unrelated sample

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: MW5_060923
Collection Date: 09-Jun-2023 06:50

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,1-Dichloroethane	**3.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 20:44
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,3-Dichlorobenzene	**0.52**	J	**0.40**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 20:44
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:44
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 20:44
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 20:44
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:44
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 20:44
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 20:44
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 20:44
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: MW5_060923
Collection Date: 09-Jun-2023 06:50

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
cis-1,2-Dichloroethene	**11**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 20:44
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 20:44
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 20:44
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:44
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Trichloroethene	**41**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 20:44
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:44
Vinyl chloride	**4.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 20:44
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 20:44*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 20:44*
Surr: Dibromofluoromethane	*99.4*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 20:44*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 20:44*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**0.056**		**0.010**	**0.0050**	**0.010**	**ug/L**	1	19-Jun-2023 13:32
Surr: 2-Fluorobiphenyl	*111*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 13:32*
Surr: 4-Terphenyl-d14	*107*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 13:32*
Surr: Nitrobenzene-d5	*93.4*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 13:32*

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: MW5_060923
Collection Date: 09-Jun-2023 06:50

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 21-Jun-2023		Analyst: JHD
Aluminum	**0.00603**	J	**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	23-Jun-2023 22:16
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	23-Jun-2023 22:16
Arsenic	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	23-Jun-2023 22:16
Barium	**0.928**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	23-Jun-2023 22:16
Cadmium	**0.000827**	J	**0.000200**	**0.000500**	**0.00200**	**mg/L**	1	23-Jun-2023 22:16
Calcium	**22.9**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	23-Jun-2023 22:16
Chromium	**0.129**		**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
Cobalt	**0.00354**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
Copper	**0.00203**	J	**0.00100**	**0.00250**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
Iron	**0.830**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	23-Jun-2023 22:16
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	23-Jun-2023 22:16
Magnesium	**24.3**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	23-Jun-2023 22:16
Manganese	**0.0938**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
Nickel	**0.0784**		**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
Potassium	**2.33**		**0.0180**	**1.00**	**0.200**	**mg/L**	1	23-Jun-2023 22:16
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	23-Jun-2023 22:16
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	23-Jun-2023 22:16
Sodium	**117**		**0.0140**	**0.0500**	**0.200**	**mg/L**	1	23-Jun-2023 22:16
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	23-Jun-2023 22:16
Vanadium	**0.00310**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
Zinc	**0.0218**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	23-Jun-2023 22:16
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 23-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	23-Jun-2023 14:23
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	12-Jul-2023 10:06

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW08DW_060923
Collection Date: 09-Jun-2023 07:35

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**0.021**		**0.010**	**0.0050**	**0.010**	**ug/L**	1	19-Jun-2023 13:50
Surr: 2-Fluorobiphenyl	*111*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 13:50*
Surr: 4-Terphenyl-d14	*111*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 13:50*
Surr: Nitrobenzene-d5	*94.3*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 13:50*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	12-Jul-2023 10:06

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW08SW_060923
Collection Date: 09-Jun-2023 08:20

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,1-Dichloroethane	**3.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 21:05
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 21:05
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 21:05
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 21:05
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 21:05
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 21:05
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW08SW_060923
Collection Date: 09-Jun-2023 08:20

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
cis-1,2-Dichloroethene	**8.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 21:05
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 21:05
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 21:05
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:05
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Trichloroethene	**31**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 21:05
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:05
Vinyl chloride	**0.99**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 21:05
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 21:05*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 21:05*
Surr: Dibromofluoromethane	*99.8*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 21:05*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 21:05*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**0.035**		**0.010**	**0.0050**	**0.010**	**ug/L**	1	19-Jun-2023 14:08
Surr: 2-Fluorobiphenyl	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:08*
Surr: 4-Terphenyl-d14	*111*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:08*
Surr: Nitrobenzene-d5	*97.7*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:08*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	12-Jul-2023 10:06

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW04SW_060923
Collection Date: 09-Jun-2023 09:05

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 21:27
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 21:27
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 21:27
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 21:27
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 21:27
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW04SW_060923
Collection Date: 09-Jun-2023 09:05

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 21:27
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 21:27
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 21:27
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 21:27
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 21:27*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 21:27*
Surr: Dibromofluoromethane	*99.8*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 21:27*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 21:27*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	0.0050	U	0.010	0.0050	0.010	ug/L	1	19-Jun-2023 14:26
Surr: 2-Fluorobiphenyl	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:26*
Surr: 4-Terphenyl-d14	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:26*
Surr: Nitrobenzene-d5	*93.2*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:26*

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW04SW_060923
Collection Date: 09-Jun-2023 09:05

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 21-Jun-2023		Analyst: JHD
Aluminum	**0.0239**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	23-Jun-2023 22:18
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	23-Jun-2023 22:18
Arsenic	**0.00279**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
Barium	**0.571**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	23-Jun-2023 22:18
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	23-Jun-2023 22:18
Calcium	**24.9**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	23-Jun-2023 22:18
Chromium	**0.0220**		**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
Cobalt	**0.00382**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
Copper	0.00250	U	0.00100	0.00250	0.00500	mg/L	1	23-Jun-2023 22:18
Iron	**7.08**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	23-Jun-2023 22:18
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	23-Jun-2023 22:18
Magnesium	**15.1**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	23-Jun-2023 22:18
Manganese	**0.370**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
Nickel	**0.00256**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
Potassium	**137**		**0.0180**	**1.00**	**0.200**	**mg/L**	1	23-Jun-2023 22:18
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	23-Jun-2023 22:18
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	23-Jun-2023 22:18
Sodium	**127**		**0.0140**	**0.0500**	**0.200**	**mg/L**	1	23-Jun-2023 22:18
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	23-Jun-2023 22:18
Vanadium	**0.000957**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
Zinc	**0.00559**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	23-Jun-2023 22:18
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 23-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	23-Jun-2023 14:30
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	12-Jul-2023 10:06

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW04_060923
Collection Date: 09-Jun-2023 09:55

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 18:38
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 18:38
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 18:38
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 18:38
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 18:38
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW04_060923
Collection Date: 09-Jun-2023 09:55

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
cis-1,2-Dichloroethene	**5.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 18:38
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 18:38
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 18:38
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:38
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Trichloroethene	**170**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 18:38
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:38
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 18:38*
Surr: 4-Bromofluorobenzene	*98.2*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 18:38*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 18:38*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 18:38*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**0.027**		**0.010**	**0.0050**	**0.010**	**ug/L**	1	19-Jun-2023 14:44
Surr: 2-Fluorobiphenyl	*111*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:44*
Surr: 4-Terphenyl-d14	*111*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:44*
Surr: Nitrobenzene-d5	*92.7*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 14:44*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	12-Jul-2023 10:06

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW04_060923_a
Collection Date: 09-Jun-2023 09:55

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 18:59
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 18:59
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 18:59
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 18:59
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 18:59
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: 18CPTMW04_060923_a
Collection Date: 09-Jun-2023 09:55

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
cis-1,2-Dichloroethene	**5.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 18:59
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 18:59
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 18:59
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 18:59
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Trichloroethene	**180**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 18:59
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 18:59
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 18:59*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 18:59*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 18:59*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 18:59*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**0.039**		**0.010**	**0.0050**	**0.010**	**ug/L**	1	19-Jun-2023 15:02
Surr: 2-Fluorobiphenyl	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 15:02*
Surr: 4-Terphenyl-d14	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 15:02*
Surr: Nitrobenzene-d5	*97.9*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 15:02*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	12-Jul-2023 10:06

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: Trip Blank
Collection Date: 09-Jun-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-07
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 15:29
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 15:29
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 15:29
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 15:29
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 15:29
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
Sample ID: Trip Blank
Collection Date: 09-Jun-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23060739
Lab ID:HS23060739-07
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 15:29
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 15:29
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 15:29
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 15:29
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 15:29*
Surr: 4-Bromofluorobenzene	*96.5*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 15:29*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 15:29*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 15:29*

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

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Batch ID: 195305 **Start Date:** 16 Jun 2023 12:10 **End Date:** 16 Jun 2023 12:10
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23060739-01	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060739-02	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060739-03	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060739-04	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060739-05	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060739-06	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 196499 **Start Date:** 21 Jun 2023 08:30 **End Date:** 21 Jun 2023 08:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23060739-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060739-04		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 196674 **Start Date:** 23 Jun 2023 08:00 **End Date:** 23 Jun 2023 08:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23060739-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060739-04		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 195305 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Groundwater	
HS23060739-01	MW5_060923	09 Jun 2023 06:50		16 Jun 2023 12:10	19 Jun 2023 13:32	1
HS23060739-02	18CPTMW08DW_060923	09 Jun 2023 07:35		16 Jun 2023 12:10	19 Jun 2023 13:50	1
HS23060739-03	18CPTMW08SW_060923	09 Jun 2023 08:20		16 Jun 2023 12:10	19 Jun 2023 14:08	1
HS23060739-04	18CPTMW04SW_060923	09 Jun 2023 09:05		16 Jun 2023 12:10	19 Jun 2023 14:26	1
HS23060739-05	18CPTMW04_060923	09 Jun 2023 09:55		16 Jun 2023 12:10	19 Jun 2023 14:44	1
HS23060739-06	18CPTMW04_060923_a	09 Jun 2023 09:55		16 Jun 2023 12:10	19 Jun 2023 15:02	1
Batch ID: 196499 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS23060739-01	MW5_060923	09 Jun 2023 06:50		21 Jun 2023 08:30	23 Jun 2023 22:16	1
HS23060739-04	18CPTMW04SW_060923	09 Jun 2023 09:05		21 Jun 2023 08:30	23 Jun 2023 22:18	1
Batch ID: 196674 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Groundwater	
HS23060739-01	MW5_060923	09 Jun 2023 06:50		23 Jun 2023 08:00	23 Jun 2023 14:23	1
HS23060739-04	18CPTMW04SW_060923	09 Jun 2023 09:05		23 Jun 2023 08:00	23 Jun 2023 14:30	1
Batch ID: R439205 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS23060739-07	Trip Blank	09 Jun 2023 00:00			17 Jun 2023 15:29	1
Batch ID: R439205 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS23060739-01	MW5_060923	09 Jun 2023 06:50			17 Jun 2023 20:44	1
HS23060739-03	18CPTMW08SW_060923	09 Jun 2023 08:20			17 Jun 2023 21:05	1
HS23060739-04	18CPTMW04SW_060923	09 Jun 2023 09:05			17 Jun 2023 21:27	1
HS23060739-05	18CPTMW04_060923	09 Jun 2023 09:55			17 Jun 2023 18:38	1
HS23060739-06	18CPTMW04_060923_a	09 Jun 2023 09:55			17 Jun 2023 18:59	1
Batch ID: R441070 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS23060739-01	MW5_060923	09 Jun 2023 06:50			12 Jul 2023 10:06	1
HS23060739-02	18CPTMW08DW_060923	09 Jun 2023 07:35			12 Jul 2023 10:06	1
HS23060739-03	18CPTMW08SW_060923	09 Jun 2023 08:20			12 Jul 2023 10:06	1
HS23060739-04	18CPTMW04SW_060923	09 Jun 2023 09:05			12 Jul 2023 10:06	1
HS23060739-05	18CPTMW04_060923	09 Jun 2023 09:55			12 Jul 2023 10:06	1
HS23060739-06	18CPTMW04_060923_a	09 Jun 2023 09:55			12 Jul 2023 10:06	1

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 196499 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-196499** Units: **mg/L** Analysis Date: **23-Jun-2023 21:55**
Client ID: Run ID: **ICPMS06_439681** SeqNo: **7383346** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.00500	0.0100								U
Antimony	0.00125	0.00500								U
Arsenic	0.00125	0.00500								U
Barium	0.00250	0.00500								U
Beryllium	0.000500	0.00200								U
Cadmium	0.000500	0.00200								U
Calcium	0.0500	0.500								U
Chromium	0.00125	0.00500								U
Cobalt	0.000500	0.00500								U
Copper	0.00250	0.00500								U
Iron	0.0500	0.200								U
Lead	0.00125	0.00500								U
Magnesium	0.0500	0.200								U
Manganese	0.00250	0.00500								U
Nickel	0.00125	0.00500								U
Potassium	1.00	0.200								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U
Sodium	0.06293	0.200								J
Thallium	0.000500	0.00200								U
Vanadium	0.00125	0.00500								U
Zinc	0.00250	0.00500								U

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 196499 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

LCS Sample ID: **LCS-196499** Units: **mg/L** Analysis Date: **23-Jun-2023 21:57**
Client ID: Run ID: **ICPMS06_439681** SeqNo: **7383347** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1012	0.0100	0.1	0	101	84 - 117				
Antimony	0.04944	0.00500	0.05	0	98.9	85 - 117				
Arsenic	0.04935	0.00500	0.05	0	98.7	84 - 116				
Barium	0.04876	0.00500	0.05	0	97.5	86 - 114				
Beryllium	0.04593	0.00200	0.05	0	91.9	83 - 121				
Cadmium	0.04958	0.00200	0.05	0	99.2	87 - 115				
Calcium	4.803	0.500	5	0	96.1	87 - 118				
Chromium	0.0484	0.00500	0.05	0	96.8	85 - 116				
Cobalt	0.05023	0.00500	0.05	0	100	86 - 115				
Copper	0.05158	0.00500	0.05	0	103	85 - 118				
Iron	5.001	0.200	5	0	100	87 - 118				
Lead	0.04785	0.00500	0.05	0	95.7	88 - 115				
Magnesium	5.069	0.200	5	0	101	83 - 118				
Manganese	0.04899	0.00500	0.05	0	98.0	87 - 115				
Nickel	0.05066	0.00500	0.05	0	101	85 - 117				
Potassium	4.95	0.200	5	0	99.0	87 - 115				
Selenium	0.0515	0.00500	0.05	0	103	80 - 120				
Silver	0.04904	0.00500	0.05	0	98.1	85 - 116				
Sodium	5.008	0.200	5	0	100	85 - 117				
Thallium	0.04405	0.00200	0.05	0	88.1	82 - 116				
Vanadium	0.04913	0.00500	0.05	0	98.3	86 - 115				
Zinc	0.05176	0.00500	0.05	0	104	83 - 119				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 196499 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MS Sample ID: **HS23060757-08MS** Units: **mg/L** Analysis Date: **23-Jun-2023 22:03**
Client ID: Run ID: **ICPMS06_439681** SeqNo: **7383321** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1426	0.0100	0.1	0.03582	107	84 - 117				
Antimony	0.05166	0.00500	0.05	0.000331	103	85 - 117				
Arsenic	0.381	0.00500	0.05	0.3195	123	84 - 116				SO
Barium	0.08252	0.00500	0.05	0.03207	101	86 - 114				
Beryllium	0.04749	0.00200	0.05	0.000025	94.9	83 - 121				
Cadmium	0.05088	0.00200	0.05	0.000004	102	87 - 115				
Calcium	69.49	0.500	5	63.82	114	87 - 118				O
Chromium	0.05004	0.00500	0.05	-0.000321	101	85 - 116				
Cobalt	0.05087	0.00500	0.05	0.000374	101	86 - 115				
Copper	0.05158	0.00500	0.05	0.00007	103	85 - 118				
Iron	6.047	0.200	5	0.9509	102	87 - 118				
Lead	0.04891	0.00500	0.05	0.000035	97.8	88 - 115				
Magnesium	8.583	0.200	5	3.508	101	83 - 118				
Manganese	0.1895	0.00500	0.05	0.1371	105	87 - 115				
Nickel	0.05202	0.00500	0.05	0.00043	103	85 - 117				
Potassium	7.264	0.200	5	2.259	100	87 - 115				
Selenium	0.05109	0.00500	0.05	0.000485	101	80 - 120				
Silver	0.0494	0.00500	0.05	0.000008	98.8	85 - 116				
Sodium	13.2	0.200	5	7.938	105	85 - 117				
Thallium	0.05383	0.00200	0.05	0.000799	106	82 - 116				
Vanadium	0.05131	0.00500	0.05	0.000497	102	86 - 115				
Zinc	0.05356	0.00500	0.05	0.001185	105	83 - 119				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 196499 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MSD Sample ID: **HS23060757-08MSD** Units: **mg/L** Analysis Date: **23-Jun-2023 22:05**
Client ID: Run ID: **ICPMS06_439681** SeqNo: **7383322** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1551	0.0100	0.1	0.03582	119	84 - 117	0.1426	8.39	20	S
Antimony	0.05136	0.00500	0.05	0.000331	102	85 - 117	0.05166	0.567	20	
Arsenic	0.3794	0.00500	0.05	0.3195	120	84 - 116	0.381	0.411	20	SO
Barium	0.08352	0.00500	0.05	0.03207	103	86 - 114	0.08252	1.2	20	
Beryllium	0.04625	0.00200	0.05	0.000025	92.4	83 - 121	0.04749	2.66	20	
Cadmium	0.05101	0.00200	0.05	0.000004	102	87 - 115	0.05088	0.243	20	
Calcium	69.61	0.500	5	63.82	116	87 - 118	69.49	0.178	20	O
Chromium	0.04959	0.00500	0.05	-0.000321	99.8	85 - 116	0.05004	0.901	20	
Cobalt	0.05024	0.00500	0.05	0.000374	99.7	86 - 115	0.05087	1.24	20	
Copper	0.05139	0.00500	0.05	0.00007	103	85 - 118	0.05158	0.381	20	
Iron	5.985	0.200	5	0.9509	101	87 - 118	6.047	1.04	20	
Lead	0.04881	0.00500	0.05	0.000035	97.6	88 - 115	0.04891	0.201	20	
Magnesium	8.427	0.200	5	3.508	98.4	83 - 118	8.583	1.84	20	
Manganese	0.1821	0.00500	0.05	0.1371	89.9	87 - 115	0.1895	4.01	20	
Nickel	0.05133	0.00500	0.05	0.00043	102	85 - 117	0.05202	1.35	20	
Potassium	7.177	0.200	5	2.259	98.4	87 - 115	7.264	1.21	20	
Selenium	0.05077	0.00500	0.05	0.000485	101	80 - 120	0.05109	0.64	20	
Silver	0.04908	0.00500	0.05	0.000008	98.2	85 - 116	0.0494	0.636	20	
Sodium	13.05	0.200	5	7.938	102	85 - 117	13.2	1.13	20	
Thallium	0.05342	0.00200	0.05	0.000799	105	82 - 116	0.05383	0.77	20	
Vanadium	0.05072	0.00500	0.05	0.000497	100	86 - 115	0.05131	1.15	20	
Zinc	0.0529	0.00500	0.05	0.001185	103	83 - 119	0.05356	1.24	20	

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 196499 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS23060757-08PDS** Units: **mg/L** Analysis Date: **23-Jun-2023 22:06**
Client ID: Run ID: **ICPMS06_439681** SeqNo: **7383323** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1349	0.0100	0.1	0.03582	99.1	80 - 120				
Antimony	0.09176	0.00500	0.1	0.000331	91.4	80 - 120				
Arsenic	0.4239	0.00500	0.1	0.3195	104	80 - 120				
Barium	0.1265	0.00500	0.1	0.03207	94.4	80 - 120				
Beryllium	0.08459	0.00200	0.1	0.000025	84.6	80 - 120				
Cadmium	0.09404	0.00200	0.1	0.000004	94.0	80 - 120				
Calcium	74.14	0.500	10	63.82	103	80 - 120				O
Chromium	0.09235	0.00500	0.1	-0.000321	92.7	80 - 120				
Cobalt	0.09349	0.00500	0.1	0.000374	93.1	80 - 120				
Copper	0.09468	0.00500	0.1	0.00007	94.6	80 - 120				
Iron	10.28	0.200	10	0.9509	93.3	80 - 120				
Lead	0.09016	0.00500	0.1	0.000035	90.1	80 - 120				
Magnesium	12.65	0.200	10	3.508	91.4	80 - 120				
Manganese	0.23	0.00500	0.1	0.1371	92.9	80 - 120				
Nickel	0.09368	0.00500	0.1	0.00043	93.2	80 - 120				
Potassium	11.2	0.200	10	2.259	89.4	80 - 120				
Selenium	0.09697	0.00500	0.1	0.000485	96.5	80 - 120				
Silver	0.09375	0.00500	0.1	0.000008	93.7	80 - 120				
Sodium	17.07	0.200	10	7.938	91.3	80 - 120				
Thallium	0.0982	0.00200	0.1	0.000799	97.4	80 - 120				
Vanadium	0.09418	0.00500	0.1	0.000497	93.7	80 - 120				
Zinc	0.09719	0.00500	0.1	0.001185	96.0	80 - 120				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 196499 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

SD Sample ID: **HS23060757-08SD** Units: **mg/L** Analysis Date: **23-Jun-2023 22:01**
Client ID: Run ID: **ICPMS06_439681** SeqNo: **7383320** PrepDate: **21-Jun-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.04041	0.0500					0.03582	0	10	J
Antimony	0.00625	0.0250					0.000331	0	10	U
Arsenic	0.3096	0.0250					0.3195	3.11	10	
Barium	0.03024	0.0250					0.03207	5.72	10	
Beryllium	0.00250	0.0100					0.000025	0	10	U
Cadmium	0.00250	0.0100					0.000004	0	10	U
Calcium	63.59	2.50					63.82	0.36	10	
Chromium	0.00625	0.0250					-0.000321	0	10	U
Cobalt	0.00250	0.0250					0.000374	0	10	U
Copper	0.0125	0.0250					0.00007	0	10	U
Iron	0.9751	1.00					0.9509	0	10	J
Lead	0.00625	0.0250					0.000035	0	10	U
Magnesium	3.692	1.00					3.508	5.22	10	
Manganese	0.1352	0.0250					0.1371	1.42	10	
Nickel	0.00625	0.0250					0.00043	0	10	U
Potassium	2.219	1.00					2.259	1.79	10	
Selenium	0.0125	0.0250					0.000485	0	10	U
Silver	0.00250	0.0250					0.000008	0	10	U
Sodium	8.175	1.00					7.938	2.97	10	
Thallium	0.00250	0.0100					0.000799	0	10	U
Vanadium	0.00625	0.0250					0.000497	0	10	U
Zinc	0.0125	0.0250					0.001185	0	10	U

The following samples were analyzed in this batch: HS23060739-01 HS23060739-04

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 196674 (0) **Instrument: HG04** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-196674** Units: **mg/L** Analysis Date: **23-Jun-2023 14:10**
Client ID: Run ID: **HG04_439735** SeqNo: **7381772** PrepDate: **23-Jun-2023** DF: **1**

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

LCS Sample ID: **LCS-196674** Units: **mg/L** Analysis Date: **23-Jun-2023 14:21**
Client ID: Run ID: **HG04_439735** SeqNo: **7381773** PrepDate: **23-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00505	0.000200	0.005	0	101	82 - 119				

MS Sample ID: **HS23060739-01MS** Units: **mg/L** Analysis Date: **23-Jun-2023 14:25**
Client ID: **MW5_060923** Run ID: **HG04_439735** SeqNo: **7381775** PrepDate: **23-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00492	0.000200	0.005	0.000002000	98.4	82 - 119				

MSD Sample ID: **HS23060739-01MSD** Units: **mg/L** Analysis Date: **23-Jun-2023 14:29**
Client ID: **MW5_060923** Run ID: **HG04_439735** SeqNo: **7381776** PrepDate: **23-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00507	0.000200	0.005	0.000002000	101	82 - 119	0.004920	3	20	

The following samples were analyzed in this batch: HS23060739-01 HS23060739-04

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: 195305 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-195305** Units: **ug/L** Analysis Date: **19-Jun-2023 12:38**
Client ID: Run ID: **SV-6_439307** SeqNo: **7371873** PrepDate: **16-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.0050	0.030								U
Surr: 2-Fluorobiphenyl	*0.08836*	*0*	*0.08*	*0*	*110*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08665*	*0*	*0.08*	*0*	*108*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.0821*	*0*	*0.08*	*0*	*103*	*40 - 140*				

LCS Sample ID: **LCS1-195305** Units: **ug/L** Analysis Date: **19-Jun-2023 12:56**
Client ID: Run ID: **SV-6_439307** SeqNo: **7371874** PrepDate: **16-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07743	0.030	0.08	0	96.8	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08727*	*0*	*0.08*	*0*	*109*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08357*	*0*	*0.08*	*0*	*104*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.07742*	*0*	*0.08*	*0*	*96.8*	*40 - 140*				

LCSD Sample ID: **LCSD1-195305** Units: **ug/L** Analysis Date: **19-Jun-2023 13:14**
Client ID: Run ID: **SV-6_439307** SeqNo: **7371875** PrepDate: **16-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07928	0.030	0.08	0	99.1	40 - 140	0.07743	2.35	20	
Surr: 2-Fluorobiphenyl	*0.08954*	*0*	*0.08*	*0*	*112*	*40 - 140*	*0.08727*	*2.57*	*20*	
Surr: 4-Terphenyl-d14	*0.08768*	*0*	*0.08*	*0*	*110*	*40 - 140*	*0.08357*	*4.79*	*20*	
Surr: Nitrobenzene-d5	*0.07887*	*0*	*0.08*	*0*	*98.6*	*40 - 140*	*0.07742*	*1.86*	*20*	

The following samples were analyzed in this batch: HS23060739-01 HS23060739-02 HS23060739-03 HS23060739-04 HS23060739-05 HS23060739-06

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 13:23**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369574** PrepDate: DF: **1**

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

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 13:23**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369574** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	0.50	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	0.50	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*51.46*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.92*	*1.0*	*50*	*0*	*97.8*	*85 - 114*				
Surr: Dibromofluoromethane	*50.82*	*1.0*	*50*	*0*	*102*	*80 - 119*				
Surr: Toluene-d8	*53.41*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 12:40**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369573** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.12	1.0	20	0	95.6	78 - 124				
1,1,1-Trichloroethane	19.15	1.0	20	0	95.7	74 - 131				
1,1,2,2-Tetrachloroethane	18.86	1.0	20	0	94.3	71 - 121				
1,1,2-Trichloroethane	19.18	1.0	20	0	95.9	80 - 119				
1,1-Dichloroethane	19.68	1.0	20	0	98.4	77 - 125				
1,1-Dichloroethene	18.91	1.0	20	0	94.6	71 - 131				
1,1-Dichloropropene	19.35	1.0	20	0	96.7	78 - 125				
1,2,3-Trichlorobenzene	19.91	1.0	20	0	99.6	69 - 129				
1,2,3-Trichloropropane	20.1	1.0	20	0	101	73 - 122				
1,2,4-Trichlorobenzene	19.27	1.0	20	0	96.3	69 - 130				
1,2,4-Trimethylbenzene	19.42	1.0	20	0	97.1	76 - 124				
1,2-Dibromo-3-chloropropane	20.01	1.0	20	0	100	62 - 128				
1,2-Dibromoethane	19.49	1.0	20	0	97.4	77 - 121				
1,2-Dichlorobenzene	19.13	1.0	20	0	95.6	80 - 119				
1,2-Dichloroethane	20.27	1.0	20	0	101	73 - 128				
1,2-Dichloropropane	19.87	1.0	20	0	99.3	78 - 122				
1,3,5-Trimethylbenzene	19.19	1.0	20	0	95.9	75 - 124				
1,3-Dichlorobenzene	18.98	1.0	20	0	94.9	80 - 119				
1,3-Dichloropropane	19.64	1.0	20	0	98.2	80 - 119				
1,4-Dichlorobenzene	18.82	1.0	20	0	94.1	79 - 118				
2,2-Dichloropropane	21.02	1.0	20	0	105	60 - 139				
2-Butanone	36.49	2.0	40	0	91.2	56 - 143				
2-Chlorotoluene	19.13	1.0	20	0	95.6	79 - 122				
2-Hexanone	41.8	2.0	40	0	105	57 - 139				
4-Chlorotoluene	19.81	1.0	20	0	99.0	78 - 122				
4-Isopropyltoluene	19.11	1.0	20	0	95.5	77 - 127				
4-Methyl-2-pentanone	39.82	2.0	40	0	99.6	67 - 130				
Acetone	36.87	2.0	40	0	92.2	39 - 160				
Benzene	19.05	1.0	20	0	95.3	79 - 120				
Bromobenzene	18.64	1.0	20	0	93.2	80 - 120				
Bromochloromethane	19.56	1.0	20	0	97.8	78 - 123				
Bromodichloromethane	19.21	1.0	20	0	96.1	79 - 125				
Bromoform	18.99	1.0	20	0	94.9	66 - 130				
Bromomethane	20.25	1.0	20	0	101	53 - 141				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 12:40**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369573** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	37.45	2.0	40	0	93.6	64 - 133				
Carbon tetrachloride	18.74	1.0	20	0	93.7	72 - 136				
Chlorobenzene	19.48	1.0	20	0	97.4	82 - 118				
Chloroethane	20.93	1.0	20	0	105	60 - 138				
Chloroform	19.27	1.0	20	0	96.4	79 - 124				
Chloromethane	20.82	1.0	20	0	104	50 - 139				
cis-1,2-Dichloroethene	19.37	1.0	20	0	96.8	78 - 123				
cis-1,3-Dichloropropene	19.89	1.0	20	0	99.5	75 - 124				
Dibromochloromethane	19.35	1.0	20	0	96.8	74 - 126				
Dibromomethane	19.87	1.0	20	0	99.3	79 - 123				
Dichlorodifluoromethane	19.87	1.0	20	0	99.4	32 - 152				
Ethylbenzene	19.08	1.0	20	0	95.4	79 - 121				
Hexachlorobutadiene	18.29	1.0	20	0	91.5	66 - 134				
Isopropylbenzene	19.19	1.0	20	0	95.9	72 - 131				
m,p-Xylene	39.74	2.0	40	0	99.4	80 - 121				
Methylene chloride	19.29	2.0	20	0	96.4	74 - 124				
Naphthalene	19.76	1.0	20	0	98.8	61 - 128				
n-Butylbenzene	20.02	1.0	20	0	100	75 - 128				
n-Propylbenzene	19.5	1.0	20	0	97.5	76 - 126				
o-Xylene	19.28	1.0	20	0	96.4	78 - 122				
sec-Butylbenzene	18.75	1.0	20	0	93.7	77 - 126				
Styrene	19.92	1.0	20	0	99.6	78 - 123				
tert-Butylbenzene	18.77	1.0	20	0	93.9	78 - 124				
Tetrachloroethene	18.59	1.0	20	0	93.0	74 - 129				
Toluene	19.64	1.0	20	0	98.2	80 - 121				
trans-1,2-Dichloroethene	18.78	1.0	20	0	93.9	75 - 124				
trans-1,3-Dichloropropene	19.98	1.0	20	0	99.9	73 - 127				
Trichloroethene	18.91	1.0	20	0	94.6	79 - 123				
Trichlorofluoromethane	19.71	1.0	20	0	98.5	65 - 141				
Vinyl chloride	19.32	1.0	20	0	96.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*55.25*	*1.0*	*50*	*0*	*111*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.77*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*54.46*	*1.0*	*50*	*0*	*109*	*80 - 119*				
Surr: Toluene-d8	*50.42*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS23060722-05MS** Units: **ug/L** Analysis Date: **17-Jun-2023 14:26**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369577** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.13	1.0	20	0	111	78 - 124				
1,1,1-Trichloroethane	21.53	1.0	20	0	108	74 - 131				
1,1,2,2-Tetrachloroethane	22.27	1.0	20	0	111	71 - 121				
1,1,2-Trichloroethane	22.32	1.0	20	0	112	80 - 119				
1,1-Dichloroethane	26.73	1.0	20	5.87	104	77 - 125				
1,1-Dichloroethene	50.29	1.0	20	28.53	109	71 - 131				
1,1-Dichloropropene	23.42	1.0	20	0	117	78 - 125				
1,2,3-Trichlorobenzene	22.81	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	23.28	1.0	20	0	116	73 - 122				
1,2,4-Trichlorobenzene	23.53	1.0	20	0	118	69 - 130				
1,2,4-Trimethylbenzene	24.35	1.0	20	0	122	76 - 124				
1,2-Dibromo-3-chloropropane	23.23	1.0	20	0	116	62 - 128				
1,2-Dibromoethane	22.39	1.0	20	0	112	77 - 121				
1,2-Dichlorobenzene	23	1.0	20	0	115	80 - 119				
1,2-Dichloroethane	22.52	1.0	20	0	113	73 - 128				
1,2-Dichloropropane	21.79	1.0	20	0	109	78 - 122				
1,3,5-Trimethylbenzene	24.53	1.0	20	0	123	75 - 124				
1,3-Dichlorobenzene	23.44	1.0	20	0	117	80 - 119				
1,3-Dichloropropane	22.9	1.0	20	0	115	80 - 119				
1,4-Dichlorobenzene	22.91	1.0	20	0	115	79 - 118				
2,2-Dichloropropane	23.8	1.0	20	0	119	60 - 139				
2-Butanone	35.54	2.0	40	0	88.8	56 - 143				
2-Chlorotoluene	24.19	1.0	20	0	121	79 - 122				
2-Hexanone	47.34	2.0	40	0	118	57 - 139				
4-Chlorotoluene	24.54	1.0	20	0	123	78 - 122				S
4-Isopropyltoluene	25.14	1.0	20	0	126	77 - 127				
4-Methyl-2-pentanone	47.74	2.0	40	0	119	67 - 130				
Acetone	34.24	2.0	40	0	85.6	39 - 160				
Benzene	21.98	1.0	20	0	110	79 - 120				
Bromobenzene	22.55	1.0	20	0	113	80 - 120				
Bromochloromethane	19.53	1.0	20	0	97.7	78 - 123				
Bromodichloromethane	21.12	1.0	20	0	106	79 - 125				
Bromoform	21.24	1.0	20	0	106	66 - 130				
Bromomethane	20.15	1.0	20	0	101	53 - 141				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23060722-05MS** Units: **ug/L** Analysis Date: **17-Jun-2023 14:26**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369577** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.11	2.0	40	0	97.8	64 - 133				
Carbon tetrachloride	23.31	1.0	20	0	117	72 - 136				
Chlorobenzene	22.88	1.0	20	0	114	82 - 118				
Chloroethane	21.98	1.0	20	0	110	60 - 138				
Chloroform	20.12	1.0	20	0	101	79 - 124				
Chloromethane	21.19	1.0	20	0	106	50 - 139				
cis-1,2-Dichloroethene	20.78	1.0	20	0	104	78 - 123				
cis-1,3-Dichloropropene	21.58	1.0	20	0	108	75 - 124				
Dibromochloromethane	22.04	1.0	20	0	110	74 - 126				
Dibromomethane	21.53	1.0	20	0	108	79 - 123				
Dichlorodifluoromethane	21.09	1.0	20	0	105	32 - 152				
Ethylbenzene	23.49	1.0	20	0	117	79 - 121				
Hexachlorobutadiene	24.33	1.0	20	0	122	66 - 134				
Isopropylbenzene	24.24	1.0	20	0	121	72 - 131				
m,p-Xylene	47.9	2.0	40	0	120	80 - 121				
Methylene chloride	18.89	2.0	20	0	94.4	74 - 124				
Naphthalene	23.12	1.0	20	0	116	61 - 128				
n-Butylbenzene	26.53	1.0	20	0	133	75 - 128				S
n-Propylbenzene	25.61	1.0	20	0	128	76 - 126				S
o-Xylene	23.05	1.0	20	0	115	78 - 122				
sec-Butylbenzene	25.39	1.0	20	0	127	77 - 126				S
Styrene	23.01	1.0	20	0	115	78 - 123				
tert-Butylbenzene	24.95	1.0	20	0	125	78 - 124				S
Tetrachloroethene	24.07	1.0	20	0	120	74 - 129				
Toluene	23.37	1.0	20	0	117	80 - 121				
trans-1,2-Dichloroethene	20.39	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	21.94	1.0	20	0	110	73 - 127				
Trichloroethene	22.02	1.0	20	0	110	79 - 123				
Trichlorofluoromethane	23.23	1.0	20	0	116	65 - 141				
Vinyl chloride	22	1.0	20	0	110	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.68*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.96*	*1.0*	*50*	*0*	*97.9*	*85 - 114*				
Surr: Dibromofluoromethane	*49.14*	*1.0*	*50*	*0*	*98.3*	*80 - 119*				
Surr: Toluene-d8	*52.94*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS23060722-05MSD** Units: **ug/L** Analysis Date: **17-Jun-2023 14:47**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369578** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.8	1.0	20	0	109	78 - 124	22.13	1.51	20	
1,1,1-Trichloroethane	21.66	1.0	20	0	108	74 - 131	21.53	0.593	20	
1,1,2,2-Tetrachloroethane	22.9	1.0	20	0	114	71 - 121	22.27	2.78	20	
1,1,2-Trichloroethane	22.11	1.0	20	0	111	80 - 119	22.32	0.947	20	
1,1-Dichloroethane	26.49	1.0	20	5.87	103	77 - 125	26.73	0.923	20	
1,1-Dichloroethene	47.7	1.0	20	28.53	95.9	71 - 131	50.29	5.27	20	
1,1-Dichloropropene	22.72	1.0	20	0	114	78 - 125	23.42	3.01	20	
1,2,3-Trichlorobenzene	23.72	1.0	20	0	119	69 - 129	22.81	3.91	20	
1,2,3-Trichloropropane	25.69	1.0	20	0	128	73 - 122	23.28	9.83	20	S
1,2,4-Trichlorobenzene	23.43	1.0	20	0	117	69 - 130	23.53	0.446	20	
1,2,4-Trimethylbenzene	24.1	1.0	20	0	121	76 - 124	24.35	1.01	20	
1,2-Dibromo-3-chloropropane	23.35	1.0	20	0	117	62 - 128	23.23	0.524	20	
1,2-Dibromoethane	22.47	1.0	20	0	112	77 - 121	22.39	0.383	20	
1,2-Dichlorobenzene	23.24	1.0	20	0	116	80 - 119	23	1.04	20	
1,2-Dichloroethane	22.37	1.0	20	0	112	73 - 128	22.52	0.668	20	
1,2-Dichloropropane	21.88	1.0	20	0	109	78 - 122	21.79	0.413	20	
1,3,5-Trimethylbenzene	24.64	1.0	20	0	123	75 - 124	24.53	0.448	20	
1,3-Dichlorobenzene	23.09	1.0	20	0	115	80 - 119	23.44	1.49	20	
1,3-Dichloropropane	22.86	1.0	20	0	114	80 - 119	22.9	0.179	20	
1,4-Dichlorobenzene	22.58	1.0	20	0	113	79 - 118	22.91	1.45	20	
2,2-Dichloropropane	23.33	1.0	20	0	117	60 - 139	23.8	1.99	20	
2-Butanone	40.91	2.0	40	0	102	56 - 143	35.54	14	20	
2-Chlorotoluene	23.72	1.0	20	0	119	79 - 122	24.19	1.96	20	
2-Hexanone	48.78	2.0	40	0	122	57 - 139	47.34	3.01	20	
4-Chlorotoluene	24.53	1.0	20	0	123	78 - 122	24.54	0.0422	20	S
4-Isopropyltoluene	24.91	1.0	20	0	125	77 - 127	25.14	0.914	20	
4-Methyl-2-pentanone	48.23	2.0	40	0	121	67 - 130	47.74	1.03	20	
Acetone	35.79	2.0	40	0	89.5	39 - 160	34.24	4.43	20	
Benzene	21.51	1.0	20	0	108	79 - 120	21.98	2.2	20	
Bromobenzene	22.93	1.0	20	0	115	80 - 120	22.55	1.67	20	
Bromochloromethane	19.88	1.0	20	0	99.4	78 - 123	19.53	1.78	20	
Bromodichloromethane	20.95	1.0	20	0	105	79 - 125	21.12	0.827	20	
Bromoform	21.85	1.0	20	0	109	66 - 130	21.24	2.84	20	
Bromomethane	20.23	1.0	20	0	101	53 - 141	20.15	0.366	20	

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS23060722-05MSD** Units: **ug/L** Analysis Date: **17-Jun-2023 14:47**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369578** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	38.18	2.0	40	0	95.4	64 - 133	39.11	2.42	20	
Carbon tetrachloride	22.81	1.0	20	0	114	72 - 136	23.31	2.15	20	
Chlorobenzene	22.33	1.0	20	0	112	82 - 118	22.88	2.43	20	
Chloroethane	21.24	1.0	20	0	106	60 - 138	21.98	3.45	20	
Chloroform	20.03	1.0	20	0	100	79 - 124	20.12	0.453	20	
Chloromethane	21.29	1.0	20	0	106	50 - 139	21.19	0.467	20	
cis-1,2-Dichloroethene	20.67	1.0	20	0	103	78 - 123	20.78	0.519	20	
cis-1,3-Dichloropropene	21.74	1.0	20	0	109	75 - 124	21.58	0.717	20	
Dibromochloromethane	22.03	1.0	20	0	110	74 - 126	22.04	0.0225	20	
Dibromomethane	21.93	1.0	20	0	110	79 - 123	21.53	1.83	20	
Dichlorodifluoromethane	20.93	1.0	20	0	105	32 - 152	21.09	0.772	20	
Ethylbenzene	22.84	1.0	20	0	114	79 - 121	23.49	2.78	20	
Hexachlorobutadiene	24.31	1.0	20	0	122	66 - 134	24.33	0.0778	20	
Isopropylbenzene	23.72	1.0	20	0	119	72 - 131	24.24	2.14	20	
m,p-Xylene	47.36	2.0	40	0	118	80 - 121	47.9	1.13	20	
Methylene chloride	19.15	2.0	20	0	95.8	74 - 124	18.89	1.4	20	
Naphthalene	24.24	1.0	20	0	121	61 - 128	23.12	4.71	20	
n-Butylbenzene	25.9	1.0	20	0	130	75 - 128	26.53	2.38	20	S
n-Propylbenzene	25.19	1.0	20	0	126	76 - 126	25.61	1.65	20	
o-Xylene	22.56	1.0	20	0	113	78 - 122	23.05	2.17	20	
sec-Butylbenzene	24.92	1.0	20	0	125	77 - 126	25.39	1.88	20	
Styrene	22.64	1.0	20	0	113	78 - 123	23.01	1.63	20	
tert-Butylbenzene	24.76	1.0	20	0	124	78 - 124	24.95	0.772	20	
Tetrachloroethene	23.47	1.0	20	0	117	74 - 129	24.07	2.54	20	
Toluene	22.98	1.0	20	0	115	80 - 121	23.37	1.7	20	
trans-1,2-Dichloroethene	20.82	1.0	20	0	104	75 - 124	20.39	2.09	20	
trans-1,3-Dichloropropene	21.46	1.0	20	0	107	73 - 127	21.94	2.24	20	
Trichloroethene	21.83	1.0	20	0	109	79 - 123	22.02	0.848	20	
Trichlorofluoromethane	22.26	1.0	20	0	111	65 - 141	23.23	4.27	20	
Vinyl chloride	21.4	1.0	20	0	107	58 - 137	22	2.74	20	
Surr: 1,2-Dichloroethane-d4	*50.7*	*1.0*	*50*	*0*	*101*	*81 - 118*	*51.68*	*1.92*	*20*	
Surr: 4-Bromofluorobenzene	*49.44*	*1.0*	*50*	*0*	*98.9*	*85 - 114*	*48.96*	*0.991*	*20*	
Surr: Dibromofluoromethane	*49.36*	*1.0*	*50*	*0*	*98.7*	*80 - 119*	*49.14*	*0.442*	*20*	
Surr: Toluene-d8	*52.32*	*1.0*	*50*	*0*	*105*	*89 - 112*	*52.94*	*1.17*	*20*	

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

QC BATCH REPORT

Batch ID: R439205 (0)	Instrument: VOA6	Method: VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:				
HS23060739-01	HS23060739-03	HS23060739-04	HS23060739-05	
HS23060739-06	HS23060739-07			

ALS Houston, US Date: 12-Jul-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: **HS23060739**

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	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352; 2022-2023	31-Jul-2023
Louisiana	03087-2023	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 12-Jul-23

Sample Receipt Checklist

Work Order ID: HS23060739 **Date/Time Received:** 10-Jun-2023 11:10

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Paresh M. Giga (eSignature) 13-Jun-2023 16:02 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.4C/1.3C U/C	IR31
Cooler(s)/Kit(s):	49878	
Date/Time sample(s) sent to storage:	6/10/23 19:00	

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: Samples in coolers on ice and in Walk-in refrigerator. In temp

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

bhate ENVIRONMENTAL ASSOCIATES INC.

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: JVPCIBH.0001

COC Number(1): ____

UMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 18/24

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hh:mm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	PERCHLORATE	TOTAL METALS	1, 4 - DIOXANE						Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
MW5_060923	09-Jun-2023	0650	-	N		WG	6	X	X	X	X									
18CPTMW08DW_060923	09-Jun-2023	0735	-	N		WG	2		X		X									
18CPTMW08SW_060923	09-Jun-2023	0820	-	N		WG	5	X	X		X									
18CPTMW04SW_060923	09-Jun-2023	0905	-	N		WG	6	X	X	X	X									
18CPTMW04_060923	09-Jun-2023	0955	-	N		WG	5	X	X		X									
18CPTMW04_060923_a	09-Jun-2023	0955	-	FD		WG	5	X	X		X									
TRIP BLANK	09-Jun-2023		-	TB		W	2	X												
			-																	
			-																	
			-																	
			-																	

Sample Analysis Requested (5) | Quality Assurance Samples (6)

HS23060739

Bhate Environmental Associates, Inc.
LHAAP 18 24

COMMENTS: STANDARD TAT

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. Scott Beesinger	6/9/23	1130	1.	6/10/23	11:10
2.			2.		
3. 49878		1140	3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped ____ No.:

Method of Shipment: ____

Fed Ex ____ Airbill Number: ____

Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: Dane Wasasky Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

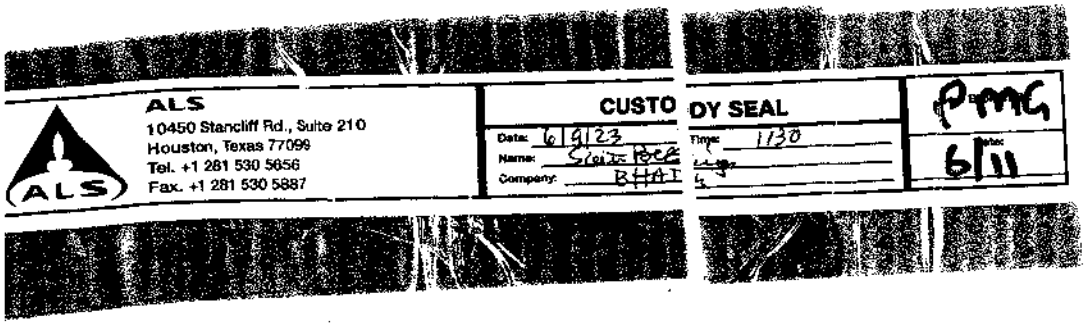
2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

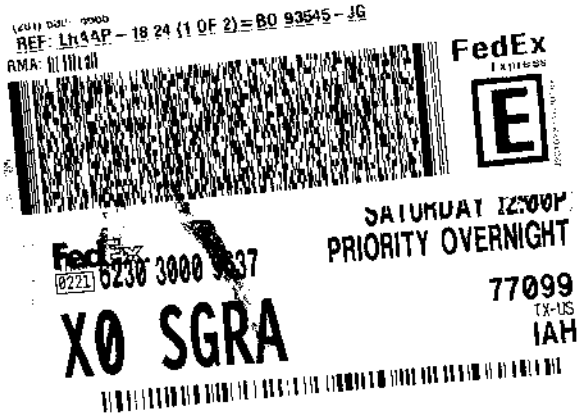
3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTO
DY SEAL
Date: 6/9/23
Name: Stoltz Rock
Company: BHAI
Time: 1130
PMG
6/11


REF: LN94P – 18 24 (1 OF 2) = BO 93545 – JG
RMA:
FedEx
Express
SATURDAY 12:00P
PRIORITY OVERNIGHT
0221 6230 3000
77099
TX-US
IAH
XO SGRA

June 26, 2023 Service Request No:E2300559

James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099

Laboratory Results for: HS23060739

Dear James,

Enclosed are the results of the sample(s) submitted to our laboratory June 14, 2023
For your reference, these analyses have been assigned our service request number **E2300559.**

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.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300559
Project:	HS23060739	**Date Received:**	06/14/23
Sample Matrix:	Ground Water		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/14/23.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300301: 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 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:**E2300559
Project: HS23060739

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300559-001	MW5_060923	6/9/2023	0650
E2300559-002	18CPTMW08DW_060923	6/9/2023	0735
E2300559-003	18CPTMW08SW_060923	6/9/2023	0820
E2300559-004	18CPTMW04SW_060923	6/9/2023	0905
E2300559-005	18CPTMW04_060923	6/9/2023	0955
E2300559-006	18CPTMW04_060923_a	6/9/2023	0955

Service Request Summary

Folder #: **E2300559**
Client Name: ALS Environmental - US
Project Name: HS23060739
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 06/14/23
Internal Due Date: 6/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23060739
EDD: BASIC_WQC_CASNo_LOD

6 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300559-001	MW5_060923	Ground Water	06/09/23 0650	**IV**
E2300559-002	18CPTMW08DW_060923	Ground Water	06/09/23 0735	**IV**
E2300559-003	18CPTMW08SW_060923	Ground Water	06/09/23 0820	**IV**
E2300559-004	18CPTMW04SW_060923	Ground Water	06/09/23 0905	**IV**
E2300559-005	18CPTMW04_060923	Ground Water	06/09/23 0955	**IV**
E2300559-006	18CPTMW04_060923_a	Ground Water	06/09/23 0955	**IV**

Service Request Summary

Folder #: **E2300559**
Client Name: ALS Environmental - US
Project Name: HS23060739
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 06/14/23
Internal Due Date: 6/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23060739
EDD: BASIC_WQC_CASNo_LOD

6 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
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	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
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
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2022	6/30/2023
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	6/30/2023
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2023	6/30/2023
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-016	6/30/2023
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
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: Texas **COC ID:** 22014

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@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:	HS23060739
TSR:	Holly Tignac

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23060739-01**	**MW5_060923**	**Groundwater**	**09 Jun 2023 06:50**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
2.	**HS23060739-02**	**18CPTMW08DW_060923**	**Groundwater**	**09 Jun 2023 07:35**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
3.	**HS23060739-03**	**18CPTMW085W_060923**	**Groundwater**	**09 Jun 2023 08:20**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
4.	**HS23060739-04**	**18CPTMW045W_060923**	**Groundwater**	**09 Jun 2023 09:05**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
5.	**HS23060739-05**	**18CPTMW04_060923**	**Groundwater**	**09 Jun 2023 09:55**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
6.	**HS23060739-06**	**18CPTMW04_060923_a**	**Groundwater**	**09 Jun 2023 09:55**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023

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

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 22014

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 6-14-23 1800

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

ALS Environmental

Cooler Receipt Form

Project Chemist DG

Client/Project AES

Thermometer ID IR31

Date/Time Received: 6.14.23 Initials: CG Date/Time Logged in: 6.14.23 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ☒ Courier (AES) ○ 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		6.14.23	1801	CG	0.9	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
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 Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 421526 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 6/21/23 08:36

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300548-001	01MW4C03012305	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2300548-002	01MW4C05012305	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2300548-003	01MW4C10012305	.02	6850/ClO4 DOD			Ground Water	10mL	
4	E2300549-001	01M4C02012305	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2300549-002	01M4C04012305	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2300549-003	01M4C06012305	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2300549-004	EB01	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2300557-001	Well Water	.01	6850/ClO4			Water	10mL	
9	E2300559-001	MW5_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2300559-002	18CPTMW08DW_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2300559-003	18CPTMW08SW_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2300559-004	18CPTMW04SW_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2300559-005	18CPTMW04_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2300559-006	18CPTMW04_060923_a	.01	6850/ClO4 DOD			Ground Water	10mL	
15	EQ2300301-01	MB		6850/ClO4			Liquid	10mL	
16	EQ2300301-02	LCS		6850/ClO4			Liquid	10mL	
17	EQ2300301-03	DLCS		6850/ClO4			Liquid	10mL	
18	EQ2300301-04	01MW4C10012305 MS	.02	6850/ClO4 DOD			Liquid	10mL	
19	EQ2300301-05	01MW4C10012305 DMS	.02	6850/ClO4 DOD			Liquid	10mL	
20	K2306641-001	LGAC-INF-061223	.01	6850/ClO4			Water	10mL	
21	K2306641-002	LGAC-INT1-061223	.01	6850/ClO4			Water	10mL	
22	K2306641-003	LGAC-INT2-061223	.01	6850/ClO4			Water	10mL	
23	K2306921-001	LGAC-INF-061923	.01	6850/ClO4			Water	10mL	
24	K2306921-002	LGAC-INT1-061923	.01	6850/ClO4			Water	10mL	
25	K2306921-003	LGAC-INT2-061923	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300301-02	1.00µL	EQ2300301-02	1.00µL	EQ2300301-03	1.00µL	EQ2300301-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300548-001	100.00µL	E2300548-002	100.00µL	E2300548-003	100.00µL	E2300549-001	100.00µL	E2300549-003	100.00µL	E2300549-004	100.00µL
E2300557-001	100.00µL	E2300559-001	100.00µL	E2300559-002	100.00µL	E2300559-003	100.00µL	E2300559-004	100.00µL	E2300559-005	100.00µL
E2300559-006	100.00µL	EQ2300301-01	100.00µL	EQ2300301-01	100.00µL	EQ2300301-02	100.00µL	EQ2300301-02	100.00µL	EQ2300301-03	100.00µL

Preparation Information Benchsheet

Prep Run#: 421526 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 6/21/23 08:36

EQ2300301-03	100.00µL	K2306641-001	100.00µL	K2306641-002	100.00µL	K2306641-003	100.00µL	K2306921-002	100.00µL

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229314)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45um syringe (229005)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 6/21/23 08:36
Finished: 6/22/23 09:01
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0650
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	MW5_060923	**Units:**	µg/L
Lab Code:	E2300559-001	**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	**22100**		100	50.0	25.0	1000	6/21/23	6/23/23 17:10	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0735
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW08DW_060923	**Units:**	µg/L
Lab Code:	E2300559-002	**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	**6000**		50.0	25.0	12.5	500	6/21/23	6/23/23 17:15	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0820
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW08SW_060923	**Units:**	µg/L
Lab Code:	E2300559-003	**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	**13700**		100	50.0	25.0	1000	6/21/23	6/23/23 17:21	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0905
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW04SW_060923	**Units:**	µg/L
Lab Code:	E2300559-004	**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	6/21/23	6/23/23 17:26	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0955
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW04_060923	**Units:**	µg/L
Lab Code:	E2300559-005	**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	**302**		1.00	0.500	0.250	10	6/21/23	6/23/23 17:32	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0955
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW04_060923_a	**Units:**	µg/L
Lab Code:	E2300559-006	**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	**341**		1.00	0.500	0.250	10	6/21/23	6/23/23 17:37	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300301-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	6/21/23	6/23/23 15:46	421526	808638	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Analyzed:**	6/23/23
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:	421526

	Lab Control Sample EQ2300301-02			Duplicate Lab Control Sample EQ2300301-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.102	0.100	102	0.111	0.100	111	84 - 119	9	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:**	E2300559
Project:	HS23060739	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300301-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.102**		0.100	0.0500	0.0250	1	6/21/23	6/23/23 18:27	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300301-03	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	6/21/23	6/23/23 16:09	421526	808638	

HS23060739-MSVOA-SW8260

ALS WO# HS23060739

01194322

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-01

MW5_060923

Collected	Received	Matrix	Basis
06/09/23 06:50	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,1-Dichloroethane	ug/L	3.1		0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,3-Dichlorobenzene	ug/L	0.52	J	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 20:44	VOA6_439205	X061728.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 20:44	VOA6_439205	X061728.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-01

MW5_060923

Collected	Received	Matrix	Basis
06/09/23 06:50	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
cis-1,2-Dichloroethene	ug/L	11		0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Trichloroethene	ug/L	41		0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D
Vinyl chloride	ug/L	4.1		0.20	1.0	1.0	1	06/17/23 20:44	VOA6_439205	X061728.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-03

18CPTMW08SW_060923

Collected	Received	Matrix	Basis
06/09/23 08:20	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,1-Dichloroethane	ug/L	3.0		0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 21:05	VOA6_439205	X061729.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 21:05	VOA6_439205	X061729.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-03

18CPTMW08SW_060923

Collected	Received	Matrix	Basis
06/09/23 08:20	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
cis-1,2-Dichloroethene	ug/L	8.4		0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Trichloroethene	ug/L	31		0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D
Vinyl chloride	ug/L	0.99	J	0.20	1.0	1.0	1	06/17/23 21:05	VOA6_439205	X061729.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-04

18CPTMW04SW_060923

Collected	Received	Matrix	Basis
06/09/23 09:05	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 21:27	VOA6_439205	X061730.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 21:27	VOA6_439205	X061730.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-04

18CPTMW04SW_060923

Collected	Received	Matrix	Basis
06/09/23 09:05	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 21:27	VOA6_439205	X061730.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-05

18CPTMW04_060923

Collected	Received	Matrix	Basis
06/09/23 09:55	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 18:38	VOA6_439205	X061722.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 18:38	VOA6_439205	X061722.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-05

18CPTMW04_060923

Collected	Received	Matrix	Basis
06/09/23 09:55	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
cis-1,2-Dichloroethene	ug/L	5.9		0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Trichloroethene	ug/L	170		0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:38	VOA6_439205	X061722.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-06

18CPTMW04_060923_a

Collected	Received	Matrix	Basis
06/09/23 09:55	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 18:59	VOA6_439205	X061723.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 18:59	VOA6_439205	X061723.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-06

18CPTMW04_060923_a

Collected	Received	Matrix	Basis
06/09/23 09:55	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
cis-1,2-Dichloroethene	ug/L	5.9		0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Trichloroethene	ug/L	180		0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 18:59	VOA6_439205	X061723.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-07

Trip Blank

Collected	Received	Matrix	Basis
06/09/23 00:00	06/10/23 11:10	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 15:29	VOA6_439205	X061713.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 15:29	VOA6_439205	X061713.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

HS23060739-07

Trip Blank

Collected	Received	Matrix	Basis
06/09/23 00:00	06/10/23 11:10	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 15:29	VOA6_439205	X061713.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

VBLKW-230617

VBLKW-230617

Collected	Received	Matrix	Basis
NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

VBLKW-230617

VBLKW-230617

Collected	Received	Matrix	Basis
NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D

01194337

right solutions.
right partner.

Form 2

System Monitoring Compound Recovery

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 2 - System Monitoring Compound Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6-439205

Volatiles by EPA 8260

CCB-CCB	Analyzed	Conc Units	Dilution
CCB	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	51.46	50	103		80-120
4-Bromofluorobenzene	47.18	50	94.4		80-120
Dibromofluoromethane	49.56	50	99.1		80-120
Toluene-d8	53.71	50	107		80-120

CCV-CCV	Analyzed	Conc Units	Dilution
CCV	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	54.16	50	108		80-120
4-Bromofluorobenzene	51.35	50	103		80-120
Dibromofluoromethane	52.33	50	105		80-120
Toluene-d8	48.34	50	96.7		80-120

HS23060722-05MS	Analyzed	Conc Units	Dilution
BatchQC	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	51.68	50	103		81-118
4-Bromofluorobenzene	48.96	50	97.9		85-114
Dibromofluoromethane	49.14	50	98.3		80-119
Toluene-d8	52.94	50	106		89-112

Form 2 - System Monitoring Compound Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6-439205

Volatiles by EPA 8260

HS23060722-05MSD	Analyzed	Conc Units	Dilution
BatchQC	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	50.7	50	101		81-118
4-Bromofluorobenzene	49.44	50	98.9		85-114
Dibromofluoromethane	49.36	50	98.7		80-119
Toluene-d8	52.32	50	105		89-112

HS23060739-01	Analyzed	Conc Units	Dilution
MW5_060923	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	52	50	104		81-118
4-Bromofluorobenzene	48	50	96.7		85-114
Dibromofluoromethane	50	50	99.4		80-119
Toluene-d8	54	50	108		89-112

HS23060739-03	Analyzed	Conc Units	Dilution
18CPTMW08SW_060923	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	52	50	105		81-118
4-Bromofluorobenzene	49	50	98.1		85-114
Dibromofluoromethane	50	50	99.8		80-119
Toluene-d8	53	50	107		89-112

Form 2 - System Monitoring Compound Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6-439205

Volatiles by EPA 8260

HS23060739-04	Analyzed	Conc Units	Dilution
18CPTMW04SW_060923	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	53	50	105		81-118
4-Bromofluorobenzene	49	50	97.8		85-114
Dibromofluoromethane	50	50	99.8		80-119
Toluene-d8	53	50	106		89-112

HS23060739-05	Analyzed	Conc Units	Dilution
18CPTMW04_060923	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	52	50	104		81-118
4-Bromofluorobenzene	49	50	98.2		85-114
Dibromofluoromethane	51	50	101		80-119
Toluene-d8	53	50	106		89-112

HS23060739-06	Analyzed	Conc Units	Dilution
18CPTMW04_060923_a	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	53	50	105		81-118
4-Bromofluorobenzene	49	50	97.4		85-114
Dibromofluoromethane	51	50	101		80-119
Toluene-d8	54	50	107		89-112

Form 2 - System Monitoring Compound Recovery

Client: Bhate Environmental Associates, Inc.

Project: LHAAP 18 24

Workorder: HS23060739

RunID: VOA6-439205

Volatiles by EPA 8260

HS23060739-07	Analyzed	Conc Units	Dilution
Trip Blank	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	52	50	104		81-118
4-Bromofluorobenzene	48	50	96.5		85-114
Dibromofluoromethane	50	50	100		80-119
Toluene-d8	53	50	106		89-112

VBLKW-230617	Analyzed	Conc Units	Dilution
VBLKW-230617	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	51.46	50	103		81-118
4-Bromofluorobenzene	48.92	50	97.8		85-114
Dibromofluoromethane	50.82	50	102		80-119
Toluene-d8	53.41	50	107		89-112

VLCSW-230617	Analyzed	Conc Units	Dilution
VLCSW-230617	06/17/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
1,2-Dichloroethane-d4	55.25	50	111		81-118
4-Bromofluorobenzene	52.77	50	106		85-114
Dibromofluoromethane	54.46	50	109		80-119
Toluene-d8	50.42	50	101		89-112

01194342

right solutions.
right partner.

Form 3A

Matrix Spike/Spike Duplicate Recovery

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

RunID VOA6-439205

Volatiles by EPA 8260

BatchQC (HS23060722-05)				HS23060722-05MS				HS23060722-05MSD						
Sample Matrix: Aqueous			Run Date	06/17/23				06/17/23						
Result Units: ug/L			Run Time	14:26				14:47						
			Data File	X061710.D				X061711.D						
Analyte	%R Limits	DF	Sample Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
1,1,1,2-Tetrachloroethane	78-124	1	0	22.13	20	111		21.8	20	109		20	1.51	
1,1,1-Trichloroethane	74-131	1	0	21.53	20	108		21.66	20	108		20	0.593	
1,1,2,2-Tetrachloroethane	71-121	1	0	22.27	20	111		22.9	20	114		20	2.78	
1,1,2-Trichloroethane	80-119	1	0	22.32	20	112		22.11	20	111		20	0.947	
1,1-Dichloroethane	77-125	1	5.87	26.73	20	104		26.49	20	103		20	0.923	
1,1-Dichloroethene	71-131	1	28.53	50.29	20	109		47.7	20	96		20	5.27	
1,1-Dichloropropene	78-125	1	0	23.42	20	117		22.72	20	114		20	3.01	
1,2,3-Trichlorobenzene	69-129	1	0	22.81	20	114		23.72	20	119		20	3.91	
1,2,3-Trichloropropane	73-122	1	0	23.28	20	116		25.69	20	128		20	9.83	
1,2,4-Trichlorobenzene	69-130	1	0	23.53	20	118		23.43	20	117		20	0.446	
1,2,4-Trimethylbenzene	76-124	1	0	24.35	20	122		24.1	20	121		20	1.01	
1,2-Dibromo-3-chloropropane	62-128	1	0	23.23	20	116		23.35	20	117		20	0.524	
1,2-Dibromoethane	77-121	1	0	22.39	20	112		22.47	20	112		20	0.383	
1,2-Dichlorobenzene	80-119	1	0	23	20	115		23.24	20	116		20	1.04	
1,2-Dichloroethane	73-128	1	0	22.52	20	113		22.37	20	112		20	0.668	
1,2-Dichloropropane	78-122	1	0	21.79	20	109		21.88	20	109		20	0.413	
1,3,5-Trimethylbenzene	75-124	1	0	24.53	20	123		24.64	20	123		20	0.448	
1,3-Dichlorobenzene	80-119	1	0	23.44	20	117		23.09	20	115		20	1.49	
1,3-Dichloropropane	80-119	1	0	22.9	20	115		22.86	20	114		20	0.179	
1,4-Dichlorobenzene	79-118	1	0	22.91	20	115		22.58	20	113		20	1.45	
2,2-Dichloropropane	60-139	1	0	23.8	20	119		23.33	20	117		20	1.99	
2-Butanone	56-143	1	0	35.54	40	89		40.91	40	102		20	14	
2-Chlorotoluene	79-122	1	0	24.19	20	121		23.72	20	119		20	1.96	
2-Hexanone	57-139	1	0	47.34	40	118		48.78	40	122		20	3.01	
4-Chlorotoluene	78-122	1	0	24.54	20	123		24.53	20	123		20	0.0422	
4-Isopropyltoluene	77-127	1	0	25.14	20	126		24.91	20	125		20	0.914	
4-Methyl-2-pentanone	67-130	1	0	47.74	40	119		48.23	40	121		20	1.03	
Acetone	39-160	1	0	34.24	40	86		35.79	40	90		20	4.43	
Benzene	79-120	1	0	21.98	20	110		21.51	20	108		20	2.2	
Bromobenzene	80-120	1	0	22.55	20	113		22.93	20	115		20	1.67	
Bromochloromethane	78-123	1	0	19.53	20	98		19.88	20	99		20	1.78	
Bromodichloromethane	79-125	1	0	21.12	20	106		20.95	20	105		20	0.827	
Bromoform	66-130	1	0	21.24	20	106		21.85	20	109		20	2.84	
Bromomethane	53-141	1	0	20.15	20	101		20.23	20	101		20	0.366	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3A - Matrix Spike/Spike Duplicate Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

RunID VOA6-439205

Volatiles by EPA 8260

BatchQC (HS23060722-05)				HS23060722-05MS				HS23060722-05MSD						
Sample Matrix: Aqueous			Run Date	06/17/23				06/17/23						
Result Units: ug/L			Run Time	14:26				14:47						
			Data File	X061710.D				X061711.D						
Analyte	%R Limits	DF	Sample Result	MS Result	Spike Added	%R	Q	MSD Result	Spike Added	%R	Q	RPD Limit	RPD	Q
Carbon disulfide	64-133	1	0	39.11	40	98		38.18	40	95		20	2.42	
Carbon tetrachloride	72-136	1	0	23.31	20	117		22.81	20	114		20	2.15	
Chlorobenzene	82-118	1	0	22.88	20	114		22.33	20	112		20	2.43	
Chloroethane	60-138	1	0	21.98	20	110		21.24	20	106		20	3.45	
Chloroform	79-124	1	0	20.12	20	101		20.03	20	100		20	0.453	
Chloromethane	50-139	1	0	21.19	20	106		21.29	20	106		20	0.467	
cis-1,2-Dichloroethene	78-123	1	0	20.78	20	104		20.67	20	103		20	0.519	
cis-1,3-Dichloropropene	75-124	1	0	21.58	20	108		21.74	20	109		20	0.717	
Dibromochloromethane	74-126	1	0	22.04	20	110		22.03	20	110		20	0.0225	
Dibromomethane	79-123	1	0	21.53	20	108		21.93	20	110		20	1.83	
Dichlorodifluoromethane	32-152	1	0	21.09	20	105		20.93	20	105		20	0.772	
Ethylbenzene	79-121	1	0	23.49	20	117		22.84	20	114		20	2.78	
Hexachlorobutadiene	66-134	1	0	24.33	20	122		24.31	20	122		20	0.0778	
Isopropylbenzene	72-131	1	0	24.24	20	121		23.72	20	119		20	2.14	
m,p-Xylene	80-121	1	0	47.9	40	120		47.36	40	118		20	1.13	
Methylene chloride	74-124	1	0	18.89	20	94		19.15	20	96		20	1.4	
Naphthalene	61-128	1	0	23.12	20	116		24.24	20	121		20	4.71	
n-Butylbenzene	75-128	1	0	26.53	20	133		25.9	20	130		20	2.38	
n-Propylbenzene	76-126	1	0	25.61	20	128		25.19	20	126		20	1.65	
o-Xylene	78-122	1	0	23.05	20	115		22.56	20	113		20	2.17	
sec-Butylbenzene	77-126	1	0	25.39	20	127		24.92	20	125		20	1.88	
Styrene	78-123	1	0	23.01	20	115		22.64	20	113		20	1.63	
tert-Butylbenzene	78-124	1	0	24.95	20	125		24.76	20	124		20	0.772	
Tetrachloroethene	74-129	1	0	24.07	20	120		23.47	20	117		20	2.54	
Toluene	80-121	1	0	23.37	20	117		22.98	20	115		20	1.7	
trans-1,2-Dichloroethene	75-124	1	0	20.39	20	102		20.82	20	104		20	2.09	
trans-1,3-Dichloropropene	73-127	1	0	21.94	20	110		21.46	20	107		20	2.24	
Trichloroethene	79-123	1	0	22.02	20	110		21.83	20	109		20	0.848	
Trichlorofluoromethane	65-141	1	0	23.23	20	116		22.26	20	111		20	4.27	
Vinyl chloride	58-137	1	0	22	20	110		21.4	20	107		20	2.74	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits OL - Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

01194345

right solutions.
right partner.

Form 3B

Laboratory Control Sample Recovery

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

SAMPLENUM
VLCSW-230617

Volatiles by EPA 8260

VOA6_439205			VLCSW-230617			
Spike Matrix	Aqueous	**Run Date**	06/17/23			
Result Units	ug/L	**Run Time**	12:40			
		Data File	X061705.D			
Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q	
1,1,1,2-Tetrachloroethane	78-124	20	19.12	96		
1,1,1-Trichloroethane	74-131	20	19.15	96		
1,1,2,2-Tetrachloroethane	71-121	20	18.86	94		
1,1,2-Trichloroethane	80-119	20	19.18	96		
1,1-Dichloroethane	77-125	20	19.68	98		
1,1-Dichloroethene	71-131	20	18.91	95		
1,1-Dichloropropene	78-125	20	19.35	97		
1,2,3-Trichlorobenzene	69-129	20	19.91	100		
1,2,3-Trichloropropane	73-122	20	20.1	101		
1,2,4-Trichlorobenzene	69-130	20	19.27	96		
1,2,4-Trimethylbenzene	76-124	20	19.42	97		
1,2-Dibromo-3-chloropropane	62-128	20	20.01	100		
1,2-Dibromoethane	77-121	20	19.49	97		
1,2-Dichlorobenzene	80-119	20	19.13	96		
1,2-Dichloroethane	73-128	20	20.27	101		
1,2-Dichloropropane	78-122	20	19.87	99		
1,3,5-Trimethylbenzene	75-124	20	19.19	96		
1,3-Dichlorobenzene	80-119	20	18.98	95		
1,3-Dichloropropane	80-119	20	19.64	98		
1,4-Dichlorobenzene	79-118	20	18.82	94		
2,2-Dichloropropane	60-139	20	21.02	105		
2-Butanone	56-143	40	36.49	91		
2-Chlorotoluene	79-122	20	19.13	96		
2-Hexanone	57-139	40	41.8	105		
4-Chlorotoluene	78-122	20	19.81	99		
4-Isopropyltoluene	77-127	20	19.11	96		
4-Methyl-2-pentanone	67-130	40	39.82	100		
Acetone	39-160	40	36.87	92		
Benzene	79-120	20	19.05	95		
Bromobenzene	80-120	20	18.64	93		
Bromochloromethane	78-123	20	19.56	98		
Bromodichloromethane	79-125	20	19.21	96		
Bromoform	66-130	20	18.99	95		
Bromomethane	53-141	20	20.25	101		

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

SAMPLENUM
VLCSW-230617

Volatiles by EPA 8260

VOA6_439205			VLCSW-230617			
Spike Matrix	Aqueous	**Run Date**	06/17/23			
Result Units	ug/L	**Run Time**	12:40			
		Data File	X061705.D			
Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q	
Carbon disulfide	64-133	40	37.45	94		
Carbon tetrachloride	72-136	20	18.74	94		
Chlorobenzene	82-118	20	19.48	97		
Chloroethane	60-138	20	20.93	105		
Chloroform	79-124	20	19.27	96		
Chloromethane	50-139	20	20.82	104		
cis-1,2-Dichloroethene	78-123	20	19.37	97		
cis-1,3-Dichloropropene	75-124	20	19.89	100		
Dibromochloromethane	74-126	20	19.35	97		
Dibromomethane	79-123	20	19.87	99		
Dichlorodifluoromethane	32-152	20	19.87	99		
Ethylbenzene	79-121	20	19.08	95		
Hexachlorobutadiene	66-134	20	18.29	92		
Isopropylbenzene	72-131	20	19.19	96		
m,p-Xylene	80-121	40	39.74	99		
Methylene chloride	74-124	20	19.29	96		
Naphthalene	61-128	20	19.76	99		
n-Butylbenzene	75-128	20	20.02	100		
n-Propylbenzene	76-126	20	19.5	98		
o-Xylene	78-122	20	19.28	96		
sec-Butylbenzene	77-126	20	18.75	94		
Styrene	78-123	20	19.92	100		
tert-Butylbenzene	78-124	20	18.77	94		
Tetrachloroethene	74-129	20	18.59	93		
Toluene	80-121	20	19.64	98		
trans-1,2-Dichloroethene	75-124	20	18.78	94		
trans-1,3-Dichloropropene	73-127	20	19.98	100		
Trichloroethene	79-123	20	18.91	95		
Trichlorofluoromethane	65-141	20	19.71	98		
Vinyl chloride	58-137	20	19.32	97		

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

01194348

right solutions.
right partner.

Form 4

Method Blank Summary

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 4 - Method Blank Summary

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

Volatiles by EPA 8260

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	VBLKW-230617	X061707.D	06/17/23 13:23	VOA6_439205
VLCSW-230617	LCS	VLCSW-230617	X061705.D	06/17/23 12:40	VOA6_439205
BatchQC	MS	HS23060722-05MS	X061710.D	06/17/23 14:26	VOA6_439205
BatchQC	MSD	HS23060722-05MSD	X061711.D	06/17/23 14:47	VOA6_439205
Trip Blank	SAMP	HS23060739-07	X061713.D	06/17/23 15:29	VOA6_439205
18CPTMW04_060923	SAMP	HS23060739-05	X061722.D	06/17/23 18:38	VOA6_439205
18CPTMW04_060923_a	SAMP	HS23060739-06	X061723.D	06/17/23 18:59	VOA6_439205
MW5_060923	SAMP	HS23060739-01	X061728.D	06/17/23 20:44	VOA6_439205
18CPTMW08SW_060923	SAMP	HS23060739-03	X061729.D	06/17/23 21:05	VOA6_439205
18CPTMW04SW_060923	SAMP	HS23060739-04	X061730.D	06/17/23 21:27	VOA6_439205

01194350

right solutions.
right partner.

Form 5

Instrument Performance Check

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

RunID
VOA6-438076

Volatiles by EPA 8260

Tune File X061501.D 06/15/23 6/15/2023

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	18.6 (18.6)
75	30.0 - 60.0% of mass 95	48.4 (48.4)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.1 (7.1)
173	Less than 2.0% of mass 174	0.6 (0.74) 1
174	50.0 - 120.0% of mass 95	78.8 (78.8)
175	4.0 - 9.0% of mass 174	6.3 (8.04) 1
176	93.0 - 101.0% of mass 174	78 (99.1) 1
177	5.0 - 9.0% of mass 176	5.8 (7.46) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	VSTD000.25	ICAL1	6/15/2023	X061502	VSTD000.25
2	VSTD000.5	ICAL2	6/15/2023	X061503	VSTD000.5
3	VSTD001	ICAL3	6/15/2023	X061504	VSTD001
4	VSTD002	ICAL4	6/15/2023	X061505	VSTD002
5	VSTD005	ICAL5	6/15/2023	X061506	VSTD005
6	VSTD020	ICAL6	6/15/2023	X061507	VSTD020
7	VSTD050	ICAL7	6/15/2023	X061508	VSTD050
8	VSTD100	ICAL8	6/15/2023	X061509	VSTD100
9	VSTD150	ICAL9	6/15/2023	X061510	VSTD150
10	VSTD200	ICAL	6/15/2023	X061511	VSTD200
11	CCV	ICV	6/15/2023	X061514	CCV

Form 5 - Instrument Performance Check

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	LHAAP 18 24	**HS23060739**	

RunID

Volatiles by EPA 8260

VOA6-438076

Tune File	X061501.D	06/15/23 6/15/2023	This check applies to the following analyses

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

RunID **VOA6-439205**

Volatiles by EPA 8260

Tune File X061701.D 06/17/23 6/17/2023

m / e	Ion Abundance Criterion	%RA
50	15.0 - 40.0% of mass 95	16 (16)
75	30.0 - 60.0% of mass 95	44.8 (44.8)
95	Base peak, 100% RA	100 (100)
96	5.0 - 9.0% of mass 95	7.2 (7.18)
173	Less than 2.0% of mass 174	0.5 (0.634) 1
174	50.0 - 120.0% of mass 95	81.9 (81.9)
175	4.0 - 9.0% of mass 174	5.9 (7.18) 1
176	93.0 - 101.0% of mass 174	78 (95.2) 1
177	5.0 - 9.0% of mass 176	5.6 (7.13) 2

%RA - Percent Relative Abundance

This check applies to the following analyses

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	CCV	CCV	6/17/2023	X061703	CCV
2	CCB	CCB	6/17/2023	X061704	CCB
3	VLCSW-	LCS	6/17/2023	X061705	VLCSW-230617
4	VBLKW-	MBLK	6/17/2023	X061707	VBLKW-230617
5	HS23060722-	MS	6/17/2023	X061710	ZZZZZZMS
6	HS23060722-	MSD	6/17/2023	X061711	ZZZZZZMSD
7	HS23060739-	SAMP	6/17/2023	X061713	Trip Blank
8	HS23060739-	SAMP	6/17/2023	X061722	18CPTMW04_060923
9	HS23060739-	SAMP	6/17/2023	X061723	18CPTMW04_060923_a
10	HS23060739-	SAMP	6/17/2023	X061728	MW5_060923
11	HS23060739-	SAMP	6/17/2023	X061729	18CPTMW08SW_060923
12	HS23060739-	SAMP	6/17/2023	X061730	18CPTMW04SW_060923
13	CCV-END	CCV_EN	6/17/2023	X061731	CCV-END

Form 5 - Instrument Performance Check

Client	Bhate Environmental Associates, Inc.	Workorder	
Project	LHAAP 18 24	**HS23060739**	

Volatiles by EPA 8260

RunID: VOA6-439205

Tune File	X061701.D	06/17/23 6/17/2023	This check applies to the following analyses

01194355

right solutions.
right partner.

Form 6

Initial Calibration Data

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

Calibration Files

Level 1..target\chem\voa6.i\x230615.b\x061502.d **Level 5**..target\chem\voa6.i\x230615.b\x061506.d
Level 2..target\chem\voa6.i\x230615.b\x061503.d **Level 6**..target\chem\voa6.i\x230615.b\x061507.d
ICAL Start Date 15-JUN-2023 1115 **Level 3**..target\chem\voa6.i\x230615.b\x061504.d **Level 7**..target\chem\voa6.i\x230615.b\x061508.d **Level 9**..target\chem\voa6.i\x230615.b\x061510.d
ICAL End Date 15-JUN-2023 1445 **Level 4**..target\chem\voa6.i\x230615.b\x061505.d **Level 8**..target\chem\voa6.i\x230615.b\x061509.d **Level 10**target\chem\voa6.i\x230615.b\x061511.d

Compound	0.250 Level 1	0.500 Level 2	1.00 Level 3	2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
	50.00 Level 7	100.00 Level 8	150.00 Level 9	200.00 Level 10								
Dichlorodifluoromethane	NE	2615	4505	9827	21019	86585						
	197396	431897	640204	870731			LINR	0.00663	0.43345		0.99964	
Chloromethane	NE	3301	5922	11295	25651	97329						
	241131	524590	786709	1090387			LINR	0.02054	0.53963		0.99929	
Propionitrile	NE	0.05455	0.06270	0.05541	0.06089	0.06358						
	0.06176	0.06051	0.06246	0.06236			AVRG		0.06047		5.37976	
Vinyl Chloride	NE	0.60687	0.54795	0.57402	0.48951	0.50986						
	0.48769	0.50556	0.50115	0.50335			AVRG		0.52511		7.94630	
Bromomethane	NE	0.33537	0.33175	0.32542	0.29769	0.28007						
	0.27989	0.29094	0.29103	0.28060			AVRG		0.30142		7.63157	
Chloroethane	NE	0.37220	0.33836	0.32964	0.31503	0.31792						
	0.30426	0.30884	0.30484	0.29773			AVRG		0.32098		7.20024	
Trichlorofluoromethane	NE	0.70569	0.65920	0.69163	0.58830	0.59980						
	0.55345	0.60431	0.60479	0.60887			AVRG		0.62401		8.07463	
Acrolein	NE	0.03568	0.02823	0.02994	0.03064	0.02991						
	0.02794	0.03158	0.03279	0.03252			AVRG		0.03103		7.82710	
Acetone	NE	2789	4663	7818	16276	54363						
	120180	254517	376478	532376			LINR	-0.00544	0.13002		0.99878	
1,1-Dichloroethene	NE	0.45895	0.44657	0.41881	0.37605	0.36786						
	0.35517	0.36783	0.36468	0.36713			AVRG		0.39145		10.02453	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Isobutyl Alcohol	NE	0.05685	0.06692	0.06596	0.07003	0.06902						
	0.06440	0.06398	0.06447	0.06514			AVRG		0.06519		5.78524	
Acetonitrile	NE	0.04721	0.04408	0.05000	0.05074	0.04825						
	0.04861	0.04885	0.05012	0.04863			AVRG		0.04850		4.07759	
Allyl Chloride	NE	1.16902	1.04930	1.07830	1.11392	1.08331						
	1.08770	1.08886	1.11033	1.08781			AVRG		1.09651		3.00701	
Iodomethane	NE	2984	6227	14998	43988	223261						
	622671	1361652	1987305	2762966			QUAD	0.04643	1.52252	-0.01414	0.99955	
Acrylonitrile	NE	0.16498	0.14851	0.15637	0.15489	0.16196						
	0.15374	0.15959	0.16440	0.16394			AVRG		0.15871		3.58694	
Methylene Chloride	NE	0.65930	0.67977	0.52763	0.60779	0.53053						
	0.50432	0.49542	0.48937	0.48228			AVRG		0.55293		13.75211	
Methyl tert-butyl ether	NE	1.51541	1.35429	1.47005	1.37915	1.33784						
	1.31513	1.29341	1.32919	1.30180			AVRG		1.36625		5.64492	
Carbon Disulfide	NE	1.58729	1.49094	1.45947	1.31193	1.32063						
	1.27200	1.32682	1.37989	1.39563			AVRG		1.39384		7.29728	
trans-1,2-Dichloroethene	NE	0.54737	0.51101	0.49568	0.44892	0.44795						
	0.43392	0.44333	0.44594	0.44153			AVRG		0.46841		8.48506	
Vinyl Acetate	NE	1.14998	1.31997	1.13084	1.30406	1.36566						
	1.30590	1.23968	1.24313	1.19252			AVRG		1.25019		6.44761	
1,1-Dichloroethane	NE	0.96555	0.89576	0.89979	0.81735	0.82215						
	0.79188	0.80903	0.79801	0.79485			AVRG		0.84382		7.28399	
Chloroprene	NE	0.19494	0.15806	0.19402	0.16299	0.15462						
	0.14920	0.16266	0.15820	0.16101			AVRG		0.16619		9.98603	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
2-Butanone	NE	0.15780	0.15585	0.16329	0.13672	0.15713						
	0.16847	0.17739	0.17973	0.18455			AVRG		0.16455		9.02144	
Methacrylonitrile	NE	0.45084	0.47260	0.34475	0.41093	0.41229						
	0.41001	0.39816	0.40753	0.40591			AVRG		0.41256		8.55015	
2,2-Dichloropropane	NE	4078	7438	15188	33630	134641						
	313511	661036	998442	1330788			LINR	-0.00010	0.66582		0.99984	
cis-1,2-Dichloroethene	NE	0.63371	0.59203	0.54477	0.52201	0.52031						
	0.51032	0.51263	0.51321	0.51241			AVRG		0.54016		8.10440	
Chloroform	NE	1.06707	1.04857	1.00209	0.89839	0.85930						
	0.83554	0.82576	0.82364	0.81356			AVRG		0.90821		11.31143	
Bromochloromethane	NE	0.31540	0.32241	0.31702	0.28759	0.27231						
	0.26932	0.26813	0.27038	0.26796			AVRG		0.28784		8.22049	
1,1,1-Trichloroethane	NE	0.86069	0.78052	0.80161	0.68231	0.70420						
	0.65869	0.69751	0.70708	0.71389			AVRG		0.73406		8.94326	
1,1-Dichloropropene	NE	0.48495	0.39369	0.45740	0.41202	0.40033						
	0.38290	0.40900	0.41695	0.41345			AVRG		0.41897		7.68787	
1,2-Dichloroethane	NE	0.50041	0.44494	0.39189	0.41620	0.41114						
	0.40659	0.40754	0.41027	0.38937			AVRG		0.41982		8.13871	
Carbon Tetrachloride	NE	0.48305	0.40420	0.43692	0.38136	0.37897						
	0.35611	0.38889	0.39879	0.39810			AVRG		0.40293		9.22126	
Benzene	NE	1.43274	1.39866	1.32317	1.21650	1.23632						
	1.21772	1.25333	1.25530	1.24146			AVRG		1.28613		6.24204	
Trichloroethene	NE	0.38877	0.35052	0.38059	0.34683	0.34151						
	0.32967	0.34715	0.35260	0.35386			AVRG		0.35461		5.25026	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Bromodichloromethane	NE 0.42719	0.51371 0.43289	0.53585 0.43326	0.45737 0.42742	0.43564	0.43124	AVRG		0.45495		9.00412	
Methyl Methacrylate	NE 0.38805	0.41027 0.38979	0.40060 0.39545	0.33936 0.39592	0.36954	0.39466	AVRG		0.38707		5.41914	
2-Chloroethylvinyl ether	NE 0.12791	0.10601 0.12501	0.12371 0.12617	0.12156 0.12420	0.12156	0.13185	AVRG		0.12311		5.82358	
1,2-Dichloropropane	NE 0.32863	0.37996 0.33248	0.33362 0.32951	0.33899 0.32343	0.33720	0.33445	AVRG		0.33759		4.90636	
2-Nitropropane	NE 0.13379	0.15541 0.13164	0.12048 0.13757	0.12260 0.13758	0.13928	0.13451	AVRG		0.13476		7.53641	
Dibromomethane	NE 0.20336	0.21555 0.20193	0.23900 0.20257	0.22439 0.19834	0.21012	0.21202	AVRG		0.21192		6.13059	
4-Methyl-2-Pentanone	NE 0.32212	0.30760 0.31184	0.33367 0.30831	0.33070 0.31407	0.33715	0.34142	AVRG		0.32299		4.05223	
cis-1,3-Dichloropropene	NE 0.54967	0.61626 0.56034	0.56522 0.56241	0.54409 0.55560	0.54909	0.54586	AVRG		0.56095		3.93014	
Ethyl Methacrylate	NE 0.31215	0.36463 0.31567	0.39888 0.34496	0.38425 0.35543	0.38260	0.36686	AVRG		0.35838		8.34634	
Toluene	NE 1.40762	1.68448 1.42956	1.50279 1.42094	1.56276 1.40372	1.38239	1.41654	AVRG		1.46787		6.74844	
trans-1,3-Dichloropropene	NE 0.46653	0.47369 0.46660	0.51235 0.47587	0.44699 0.47465	0.44101	0.46631	AVRG		0.46933		4.30530	
2-Hexanone	NE 0.21970	0.17351 0.21503	0.21078 0.21508	0.22169 0.22116	0.22767	0.23709	AVRG		0.21575		8.17380	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
1,1,2-Trichloroethane	NE 0.27350	0.32535 0.26982	0.29705 0.26865	0.30791 0.26434	0.28978	0.27731	AVRG		0.28597		7.23925	
1,3-Dichloropropane	NE 0.56370	0.64851 0.55661	0.60816 0.54916	0.57702 0.54626	0.57725	0.57717	AVRG		0.57821		5.59903	
Dibromochloromethane	NE 0.39440	0.45130 0.39633	0.42505 0.39869	0.41073 0.39759	0.37918	0.39427	AVRG		0.40528		5.26412	
Tetrachloroethene	NE 0.26936	0.33320 0.29091	0.30082 0.30122	0.33399 0.30164	0.29936	0.28615	AVRG		0.30185		6.87487	
1,2-Dibromoethane	NE 0.34611	0.42541 0.34375	0.40286 0.34624	0.36309 0.34502	0.36325	0.35394	AVRG		0.36552		7.95769	
1-Chlorohexane	NE 0.27058	0.31891 0.29451	0.30742 0.30497	0.33602 0.30108	0.30509	0.29798	AVRG		0.30406		5.82966	
Chlorobenzene	NE 0.95733	1.16599 0.96191	1.05258 0.96797	1.02315 0.96078	0.98663	0.96310	AVRG		1.00438		6.86694	
1,1,1,2-Tetrachloroethane	NE 0.35354	0.41610 0.36178	0.40706 0.36400	0.38381 0.36679	0.36058	0.35698	AVRG		0.37452		6.08083	
Ethylbenzene	NE 0.48268	0.58074 0.49951	0.54181 0.51159	0.54627 0.50660	0.49714	0.49091	AVRG		0.51747		6.19763	
m,p-Xylenes	NE 0.61776	0.69775 0.63064	0.60842 0.64151	0.65267 0.63784	0.63943	0.61731	AVRG		0.63815		4.13336	
o-Xylene	NE 0.60231	0.68793 0.61488	0.67177 0.61904	0.68201 0.62117	0.62191	0.60992	AVRG		0.63677		5.28356	
Styrene	NE 1.03828	1.11203 1.04302	1.06411 1.05857	1.03374 1.05409	1.01012	1.02585	AVRG		1.04887		2.76930	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Bromoform	NE	0.32157	0.28167	0.27167	0.26654	0.27431						
	0.27612	0.27809	0.28435	0.28854			AVRG		0.28254		5.68771	
Isopropylbenzene	NE	1.81086	1.55188	1.65791	1.51756	1.47991						
	1.45822	1.52966	1.58026	1.57911			AVRG		1.57393		6.78027	
1,1,2,2-Tetrachloroethane	NE	1.01343	1.04169	0.92927	0.90463	0.86384						
	0.80734	0.78646	0.78147	0.78458			AVRG		0.87919		11.37969	
1,2,3-Trichloropropane	NE	0.71376	0.64247	0.67579	0.64682	0.69393						
	0.58363	0.57749	0.56939	0.57068			AVRG		0.63044		8.99664	
trans-1,4-Dichloro-2-butene	NE	0.12188	0.12097	0.10883	0.11805	0.12477						
	0.12201	0.12421	0.12746	0.12711			AVRG		0.12170		4.66453	
n-Propylbenzene	NE	3.81139	3.04596	3.59078	3.20535	3.24000						
	3.06771	3.17546	3.24067	3.23495			AVRG		3.29025		7.59470	
Bromobenzene	NE	0.93832	0.84056	0.86168	0.80430	0.78514						
	0.76742	0.77052	0.78062	0.78584			AVRG		0.81493		6.90326	
1,3,5-Trimethylbenzene	NE	2.81070	2.39182	2.56909	2.31883	2.34509						
	2.24247	2.33416	2.36164	2.35482			AVRG		2.41429		7.14055	
2-Chlorotoluene	NE	2.37538	2.31498	2.30029	2.10665	2.02743						
	1.91381	1.91814	1.92712	1.92088			AVRG		2.08941		9.20889	
4-Chlorotoluene	NE	2.65754	2.26290	2.51579	2.31216	2.29693						
	2.20862	2.23079	2.24646	2.24423			AVRG		2.33060		6.55345	
tert-Butylbenzene	NE	2.31433	1.96015	2.20052	1.96704	1.95151						
	1.82457	1.93069	1.96746	1.98619			AVRG		2.01139		7.45137	
1,2,4-Trimethylbenzene	NE	2.82875	2.45476	2.51264	2.34854	2.38641						
	2.29724	2.35208	2.38166	2.36035			AVRG		2.43582		6.58075	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
sec-Butylbenzene	NE	3.32113	2.78825	3.00060	2.74806	2.69627						
	2.53422	2.75963	2.84355	2.83927			AVRG		2.83678		7.77278	
p-Isopropyltoluene	NE	2.76903	2.31617	2.63680	2.40779	2.41022						
	2.28631	2.49189	2.52839	2.50601			AVRG		2.48362		6.13282	
1,3-Dichlorobenzene	NE	1.65871	1.45865	1.47401	1.39591	1.40674						
	1.37542	1.42022	1.43696	1.43277			AVRG		1.45104		5.76143	
1,4-Dichlorobenzene	NE	1.76382	1.68376	1.67915	1.47899	1.49407						
	1.45636	1.48340	1.47244	1.46629			AVRG		1.55314		7.70609	
Benzyl Chloride	NE	0.91627	0.80528	0.71741	0.66903	0.79217						
	0.83370	0.87954	0.91703	0.90236			AVRG		0.82587		10.76194	
n-Butylbenzene	NE	2.22356	1.73994	2.12823	2.08088	2.11969						
	2.03494	2.21681	2.25668	2.23717			AVRG		2.11532		7.57840	
1,2-Dichlorobenzene	NE	1.64703	1.40433	1.51430	1.39669	1.40798						
	1.38424	1.40787	1.40761	1.38773			AVRG		1.43975		6.03897	
1,2-Dibromo-3-Chloropropane	NE	562	1184	2351	5689	22086						
	57289	117282	182534	252682			LINR	0.00523	0.14424		0.99979	
1,2,4-Trichlorobenzene	NE	1.03201	0.95053	0.92843	0.93678	1.00122						
	1.00852	1.05151	1.05450	1.05037			AVRG		1.00154		5.09180	
Hexachlorobutadiene	NE	0.45496	0.43499	0.47567	0.43999	0.40952						
	0.40176	0.46265	0.48062	0.48593			AVRG		0.44956		6.74761	
Naphthalene	NE	2.52164	1.98002	2.06297	2.15195	2.35762						
	2.30432	2.32026	2.30178	2.29116			AVRG		2.25463		7.26973	
1,2,3-Trichlorobenzene	NE	1.00600	0.82982	0.91549	0.87650	0.92316						
	0.91409	0.94320	0.94850	0.93747			AVRG		0.92158		5.30458	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Ethyl Acetate	NE 0.48954	0.55715 0.45908	0.55803 0.45507	0.54813 0.45523	0.52955	0.53528	AVRG		0.50967		8.78368	
Methyl Acrylate	NE 0.42996	0.40444 0.42077	0.36366 0.43604	0.41022 0.42149	0.34054	0.41749	AVRG		0.40496		7.88415	
n-Butanol	NE 116028	934 246332	2023 401679	3179 566916	8163	42441	LINR	1.30216	0.01397		0.99668	
Ethyl Acrylate	NE 533003	4696 1125305	8042 1751972	14275 2344010	39998	144388	LINR	0.04728	1.18250		0.99891	
Cyclohexanone	NE 225144	2832 470281	5123 717000	11759 970775	24566	91911	LINR	-0.25984	0.02790		0.99996	
1,4-Dioxane	0.00564 0.00573	0.00561 0.00606	0.00675 0.00618	0.00622 0.00628	0.00612	0.00602	AVRG		0.00606		5.64821	
n-Hexane	NE 208750	2120 496122	4190 791040	10696 NE	23971	95375	QUAD	-0.00494	2.32300	-0.27911	0.99904	
Freon TF	NE 158688	2188 355059	3869 548562	8361 742502	18080	69934	QUAD	0.00021	2.93242	-0.16774	0.99957	
Methyl Acetate	NE 0.30048	0.31498 0.29215	0.31317 0.29784	0.26234 0.29548	0.27837	0.30868	AVRG		0.29595		5.72758	
Methylcyclohexane	NE 0.70648	0.63728 0.74078	0.62017 0.77029	0.69345 0.75370	0.69642	0.67070	AVRG		0.69881		7.28568	
Isopropyl alcohol	NE 0.02587	0.03027 0.02632	0.03392 0.02742	0.02884 0.02799	0.02722	0.02723	AVRG		0.02834		8.70660	
Amyl alcohol	NE 0.00950	0.00862 0.00970	0.00888 0.01042	0.00895 0.01061	0.00779	0.00937	AVRG		0.00932		9.45742	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Allyl alcohol	NE 208750	2756 496122	4190 791040	11222 NE	23971	95375	QUAD	-0.12571	46.53375	-5.61944	0.99904	
4-Methyl-2-pentanol	NE 0.06843	0.08471 0.06853	0.09038 0.07488	0.09393 0.07669	0.08353	0.07453	AVRG		0.07951		11.48326	
Tert-butyl alcohol	NE 0.04721	0.05620 0.04618	0.06105 0.04794	0.05158 0.04957	0.05225	0.05012	AVRG		0.05134		9.20429	
Diethyl ether	NE 0.30172	0.33100 0.30182	0.32986 0.30795	0.32506 0.29912	0.31304	0.30966	AVRG		0.31325		3.96667	
1,3-Butadiene	NE 0.38320	0.46769 0.40906	0.43786 0.40982	0.43128 0.40837	0.37829	0.40359	AVRG		0.41435		6.69422	
Cyclohexane	NE 0.55762	0.71131 0.62652	0.61554 0.64990	0.70135 0.66862	0.60145	0.60394	AVRG		0.63736		7.85586	
Tetrahydrofuran	NE 0.07355	0.07531 0.07188	0.07084 0.07229	0.07374 0.07204	0.06939	0.07678	AVRG		0.07287		3.09331	
alpha-Methylstyrene	NE 1.14972	1.32267 1.18100	1.09879 1.20081	1.15655 1.20136	1.15284	1.18162	AVRG		1.18282		5.17506	
Diisopropyl ether	NE 1.44796	1.70619 1.43897	1.46103 1.45103	1.46501 1.40305	1.45974	1.43875	AVRG		1.47464		6.02123	
Dichlorofluoromethane	NE 0.67939	0.84072 0.69933	0.68197 0.70668	0.80782 0.68931	0.69537	0.66668	AVRG		0.71858		8.57276	
Propylene oxide	NE 0.03660	NE 0.03513	0.05463 NE	0.05586 NE	0.04243	0.04133	AVRG		0.04433		20.07401	*
3-Methyl-1-butanol	NE 125842	1270 266062	2518 427718	3850 594725	10033	52635	LINR	0.70832	0.00998		0.99878	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
Butyl acrylate	NE 512904	1843 1042036	6899 1639896	19207 2199388	48821	203667	LINR	0.01097	0.74717		0.99973	
Butyl methacrylate	NE 0.88124	0.82471 0.81967	0.80995 0.82765	0.85924 0.78273	0.86805	0.89548	AVRG		0.84097		4.39110	
Dicyclopentadiene	NE 2.64890	3.29432 2.62708	2.78520 2.65197	2.95593 2.55993	2.95812	2.68736	AVRG		2.79653		8.37421	
1,2,3-Trimethylbenzene	NE 2.35164	2.43219 2.38718	2.33843 2.38987	2.47839 2.31737	2.37922	2.31576	AVRG		2.37667		2.25782	
Ethanol	NE 0.00428	0.00512 0.00425	0.00500 0.00428	0.00594 0.00411	0.00529	0.00474	AVRG		0.00478		12.83125	
tert-Butyl formate	NE 0.38030	0.39279 0.38170	0.45974 0.40182	0.42517 0.42845	0.42867	0.40731	AVRG		0.41177		6.32007	
3,3-Dimethyl-1-butanol	NE 0.03530	0.04577 0.03571	0.04419 0.03842	0.04692 0.03856	0.04271	0.04048	AVRG		0.04089		10.38248	
tert-Amyl methyl ether	NE 1.52534	1.82207 1.52372	1.65634 1.59018	1.67414 1.51346	1.59982	1.52885	AVRG		1.60377		6.30893	
tert-Butyl ethyl ether	NE 1.46020	1.80647 1.45186	1.57123 1.48722	1.56716 1.45836	1.46858	1.46510	AVRG		1.52624		7.51749	
tert-Amyl alcohol	NE 0.03803	0.04668 0.03817	0.04597 0.04018	0.04251 0.04285	0.04287	0.04073	AVRG		0.04200		7.27701	
Epichlorohydrin	NE 0.02666	0.03720 0.02704	0.03387 0.02777	0.03155 0.02772	0.02794	0.02942	AVRG		0.02991		12.04819	
Isoprene	NE 0.11147	0.16436 0.11863	0.19825 0.11449	0.16986 0.11423	0.11813	0.11521	AVRG		0.13607		23.83892	*

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 0.250 Level 1	100.00 Level 8 0.500 Level 2	150.00 Level 9 1.00 Level 3	200.00 Level 10 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
n-Amyl acetate	NE 0.63723	0.72007 0.63944	0.73131 0.65455	0.63610 0.65751	0.66393	0.68601	AVRG		0.66957		5.30890	
Isopropyl acetate	NE 0.84694	0.96664 0.83507	0.81115 0.84519	0.82457 0.83945	0.90675	0.89568	AVRG		0.86349		5.76082	
n-Butyl acetate	NE 0.54986	0.46933 0.53460	0.51599 0.54978	0.51302 0.55812	0.55855	0.57035	AVRG		0.53551		5.88026	
Acetaldehyde	NE 50952	NE 103450	NE 152553	4310 210164	6656	20285	LINR	-0.06894	0.02587		0.99963	*
Methyl Amyl Ketone	NE 0.74062	0.65724 0.75253	0.65081 0.77485	0.73145 0.78295	0.75722	0.77834	AVRG		0.73622		6.74574	
Dimethyl Disulfide	NE 0.76213	0.81112 0.75348	0.66792 0.77596	0.70809 0.75246	0.72312	0.71935	AVRG		0.74151		5.65803	
Isobutylene	NE 0.04599	0.05492 0.04507	0.05248 0.05081	0.04904 0.04389	0.04588	0.04218	AVRG		0.04781		8.88937	
2-Ethylhexyl Acrylate	NE 360378	2087 790630	3400 1215186	8837 1627894	25308	120798	LINR	0.02538	0.94922		0.99965	
94 1,2-Dichloroethylene (total)	NE 0.47212	0.59054 0.47798	0.55152 0.47957	0.52022 0.47697	0.48546	0.48413	AVRG		0.50428		8.22663	
95 Xylenes (total)	NE 0.56850	0.64773 0.59032	0.58459 0.60398	0.62199 0.60228	0.58667	0.57654	AVRG		0.59807		4.09592	
30 Dibromofluoromethane	NE 209535	1689 449558	5707 670515	9855 880893	25267	90715	LINR	-0.00695	0.44346		0.99959	
35 1,2-Dichloroethane-d4	NE 238148	3125 480296	6368 717187	11054 943547	26822	99379	LINR	-0.01718	0.47386		0.99978	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

Initial Calibration Data

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

ICAL Start Date 15-JUN-2023 1115 **ICAL End Date** 15-JUN-2023 1445

Compound	50.00 Level 7 / 0.250 Level 1	100.00 Level 8 / 0.500 Level 2	150.00 Level 9 / 1.00 Level 3	200.00 Level 10 / 2.00 Level 4	5.00 Level 5	20.00 Level 6	Curve	b	m1	m2	%RSD or R2	Q
48 Toluene-d8	NE	1.45018	1.43208	1.30411	1.24221	1.23311						
	1.13265	1.22907	1.19790	1.15568			AVRG		1.26411		8.86752	
69 4-Bromofluorobenzene	NE	7971	11345	16470	37968	139706						
	332999	703849	1057321	1427380			LINR	-0.01076	0.48296		0.99989	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

01194368

right solutions.
right partner.

Form 6I

Initial Calibration Verification (ICV)

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder
HS23060739

RunID
VOA6_438076

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id ICV
Level LOW

Fraction VOA
Client Smp ID ICV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
1,1,1,2-Tetrachloroethane	50.00	46.87	93.74	80-120	
1,1,1-Trichloroethane	50.00	44.94	89.89	80-120	
1,1,2,2-Tetrachloroethane	50.00	46.24	92.49	80-120	
Freon TF	50.00	49.79	99.59	80-120	
Methyl acetate	50.00	48.69	97.38	80-120	
Cyclohexane	50.00	46.80	93.62	80-120	
Methylcyclohexane	50.00	53.51	107.04	80-120	
Carbon Disulfide	100.00	90.58	90.58	80-120	
2-Hexanone	100.00	98.60	98.60	80-120	
1,1,2-Trichloroethane	50.00	47.08	94.17	80-120	
1,1-Dichloroethane	50.00	46.17	92.34	80-120	
1,1-Dichloroethene	50.00	44.21	88.43	80-120	
1,1-Dichloropropene	50.00	46.82	93.64	80-120	
1,2,3-Trichlorobenzene	50.00	50.83	101.67	80-120	
1,2,3-Trichloropropane	50.00	47.13	94.28	80-120	
1,2,4-Trichlorobenzene	50.00	50.59	101.19	80-120	
1,2,4-Trimethylbenzene	50.00	46.23	92.47	80-120	
1,2-Dibromo-3-Chloropropane	50.00	50.38	100.77	80-120	
1,2-Dibromoethane	50.00	47.45	94.91	80-120	
Acrolein	100.00	103.93	103.93	80-120	
Acrylonitrile	100.00	94.07	94.08	80-120	
1,2-Dichlorobenzene	50.00	47.36	94.73	80-120	
1,2-Dichloroethane	50.00	49.10	98.20	80-120	
1,2-Dichloropropane	50.00	48.45	96.90	80-120	
1,3,5-Trimethylbenzene	50.00	46.12	92.25	80-120	
1,3-Dichlorobenzene	50.00	47.31	94.64	80-120	
1,3-Dichloropropane	50.00	48.46	96.92	80-120	
1,4-Dichlorobenzene	50.00	46.35	92.71	80-120	
1-Chlorohexane	50.00	45.55	91.10	80-120	
2,2-Dichloropropane	50.00	49.24	98.49	80-120	
2-Butanone	100.00	102.39	102.40	80-120	
2-Chloroethylvinyl ether	100.00	102.53	102.53	80-120	
2-Chlorotoluene	50.00	45.20	90.40	80-120	
4-Chlorotoluene	50.00	46.76	93.53	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id ICV
Level LOW
Fraction VOA
Client Smp ID ICV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
p-Isopropyltoluene	50.00	46.63	93.27	80-120	
4-Methyl-2-Pentanone	100.00	97.98	97.98	80-120	
Acetone	100.00	87.51	87.52	80-120	
Acetonitrile	500.00	494.01	98.80	80-120	
Allyl Chloride	50.00	49.12	98.25	80-120	
Benzene	50.00	47.05	94.11	80-120	
Bromobenzene	50.00	47.80	95.61	80-120	
Bromochloromethane	50.00	44.92	89.85	80-120	
Bromodichloromethane	50.00	46.41	92.84	80-120	
Bromoform	50.00	48.28	96.57	80-120	
Bromomethane	50.00	46.93	93.86	80-120	
Carbon Tetrachloride	50.00	46.16	92.34	80-120	
Chlorobenzene	50.00	46.73	93.47	80-120	
Chloroethane	50.00	46.13	92.28	80-120	
Chloroform	50.00	44.31	88.62	80-120	
Chloromethane	50.00	47.99	96.00	80-120	
Chloroprene	50.00	44.77	89.56	80-120	
cis-1,2-Dichloroethene	50.00	46.34	92.69	80-120	
cis-1,3-Dichloropropene	50.00	49.32	98.65	80-120	
Dibromochloromethane	50.00	48.01	96.02	80-120	
Dibromomethane	50.00	48.22	96.45	80-120	
Dichlorodifluoromethane	50.00	48.88	97.77	80-120	
Ethylbenzene	50.00	45.79	91.59	80-120	
Ethyl Methacrylate	50.00	42.61	85.24	80-120	
Iodomethane	100.00	92.19	92.19	80-120	
Isobutyl Alcohol	1000.00	980.04	98.00	70-130	
Propionitrile	500.00	498.23	99.65	70-130	
Hexachlorobutadiene	50.00	49.69	99.39	80-120	
Isopropylbenzene	50.00	45.67	91.36	80-120	
m,p-Xylenes	100.00	95.16	95.17	80-120	
Methyl tert-butyl ether	50.00	47.37	94.75	80-120	
Methylene Chloride	50.00	43.72	87.45	80-120	
Methacrylonitrile	50.00	48.78	97.56	80-120	
Methyl Methacrylate	50.00	49.45	98.90	80-120	

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_438076

Volatiles by EPA 8260

Sample Matrix LIQUID
Lab Smp Id ICV
Level LOW
Fraction VOA
Client Smp ID ICV
Operator PC

Compound	Conc Added	Conc Recovered	% Recovered	Limits	Q
n-Butylbenzene	50.00	48.74	97.49	80-120	
n-Propylbenzene	50.00	46.49	92.99	80-120	
Naphthalene	50.00	52.43	104.86	80-120	
o-Xylene	50.00	46.20	92.40	80-120	
sec-Butylbenzene	50.00	45.26	90.53	80-120	
Styrene	50.00	48.54	97.09	80-120	
tert-Butylbenzene	50.00	45.20	90.41	80-120	
Tetrachloroethene	50.00	45.65	91.32	80-120	
Toluene	50.00	47.38	94.76	80-120	
trans-1,2-Dichloroethene	50.00	45.23	90.46	80-120	
trans-1,3-Dichloropropene	50.00	49.63	99.28	80-120	
trans-1,4-Dichloro-2-butene	50.00	51.27	102.56	80-120	
Trichloroethene	50.00	46.73	93.48	80-120	
Trichlorofluoromethane	50.00	46.34	92.69	80-120	
Vinyl Acetate	100.00	103.98	103.98	80-120	
Vinyl Chloride	50.00	45.89	91.79	80-120	
1,2-Dichloroethylene (total)	100.00	91.57	91.58	80-120	
Xylenes (total)	150.00	141.36	94.25	80-120	
1,4-Dioxane	1000.00	977.76	97.78	80-120	
Dibromofluoromethane	50.00	50.87	101.75	71-125	
1,2-Dichloroethane-d4	50.00	50.05	100.12	70-125	
Toluene-d8	50.00	48.61	97.23	75-125	

01194372

right solutions.
right partner.

Form 7

Continuing Calibration Verification (CCV)

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_439205

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID X061703.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date 17-JUN-2023 11:58
ICAL Date(s) 15-JUN-2023 15-JUN-2023
ICAL Times 11:15 14:45
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,4-Dioxane	0.00606	0.00646	0.00646	0.001	-6.58245	20.0	Averaged	
1,3-Butadiene	0.41435	0.39867	0.39867	0.100	3.78551	20.0	Averaged	
Methacrylonitrile	0.41256	0.43328	0.43328	0.100	-5.02396	20.0	Averaged	
Isobutyl Alcohol	0.06519	0.06743	0.06743	0.005	-3.42915	20.0	Averaged	
Acetonitrile	0.04850	0.04871	0.04871	0.005	-0.43789	20.0	Averaged	
Allyl Chloride	1.09651	1.09423	1.09423	0.100	0.20739	20.0	Averaged	
Propionitrile	0.06047	0.06516	0.06516	0.010	-7.75533	20.0	Averaged	
trans-1,4-Dichloro-2-butene	0.12170	0.12810	0.12810	0.050	-5.25907	20.0	Averaged	
Acetaldehyde	200	203	0.02665	0.001	-1.30926	20.0	Linear	
Chloroprene	0.16619	0.15639	0.15639	0.100	5.89754	20.0	Averaged	
Ethyl Acetate	0.50967	0.50541	0.50541	0.100	0.83567	20.0	Averaged	
Methyl Methacrylate	0.38707	0.40265	0.40265	0.100	-4.02523	20.0	Averaged	
Ethyl Methacrylate	0.35838	0.32233	0.32233	0.100	10.05936	20.0	Averaged	
Methyl Acrylate	0.40496	0.46552	0.46552	0.100	-14.95627	20.0	Averaged	
n-Hexane	50.0	55.37706	0.51017	0.100	-10.75413	20.0	Quadratic	
Diisopropyl ether	1.47464	1.45117	1.45117	0.100	1.59110	20.0	Averaged	
1,2,3-Trimethylbenzene	2.37667	2.20867	2.20867	0.100	7.06891	20.0	Averaged	
Dichlorodifluoromethane	50.0	50.83105	0.43778	0.100	-1.66211	20.0	Linear	
Chloromethane	50.0	48.51988	0.51257	0.100	2.96025	20.0	Linear	
Vinyl Chloride	0.52511	0.50050	0.50050	0.100	4.68691	20.0	Averaged	
Bromomethane	0.30142	0.28826	0.28826	0.100	4.36625	20.0	Averaged	
Chloroethane	0.32098	0.32401	0.32401	0.100	-0.94536	20.0	Averaged	
Trichlorofluoromethane	0.62401	0.62494	0.62494	0.100	-0.15052	20.0	Averaged	
Acrolein	0.03103	0.02776	0.02776	0.010	10.51727	20.0	Averaged	
Acetone	100	87.85476	0.11458	0.100	12.14524	20.0	Linear	
1,1-Dichloroethene	0.39145	0.36478	0.36478	0.100	6.81371	20.0	Averaged	
Iodomethane	100	92.46546	0.59873	0.100	7.53454	20.0	Quadratic	
Acrylonitrile	0.15871	0.15862	0.15862	0.050	0.05514	20.0	Averaged	
Methylene Chloride	0.55293	0.50746	0.50746	0.100	8.22424	20.0	Averaged	
Methyl tert-butyl ether	1.36625	1.36362	1.36362	0.100	0.19256	20.0	Averaged	
Carbon Disulfide	1.39384	1.30878	1.30878	0.100	6.10293	20.0	Averaged	
trans-1,2-Dichloroethene	0.46841	0.44607	0.44607	0.100	4.76902	20.0	Averaged	
Vinyl Acetate	1.25019	1.37708	1.37708	0.010	-10.14957	20.0	Averaged	
1,1-Dichloroethane	0.84382	0.82774	0.82774	0.200	1.90605	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_439205

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID X061703.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date 17-JUN-2023 11:58
ICAL Date(s) 15-JUN-2023 15-JUN-2023
ICAL Times 11:15 14:45
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
2-Butanone	0.16455	0.17063	0.17063	0.100	-3.69427	20.0	Averaged	
2,2-Dichloropropane	50.0	52.65730	0.70127	0.100	-5.31460	20.0	Linear	
cis-1,2-Dichloroethene	0.54016	0.51582	0.51582	0.100	4.50555	20.0	Averaged	
Chloroform	0.90821	0.85698	0.85698	0.200	5.64107	20.0	Averaged	
Bromochloromethane	0.28784	0.27386	0.27386	0.100	4.85602	20.0	Averaged	
30 Dibromofluoromethane	50.0	52.32537	0.46716	0.100	-4.65074	20.0	Linear	
1,1,1-Trichloroethane	0.73406	0.71128	0.71128	0.100	3.10342	20.0	Averaged	
1,1-Dichloropropene	0.41897	0.41133	0.41133	0.100	1.82246	20.0	Averaged	
1,2-Dichloroethane	0.41982	0.43195	0.43195	0.100	-2.89017	20.0	Averaged	
Carbon Tetrachloride	0.40293	0.38891	0.38891	0.100	3.47925	20.0	Averaged	
35 1,2-Dichloroethane-d4	50.0	54.15505	0.52138	0.100	-8.31009	20.0	Linear	
Benzene	1.28613	1.23804	1.23804	0.500	3.73961	20.0	Averaged	
Trichloroethene	0.35461	0.33750	0.33750	0.200	4.82633	20.0	Averaged	
Bromodichloromethane	0.45495	0.43930	0.43930	0.200	3.43929	20.0	Averaged	
2-Chloroethylvinyl ether	0.12311	0.12913	0.12913	0.001	-4.89232	20.0	Averaged	
1,2-Dichloropropane	0.33759	0.33519	0.33519	0.100	0.70937	20.0	Averaged	
Dibromomethane	0.21192	0.21020	0.21020	0.100	0.80906	20.0	Averaged	
4-Methyl-2-Pentanone	0.32299	0.33162	0.33162	0.100	-2.67139	20.0	Averaged	
cis-1,3-Dichloropropene	0.56095	0.57012	0.57012	0.200	-1.63574	20.0	Averaged	
48 Toluene-d8	1.26411	1.22223	1.22223	0.100	3.31292	20.0	Averaged	
Toluene	1.46787	1.42156	1.42156	0.400	3.15475	20.0	Averaged	
trans-1,3-Dichloropropene	0.46933	0.48261	0.48261	0.100	-2.82964	20.0	Averaged	
2-Hexanone	0.21575	0.22199	0.22199	0.100	-2.89546	20.0	Averaged	
1,1,2-Trichloroethane	0.28597	0.27940	0.27940	0.100	2.29668	20.0	Averaged	
1,3-Dichloropropane	0.57821	0.57974	0.57974	0.100	-0.26537	20.0	Averaged	
Dibromochloromethane	0.40528	0.40025	0.40025	0.100	1.24285	20.0	Averaged	
Tetrachloroethene	0.30185	0.28318	0.28318	0.200	6.18415	20.0	Averaged	
1,2-Dibromoethane	0.36552	0.36228	0.36228	0.100	0.88614	20.0	Averaged	
1-Chlorohexane	0.30406	0.30378	0.30378	0.100	0.09183	20.0	Averaged	
Chlorobenzene	1.00438	0.96462	0.96462	0.500	3.95859	20.0	Averaged	
1,1,1,2-Tetrachloroethane	0.37452	0.35959	0.35959	0.100	3.98621	20.0	Averaged	
Ethylbenzene	0.51747	0.49026	0.49026	0.100	5.25792	20.0	Averaged	
m,p-Xylenes	0.63815	0.62899	0.62899	0.100	1.43458	20.0	Averaged	
o-Xylene	0.63677	0.61056	0.61056	0.300	4.11613	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_439205

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID X061703.D
Analysis Type WATER
Lab Sample ID CCV

Injection Date 17-JUN-2023 11:58
ICAL Date(s) 15-JUN-2023 15-JUN-2023
ICAL Times 11:15 14:45
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Styrene	1.04887	1.04957	1.04957	0.300	-0.06753	20.0	Averaged	
Bromoform	0.28254	0.28099	0.28099	0.100	0.54975	20.0	Averaged	
Isopropylbenzene	1.57393	1.49340	1.49340	0.100	5.11664	20.0	Averaged	
1,1,2,2-Tetrachloroethane	0.87919	0.83530	0.83530	0.300	4.99236	20.0	Averaged	
1,2,3-Trichloropropane	0.63044	0.60537	0.60537	0.100	3.97701	20.0	Averaged	
n-Propylbenzene	3.29025	3.16931	3.16931	0.100	3.67573	20.0	Averaged	
Bromobenzene	0.81493	0.77874	0.77874	0.100	4.44151	20.0	Averaged	
1,3,5-Trimethylbenzene	2.41429	2.30999	2.30999	0.100	4.32037	20.0	Averaged	
2-Chlorotoluene	2.08941	1.94324	1.94324	0.100	6.99578	20.0	Averaged	
4-Chlorotoluene	2.33060	2.26035	2.26035	0.100	3.01455	20.0	Averaged	
tert-Butylbenzene	2.01139	1.88909	1.88909	0.100	6.08025	20.0	Averaged	
1,2,4-Trimethylbenzene	2.43582	2.33712	2.33712	0.100	4.05233	20.0	Averaged	
sec-Butylbenzene	2.83678	2.72152	2.72152	0.100	4.06300	20.0	Averaged	
p-Isopropyltoluene	2.48362	2.40729	2.40729	0.100	3.07352	20.0	Averaged	
1,3-Dichlorobenzene	1.45104	1.38334	1.38334	0.600	4.66562	20.0	Averaged	
1,4-Dichlorobenzene	1.55314	1.45852	1.45852	0.400	6.09199	20.0	Averaged	
n-Butylbenzene	2.11532	2.18751	2.18751	0.500	-3.41265	20.0	Averaged	
1,2-Dichlorobenzene	1.43975	1.39350	1.39350	0.400	3.21249	20.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	50.75122	0.14565	0.040	-1.50244	20.0	Linear	
1,2,4-Trichlorobenzene	1.00154	1.01924	1.01924	0.100	-1.76659	20.0	Averaged	
Hexachlorobutadiene	0.44956	0.46141	0.46141	0.100	-2.63586	20.0	Averaged	
Naphthalene	2.25463	2.38133	2.38133	0.200	-5.61934	20.0	Averaged	
1,2,3-Trichlorobenzene	0.92158	0.95077	0.95077	0.010	-3.16735	20.0	Averaged	
94 1,2-Dichloroethylene (total	0.50428	0.48094	0.48094	0.200	4.62791	20.0	Averaged	
95 Xylenes (total)	0.59807	0.58876	0.58876	0.100	1.55629	20.0	Averaged	
Cyclohexane	0.63736	0.63929	0.63929	0.100	-0.30308	20.0	Averaged	
Freon TF	50.0	53.25271	0.37100	0.100	-6.50541	20.0	Quadratic	
Methylcyclohexane	0.69881	0.69554	0.69554	0.100	0.46805	20.0	Averaged	
Methyl Acetate	0.29595	0.30972	0.30972	0.100	-4.65320	20.0	Averaged	
Tert-butyl alcohol	0.05134	0.05023	0.05023	0.005	2.16406	20.0	Averaged	
Isopropyl alcohol	0.02834	0.02863	0.02863	0.005	-1.00538	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_439205

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID X061731.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date 17-JUN-2023 21:47
ICAL Date(s) 15-JUN-2023 15-JUN-2023
ICAL Times 11:15 14:45
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
1,4-Dioxane	0.00606	0.00620	0.00620	0.001	-2.24039	50.0	Averaged	
1,3-Butadiene	0.41435	0.40861	0.40861	0.100	1.38527	50.0	Averaged	
Methacrylonitrile	0.41256	0.44506	0.44506	0.100	-7.87904	50.0	Averaged	
Isobutyl Alcohol	0.06519	0.06825	0.06825	0.005	-4.67975	50.0	Averaged	
Acetonitrile	0.04850	0.05338	0.05338	0.005	-10.06385	50.0	Averaged	
Allyl Chloride	1.09651	1.14547	1.14547	0.100	-4.46549	50.0	Averaged	
Propionitrile	0.06047	0.06615	0.06615	0.010	-9.39245	50.0	Averaged	
trans-1,4-Dichloro-2-butene	0.12170	0.11097	0.11097	0.050	8.81477	50.0	Averaged	
Acetaldehyde	200	203	0.02672	0.001	-1.57323	50.0	Linear	
Chloroprene	0.16619	0.15217	0.15217	0.100	8.43655	50.0	Averaged	
Ethyl Acetate	0.50967	0.50478	0.50478	0.100	0.96011	50.0	Averaged	
Methyl Methacrylate	0.38707	0.42072	0.42072	0.100	-8.69417	50.0	Averaged	
Ethyl Methacrylate	0.35838	0.33106	0.33106	0.100	7.62380	50.0	Averaged	
Methyl Acrylate	0.40496	0.46742	0.46742	0.100	-15.42449	50.0	Averaged	
n-Hexane	50.0	48.28523	0.44124	0.100	3.42955	50.0	Quadratic	
Diisopropyl ether	1.47464	1.48182	1.48182	0.100	-0.48711	50.0	Averaged	
1,2,3-Trimethylbenzene	2.37667	2.39477	2.39477	0.100	-0.76138	50.0	Averaged	
Dichlorodifluoromethane	50.0	48.72272	0.41950	0.100	2.55457	50.0	Linear	
Chloromethane	50.0	44.94595	0.47400	0.100	10.10810	50.0	Linear	
Vinyl Chloride	0.52511	0.50623	0.50623	0.100	3.59478	50.0	Averaged	
Bromomethane	0.30142	0.25811	0.25811	0.100	14.36794	50.0	Averaged	
Chloroethane	0.32098	0.31644	0.31644	0.100	1.41503	50.0	Averaged	
Trichlorofluoromethane	0.62401	0.61569	0.61569	0.100	1.33293	50.0	Averaged	
Acrolein	0.03103	0.02993	0.02993	0.010	3.52597	50.0	Averaged	
Acetone	100	91.19626	0.11893	0.100	8.80374	50.0	Linear	
1,1-Dichloroethene	0.39145	0.37301	0.37301	0.100	4.71127	50.0	Averaged	
Iodomethane	100	76.66680	0.49281	0.100	23.33320	50.0	Quadratic	
Acrylonitrile	0.15871	0.16251	0.16251	0.050	-2.39476	50.0	Averaged	
Methylene Chloride	0.55293	0.51073	0.51073	0.100	7.63199	50.0	Averaged	
Methyl tert-butyl ether	1.36625	1.34341	1.34341	0.100	1.67172	50.0	Averaged	
Carbon Disulfide	1.39384	1.18173	1.18173	0.100	15.21768	50.0	Averaged	
trans-1,2-Dichloroethene	0.46841	0.44711	0.44711	0.100	4.54636	50.0	Averaged	
Vinyl Acetate	1.25019	1.35322	1.35322	0.010	-8.24069	50.0	Averaged	
1,1-Dichloroethane	0.84382	0.83578	0.83578	0.200	0.95285	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_439205

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID X061731.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date 17-JUN-2023 21:47
ICAL Date(s) 15-JUN-2023 15-JUN-2023
ICAL Times 11:15 14:45
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
2-Butanone	0.16455	0.16762	0.16762	0.100	-1.86890	50.0	Averaged	
2,2-Dichloropropane	50.0	46.19588	0.61523	0.100	7.60823	50.0	Linear	
cis-1,2-Dichloroethene	0.54016	0.52452	0.52452	0.100	2.89406	50.0	Averaged	
Chloroform	0.90821	0.87139	0.87139	0.200	4.05436	50.0	Averaged	
Bromochloromethane	0.28784	0.27421	0.27421	0.100	4.73390	50.0	Averaged	
30 Dibromofluoromethane	50.0	54.84366	0.48950	0.100	-9.68732	50.0	Linear	
1,1,1-Trichloroethane	0.73406	0.70890	0.70890	0.100	3.42688	50.0	Averaged	
1,1-Dichloropropene	0.41897	0.39880	0.39880	0.100	4.81430	50.0	Averaged	
1,2-Dichloroethane	0.41982	0.42508	0.42508	0.100	-1.25364	50.0	Averaged	
Carbon Tetrachloride	0.40293	0.37446	0.37446	0.100	7.06551	50.0	Averaged	
35 1,2-Dichloroethane-d4	50.0	55.63435	0.53540	0.100	-11.26869	50.0	Linear	
Benzene	1.28613	1.22451	1.22451	0.500	4.79139	50.0	Averaged	
Trichloroethene	0.35461	0.33351	0.33351	0.200	5.95093	50.0	Averaged	
Bromodichloromethane	0.45495	0.43314	0.43314	0.200	4.79375	50.0	Averaged	
2-Chloroethylvinyl ether	0.12311	0.10922	0.10922	0.001	11.28414	50.0	Averaged	
1,2-Dichloropropane	0.33759	0.32926	0.32926	0.100	2.46672	50.0	Averaged	
Dibromomethane	0.21192	0.20781	0.20781	0.100	1.93854	50.0	Averaged	
4-Methyl-2-Pentanone	0.32299	0.32151	0.32151	0.100	0.45720	50.0	Averaged	
cis-1,3-Dichloropropene	0.56095	0.54368	0.54368	0.200	3.07790	50.0	Averaged	
48 Toluene-d8	1.26411	1.24155	1.24155	0.100	1.78469	50.0	Averaged	
Toluene	1.46787	1.40541	1.40541	0.400	4.25522	50.0	Averaged	
trans-1,3-Dichloropropene	0.46933	0.45911	0.45911	0.100	2.17776	50.0	Averaged	
2-Hexanone	0.21575	0.21775	0.21775	0.100	-0.92658	50.0	Averaged	
1,1,2-Trichloroethane	0.28597	0.26955	0.26955	0.100	5.74205	50.0	Averaged	
1,3-Dichloropropane	0.57821	0.55682	0.55682	0.100	3.69798	50.0	Averaged	
Dibromochloromethane	0.40528	0.38536	0.38536	0.100	4.91608	50.0	Averaged	
Tetrachloroethene	0.30185	0.26841	0.26841	0.200	11.07939	50.0	Averaged	
1,2-Dibromoethane	0.36552	0.34601	0.34601	0.100	5.33599	50.0	Averaged	
1-Chlorohexane	0.30406	0.26684	0.26684	0.100	12.24232	50.0	Averaged	
Chlorobenzene	1.00438	0.93960	0.93960	0.500	6.44956	50.0	Averaged	
1,1,1,2-Tetrachloroethane	0.37452	0.35091	0.35091	0.100	6.30334	50.0	Averaged	
Ethylbenzene	0.51747	0.47271	0.47271	0.100	8.64957	50.0	Averaged	
m,p-Xylenes	0.63815	0.60117	0.60117	0.100	5.79416	50.0	Averaged	
o-Xylene	0.63677	0.58647	0.58647	0.300	7.89961	50.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID VOA6_439205

Volatiles by EPA 8260

Instrument ID VOA6.I
Lab File ID X061731.D
Analysis Type WATER
Lab Sample ID CCV-END

Injection Date 17-JUN-2023 21:47
ICAL Date(s) 15-JUN-2023 15-JUN-2023
ICAL Times 11:15 14:45
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF50 / Conc	CCV RRF50	Min RRF	%D / %Drift	Max %D / %Drift	Curve Type	Q
Styrene	1.04887	1.00609	1.00609	0.300	4.07803	50.0	Averaged	
Bromoform	0.28254	0.26837	0.26837	0.100	5.01460	50.0	Averaged	
Isopropylbenzene	1.57393	1.43673	1.43673	0.100	8.71716	50.0	Averaged	
1,1,2,2-Tetrachloroethane	0.87919	0.81660	0.81660	0.300	7.11894	50.0	Averaged	
1,2,3-Trichloropropane	0.63044	0.63040	0.63040	0.100	0.00613	50.0	Averaged	
n-Propylbenzene	3.29025	3.01952	3.01952	0.100	8.22822	50.0	Averaged	
Bromobenzene	0.81493	0.75965	0.75965	0.100	6.78344	50.0	Averaged	
1,3,5-Trimethylbenzene	2.41429	2.21669	2.21669	0.100	8.18485	50.0	Averaged	
2-Chlorotoluene	2.08941	1.87610	1.87610	0.100	10.20914	50.0	Averaged	
4-Chlorotoluene	2.33060	2.18015	2.18015	0.100	6.45558	50.0	Averaged	
tert-Butylbenzene	2.01139	1.82015	1.82015	0.100	9.50770	50.0	Averaged	
1,2,4-Trimethylbenzene	2.43582	2.23914	2.23914	0.100	8.07483	50.0	Averaged	
sec-Butylbenzene	2.83678	2.54425	2.54425	0.100	10.31197	50.0	Averaged	
p-Isopropyltoluene	2.48362	2.24354	2.24354	0.100	9.66649	50.0	Averaged	
1,3-Dichlorobenzene	1.45104	1.32569	1.32569	0.600	8.63881	50.0	Averaged	
1,4-Dichlorobenzene	1.55314	1.37933	1.37933	0.400	11.19093	50.0	Averaged	
n-Butylbenzene	2.11532	1.98023	1.98023	0.500	6.38631	50.0	Averaged	
1,2-Dichlorobenzene	1.43975	1.31462	1.31462	0.400	8.69151	50.0	Averaged	
1,2-Dibromo-3-Chloropropane	50.0	48.18903	0.13826	0.040	3.62193	50.0	Linear	
1,2,4-Trichlorobenzene	1.00154	0.94184	0.94184	0.100	5.96095	50.0	Averaged	
Hexachlorobutadiene	0.44956	0.40009	0.40009	0.100	11.00434	50.0	Averaged	
Naphthalene	2.25463	2.26193	2.26193	0.200	-0.32345	50.0	Averaged	
1,2,3-Trichlorobenzene	0.92158	0.88271	0.88271	0.010	4.21751	50.0	Averaged	
94 1,2-Dichloroethylene (total	0.50428	0.48582	0.48582	0.200	3.66144	50.0	Averaged	
95 Xylenes (total)	0.59807	0.56679	0.56679	0.100	5.22999	50.0	Averaged	
Cyclohexane	0.63736	0.64215	0.64215	0.100	-0.75054	50.0	Averaged	
Freon TF	50.0	50.16516	0.34904	0.100	-0.33032	50.0	Quadratic	
Methylcyclohexane	0.69881	0.74500	0.74500	0.100	-6.60997	50.0	Averaged	
Methyl Acetate	0.29595	0.32048	0.32048	0.100	-8.29166	50.0	Averaged	
Tert-butyl alcohol	0.05134	0.04778	0.04778	0.005	6.93842	50.0	Averaged	
Isopropyl alcohol	0.02834	0.02620	0.02620	0.005	7.54757	50.0	Averaged	

01194379

right solutions.
right partner.

Form 8

Internal Standard Area and RT Summary

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Form 8 - Internal Standard Area and RT Summary

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Volatiles by EPA 8260

VOA6_439205		Pentafluorobenzene				1,4-Difluorobenzene				Chlorobenzene				1,4-Dichlorobenze			
Sample ID	File ID	Area	#	RT	#	Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
12-HOUR STD (CCV)	X061703.D	464761	#	4.18	#	718789	#	4.97	#	679450	#	7.67	#	385495	#	9.66	#
HS23060739-01	X061728.D	493483		4.18		722423		4.97		632348		7.67		317687		9.66	
HS23060739-03	X061729.D	487529		4.18		714128		4.97		629981		7.67		323987		9.66	
HS23060739-04	X061730.D	493079		4.18		723822		4.97		639613		7.67		321096		9.66	
HS23060739-05	X061722.D	496073		4.18		731251		4.97		647573		7.67		328253		9.66	
HS23060739-06	X061723.D	483328		4.18		704922		4.97		619318		7.67		307035		9.66	
HS23060739-07	X061713.D	504290		4.18		730912		4.97		651618		7.67		325999		9.66	
VBLKW-230617	X061707.D	497634		4.18		733360		4.97		649753		7.67		331139		9.66	
VLCSW-230617	X061705.D	467611		4.18		727193		4.97		681365		7.67		388069		9.66	
MS-ZZZZZZMS	X061710.D	499166		4.18		726571		4.97		647565		7.67		351472		9.66	
ZZZZZZMSD	X061711.D	506199		4.18		741804		4.97		668832		7.67		359957		9.66	

AREA UPPER LIMIT = +100% of 12H STD IS Area
AREA LOWER LIMIT = - 50% of 12H STD IS Area
RT - Retention IS - Internal StandardTime

RT UPPER LIMIT = + 0.50 of 12H STD IS RT
RT LOWER LIMIT = - 0.50 of 12H STD IS RT
CCV - Continuing Calibration Verification

- Area or RT Limit Flag
* - Value Outside Area or RT limits
H - Hour STD - Standard

01194381

right solutions.
right partner.

Analysis Run Log

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

RunID
VOA6-438076

Volatiles by EPA 8260

Run ID VOA6_438076 **Start Date** 06/15/23 **EndDate** 06/15/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
10:54	BFB	TUNE	BFB	X061501.D	06/15/23	1
11:15	VSTD000.25	ICAL1	VSTD000.25	X061502.D	06/15/23	1
11:36	VSTD000.5	ICAL2	VSTD000.5	X061503.D	06/15/23	1
12:18	VSTD001	ICAL3	VSTD001	X061504.D	06/15/23	1
12:39	VSTD002	ICAL4	VSTD002	X061505.D	06/15/23	1
13:00	VSTD005	ICAL5	VSTD005	X061506.D	06/15/23	1
13:21	VSTD020	ICAL6	VSTD020	X061507.D	06/15/23	1
13:42	VSTD050	ICAL7	VSTD050	X061508.D	06/15/23	1
14:03	VSTD100	ICAL8	VSTD100	X061509.D	06/15/23	1
14:24	VSTD150	ICAL9	VSTD150	X061510.D	06/15/23	1
14:45	VSTD200	ICAL	VSTD200	X061511.D	06/15/23	1
15:47	CCV	ICV	CCV	X061514.D	06/15/23	1

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

RunID
VOA6-439205

Volatiles by EPA 8260

Run ID VOA6_439205 **Start Date** 06/17/23 **EndDate** 06/17/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
11:17	BFB	TUNE	BFB	X061701.D	06/17/23	1
11:58	CCV	CCV	CCV	X061703.D	06/17/23	1
12:19	CCB	CCB	CCB	X061704.D	06/17/23	1
12:40	VLCSW-230617	LCS	VLCSW-230617	X061705.D	06/17/23	1
13:23	VBLKW-230617	MBLK	VBLKW-230617	X061707.D	06/17/23	1
13:44	HS23060722-10	SAMP	ZZZZZZZZZZ	X061708.D	06/17/23	1
14:05	HS23060722-05	SAMP	ZZZZZZZZZZ	X061709.D	06/17/23	1
14:26	HS23060722-05MS	MS	ZZZZZZMS	X061710.D	06/17/23	1
14:47	HS23060722-05MSD	MSD	ZZZZZZMSD	X061711.D	06/17/23	1
15:29	HS23060739-07	SAMP	Trip Blank	X061713.D	06/17/23	1
15:50	HS23060722-01	SAMP	ZZZZZZZZZZ	X061714.D	06/17/23	1
16:11	HS23060722-02	SAMP	ZZZZZZZZZZ	X061715.D	06/17/23	1
16:32	HS23060722-03	SAMP	ZZZZZZZZZZ	X061716.D	06/17/23	1
16:53	HS23060722-04	SAMP	ZZZZZZZZZZ	X061717.D	06/17/23	1
17:14	HS23060722-06	SAMP	ZZZZZZZZZZ	X061718.D	06/17/23	1
17:35	HS23060722-07	SAMP	ZZZZZZZZZZ	X061719.D	06/17/23	1
17:56	HS23060722-08	SAMP	ZZZZZZZZZZ	X061720.D	06/17/23	1
18:17	HS23060722-09	SAMP	ZZZZZZZZZZ	X061721.D	06/17/23	1
18:38	HS23060739-05	SAMP	18CPTMW04_060923	X061722.D	06/17/23	1
18:59	HS23060739-06	SAMP	18CPTMW04_060923_	X061723.D	06/17/23	1
19:20	HS23060999-01	SAMP	ZZZZZZZZZZ	X061724.D	06/17/23	1
19:41	HS23060999-02	SAMP	ZZZZZZZZZZ	X061725.D	06/17/23	1
20:02	HS23060999-05	SAMP	ZZZZZZZZZZ	X061726.D	06/17/23	1
20:23	HS23060999-06	SAMP	ZZZZZZZZZZ	X061727.D	06/17/23	1
20:44	HS23060739-01	SAMP	MW5_060923	X061728.D	06/17/23	1
21:05	HS23060739-03	SAMP	18CPTMW08SW_0609	X061729.D	06/17/23	1
21:27	HS23060739-04	SAMP	18CPTMW04SW_0609	X061730.D	06/17/23	1
21:47	CCV-END	CCV_END	CCV-END	X061731.D	06/17/23	1

01194384

right solutions.
right partner.

Raw Data VOA6 438076

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061501.D Page 1
Report Date: 15-Jun-2023 11:38

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061501.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 15-JUN-2023 10:54
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\bfb.m
Meth Date : 14-Mar-2023 15:45 Linh.Pham Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/l)		
RT	EXP RT	REL RT	MASS	RESPONSE			TARGET RANGE	RATIO
1 bfb							CAS #: 460-00-4	
8.691	8.889	(0.000)	95	91504			0.00- 100.00	100.00
8.691	8.889	(0.000)	50	17024			15.00- 40.00	18.60
8.691	8.889	(0.000)	75	44272			30.00- 60.00	48.38
8.691	8.889	(0.000)	96	6495			5.00- 9.00	7.10
8.691	8.889	(0.000)	173	533			0.00- 2.00	0.74
8.691	8.889	(0.000)	174	72064			50.00- 0.00	78.76
8.691	8.889	(0.000)	175	5792			5.00- 9.00	8.04
8.691	8.889	(0.000)	176	71408			95.00- 101.00	99.09
8.691	8.889	(0.000)	177	5330			5.00- 9.00	7.46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.60
75	30.00 - 60.00% of mass 95	48.38
96	5.00 - 9.00% of mass 95	7.10
173	Less than 2.00% of mass 174	0.58 (0.74)
174	Greater than 50.00% of mass 95	78.76
175	5.00 - 9.00% of mass 174	6.33 (8.04)
176	95.00 - 101.00% of mass 174	78.04 (99.09)
177	5.00 - 9.00% of mass 176	5.82 (7.46)

Data File: X061501.D
Spectrum: Scan 2160 (8.68)
Location of Maximum: 95.00
Number of points: 91

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	732	62.00	3604	92.10	1898	141.90	68
37.10	4114	63.00	2982	93.00	3456	143.00	777
38.10	3477	63.90	141	94.00	11246	143.90	94
39.10	1745	64.80	123	95.00	91504	147.70	291
40.00	1863	66.90	341	96.00	6495	148.80	125
41.10	52	68.00	9377	96.90	224	149.70	51
42.00	50	69.10	8186	104.00	204	151.90	69
42.90	82	70.00	449	104.80	127	152.80	64
44.10	1699	72.00	505	106.00	388	154.80	170
45.00	935	73.00	3827	106.90	76	156.90	174
46.00	105	74.10	13173	109.90	113	157.70	64
47.10	1295	75.10	44272	110.80	95	158.80	71
48.00	358	76.00	3684	115.10	123	169.90	113
49.00	3460	76.90	535	115.90	365	172.80	533
50.10	17024	77.90	379	116.90	632	173.90	72064
51.10	5327	78.90	2312	117.90	274	174.90	5792
52.00	282	80.00	561	118.90	458	175.90	71408
54.80	200	80.90	2487	128.00	326	176.90	5330
56.00	1410	81.90	556	128.80	272	178.00	84
57.00	1995	86.00	91	130.00	338	186.00	171
57.90	156	86.90	3763	135.00	109	191.00	88
59.90	837	87.90	3752	136.90	179	262.00	65
61.00	4172	90.90	273	140.90	1058		

Data File: \\nahstws005\target\chem\voa6.i\x230615.b\x061501.d Page 1

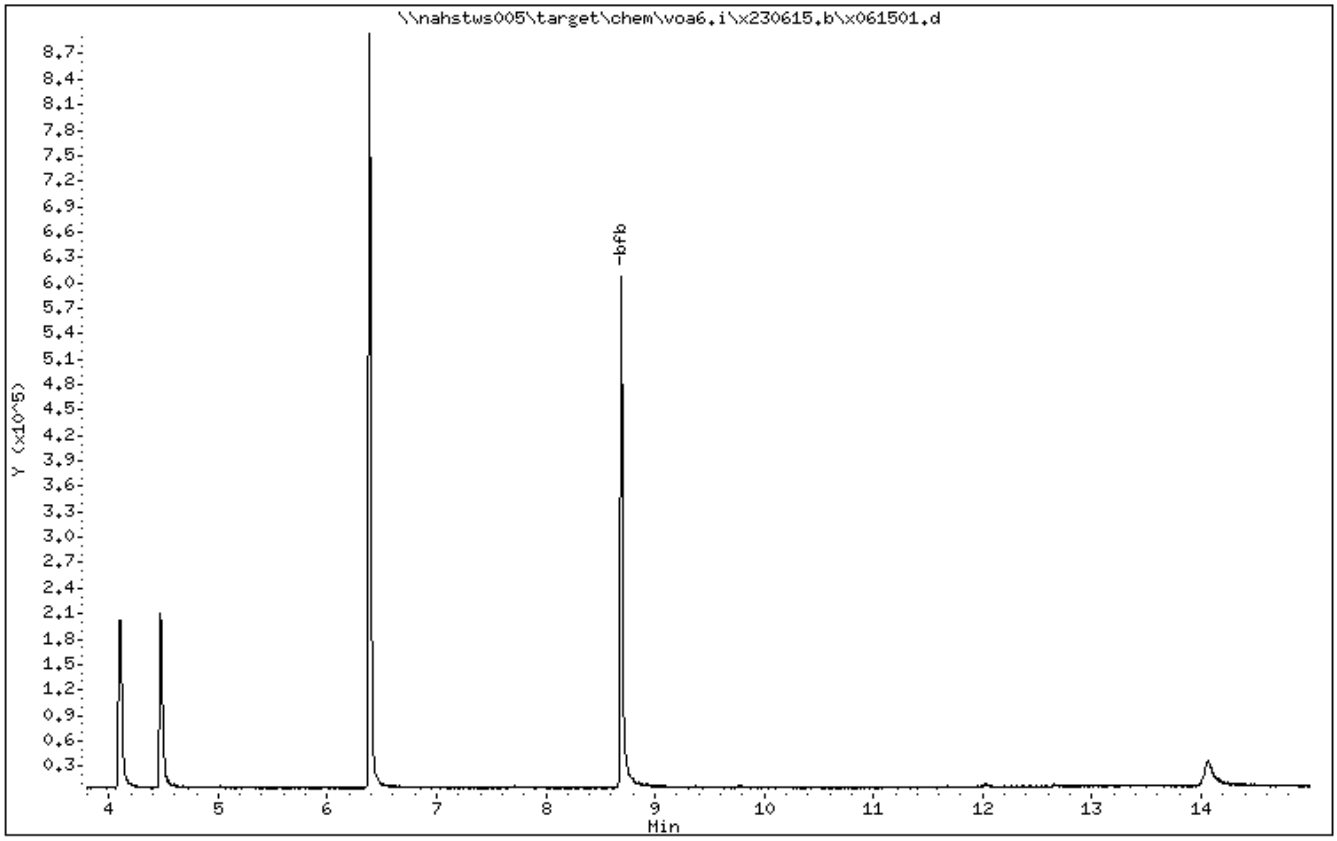
Date : 15-JUN-2023 10:54

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\x230615.b\x061501.d
Inj Date : 15-JUN-2023 10:54
InstruID : voa6.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061502.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061502.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 15-JUN-2023 11:15
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 11:15 Cal File: X061502.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

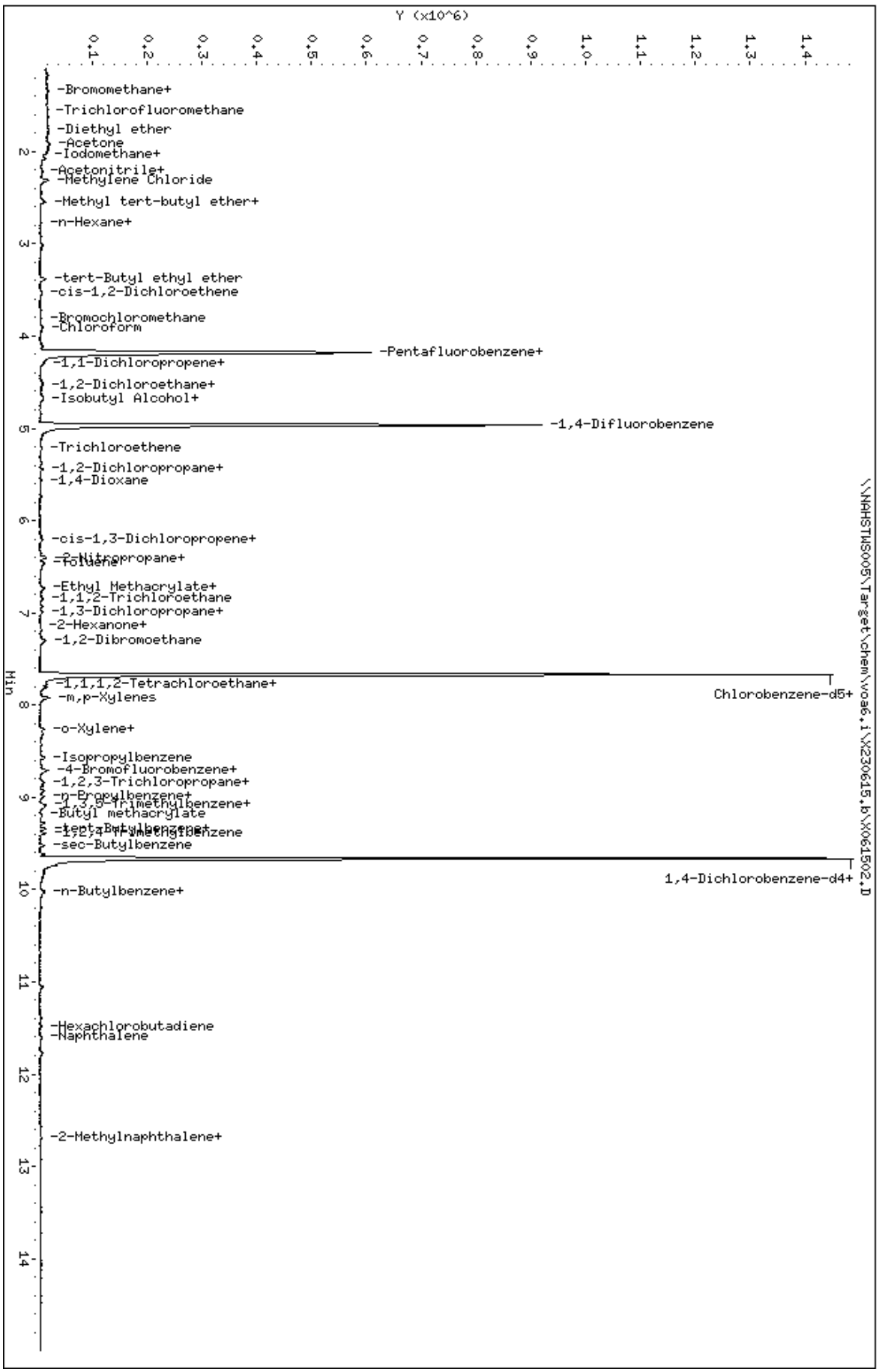
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.181	4.181	(1.000)	494932	50.0000	
	6 Bromomethane	94	1.343	1.344	(0.321)	1702	0.25000	0.57
	10 Acetone	43	1.977	1.973	(0.473)	3259	0.50000	2.26
	13 Acetonitrile	39	2.206	2.202	(0.528)	1535	2.50000	3.19(a)
	15 Iodomethane	142	2.029	2.030	(0.485)	1365	0.50000	2.53(T)
	17 Methylene Chloride	84	2.307	2.307	(0.552)	5303	0.25000	0.96
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	766330	50.0000	
	42 1,2-Dichloropropane	63	5.441	5.437	(1.096)	1532	0.25000	0.29(a)
	43 2-Nitropropane	43	6.352	5.966	(1.519)	2352	0.25000	1.76(Ta)
	45 4-Methyl-2-Pentanone	43	6.352	6.322	(0.828)	2352	0.50000	0.52(a)
	46 cis-1,3-Dichloropropene	75	6.175	6.153	(1.244)	2487	0.25000	0.28(a)
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	699301	50.0000	
$	48 Toluene-d8	98	6.400	6.386	(0.835)	9354	0.25000	0.52(a)
	49 Ethyl Methacrylate	69	6.738	6.708	(1.357)	997	0.25000	0.18(a)
	50 Toluene	91	6.464	6.445	(0.843)	6514	0.25000	0.31(a)
	52 2-Hexanone	43	7.139	7.083	(0.931)	730	0.50000	0.24(Ta)
	53 1,1,2-Trichloroethane	83	6.843	6.835	(0.892)	1411	0.25000	0.35(a)
	54 1,3-Dichloropropane	76	6.993	6.978	(0.912)	3023	0.25000	0.37(a)
	55 Dibromochloromethane	129	7.184	7.173	(0.937)	1999	0.25000	0.35(a)
	56 Tetrachloroethene	164	6.940	6.925	(0.905)	1096	0.25000	0.25(a)
	57 1,2-Dibromoethane	107	7.281	7.259	(0.950)	1818	0.25000	0.35(a)

58 1-Chlorohexane	55	7.716	7.694 (1.554)	1009	0.25000	0.21(a)
59 Chlorobenzene	112	7.697	7.690 (1.004)	4842	0.25000	0.34(a)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
60	1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	1838	0.25000	0.35(a)
61	Ethylbenzene	106	7.810	7.799	(1.019)	2138	0.25000	0.29(a)
62	m,p-Xylenes	106	7.922	7.900	(1.033)	4853	0.50000	0.54(a)
63	o-Xylene	106	8.260	8.237	(1.077)	2870	0.25000	0.32(a)
64	Styrene	104	8.301	8.256	(1.083)	4358	0.25000	0.29(a)
67	Isopropylbenzene	105	8.567	8.560	(1.117)	6739	0.25000	0.30(a)
$ 69	4-Bromofluorobenzene	95	8.710	8.687	(1.136)	6918	0.25000	0.48(a)
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	377299	50.0000	
71	1,2,3-Trichloropropane	75	8.878	8.863	(0.919)	1462	0.25000	0.30(a)
73	n-Propylbenzene	91	8.927	8.908	(0.924)	7862	0.25000	0.31(a)
74	Bromobenzene	156	8.822	8.803	(0.913)	2206	0.25000	0.35(a)
75	1,3,5-Trimethylbenzene	105	9.077	9.066	(0.939)	5834	0.25000	0.32(a)
76	2-Chlorotoluene	91	8.991	8.972	(0.931)	6413	0.25000	0.40(a)
77	4-Chlorotoluene	91	9.103	9.070	(0.942)	6038	0.25000	0.34(a)
78	tert-Butylbenzene	119	9.336	9.336	(0.966)	4660	0.25000	0.30(a)
79	1,2,4-Trimethylbenzene	105	9.392	9.377	(0.972)	6265	0.25000	0.34(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	6772	0.25000	0.31(a)
82	p-Isopropyltoluene	119	9.658	9.647	(1.000)	5545	0.25000	0.29(a)
83	1,3-Dichlorobenzene	146	9.609	9.602	(0.995)	3815	0.25000	0.34(a)
84	1,4-Dichlorobenzene	146	9.688	9.681	(1.003)	4582	0.25000	0.39(a)
87	n-Butylbenzene	91	10.033	9.992	(1.038)	2862	0.25000	0.17(a)
88	1,2-Dichlorobenzene	146	10.014	9.992	(1.036)	2957	0.25000	0.27(a)
91	Hexachlorobutadiene	225	11.491	11.476	(1.189)	911	0.25000	0.26(a)
92	Naphthalene	128	11.607	11.540	(1.201)	3349	0.25000	0.19(a)
141	Cyclohexane	56	4.177	4.121	(0.999)	7819	0.25000	1.23(a)
147	Methylcyclohexane	55	5.377	5.381	(1.083)	1111	0.25000	0.10(a)
135	1,4-Dioxane	88	5.624	5.598	(1.345)	279	5.00000	4.65(aM)
136	n-Hexane	57	2.772	2.776	(0.663)	805	0.25000	(Ta)
139	Diethyl ether	59	1.767	1.760	(0.423)	1156	0.25000	0.37(a)
149	Isopropyl alcohol	45	2.104	2.093	(0.503)	1938	5.00000	6.90(T)
160	2-Methylnaphthalene	142	12.694	12.634	(1.314)	824	0.25000	0.11(a)
166	1,2,3-Trimethylbenzene	105	9.740	9.729	(1.008)	6314	0.25000	0.35(a)
174	tert-Amyl methyl ether	73	4.669	4.665	(1.117)	6862	0.25000	0.43(a)
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.808)	5136	0.25000	0.33(a)
176	tert-Amyl alcohol	59	4.639	4.612	(1.109)	2691	5.00000	6.47
151	4-Methyl-2-pentanol	45	6.730	6.708	(1.356)	7887	5.00000	6.47
180	1-Methylnaphthalene	142	12.694	12.634	(1.314)	824	0.25000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	1108	0.25000	0.27(a)
162	Butyl acrylate	55	8.323	8.249	(1.086)	733	0.25000	0.61(a)
164	Dicyclopentadiene	66	9.677	9.681	(1.002)	13171	0.25000	0.62(a)
M 94	1,2-Dichloroethylene (total)	96				2586	0.50000	(a)
134	Cyclohexanone	55	8.653	8.642	(0.896)	2230	5.00000	(a)
150	Allyl alcohol	57	2.772	2.772	(0.663)	805	5.00000	(a)
200	Dimethyl Disulfide	94	6.209	6.194	(0.810)	3528	0.25000	0.34(a)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061502.D
Date : 15-JUN-2023 11:15
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

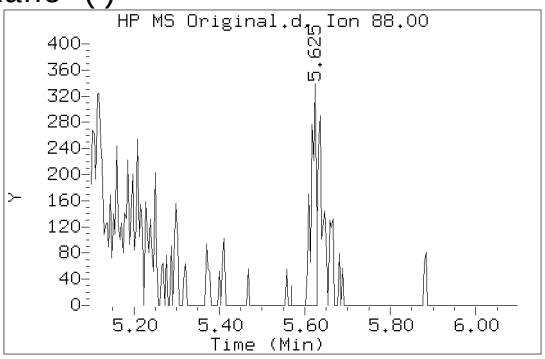
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061502.D
Inj Date : 15-JUN-2023 11:15
InstruID : voa6.i
LabSampID : VSTD000.25

1,4-Dioxane ()

Reason Code:

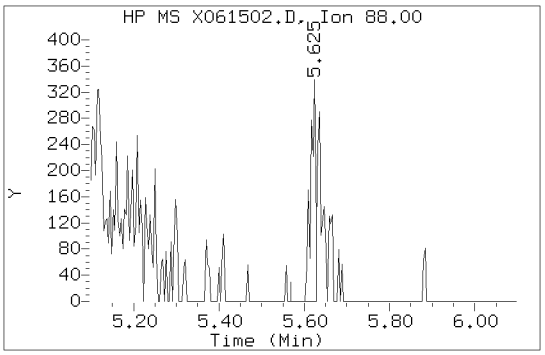
BEFORE

MASS
88
AREA
279
HEIGHT
339
20-Jun-2023
18:22
linh
pham



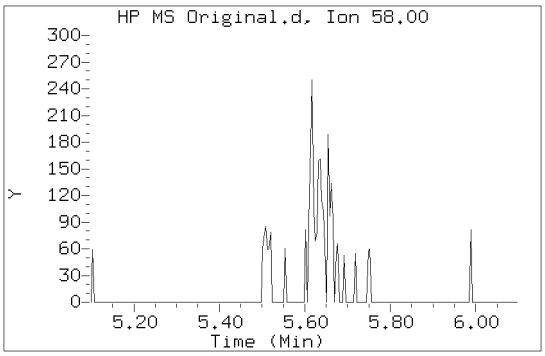
AFTER

MASS
88
AREA
279
HEIGHT
339
20-Jun-2023
18:24
linh
pham



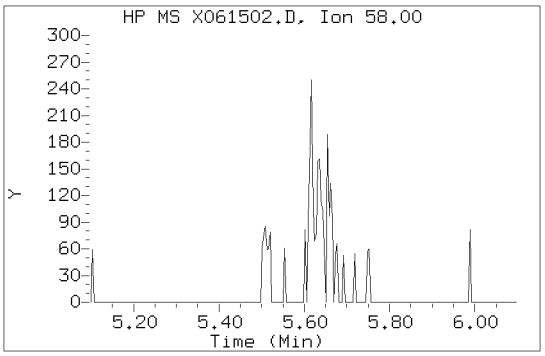
BEFORE

MASS
58
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
58
AREA
0
HEIGHT
0
20-Jun-2023
18:24
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 15-JUN-2023 11:36
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 11:36 Cal File: X061503.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	480661	50.0000	
2	Dichlorodifluoromethane	85	0.973	0.976	(0.233)	2615	0.50000	0.95(M)
3	Chloromethane	50	1.081	1.081	(0.259)	3301	0.50000	1.66(M)
4	Propionitrile	54	3.709	3.653	(0.887)	2622	5.00000	4.51(aM)
5	Vinyl Chloride	62	1.145	1.149	(0.274)	2917	0.50000	0.57(M)
6	Bromomethane	94	1.344	1.344	(0.321)	1612	0.50000	0.55(M)
7	Chloroethane	64	1.407	1.407	(0.337)	1789	0.50000	0.57(M)
8	Trichlorofluoromethane	101	1.561	1.565	(0.373)	3392	0.50000	0.56(M)
9	Acrolein	56	1.445	1.449	(0.346)	343	1.00000	1.15(aM)
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	2206	0.50000	0.58(M)
12	Isobutyl Alcohol	43	4.702	4.676	(1.125)	5465	10.0000	8.71(aM)
13	Acetonitrile	39	2.213	2.202	(0.529)	2269	5.00000	4.86(aM)
14	Allyl Chloride	41	2.217	2.202	(0.530)	5619	0.50000	0.53(a)
15	Iodomethane	142	2.026	2.030	(0.485)	2984	1.00000	2.79(TM)
16	Acrylonitrile	53	2.584	2.536	(0.618)	1586	1.00000	1.03(M)
17	Methylene Chloride	84	2.307	2.307	(0.552)	3169	0.50000	0.59(M)
18	Methyl tert-butyl ether	73	2.543	2.536	(0.608)	7284	0.50000	0.55
19	Carbon Disulfide	76	2.075	2.071	(0.496)	15259	1.00000	1.13(M)
20	trans-1,2-Dichloroethene	96	2.539	2.532	(0.607)	2631	0.50000	0.58
21	Vinyl Acetate	43	3.046	2.997	(0.728)	11055	1.00000	0.91(aM)
22	1,1-Dichloroethane	63	2.926	2.922	(0.700)	4641	0.50000	0.57(M)

23 Chloroprene	53	1.775	1.775 (0.425)	937	0.50000	0.58(aM)
24 2-Butanone	43	3.683	3.578 (0.881)	1517	1.00000	0.95(aM)

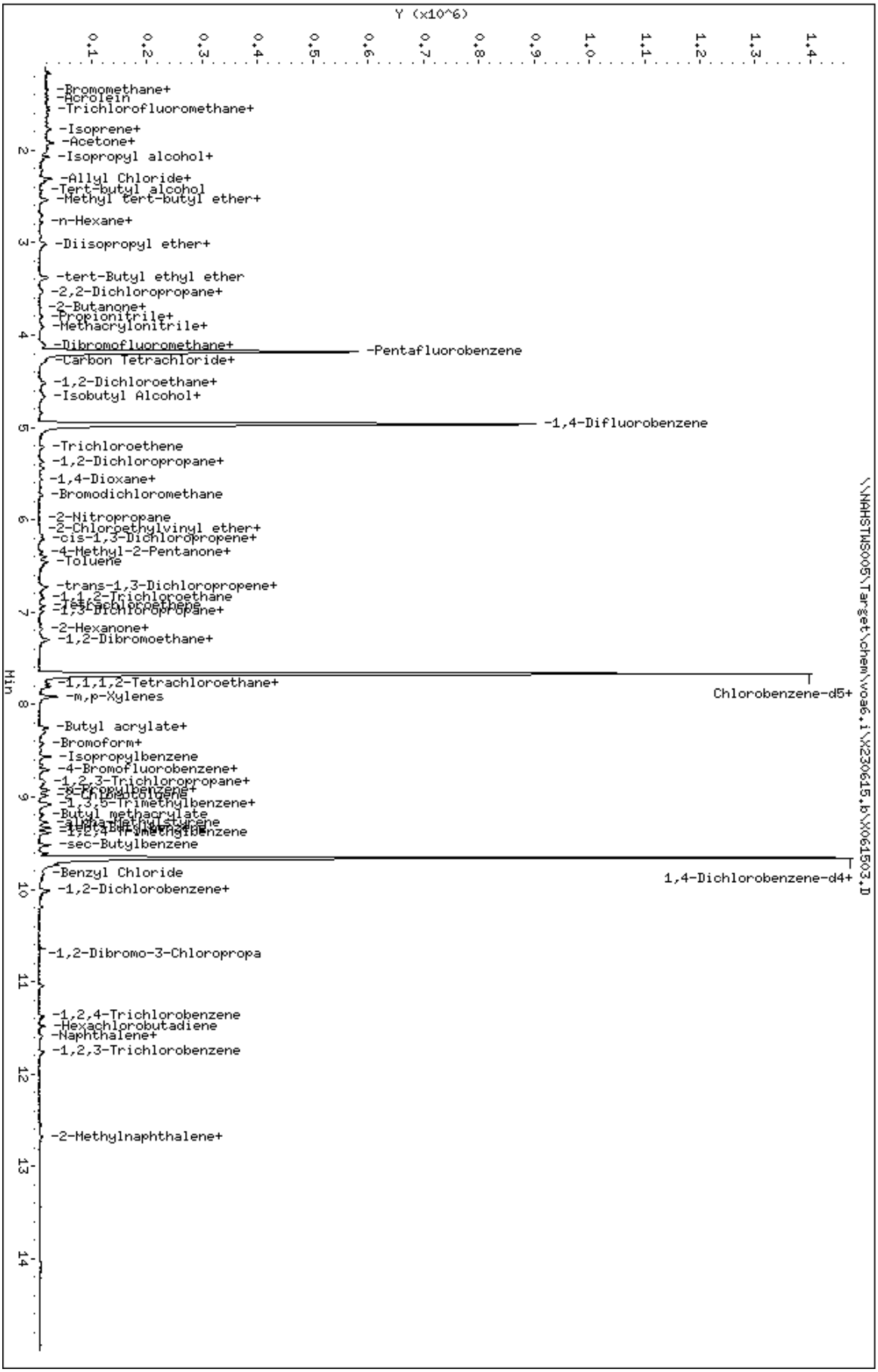
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	25 Methacrylonitrile	41	3.870	3.821	(0.926)	2167	0.50000	0.54(aM)
	26 2,2-Dichloropropane	77	3.514	3.514	(0.840)	4078	0.50000	0.63(M)
	27 cis-1,2-Dichloroethene	96	3.537	3.525	(0.846)	3046	0.50000	0.58(M)
	28 Chloroform	83	3.908	3.904	(0.935)	5129	0.50000	0.58(M)
	29 Bromochloromethane	128	3.807	3.795	(0.910)	1516	0.50000	0.54(M)
	31 1,1,1-Trichloroethane	97	4.076	4.084	(0.975)	4137	0.50000	0.58
	32 1,1-Dichloropropene	75	4.283	4.279	(0.863)	3575	0.50000	0.57(M)
	33 1,2-Dichloroethane	62	4.582	4.556	(0.923)	3689	0.50000	0.59
	34 Carbon Tetrachloride	117	4.268	4.264	(0.860)	3561	0.50000	0.59
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	737190	50.0000	
	37 Benzene	78	4.519	4.511	(0.910)	10562	0.50000	0.55(M)
	38 Trichloroethene	130	5.220	5.205	(1.051)	2866	0.50000	0.54(a)
	39 Bromodichloromethane	83	5.726	5.722	(1.153)	3787	0.50000	0.56(aM)
	40 Methyl Methacrylate	41	5.643	5.606	(1.350)	1972	0.50000	0.52(aM)
	41 2-Chloroethylvinyl ether	63	6.093	6.048	(1.227)	1563	1.00000	0.86(aM)
	42 1,2-Dichloropropane	63	5.445	5.437	(1.097)	2801	0.50000	0.56(aM)
	43 2-Nitropropane	43	5.977	5.966	(1.429)	747	0.50000	0.57(aM)
	44 Dibromomethane	93	5.568	5.550	(1.122)	1589	0.50000	0.50(aM)
	45 4-Methyl-2-Pentanone	43	6.348	6.322	(0.828)	4230	1.00000	0.95(a)
	46 cis-1,3-Dichloropropene	75	6.161	6.153	(1.241)	4543	0.50000	0.54(a)
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	687572	50.0000	
$	48 Toluene-d8	98	6.401	6.386	(0.835)	9971	0.50000	0.57(a)
	49 Ethyl Methacrylate	69	6.727	6.708	(1.355)	2688	0.50000	0.50(aM)
	50 Toluene	91	6.461	6.445	(0.843)	11582	0.50000	0.57(aM)
	51 trans-1,3-Dichloropropene	75	6.708	6.678	(1.351)	3492	0.50000	0.50(a)
	52 2-Hexanone	43	7.117	7.083	(0.928)	2386	1.00000	0.80(a)
	53 1,1,2-Trichloroethane	83	6.843	6.835	(0.892)	2237	0.50000	0.56(aM)
	54 1,3-Dichloropropane	76	6.989	6.978	(0.912)	4459	0.50000	0.56(aM)
	55 Dibromochloromethane	129	7.184	7.173	(0.937)	3103	0.50000	0.55(a)
	56 Tetrachloroethene	164	6.929	6.925	(0.904)	2291	0.50000	0.55(aM)
	57 1,2-Dibromoethane	107	7.274	7.259	(0.949)	2925	0.50000	0.58(a)
	58 1-Chlorohexane	55	7.705	7.694	(1.552)	2351	0.50000	0.52(aM)
	59 Chlorobenzene	112	7.694	7.690	(1.003)	8017	0.50000	0.58(aM)
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	2861	0.50000	0.55(a)
	61 Ethylbenzene	106	7.806	7.799	(1.018)	3993	0.50000	0.56(a)
	62 m,p-Xylenes	106	7.915	7.900	(1.032)	9595	1.00000	1.09(aM)
	63 o-Xylene	106	8.252	8.237	(1.076)	4730	0.50000	0.54(aM)
	64 Styrene	104	8.297	8.256	(1.082)	7646	0.50000	0.53(aM)
	66 Bromoform	173	8.417	8.410	(1.098)	2211	0.50000	0.56(Ta)
	67 Isopropylbenzene	105	8.567	8.560	(1.117)	12451	0.50000	0.57(a)
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.837	(0.915)	3818	0.50000	0.57(aM)
$	69 4-Bromofluorobenzene	95	8.706	8.687	(1.135)	7971	0.50000	0.66(a)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	376739	50.0000	
	71 1,2,3-Trichloropropane	75	8.878	8.863	(0.919)	2689	0.50000	0.56(a)
	72 trans-1,4-Dichloro-2-butene	53	8.935	8.886	(1.165)	838	0.50000	0.50(aM)
	73 n-Propylbenzene	91	8.927	8.908	(0.924)	14359	0.50000	0.57(a)
	74 Bromobenzene	156	8.826	8.803	(0.913)	3535	0.50000	0.57(aM)
	75 1,3,5-Trimethylbenzene	105	9.073	9.066	(0.939)	10589	0.50000	0.58(aM)
	76 2-Chlorotoluene	91	8.983	8.972	(0.930)	8949	0.50000	0.56(aM)
	77 4-Chlorotoluene	91	9.092	9.070	(0.941)	10012	0.50000	0.57(aM)
	78 tert-Butylbenzene	119	9.336	9.336	(0.966)	8719	0.50000	0.57(aM)
	79 1,2,4-Trimethylbenzene	105	9.388	9.377	(0.972)	10657	0.50000	0.58(aM)

81 sec-Butylbenzene	105	9.519	9.519 (0.985)	12512	0.50000	0.58(aM)
82 p-Isopropyltoluene	119	9.658	9.647 (1.000)	10432	0.50000	0.55(a)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
83	1,3-Dichlorobenzene	146	9.613	9.602	(0.995)	6249	0.50000	0.57(a)
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	6645	0.50000	0.56(a)
86	Benzyl Chloride	91	9.834	9.808	(1.283)	6300	0.50000	0.55(aM)
87	n-Butylbenzene	91	10.018	9.992	(1.037)	8377	0.50000	0.52(aM)
88	1,2-Dichlorobenzene	146	10.011	9.992	(1.036)	6205	0.50000	0.57(a)
89	1,2-Dibromo-3-Chloropropane	155	10.689	10.655	(1.106)	562	0.50000	0.77(aM)
90	1,2,4-Trichlorobenzene	180	11.371	11.334	(1.177)	3888	0.50000	0.51(a)
91	Hexachlorobutadiene	225	11.480	11.476	(1.188)	1714	0.50000	0.50(a)
92	Naphthalene	128	11.596	11.540	(1.200)	9500	0.50000	0.55(aM)
93	1,2,3-Trichlorobenzene	180	11.769	11.739	(1.218)	3790	0.50000	0.54(a)
146	Methyl acetate	43	2.255	2.232	(0.539)	1514	0.50000	0.53(aM)
138	Freon TF	101	1.917	1.917	(0.459)	2188	0.50000	0.67(aM)
141	Cyclohexane	56	4.129	4.121	(0.987)	3419	0.50000	0.55(aMH)
142	Tetrahydrofuran	42	3.874	3.844	(0.926)	724	1.00000	1.03(aM)
147	Methylcyclohexane	55	5.373	5.381	(1.082)	4698	0.50000	0.45(aM)
135	1,4-Dioxane	88	5.621	5.598	(1.344)	539	10.0000	9.25(aM)
132	n-Butanol	56	5.373	5.253	(1.285)	934	10.0000	72.06(TaM)
131	Methyl Acrylate	55	3.784	3.690	(0.905)	1944	0.50000	0.49(aM)
133	Ethyl Acrylate	55	5.448	5.381	(1.303)	4696	0.50000	2.77(M)
136	n-Hexane	57	2.779	2.776	(0.665)	2120	0.50000	0.26(TaM)
139	Diethyl ether	59	1.764	1.760	(0.422)	1591	0.50000	0.52(aM)
148	Tert-butyl alcohol	59	2.435	2.431	(0.582)	5403	10.0000	10.94(M)
149	Isopropyl alcohol	45	2.101	2.093	(0.502)	2910	10.0000	10.68
156	Diisopropyl ether	45	3.012	3.000	(0.720)	8201	0.50000	0.57(Ta)
160	2-Methylnaphthalene	142	12.668	12.634	(1.311)	3514	0.50000	0.47(a)
166	1,2,3-Trimethylbenzene	105	9.741	9.729	(1.008)	9163	0.50000	0.51(a)
167	Ethanol	45	1.700	1.707	(0.407)	492	10.0000	10.70(M)
172	tert-Butyl formate	59	4.635	4.612	(1.108)	3776	1.00000	0.95(aM)
173	3,3-Dimethyl-1-butanol	57	7.293	7.285	(0.951)	6294	10.0000	11.19(M)
174	tert-Amyl methyl ether	73	4.669	4.665	(1.117)	8758	0.50000	0.56(aM)
175	tert-Butyl ethyl ether	59	3.383	3.379	(0.809)	8683	0.50000	0.59(a)
176	tert-Amyl alcohol	59	4.635	4.612	(1.108)	4487	10.0000	11.11(M)
151	4-Methyl-2-pentanol	45	6.727	6.708	(1.355)	12489	10.0000	10.65
180	1-Methylnaphthalene	142	12.668	12.634	(1.311)	3514	0.50000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	2248	0.50000	0.56(aM)
152	Amyl alcohol	42	7.015	6.899	(0.915)	1185	10.0000	9.25(TM)
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	4041	0.50000	0.58(M)
161	3-Methyl-1-butanol	55	7.004	6.899	(0.913)	1270	10.0000	44.67(TM)
162	Butyl acrylate	55	8.297	8.249	(1.082)	1843	0.50000	0.72(a)
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	12411	0.50000	0.58(aM)
182	Epichlorohydrin	57	6.127	6.093	(1.234)	1097	2.00000	2.48(aM)
M 94	1,2-Dichloroethylene (total)	96				5677	1.00000	(a)
130	Ethyl Acetate	43	3.717	3.657	(0.889)	2678	0.50000	0.54(aM)
134	Cyclohexanone	55	8.657	8.642	(0.896)	2832	10.0000	0.47(a)
185	Isoprene	39	1.779	1.775	(0.425)	790	0.50000	0.60(a)
188	Isopropyl acetate	43	4.702	4.676	(0.947)	7126	0.50000	0.55(aM)
187	n-Amyl acetate	43	8.489	8.451	(1.107)	4951	0.50000	0.53(aM)
189	n-Butyl acetate	43	7.244	7.210	(0.945)	3227	0.50000	0.43(aM)
150	Allyl alcohol	57	2.779	2.772	(0.665)	2756	10.0000	7.04(M)
195	Methyl Amyl Ketone	43	8.425	8.380	(1.099)	4519	0.50000	0.44(aM)
200	Dimethyl Disulfide	94	6.209	6.194	(0.810)	5577	0.50000	0.54(a)
205	2-Ethylhexyl Acrylate	55	11.615	11.544	(1.202)	2087	0.50000	1.56(aM)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6,i\X230615,b\X061503,D
Date : 15-JUN-2023 11:36
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

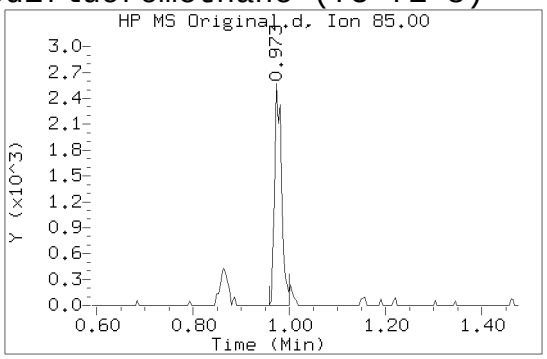
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Dichlorodifluoromethane (75-71-8)

Reason Code:

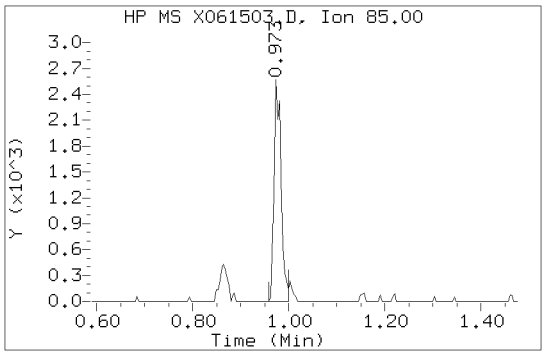
BEFORE

MASS
85
AREA
2615
HEIGHT
2570
20-Jun-2023
18:22
linh
pham



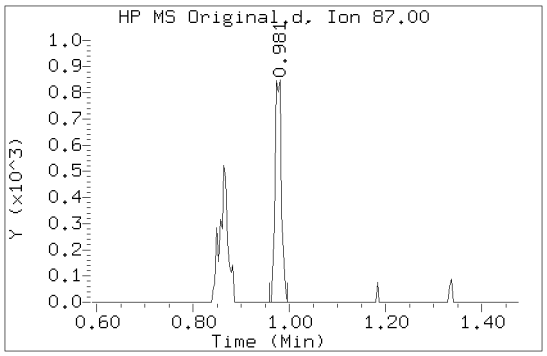
AFTER

MASS
85
AREA
2615
HEIGHT
2570
20-Jun-2023
18:22
linh
pham



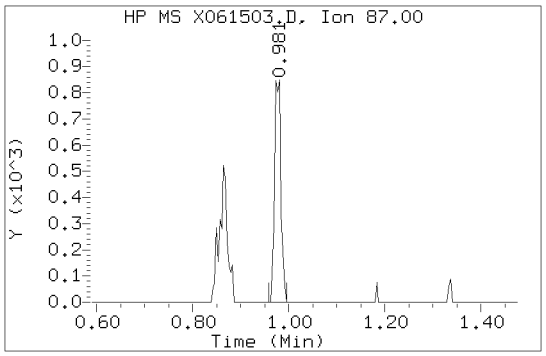
BEFORE

MASS
87
AREA
786
HEIGHT
849
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
786
HEIGHT
849
20-Jun-2023
18:22
linh
pham

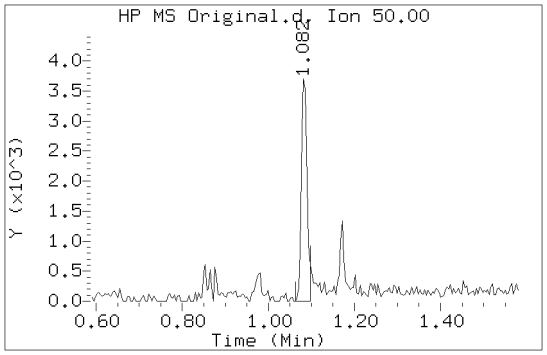


Chloromethane (74-87-3)

Reason Code:

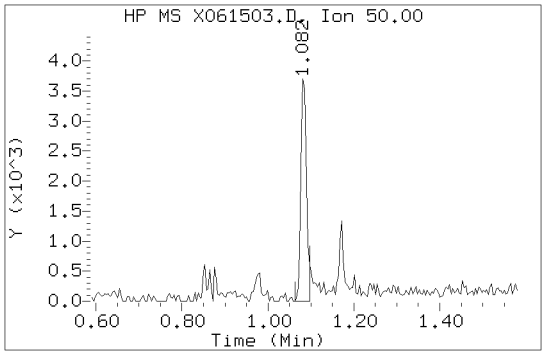
BEFORE

MASS
50
AREA
3301
HEIGHT
3701
20-Jun-2023
18:22
linh
pham



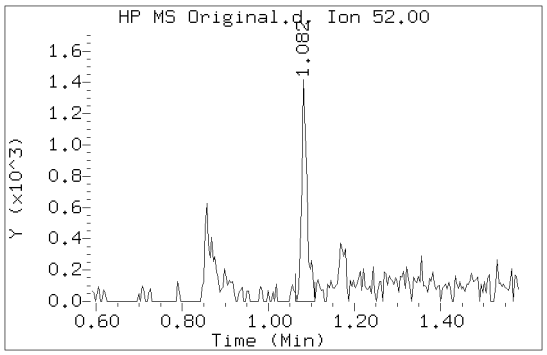
AFTER

MASS
50
AREA
3301
HEIGHT
3701
20-Jun-2023
18:22
linh
pham



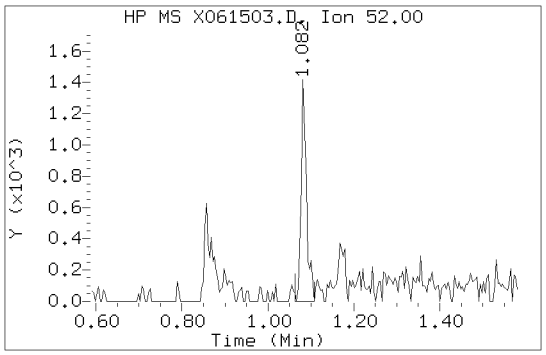
BEFORE

MASS
52
AREA
1196
HEIGHT
1417
20-Jun-2023
18:22
linh
pham



AFTER

MASS
52
AREA
1196
HEIGHT
1417
20-Jun-2023
18:22
linh
pham

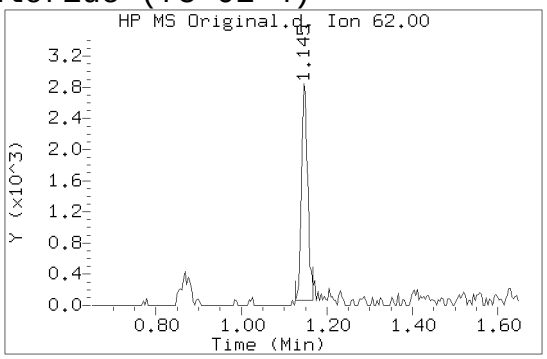


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Vinyl Chloride (75-01-4)

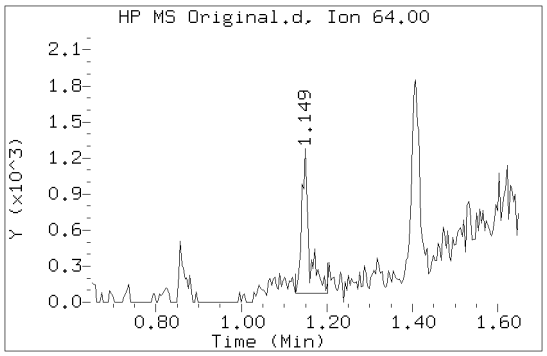
BEFORE

MASS
62
AREA
2917
HEIGHT
2780
20-Jun-2023
18:22
linh
pham



BEFORE

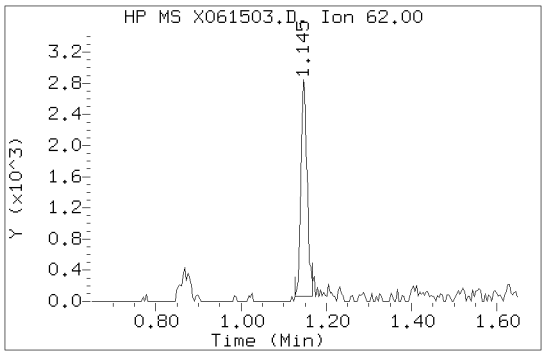
MASS
64
AREA
1530
HEIGHT
1201
20-Jun-2023
18:22
linh
pham



Reason Code:

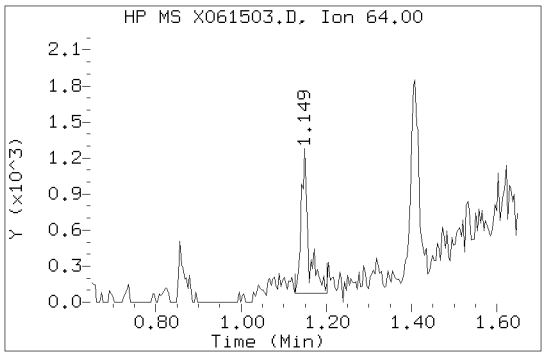
AFTER

MASS
62
AREA
2917
HEIGHT
2780
20-Jun-2023
18:22
linh
pham



AFTER

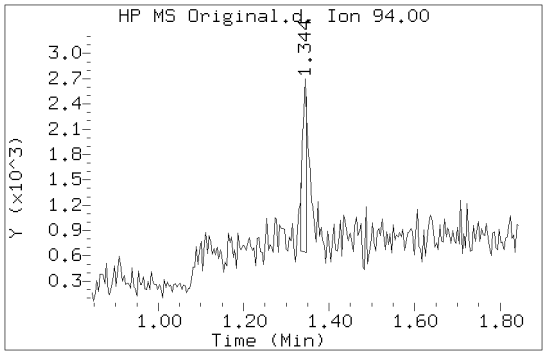
MASS
64
AREA
1530
HEIGHT
1201
20-Jun-2023
18:22
linh
pham



Bromomethane (74-83-9)

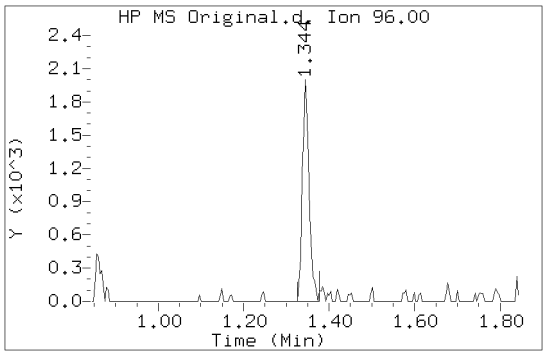
BEFORE

MASS
94
AREA
1612
HEIGHT
2054
20-Jun-2023
18:22
linh
pham



BEFORE

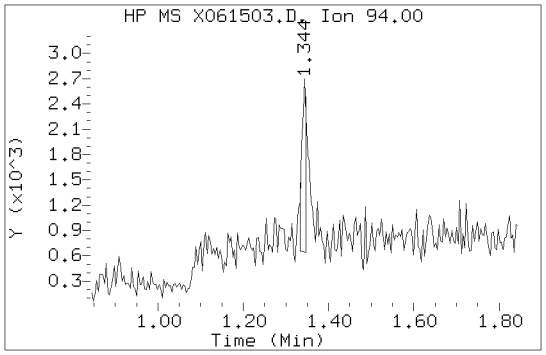
MASS
96
AREA
2285
HEIGHT
2001
20-Jun-2023
18:22
linh
pham



Reason Code:

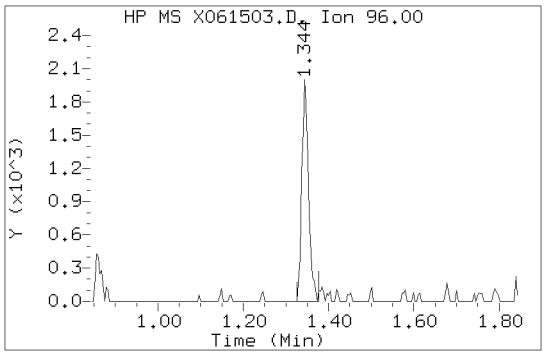
AFTER

MASS
94
AREA
1612
HEIGHT
2054
20-Jun-2023
18:22
linh
pham



AFTER

MASS
96
AREA
2285
HEIGHT
2001
20-Jun-2023
18:22
linh
pham

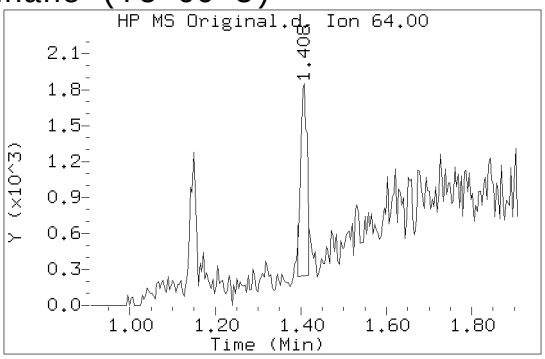


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

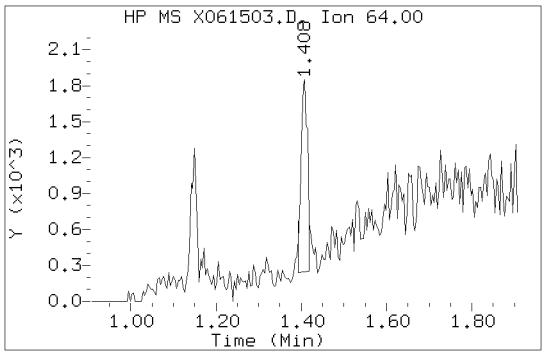
Chloroethane (75-00-3)

Reason Code:

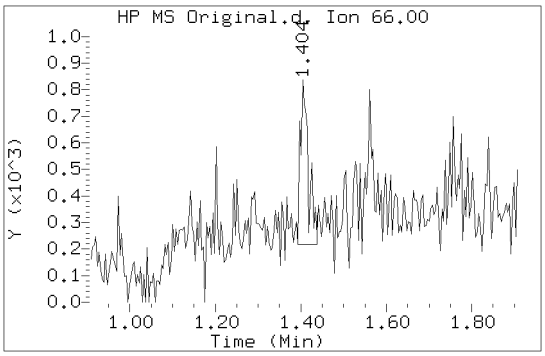
BEFORE
MASS
64
AREA
1789
HEIGHT
1602
20-Jun-2023
18:22
linh
pham



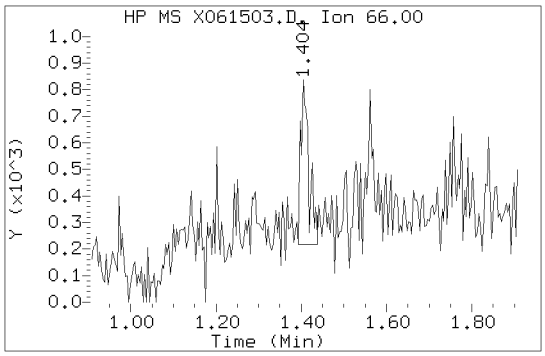
AFTER
MASS
64
AREA
1789
HEIGHT
1602
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
66
AREA
828
HEIGHT
618
20-Jun-2023
18:22
linh
pham



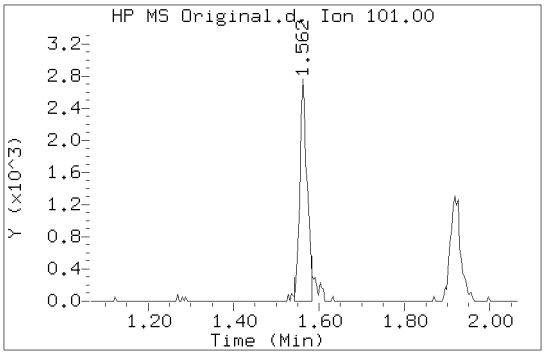
AFTER
MASS
66
AREA
828
HEIGHT
618
20-Jun-2023
18:22
linh
pham



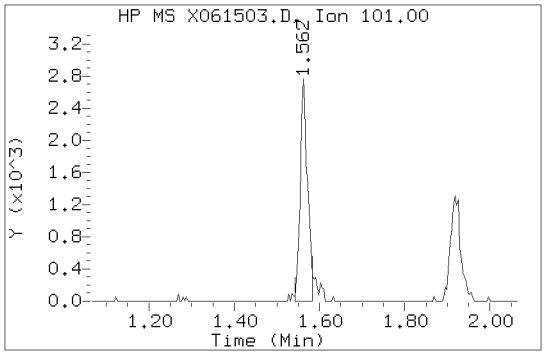
Trichlorofluoromethane (75-69-4)

Reason Code:

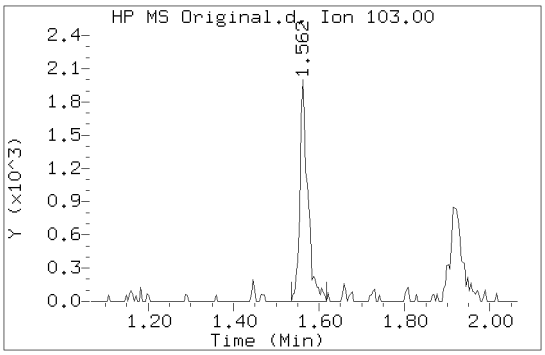
BEFORE
MASS
101
AREA
3392
HEIGHT
2765
20-Jun-2023
18:22
linh
pham



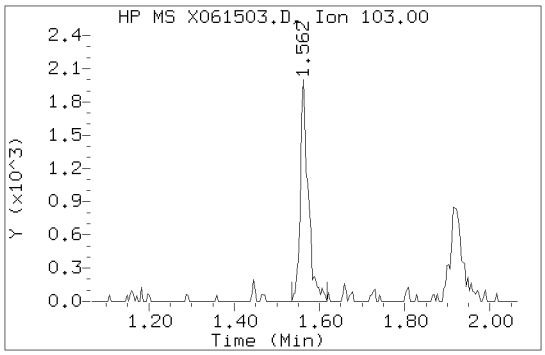
AFTER
MASS
101
AREA
3392
HEIGHT
2765
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
103
AREA
2654
HEIGHT
2001
20-Jun-2023
18:22
linh
pham



AFTER
MASS
103
AREA
2654
HEIGHT
2001
20-Jun-2023
18:22
linh
pham

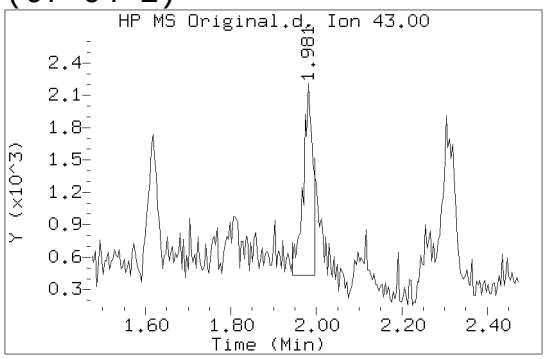


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

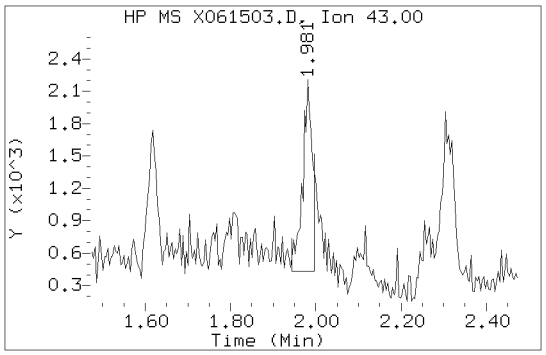
Acetone (67-64-1)

Reason Code:

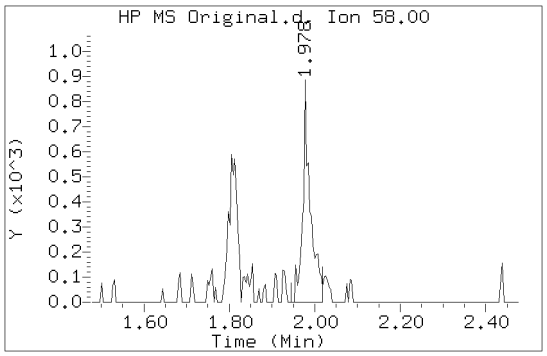
BEFORE
MASS
43
AREA
2789
HEIGHT
1772
20-Jun-2023
18:22
linh
pham



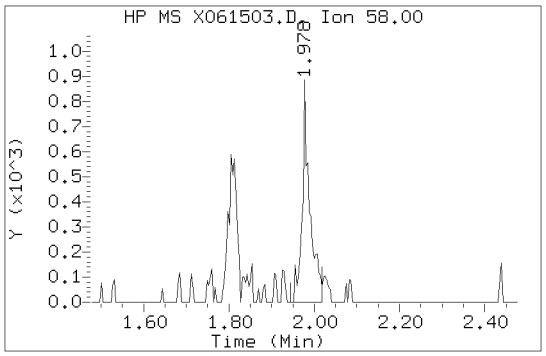
AFTER
MASS
43
AREA
2789
HEIGHT
1772
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
58
AREA
1118
HEIGHT
886
20-Jun-2023
18:22
linh
pham



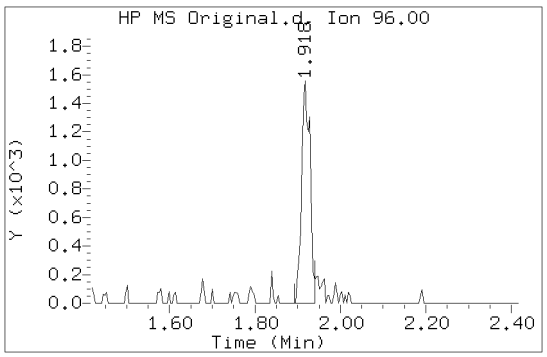
AFTER
MASS
58
AREA
1118
HEIGHT
886
20-Jun-2023
18:22
linh
pham



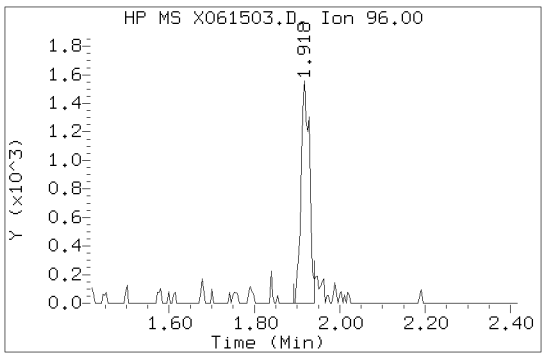
1,1-Dichloroethene (75-35-4)

Reason Code:

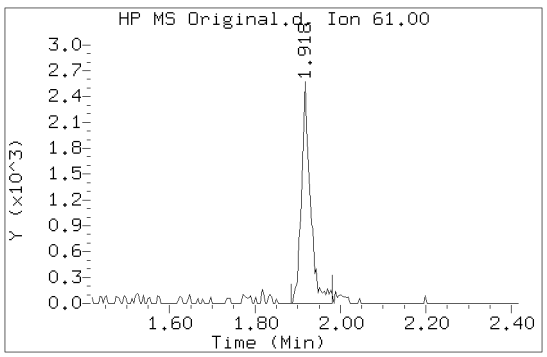
BEFORE
MASS
96
AREA
2206
HEIGHT
1557
20-Jun-2023
18:22
linh
pham



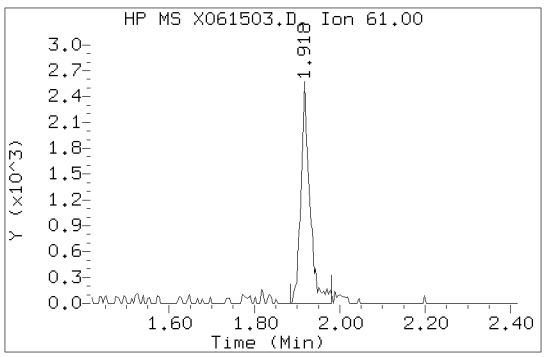
AFTER
MASS
96
AREA
2206
HEIGHT
1557
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
61
AREA
3870
HEIGHT
2572
20-Jun-2023
18:22
linh
pham



AFTER
MASS
61
AREA
3870
HEIGHT
2572
20-Jun-2023
18:22
linh
pham



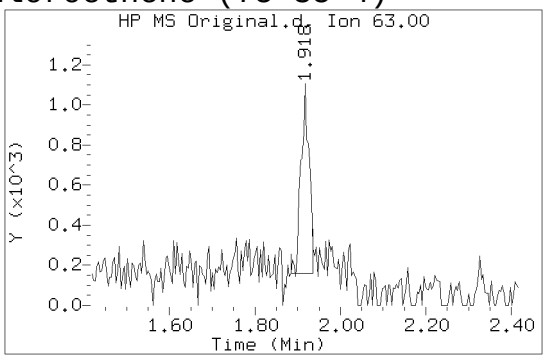
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

1,1-Dichloroethene (75-35-4)

Reason Code:

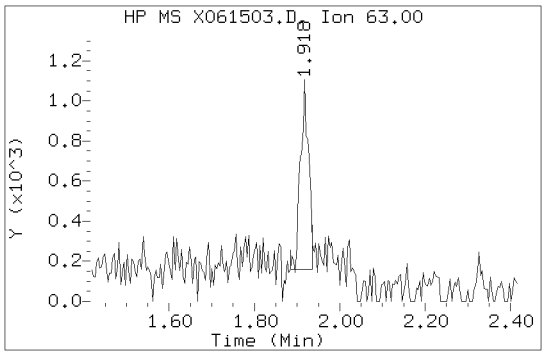
BEFORE

MASS
63
AREA
1295
HEIGHT
947
20-Jun-2023
18:22
linh
pham



AFTER

MASS
63
AREA
1295
HEIGHT
947
20-Jun-2023
18:22
linh
pham

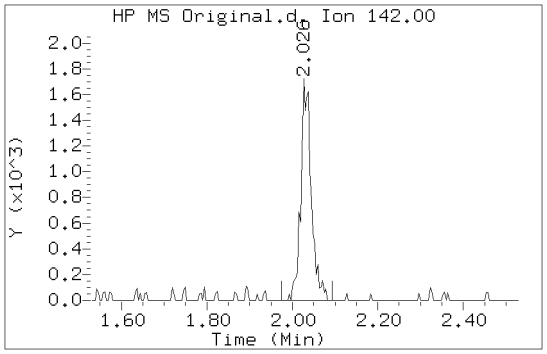


Iodomethane (74-88-4)

Reason Code:

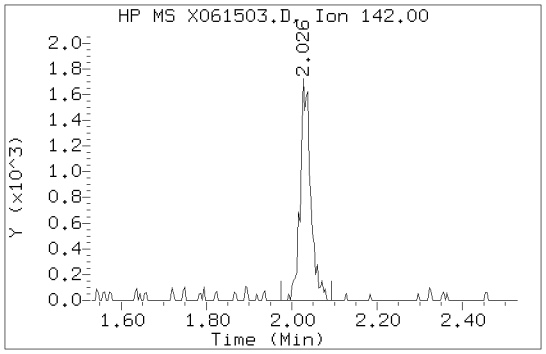
BEFORE

MASS
142
AREA
2984
HEIGHT
1723
20-Jun-2023
18:22
linh
pham



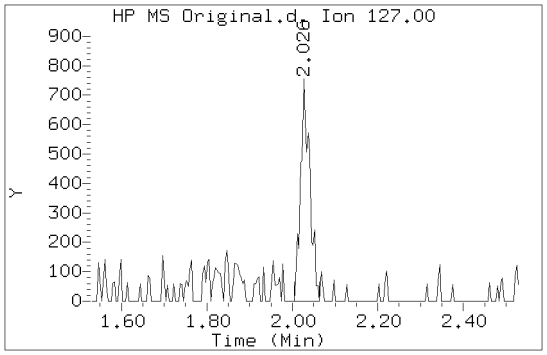
AFTER

MASS
142
AREA
2984
HEIGHT
1723
20-Jun-2023
18:22
linh
pham



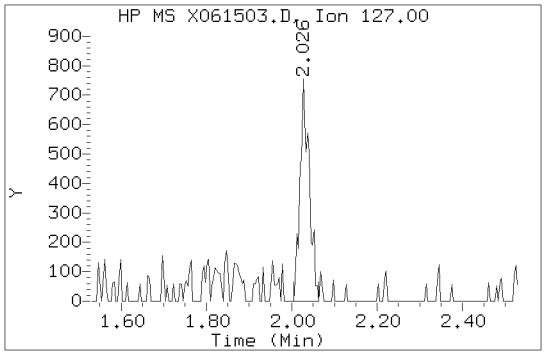
BEFORE

MASS
127
AREA
1150
HEIGHT
755
20-Jun-2023
18:22
linh
pham



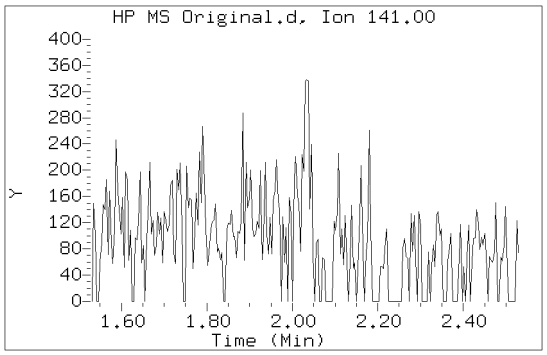
AFTER

MASS
127
AREA
1150
HEIGHT
755
20-Jun-2023
18:22
linh
pham



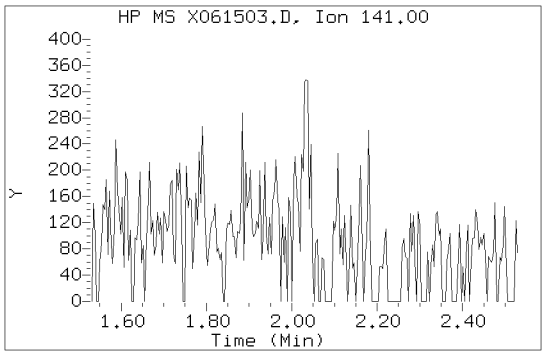
BEFORE

MASS
141
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
141
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

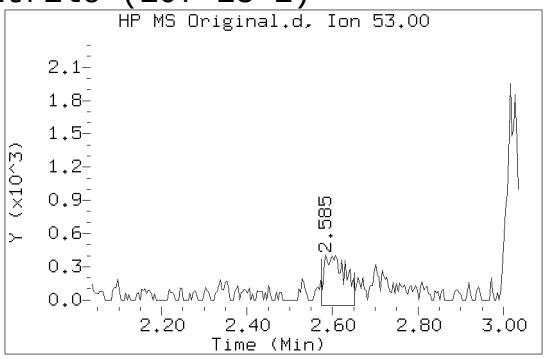


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

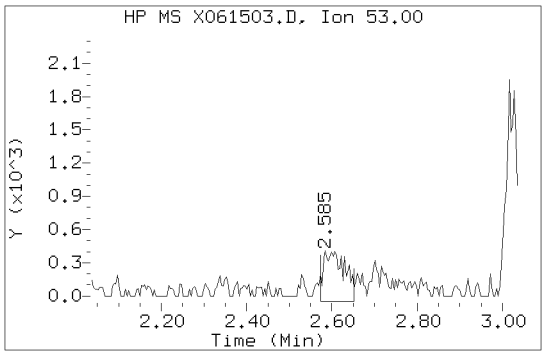
Acrylonitrile (107-13-1)

Reason Code:

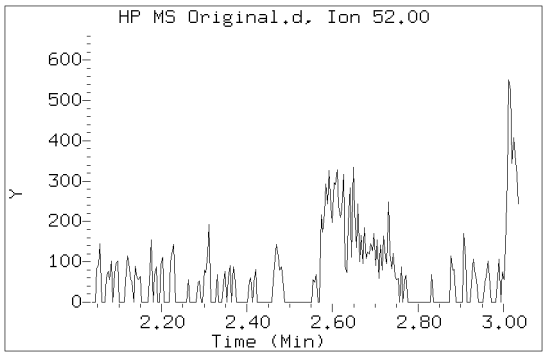
BEFORE
MASS
53
AREA
1586
HEIGHT
459
20-Jun-2023
18:22
linh
pham



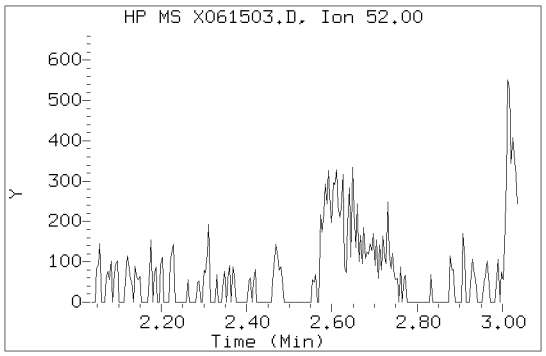
AFTER
MASS
53
AREA
1586
HEIGHT
459
20-Jun-2023
18:22
linh
pham



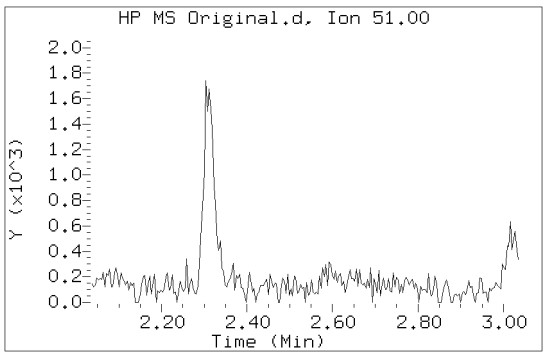
BEFORE
MASS
52
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



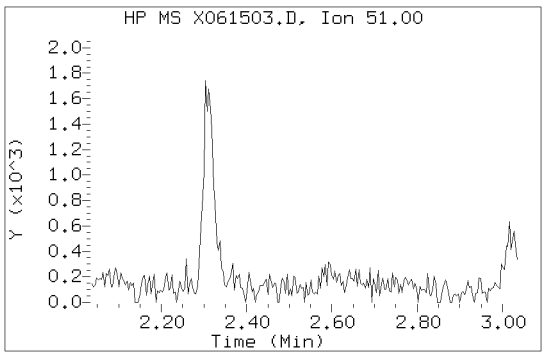
AFTER
MASS
52
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
51
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



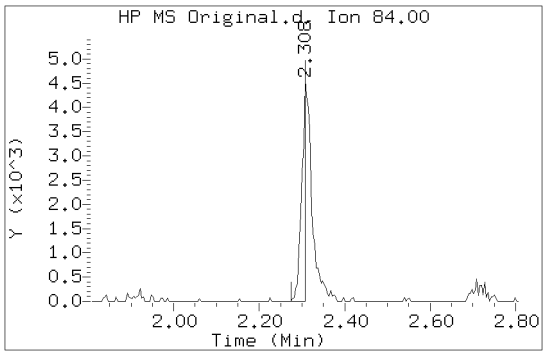
AFTER
MASS
51
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



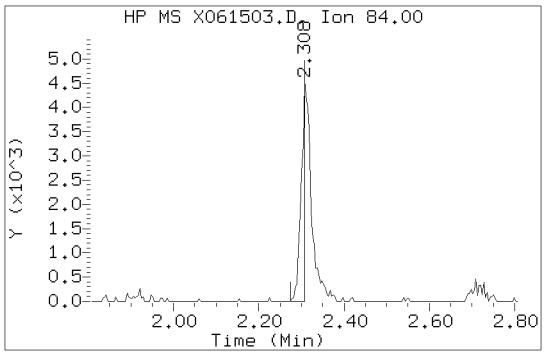
Methylene Chloride (75-09-2)

Reason Code:

BEFORE
MASS
84
AREA
3169
HEIGHT
4572
20-Jun-2023
18:22
linh
pham



AFTER
MASS
84
AREA
3169
HEIGHT
4572
20-Jun-2023
18:22
linh
pham

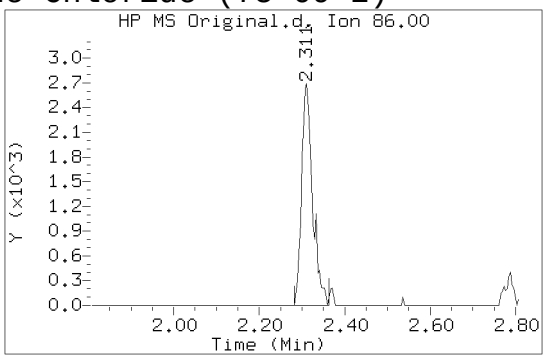


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Methylene Chloride (75-09-2)

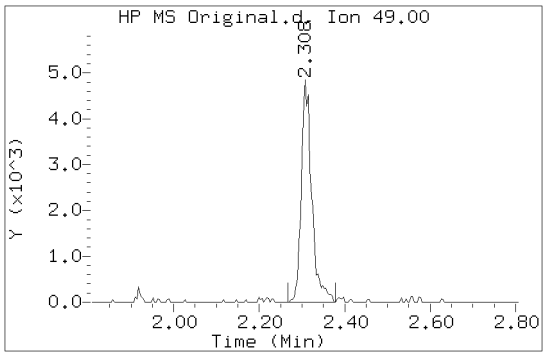
BEFORE

MASS
86
AREA
4937
HEIGHT
2690
20-Jun-2023
18:22
linh
pham



BEFORE

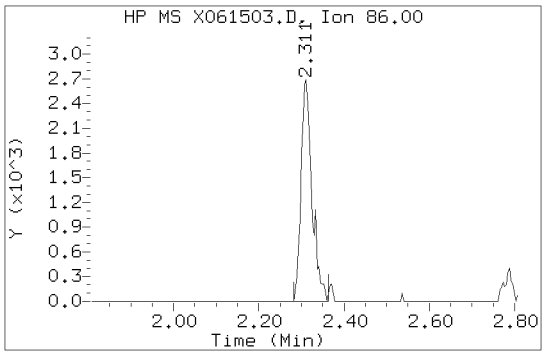
MASS
49
AREA
8445
HEIGHT
4847
20-Jun-2023
18:22
linh
pham



Reason Code:

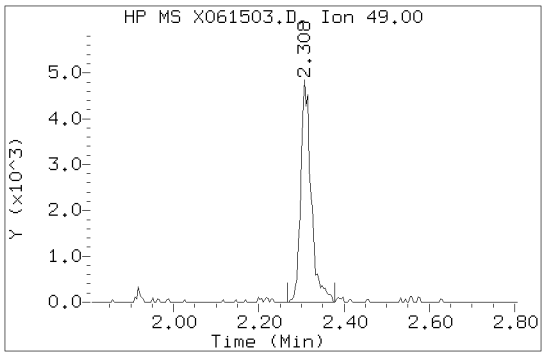
AFTER

MASS
86
AREA
4937
HEIGHT
2690
20-Jun-2023
18:22
linh
pham



AFTER

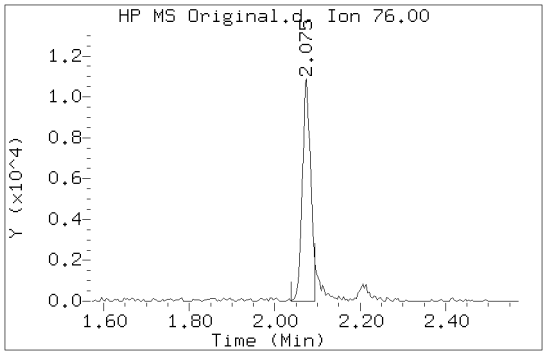
MASS
49
AREA
8445
HEIGHT
4847
20-Jun-2023
18:22
linh
pham



Carbon Disulfide (75-15-0)

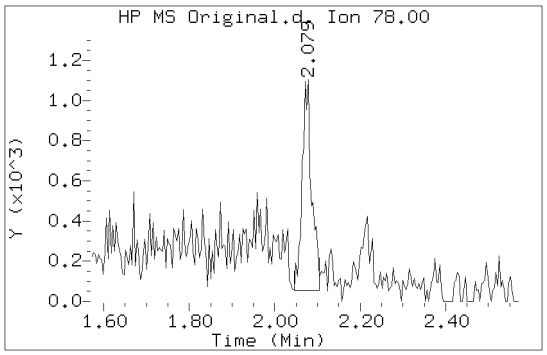
BEFORE

MASS
76
AREA
15259
HEIGHT
10881
20-Jun-2023
18:22
linh
pham



BEFORE

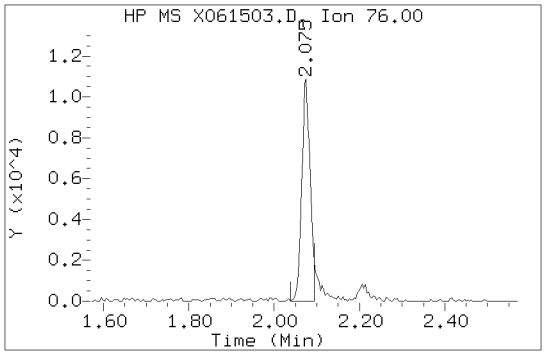
MASS
78
AREA
1652
HEIGHT
1049
20-Jun-2023
18:22
linh
pham



Reason Code:

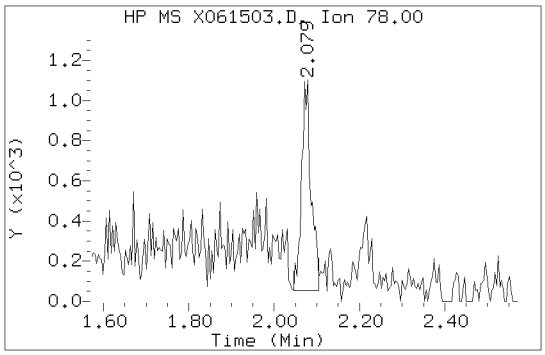
AFTER

MASS
76
AREA
15259
HEIGHT
10881
20-Jun-2023
18:22
linh
pham



AFTER

MASS
78
AREA
1652
HEIGHT
1049
20-Jun-2023
18:22
linh
pham

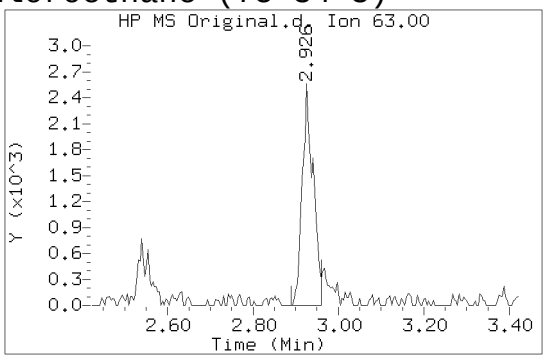


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

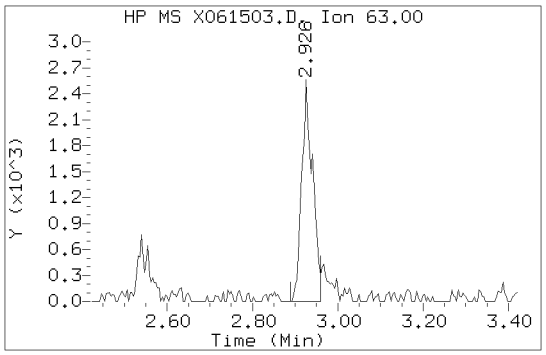
1,1-Dichloroethane (75-34-3)

Reason Code:

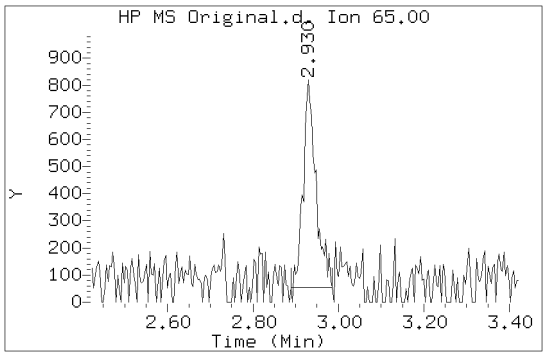
BEFORE
MASS
63
AREA
4641
HEIGHT
2564
20-Jun-2023
18:22
linh
pham



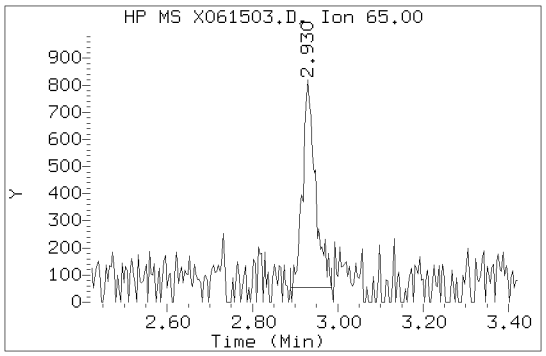
AFTER
MASS
63
AREA
4641
HEIGHT
2564
20-Jun-2023
18:22
linh
pham



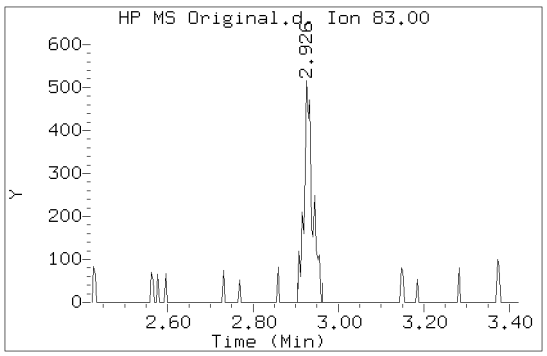
BEFORE
MASS
65
AREA
1597
HEIGHT
766
20-Jun-2023
18:22
linh
pham



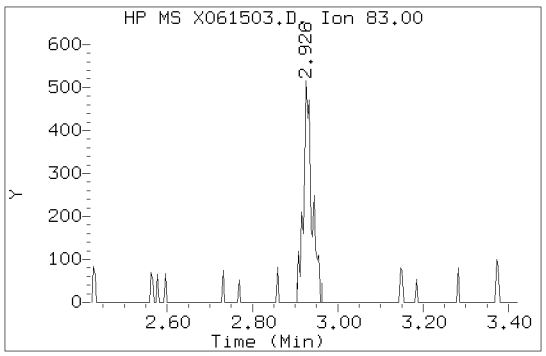
AFTER
MASS
65
AREA
1597
HEIGHT
766
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
83
AREA
714
HEIGHT
516
20-Jun-2023
18:22
linh
pham



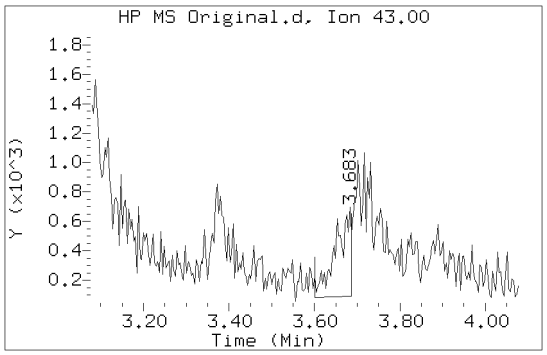
AFTER
MASS
83
AREA
714
HEIGHT
516
20-Jun-2023
18:22
linh
pham



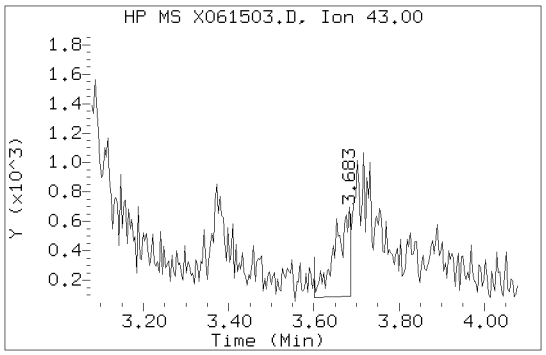
2-Butanone (78-93-3)

Reason Code:

BEFORE
MASS
43
AREA
1517
HEIGHT
606
20-Jun-2023
18:22
linh
pham



AFTER
MASS
43
AREA
1517
HEIGHT
606
20-Jun-2023
18:22
linh
pham



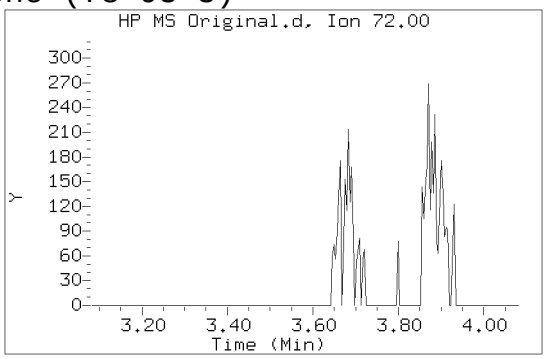
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

2-Butanone (78-93-3)

Reason Code:

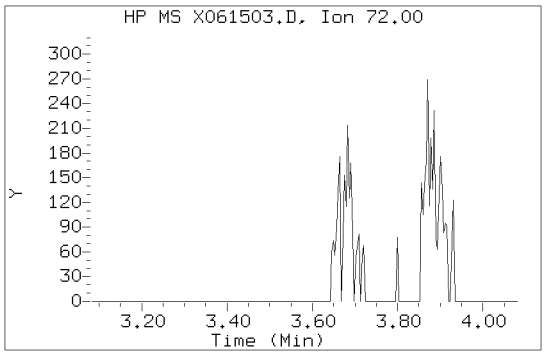
BEFORE

MASS
72
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
72
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

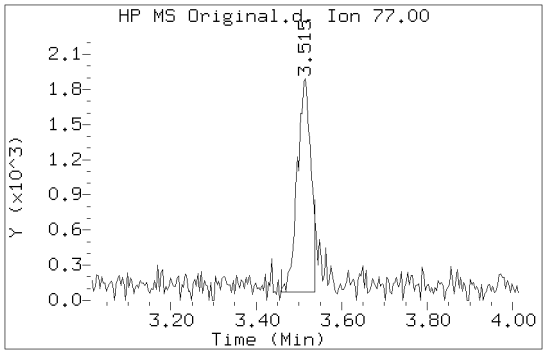


2,2-Dichloropropane (594-20-7)

Reason Code:

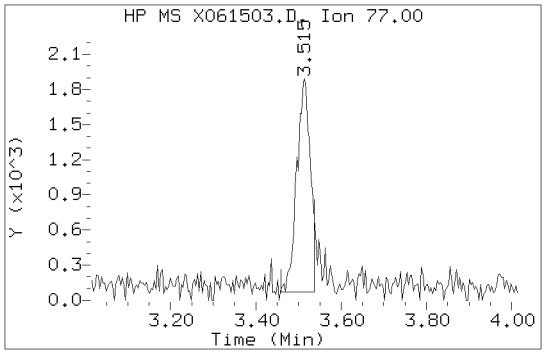
BEFORE

MASS
77
AREA
4078
HEIGHT
1819
20-Jun-2023
18:22
linh
pham



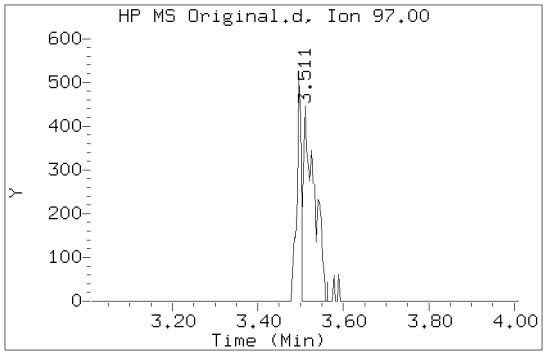
AFTER

MASS
77
AREA
4078
HEIGHT
1819
20-Jun-2023
18:22
linh
pham



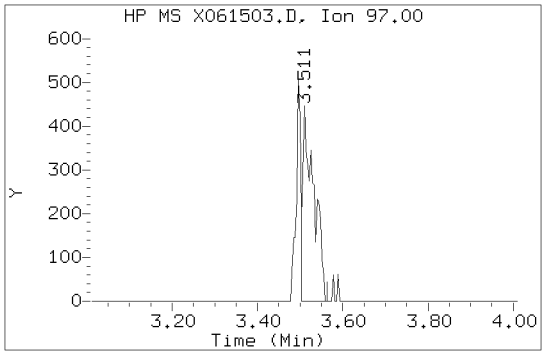
BEFORE

MASS
97
AREA
839
HEIGHT
446
20-Jun-2023
18:22
linh
pham



AFTER

MASS
97
AREA
839
HEIGHT
446
20-Jun-2023
18:22
linh
pham

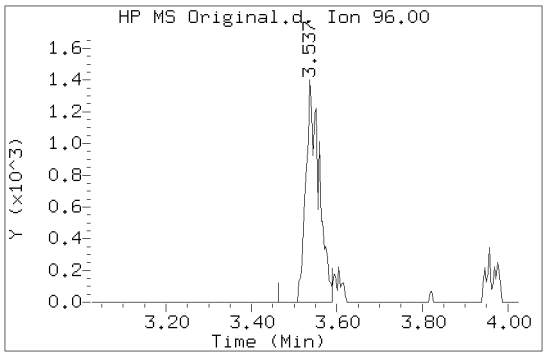


cis-1,2-Dichloroethene (156-59-2)

Reason Code:

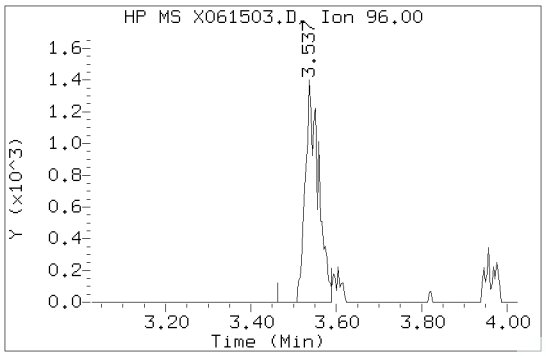
BEFORE

MASS
96
AREA
3046
HEIGHT
1401
20-Jun-2023
18:22
linh
pham



AFTER

MASS
96
AREA
3046
HEIGHT
1401
20-Jun-2023
18:22
linh
pham



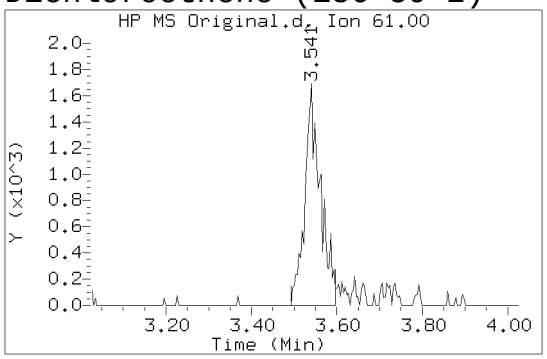
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

cis-1,2-Dichloroethene (156-59-2)

Reason Code:

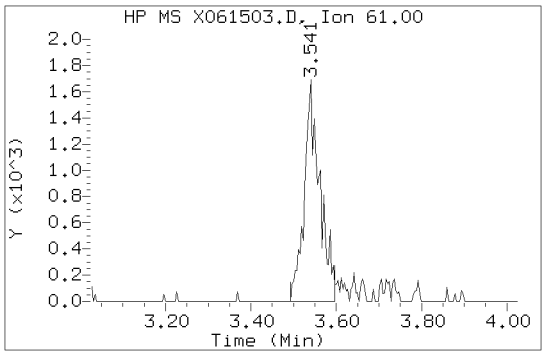
BEFORE

MASS
61
AREA
4277
HEIGHT
1692
20-Jun-2023
18:22
linh
pham



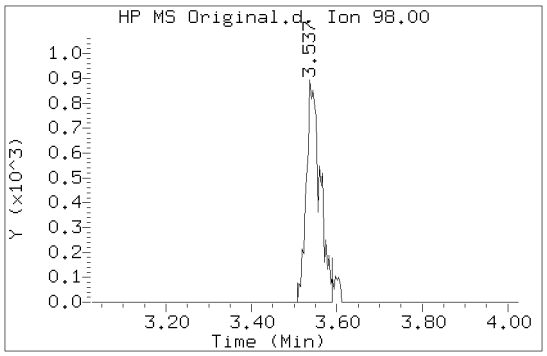
AFTER

MASS
61
AREA
4277
HEIGHT
1692
20-Jun-2023
18:22
linh
pham



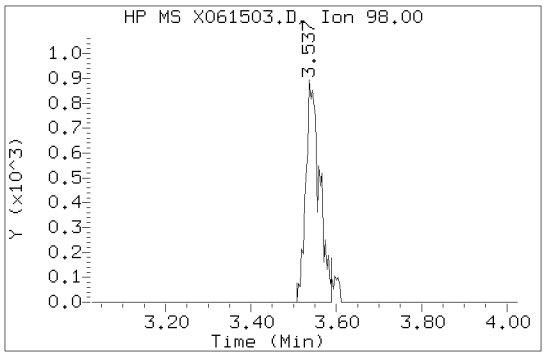
BEFORE

MASS
98
AREA
2016
HEIGHT
894
20-Jun-2023
18:22
linh
pham



AFTER

MASS
98
AREA
2016
HEIGHT
894
20-Jun-2023
18:22
linh
pham

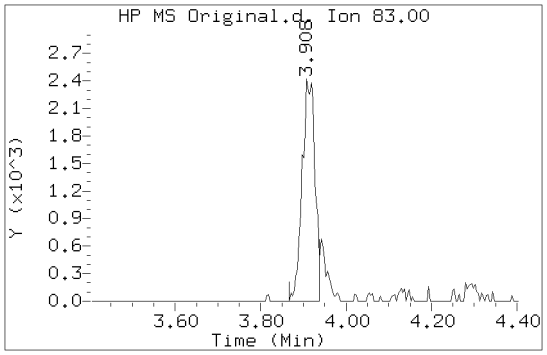


Chloroform (67-66-3)

Reason Code:

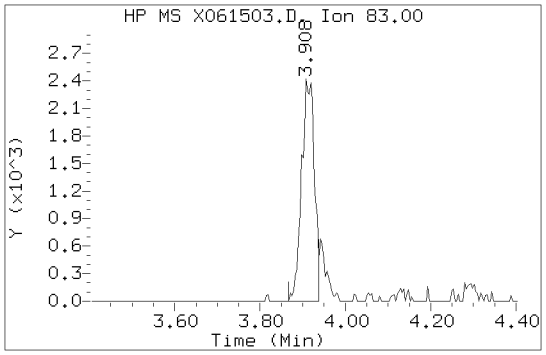
BEFORE

MASS
83
AREA
5129
HEIGHT
2422
20-Jun-2023
18:22
linh
pham



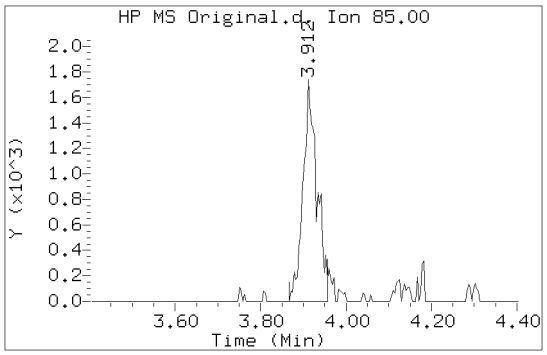
AFTER

MASS
83
AREA
5129
HEIGHT
2422
20-Jun-2023
18:22
linh
pham



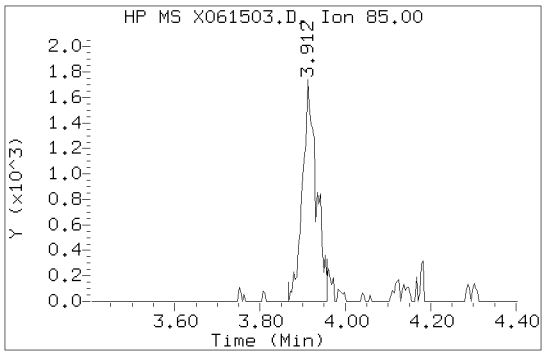
BEFORE

MASS
85
AREA
3961
HEIGHT
1740
20-Jun-2023
18:22
linh
pham



AFTER

MASS
85
AREA
3961
HEIGHT
1740
20-Jun-2023
18:22
linh
pham



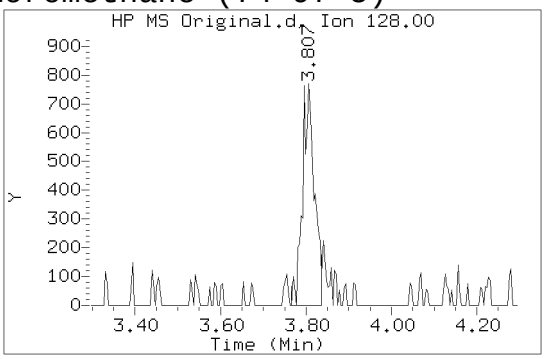
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Bromochloromethane (74-97-5)

Reason Code:

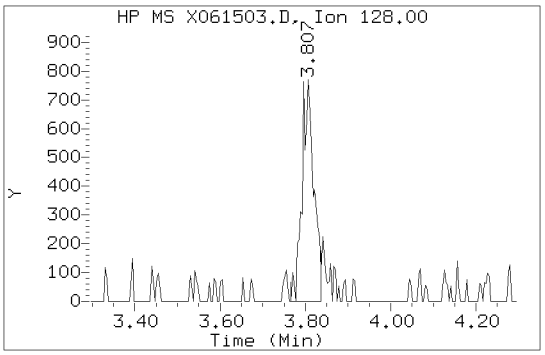
BEFORE

MASS
128
AREA
1516
HEIGHT
770
20-Jun-2023
18:22
linh
pham



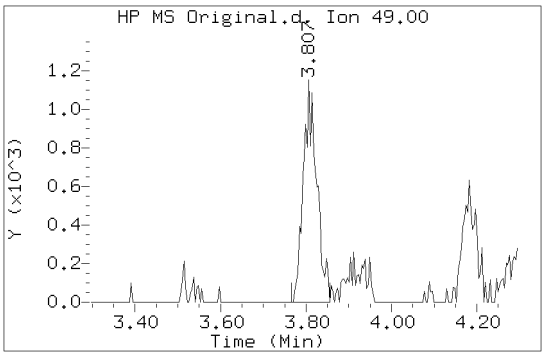
AFTER

MASS
128
AREA
1516
HEIGHT
770
20-Jun-2023
18:22
linh
pham



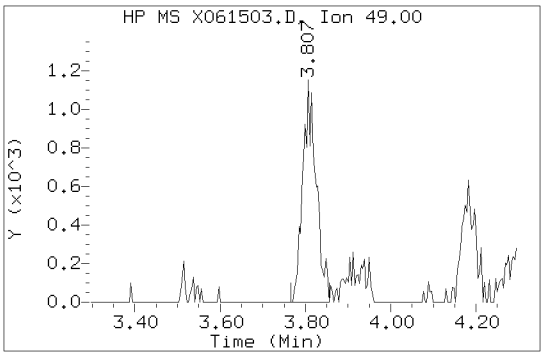
BEFORE

MASS
49
AREA
2523
HEIGHT
1153
20-Jun-2023
18:22
linh
pham



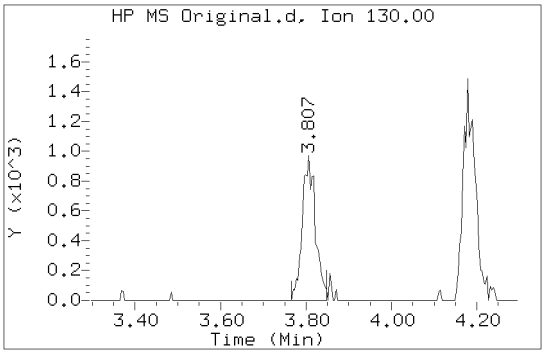
AFTER

MASS
49
AREA
2523
HEIGHT
1153
20-Jun-2023
18:22
linh
pham



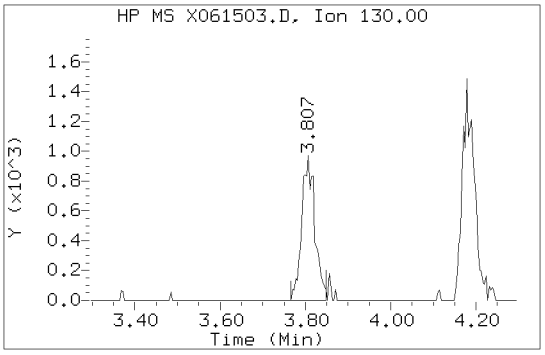
BEFORE

MASS
130
AREA
2109
HEIGHT
971
20-Jun-2023
18:22
linh
pham



AFTER

MASS
130
AREA
2109
HEIGHT
971
20-Jun-2023
18:22
linh
pham

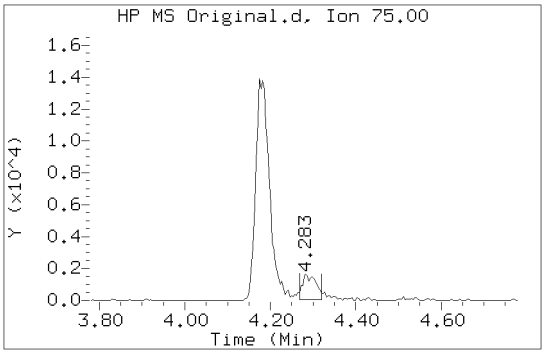


1,1-Dichloropropene (563-58-6)

Reason Code:

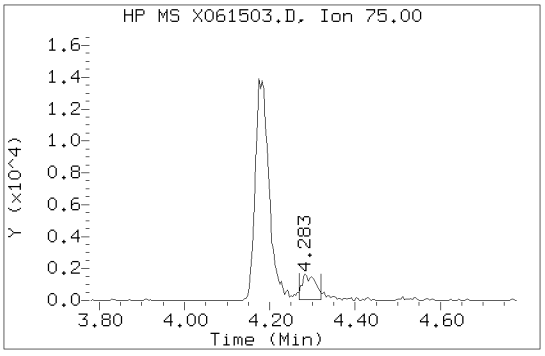
BEFORE

MASS
75
AREA
3575
HEIGHT
1615
20-Jun-2023
18:22
linh
pham



AFTER

MASS
75
AREA
3575
HEIGHT
1615
20-Jun-2023
18:22
linh
pham

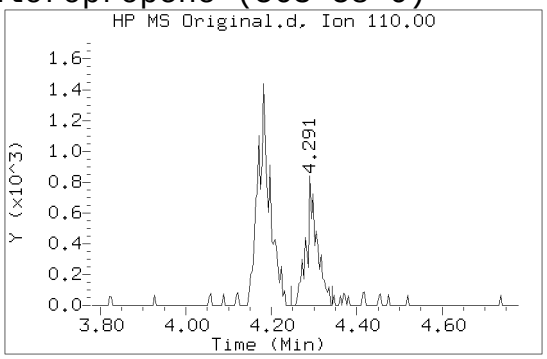


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

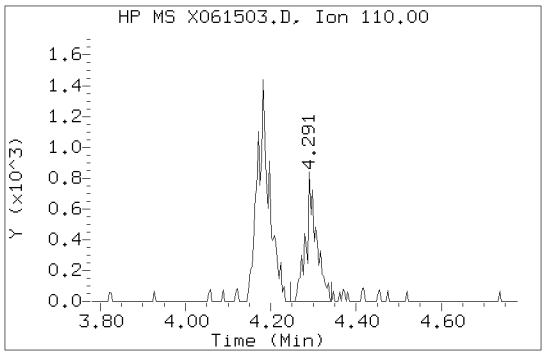
1,1-Dichloropropene (563-58-6)

Reason Code:

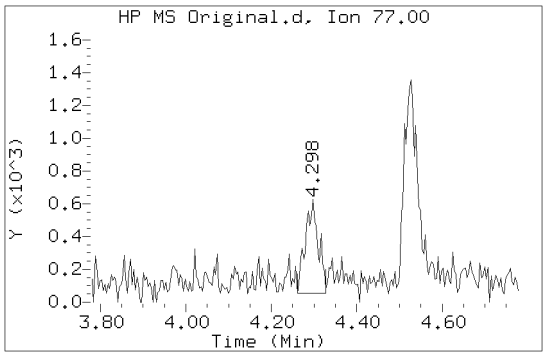
BEFORE
MASS
110
AREA
1455
HEIGHT
841
20-Jun-2023
18:22
linh
pham



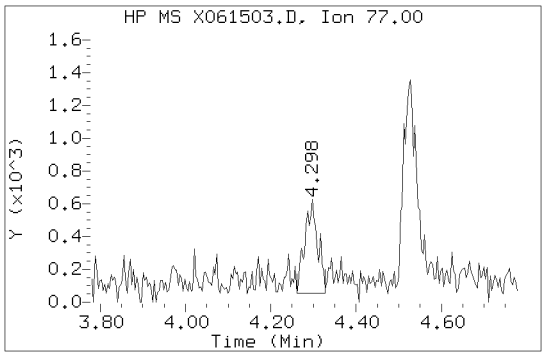
AFTER
MASS
110
AREA
1455
HEIGHT
841
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
77
AREA
1207
HEIGHT
572
20-Jun-2023
18:22
linh
pham



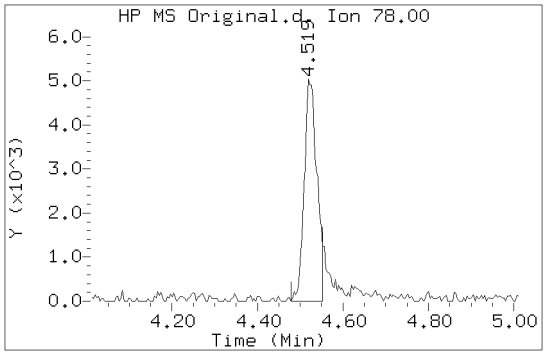
AFTER
MASS
77
AREA
1207
HEIGHT
572
20-Jun-2023
18:22
linh
pham



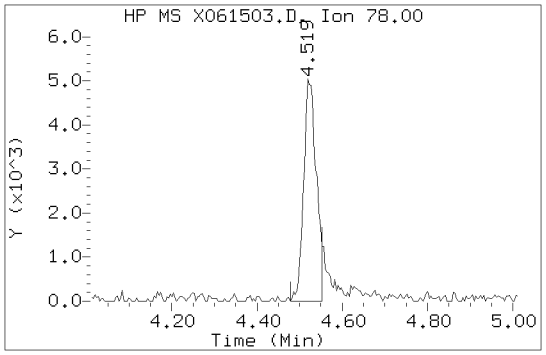
Benzene (71-43-2)

Reason Code:

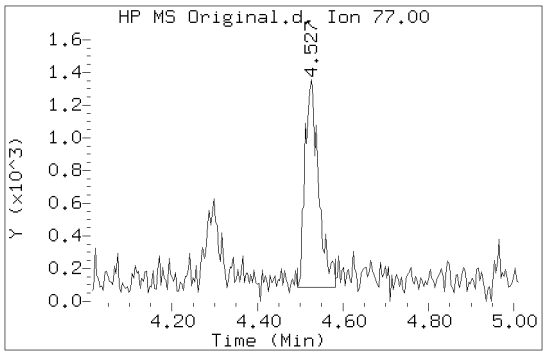
BEFORE
MASS
78
AREA
10562
HEIGHT
5044
20-Jun-2023
18:22
linh
pham



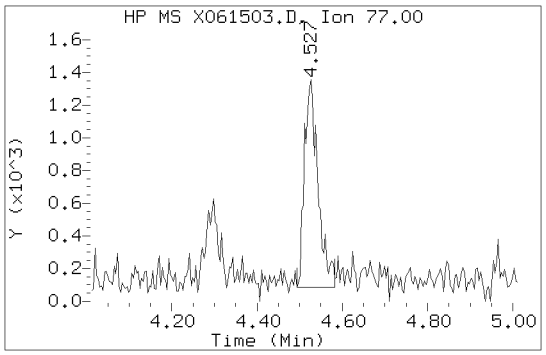
AFTER
MASS
78
AREA
10562
HEIGHT
5044
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
77
AREA
2831
HEIGHT
1269
20-Jun-2023
18:22
linh
pham



AFTER
MASS
77
AREA
2831
HEIGHT
1269
20-Jun-2023
18:22
linh
pham



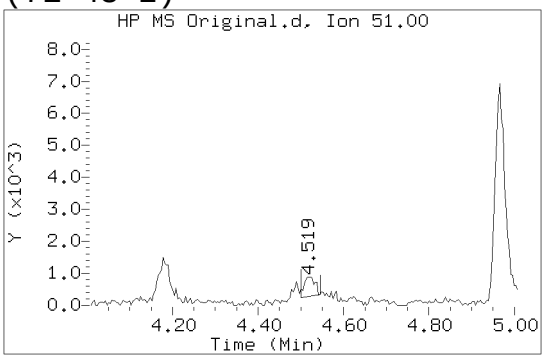
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Benzene (71-43-2)

Reason Code:

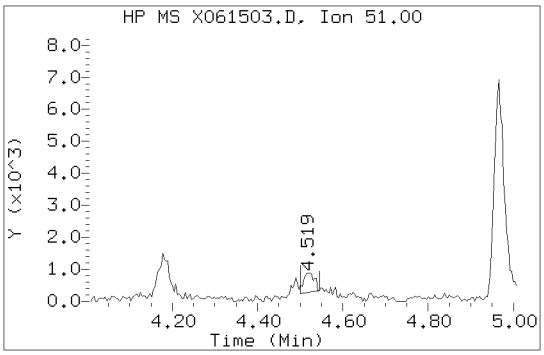
BEFORE

MASS
51
AREA
1097
HEIGHT
604
20-Jun-2023
18:22
linh
pham



AFTER

MASS
51
AREA
1097
HEIGHT
604
20-Jun-2023
18:22
linh
pham

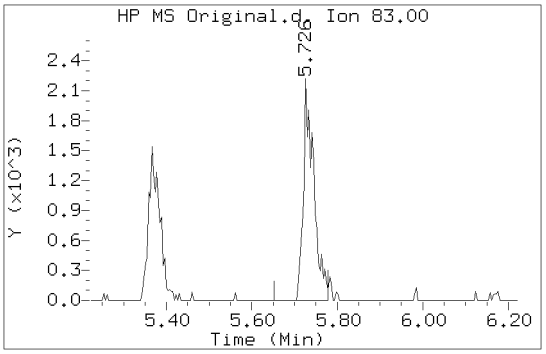


Bromodichloromethane (75-27-4)

Reason Code:

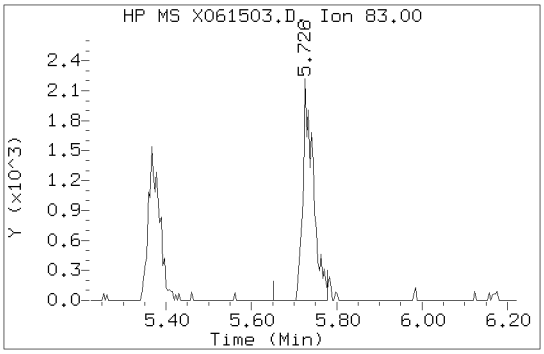
BEFORE

MASS
83
AREA
3787
HEIGHT
2221
20-Jun-2023
18:22
linh
pham



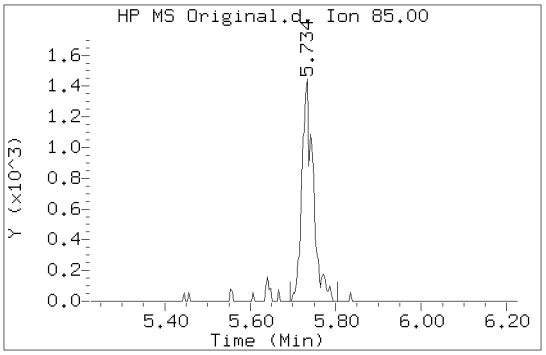
AFTER

MASS
83
AREA
3787
HEIGHT
2221
20-Jun-2023
18:22
linh
pham



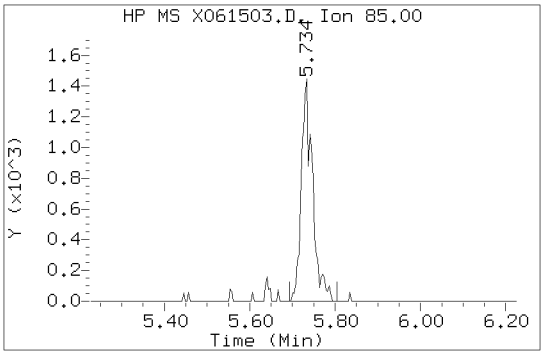
BEFORE

MASS
85
AREA
2700
HEIGHT
1447
20-Jun-2023
18:22
linh
pham



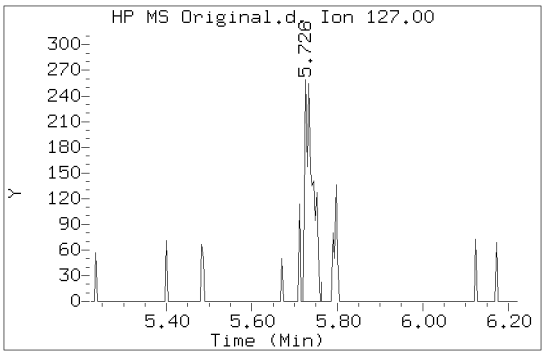
AFTER

MASS
85
AREA
2700
HEIGHT
1447
20-Jun-2023
18:22
linh
pham



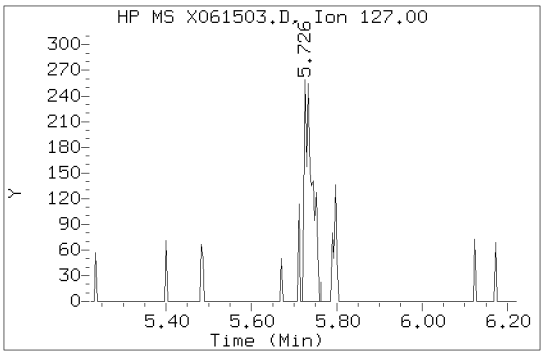
BEFORE

MASS
127
AREA
334
HEIGHT
259
20-Jun-2023
18:22
linh
pham



AFTER

MASS
127
AREA
334
HEIGHT
259
20-Jun-2023
18:22
linh
pham



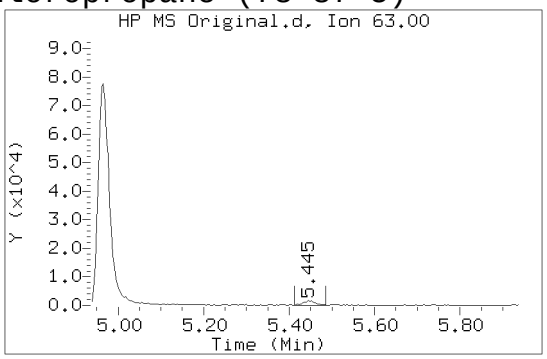
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

1,2-Dichloropropane (78-87-5)

Reason Code:

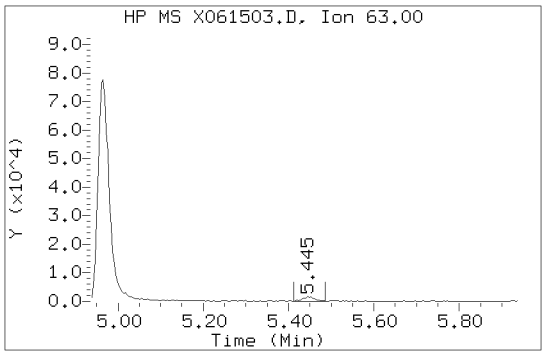
BEFORE

MASS
63
AREA
2801
HEIGHT
1642
20-Jun-2023
18:22
linh
pham



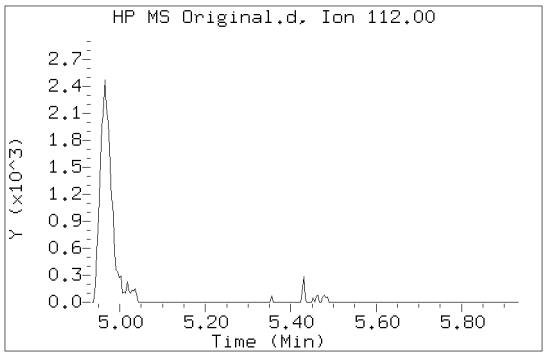
AFTER

MASS
63
AREA
2801
HEIGHT
1642
20-Jun-2023
18:22
linh
pham



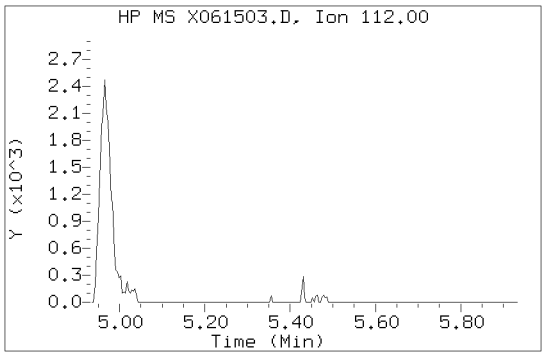
BEFORE

MASS
112
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
112
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

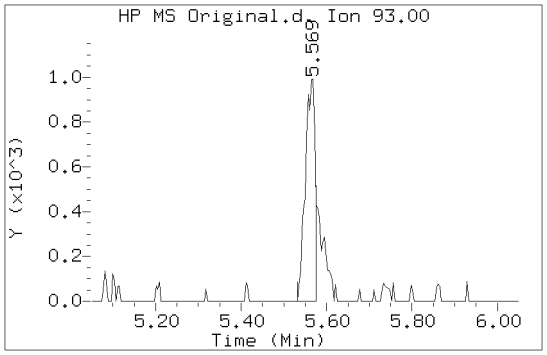


Dibromomethane (74-95-3)

Reason Code:

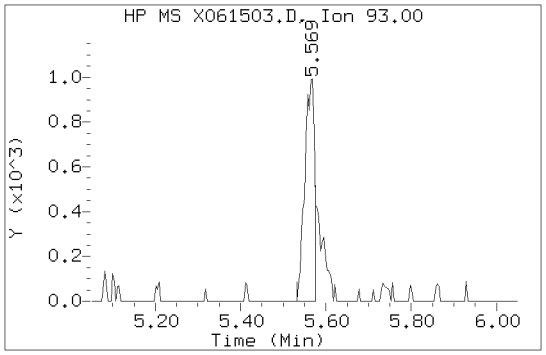
BEFORE

MASS
93
AREA
1589
HEIGHT
993
20-Jun-2023
18:22
linh
pham



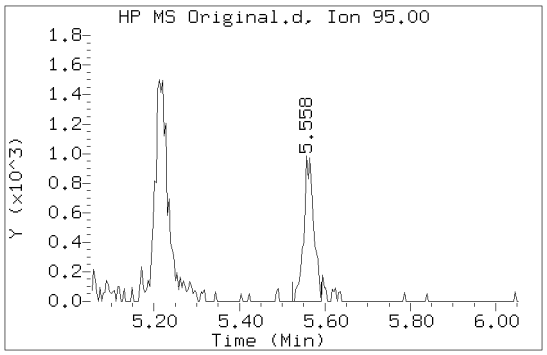
AFTER

MASS
93
AREA
1589
HEIGHT
993
20-Jun-2023
18:22
linh
pham



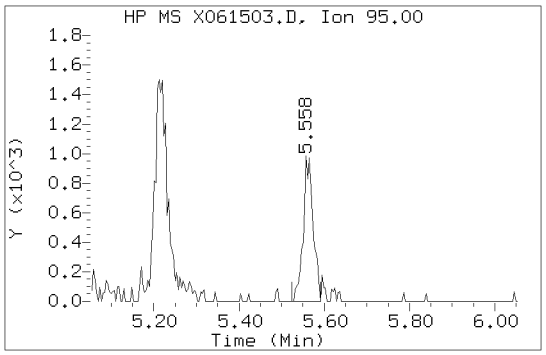
BEFORE

MASS
95
AREA
1616
HEIGHT
984
20-Jun-2023
18:22
linh
pham



AFTER

MASS
95
AREA
1616
HEIGHT
984
20-Jun-2023
18:22
linh
pham



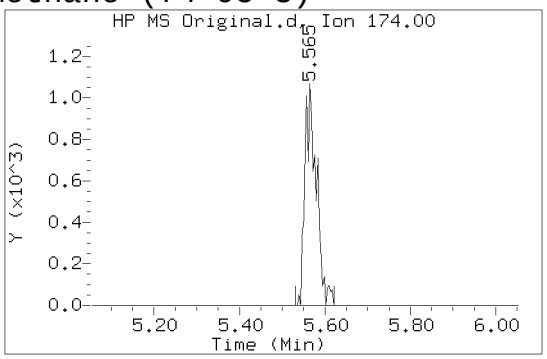
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Dibromomethane (74-95-3)

Reason Code:

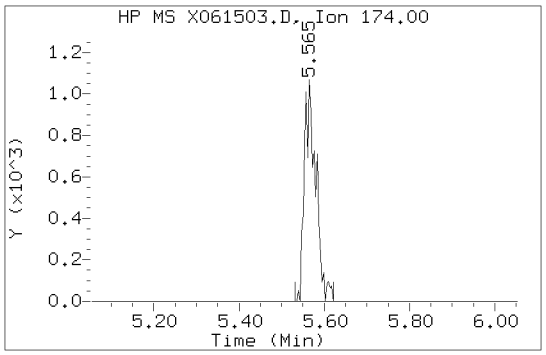
BEFORE

MASS
174
AREA
2024
HEIGHT
1069
20-Jun-2023
18:22
linh
pham



AFTER

MASS
174
AREA
2024
HEIGHT
1069
20-Jun-2023
18:22
linh
pham

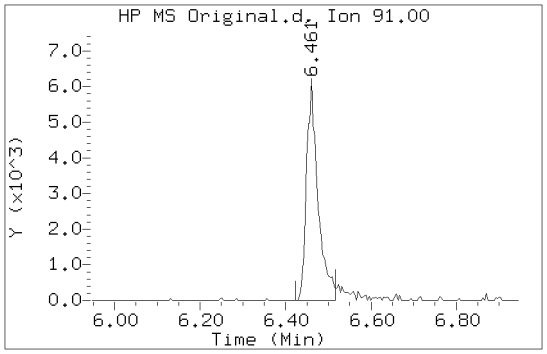


Toluene (108-88-3)

Reason Code:

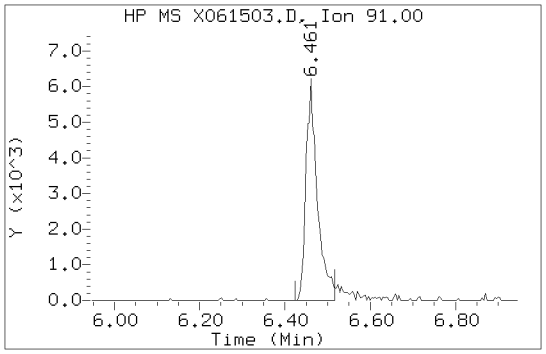
BEFORE

MASS
91
AREA
11582
HEIGHT
6218
20-Jun-2023
18:22
linh
pham



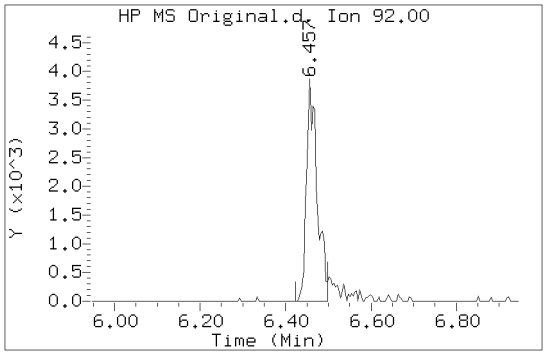
AFTER

MASS
91
AREA
11582
HEIGHT
6218
20-Jun-2023
18:22
linh
pham



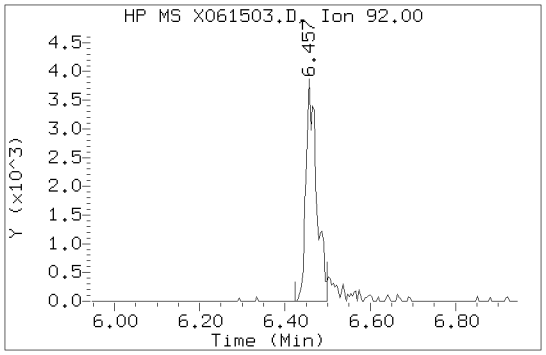
BEFORE

MASS
92
AREA
6796
HEIGHT
3869
20-Jun-2023
18:22
linh
pham



AFTER

MASS
92
AREA
6796
HEIGHT
3869
20-Jun-2023
18:22
linh
pham

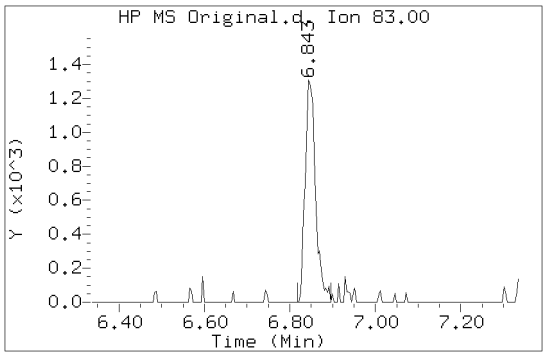


1,1,2-Trichloroethane (79-00-5)

Reason Code:

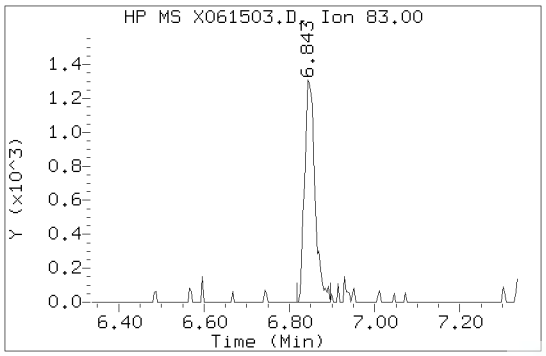
BEFORE

MASS
83
AREA
2237
HEIGHT
1309
20-Jun-2023
18:22
linh
pham



AFTER

MASS
83
AREA
2237
HEIGHT
1309
20-Jun-2023
18:22
linh
pham



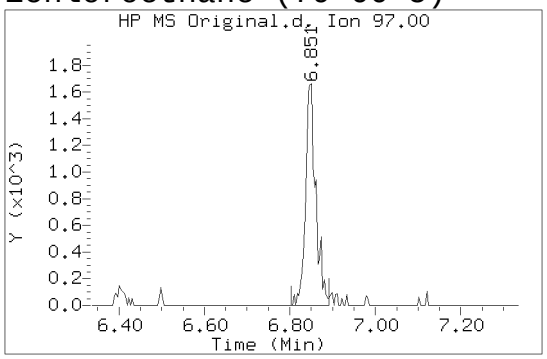
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

1,1,2-Trichloroethane (79-00-5)

Reason Code:

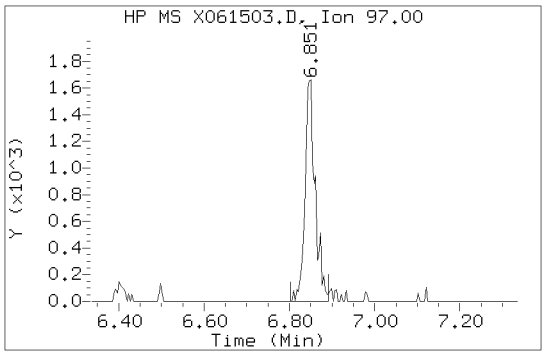
BEFORE

MASS
97
AREA
2754
HEIGHT
1663
20-Jun-2023
18:22
linh
pham



AFTER

MASS
97
AREA
2754
HEIGHT
1663
20-Jun-2023
18:22
linh
pham

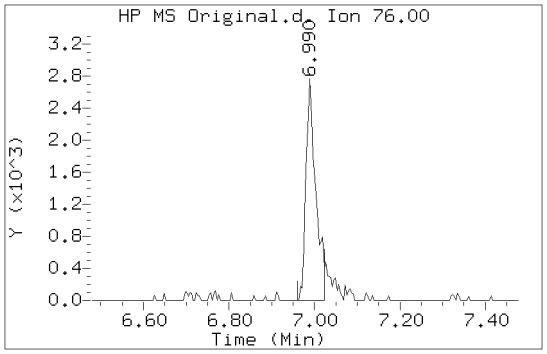


1,3-Dichloropropane (142-28-9)

Reason Code:

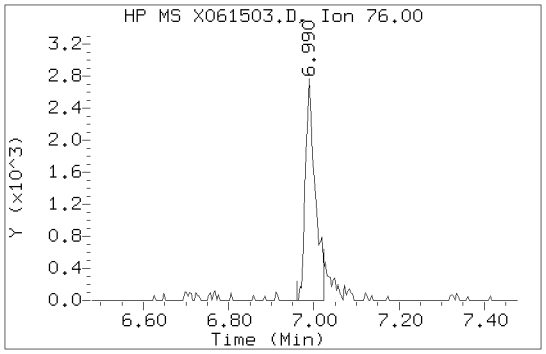
BEFORE

MASS
76
AREA
4459
HEIGHT
2769
20-Jun-2023
18:22
linh
pham



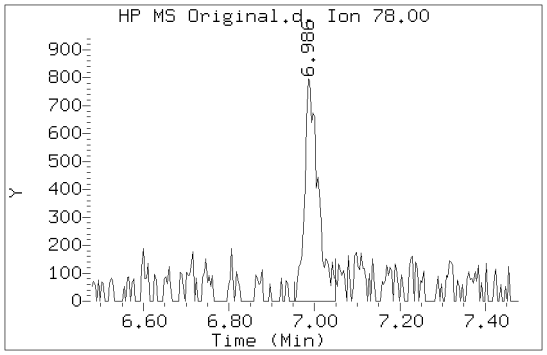
AFTER

MASS
76
AREA
4459
HEIGHT
2769
20-Jun-2023
18:22
linh
pham



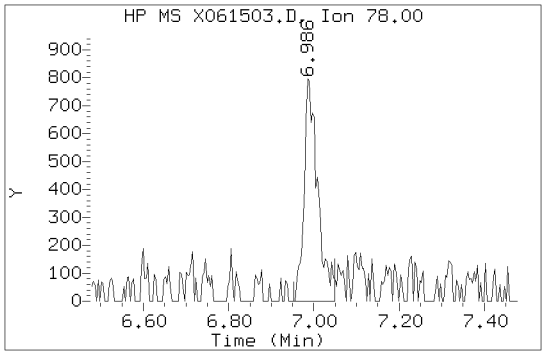
BEFORE

MASS
78
AREA
1798
HEIGHT
796
20-Jun-2023
18:22
linh
pham



AFTER

MASS
78
AREA
1798
HEIGHT
796
20-Jun-2023
18:22
linh
pham

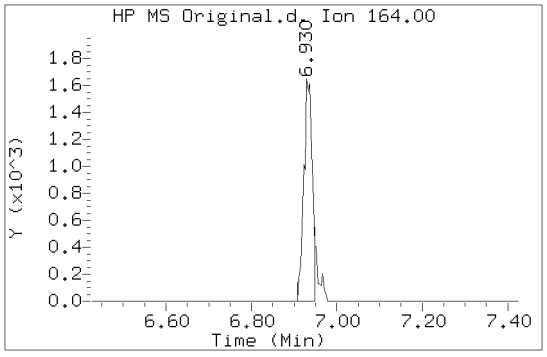


Tetrachloroethene (127-18-4)

Reason Code:

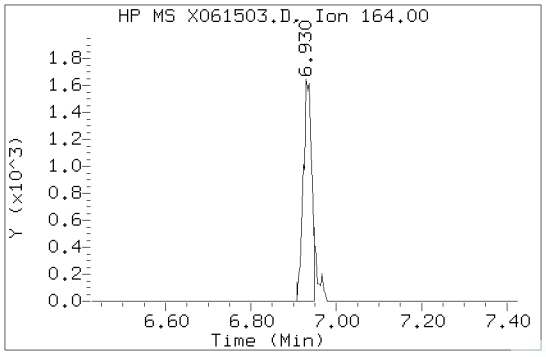
BEFORE

MASS
164
AREA
2291
HEIGHT
1649
20-Jun-2023
18:22
linh
pham



AFTER

MASS
164
AREA
2291
HEIGHT
1649
20-Jun-2023
18:22
linh
pham



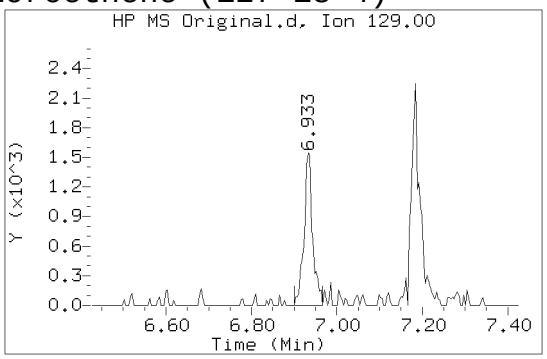
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Tetrachloroethene (127-18-4)

Reason Code:

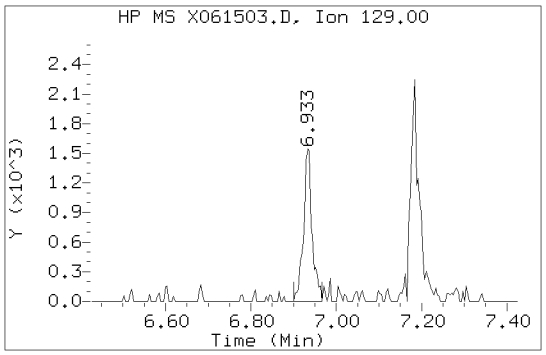
BEFORE

MASS
129
AREA
2191
HEIGHT
1543
20-Jun-2023
18:22
linh
pham



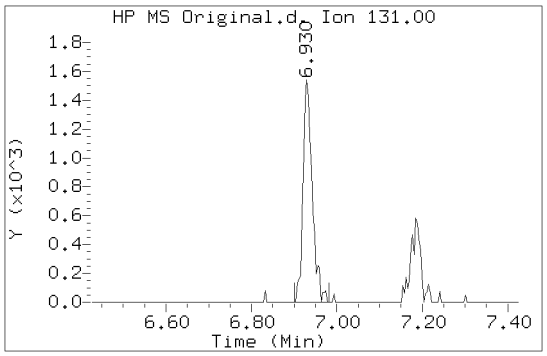
AFTER

MASS
129
AREA
2191
HEIGHT
1543
20-Jun-2023
18:22
linh
pham



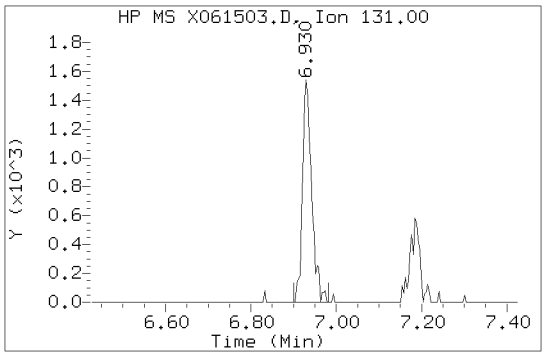
BEFORE

MASS
131
AREA
2372
HEIGHT
1541
20-Jun-2023
18:22
linh
pham



AFTER

MASS
131
AREA
2372
HEIGHT
1541
20-Jun-2023
18:22
linh
pham

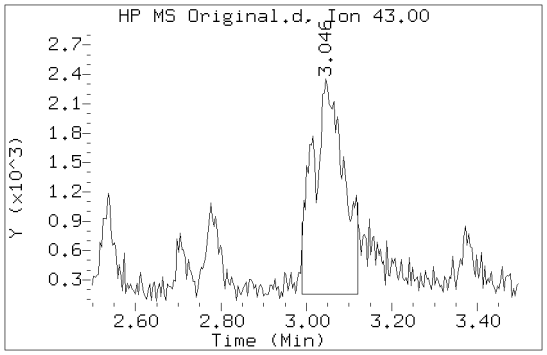


Vinyl Acetate (108-05-4)

Reason Code:

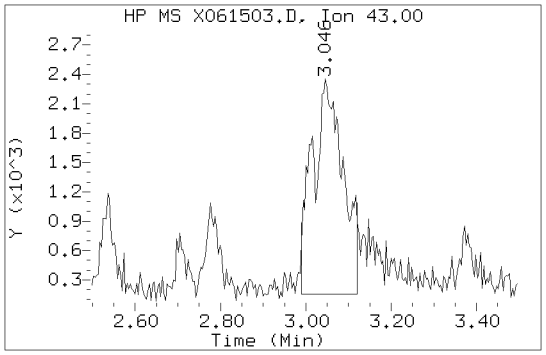
BEFORE

MASS
43
AREA
11055
HEIGHT
2198
20-Jun-2023
18:22
linh
pham



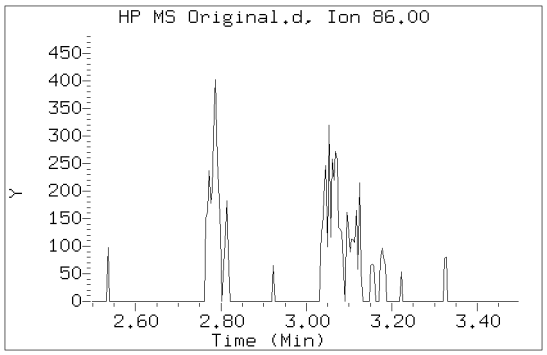
AFTER

MASS
43
AREA
11055
HEIGHT
2198
20-Jun-2023
18:22
linh
pham



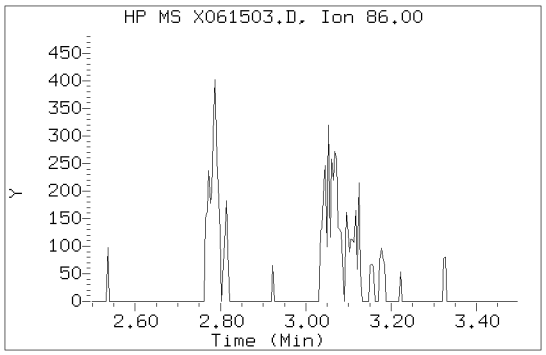
BEFORE

MASS
86
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
86
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

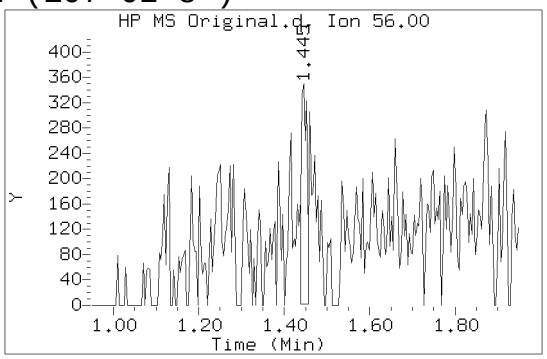


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

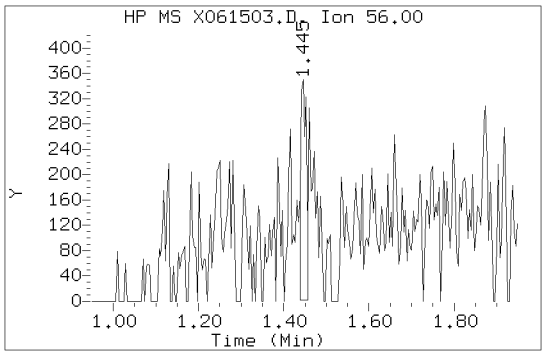
Acrolein (107-02-8)

Reason Code:

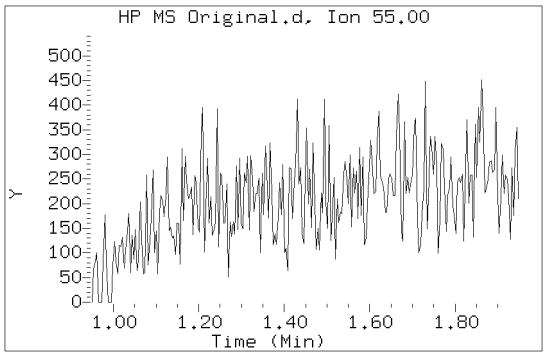
BEFORE
MASS
56
AREA
343
HEIGHT
348
20-Jun-2023
18:22
linh
pham



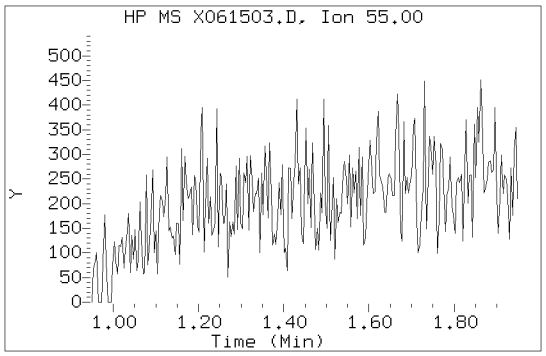
AFTER
MASS
56
AREA
343
HEIGHT
348
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



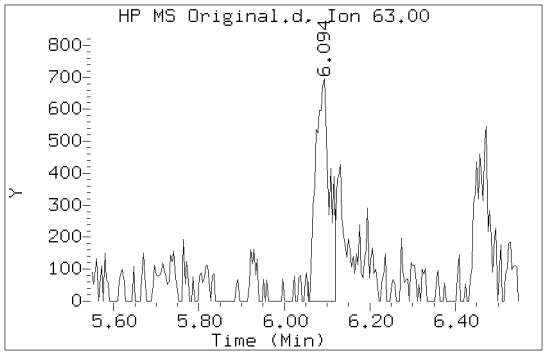
AFTER
MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



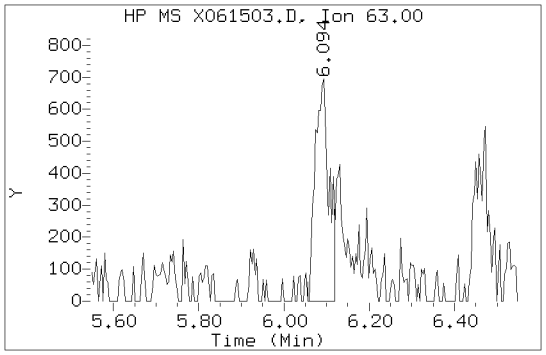
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

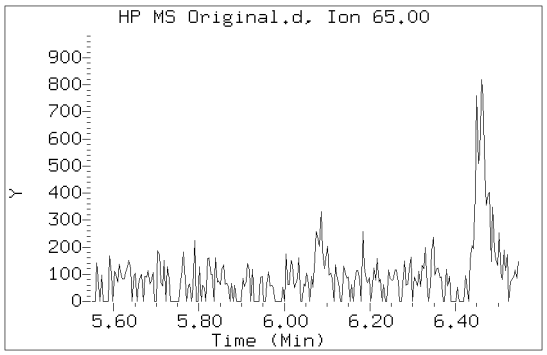
BEFORE
MASS
63
AREA
1563
HEIGHT
695
20-Jun-2023
18:22
linh
pham



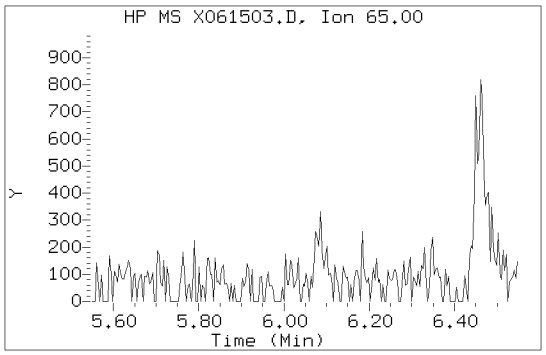
AFTER
MASS
63
AREA
1563
HEIGHT
695
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
65
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
65
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



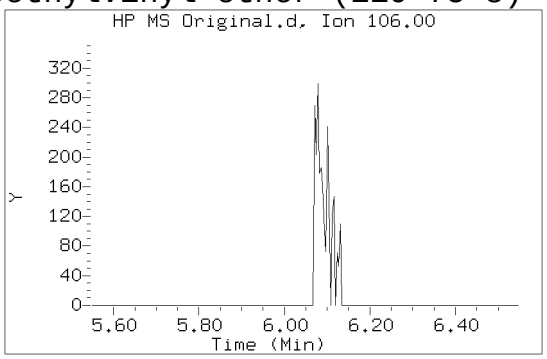
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

2-Chloroethylvinyl ether (110-75-8)

Reason Code:

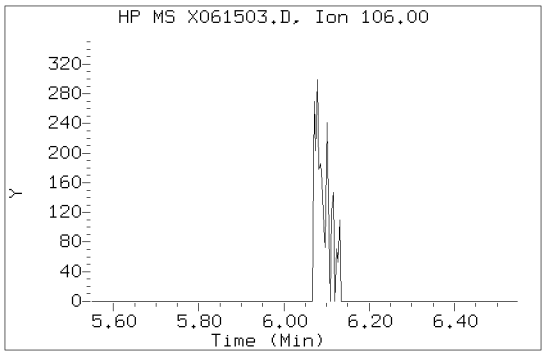
BEFORE

MASS
106
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
106
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

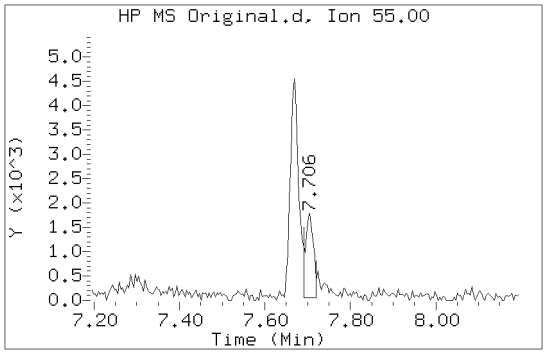


1-Chlorohexane (544-10-5)

Reason Code:

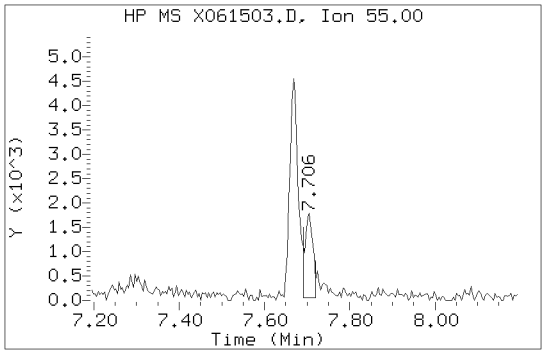
BEFORE

MASS
55
AREA
2351
HEIGHT
1734
20-Jun-2023
18:22
linh
pham



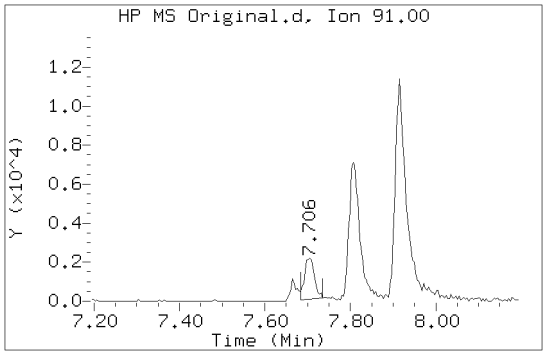
AFTER

MASS
55
AREA
2351
HEIGHT
1734
20-Jun-2023
18:22
linh
pham



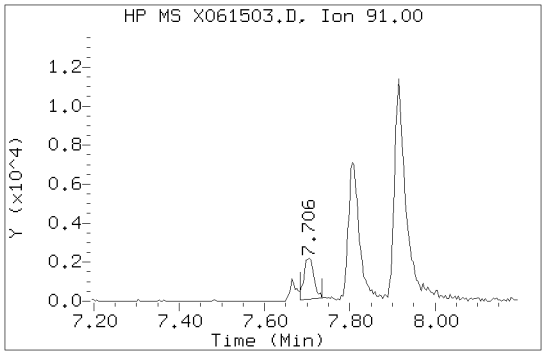
BEFORE

MASS
91
AREA
3502
HEIGHT
2100
20-Jun-2023
18:22
linh
pham



AFTER

MASS
91
AREA
3502
HEIGHT
2100
20-Jun-2023
18:22
linh
pham

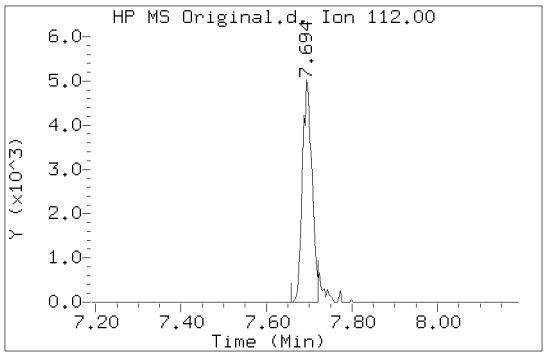


Chlorobenzene (108-90-7)

Reason Code:

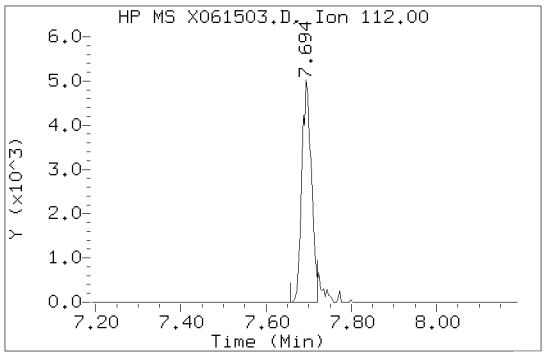
BEFORE

MASS
112
AREA
8017
HEIGHT
5025
20-Jun-2023
18:22
linh
pham



AFTER

MASS
112
AREA
8017
HEIGHT
5025
20-Jun-2023
18:22
linh
pham

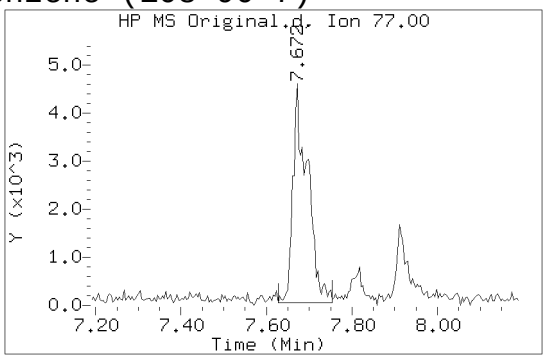


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

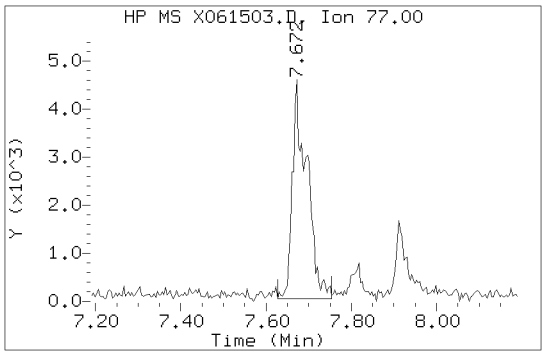
Chlorobenzene (108-90-7)

Reason Code:

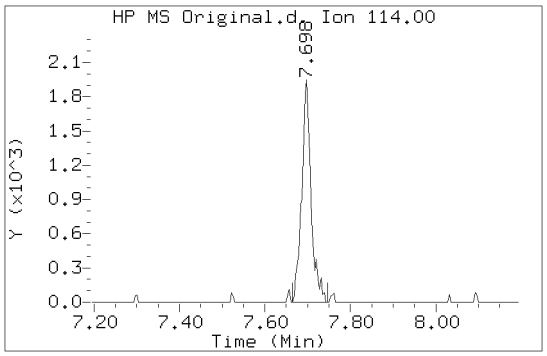
BEFORE
MASS
77
AREA
10984
HEIGHT
4562
20-Jun-2023
18:22
linh
pham



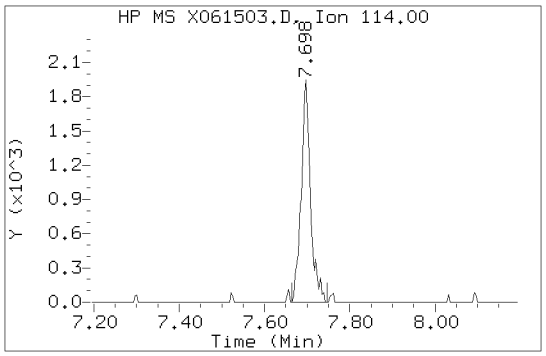
AFTER
MASS
77
AREA
10984
HEIGHT
4562
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
114
AREA
3036
HEIGHT
1947
20-Jun-2023
18:22
linh
pham



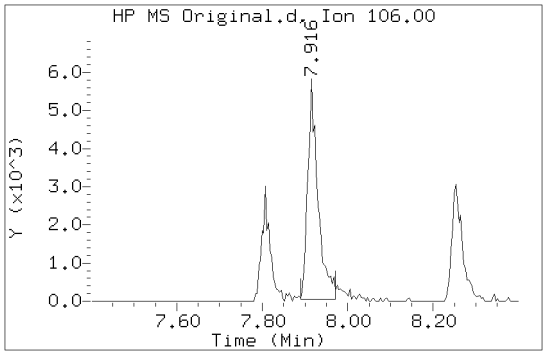
AFTER
MASS
114
AREA
3036
HEIGHT
1947
20-Jun-2023
18:22
linh
pham



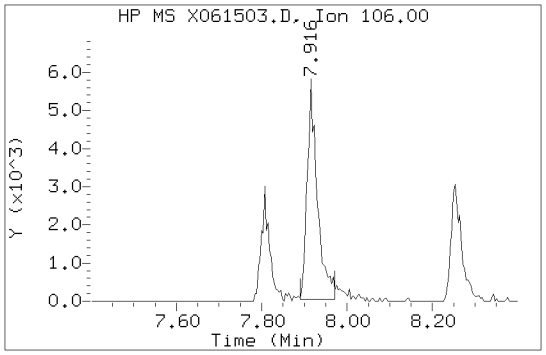
m,p-Xylenes ()

Reason Code:

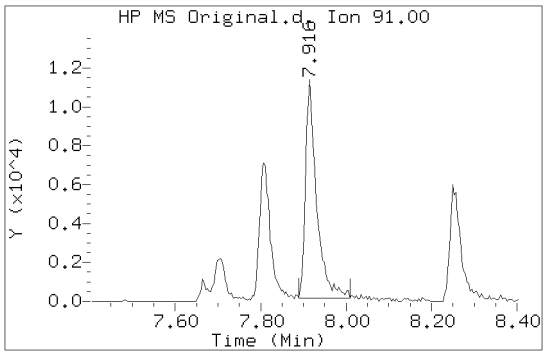
BEFORE
MASS
106
AREA
9595
HEIGHT
5771
20-Jun-2023
18:22
linh
pham



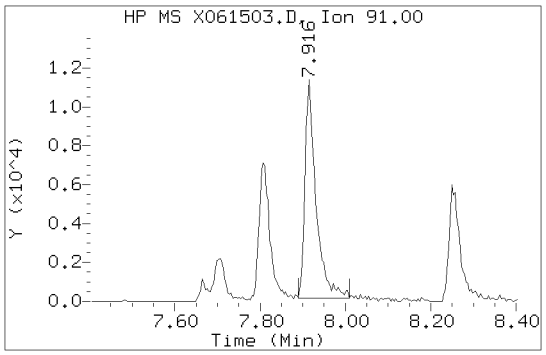
AFTER
MASS
106
AREA
9595
HEIGHT
5771
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
91
AREA
20412
HEIGHT
11224
20-Jun-2023
18:22
linh
pham



AFTER
MASS
91
AREA
20412
HEIGHT
11224
20-Jun-2023
18:22
linh
pham



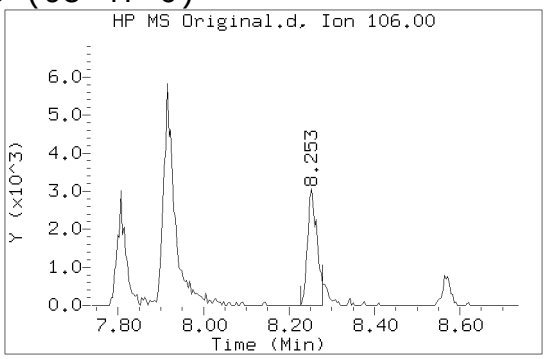
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

o-Xylene (95-47-6)

Reason Code:

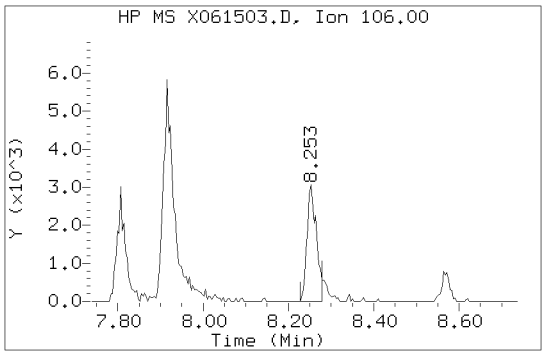
BEFORE

MASS
106
AREA
4730
HEIGHT
3061
20-Jun-2023
18:22
linh
pham



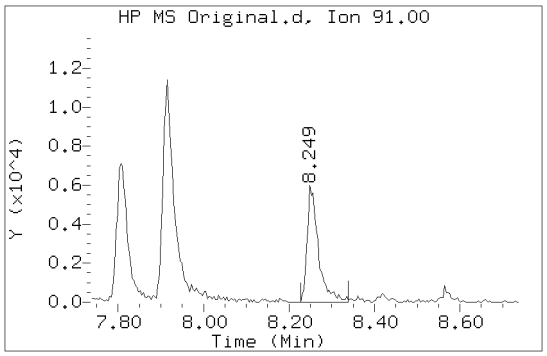
AFTER

MASS
106
AREA
4730
HEIGHT
3061
20-Jun-2023
18:22
linh
pham



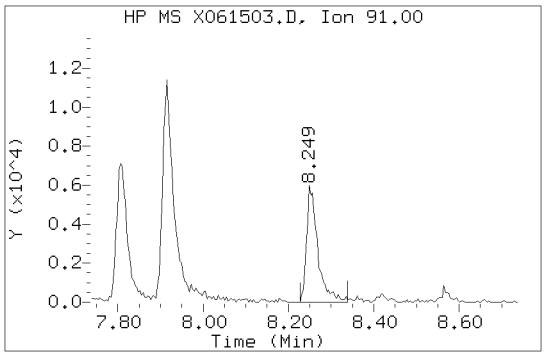
BEFORE

MASS
91
AREA
11044
HEIGHT
5995
20-Jun-2023
18:22
linh
pham



AFTER

MASS
91
AREA
11044
HEIGHT
5995
20-Jun-2023
18:22
linh
pham

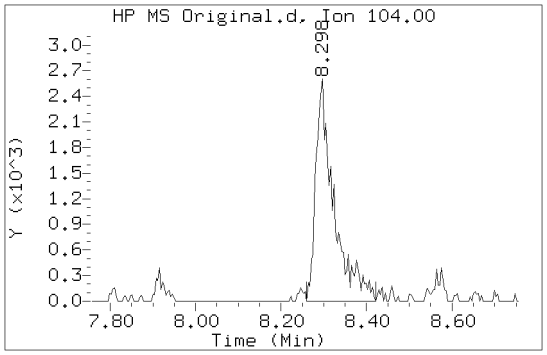


Styrene (100-42-5)

Reason Code:

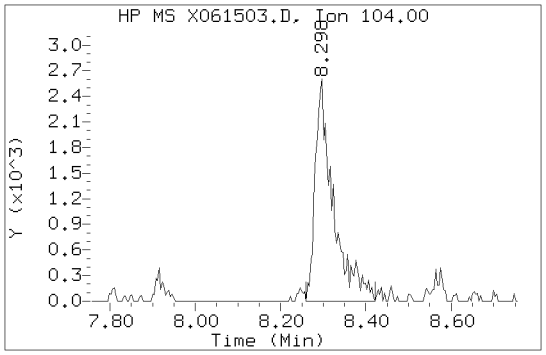
BEFORE

MASS
104
AREA
7646
HEIGHT
2604
20-Jun-2023
18:22
linh
pham



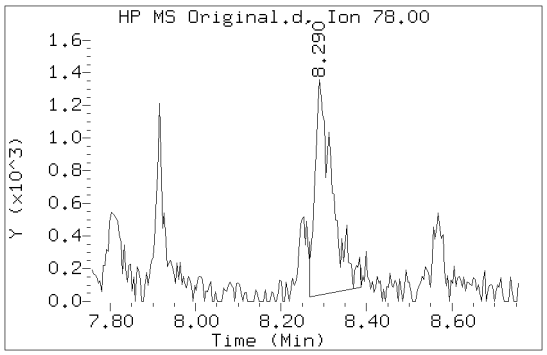
AFTER

MASS
104
AREA
7646
HEIGHT
2604
20-Jun-2023
18:22
linh
pham



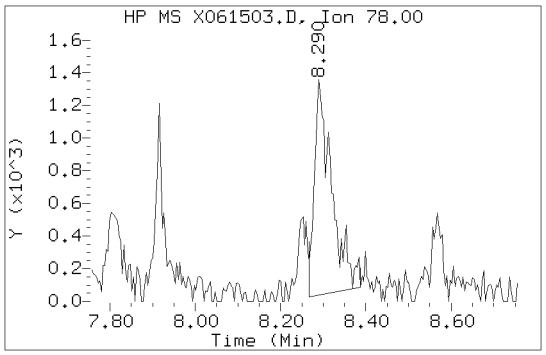
BEFORE

MASS
78
AREA
3712
HEIGHT
1318
20-Jun-2023
18:22
linh
pham



AFTER

MASS
78
AREA
3712
HEIGHT
1318
20-Jun-2023
18:22
linh
pham

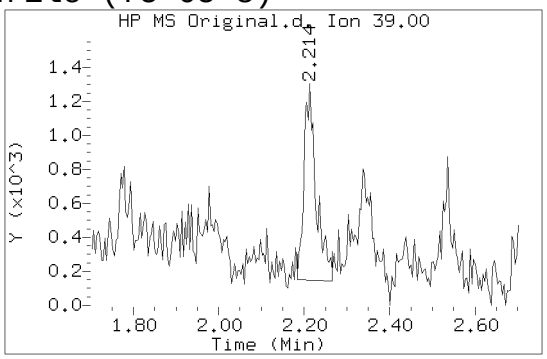


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Acetonitrile (75-05-8)

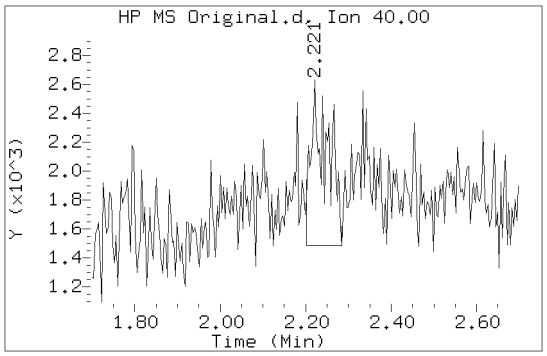
BEFORE

MASS
39
AREA
2269
HEIGHT
1156
20-Jun-2023
18:22
linh
pham



BEFORE

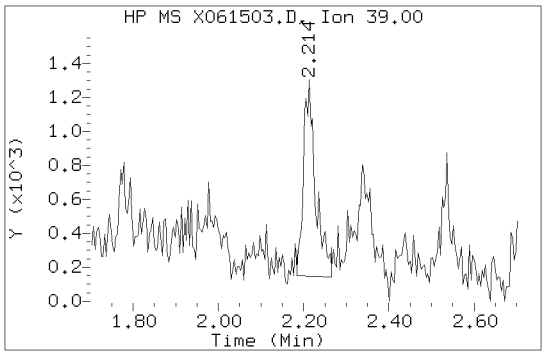
MASS
40
AREA
3102
HEIGHT
1145
20-Jun-2023
18:22
linh
pham



Reason Code:

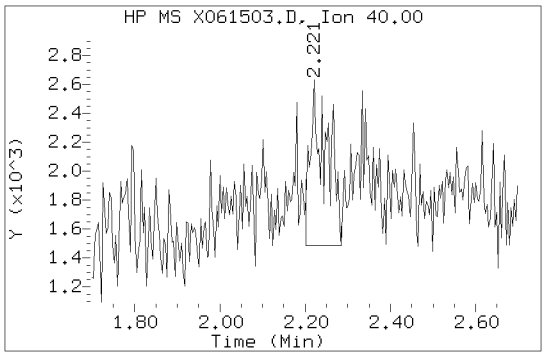
AFTER

MASS
39
AREA
2269
HEIGHT
1156
20-Jun-2023
18:22
linh
pham



AFTER

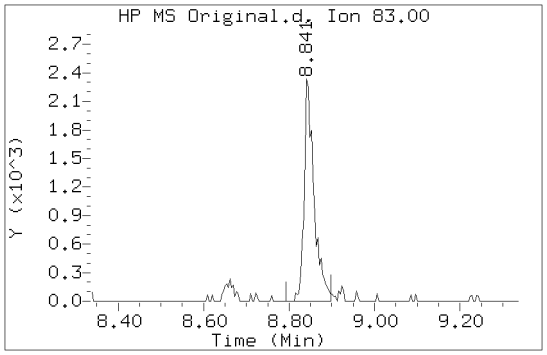
MASS
40
AREA
3102
HEIGHT
1145
20-Jun-2023
18:22
linh
pham



1,1,2,2-Tetrachloroethane (79-34-5)

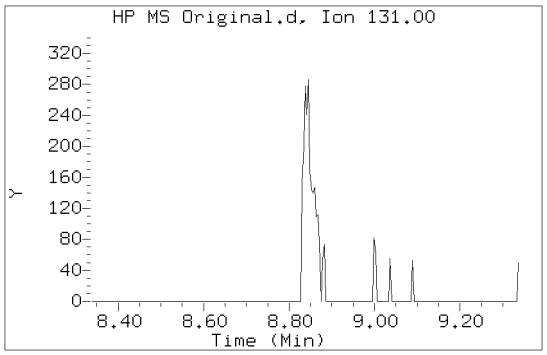
BEFORE

MASS
83
AREA
3818
HEIGHT
2336
20-Jun-2023
18:22
linh
pham



BEFORE

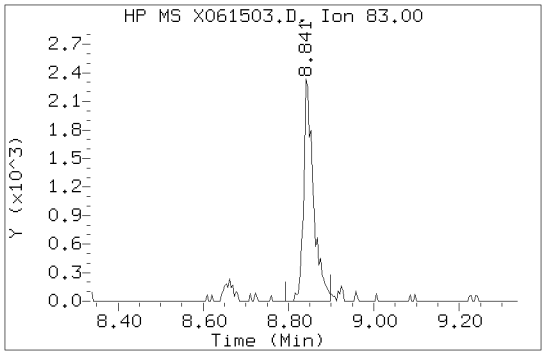
MASS
131
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



Reason Code:

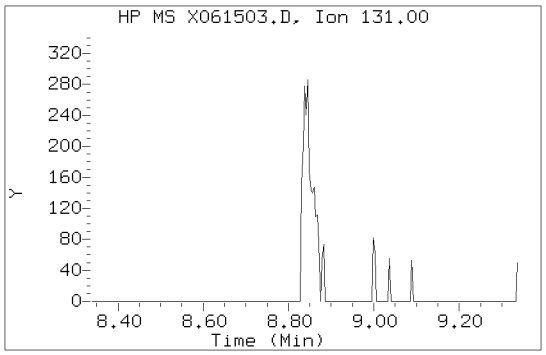
AFTER

MASS
83
AREA
3818
HEIGHT
2336
20-Jun-2023
18:22
linh
pham



AFTER

MASS
131
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



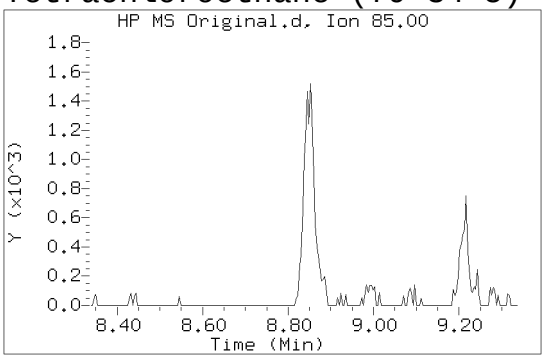
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

1,1,2,2-Tetrachloroethane (79-34-5)

Reason Code:

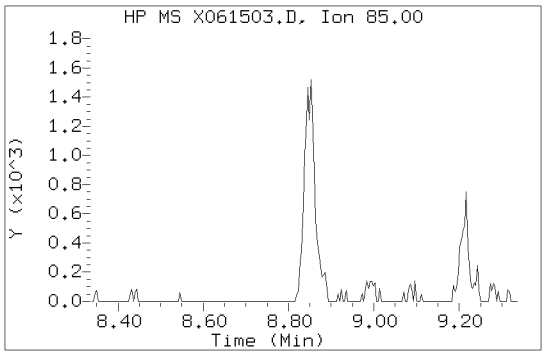
BEFORE

MASS
85
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

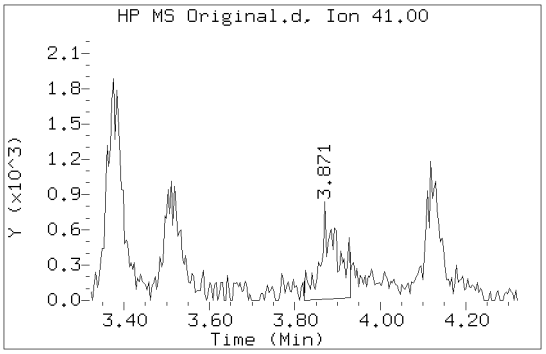


Methacrylonitrile (126-98-7)

Reason Code:

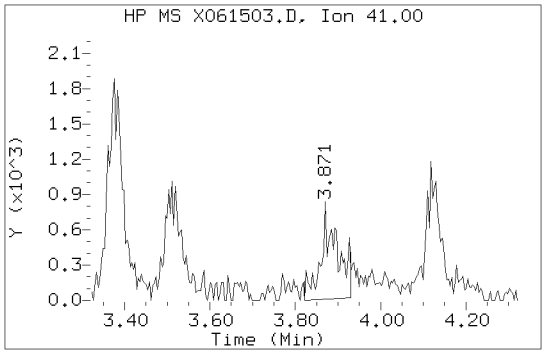
BEFORE

MASS
41
AREA
2167
HEIGHT
829
20-Jun-2023
18:22
linh
pham



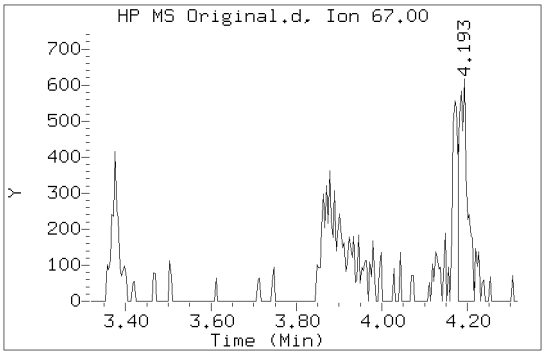
AFTER

MASS
41
AREA
2167
HEIGHT
829
20-Jun-2023
18:22
linh
pham



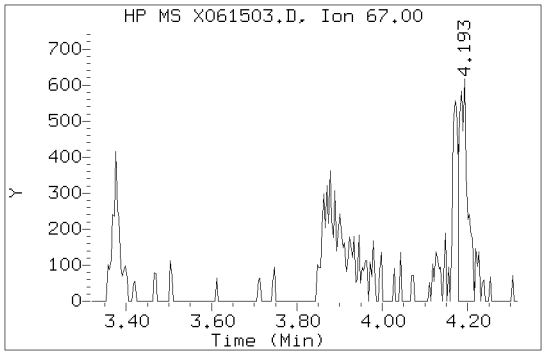
BEFORE

MASS
67
AREA
843
HEIGHT
617
20-Jun-2023
18:22
linh
pham



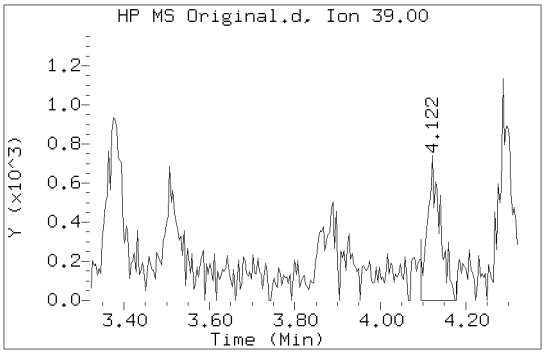
AFTER

MASS
67
AREA
843
HEIGHT
617
20-Jun-2023
18:22
linh
pham



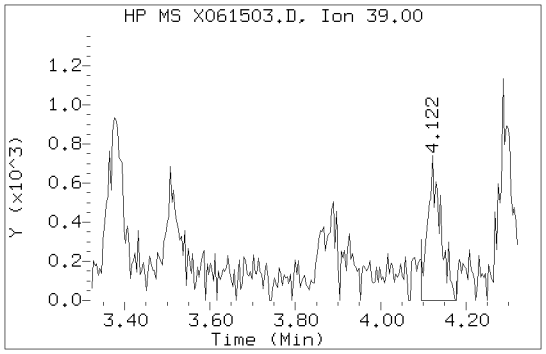
BEFORE

MASS
39
AREA
1554
HEIGHT
740
20-Jun-2023
18:22
linh
pham



AFTER

MASS
39
AREA
1554
HEIGHT
740
20-Jun-2023
18:22
linh
pham



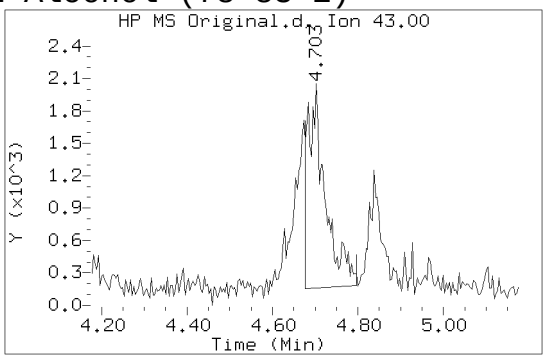
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Isobutyl Alcohol (78-83-1)

Reason Code:

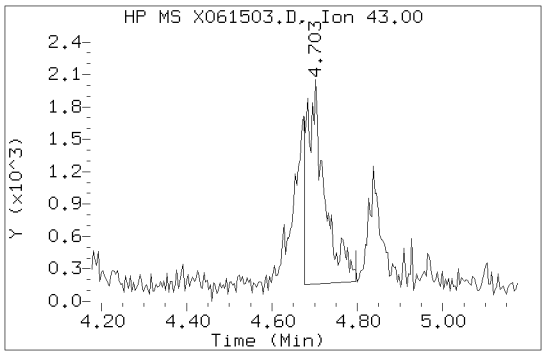
BEFORE

MASS
43
AREA
5465
HEIGHT
1892
20-Jun-2023
18:22
linh
pham



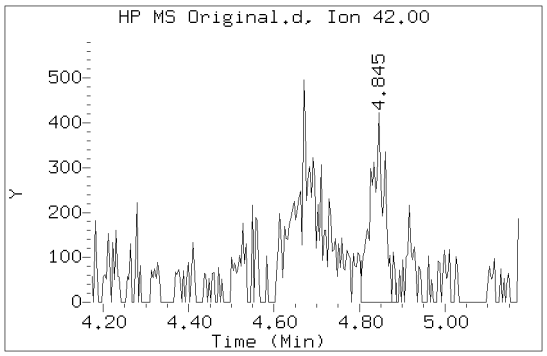
AFTER

MASS
43
AREA
5465
HEIGHT
1892
20-Jun-2023
18:22
linh
pham



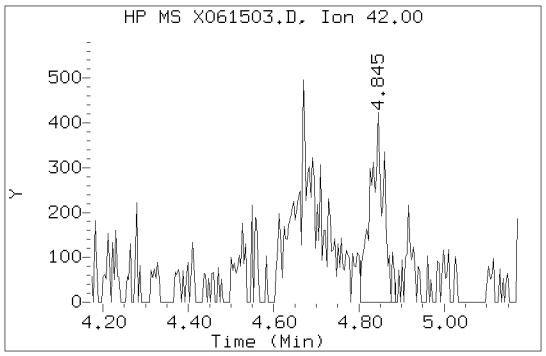
BEFORE

MASS
42
AREA
927
HEIGHT
423
20-Jun-2023
18:22
linh
pham



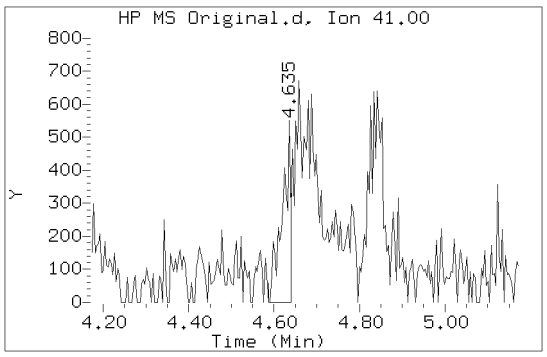
AFTER

MASS
42
AREA
927
HEIGHT
423
20-Jun-2023
18:22
linh
pham



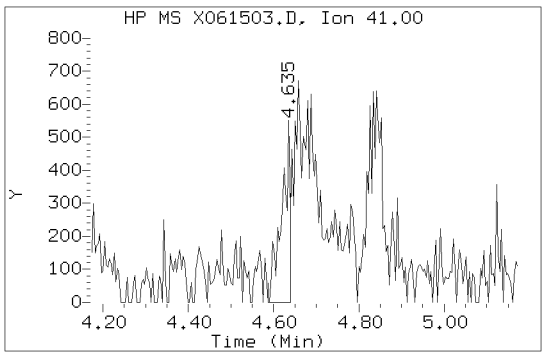
BEFORE

MASS
41
AREA
729
HEIGHT
551
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
729
HEIGHT
551
20-Jun-2023
18:22
linh
pham

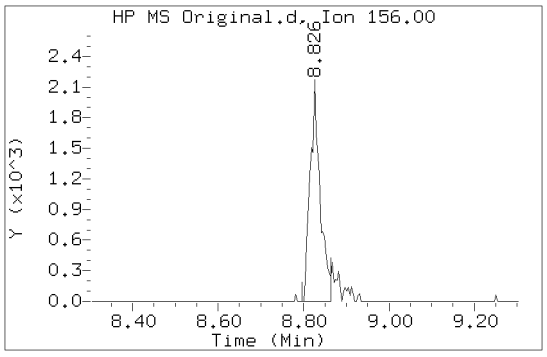


Bromobenzene (108-86-1)

Reason Code:

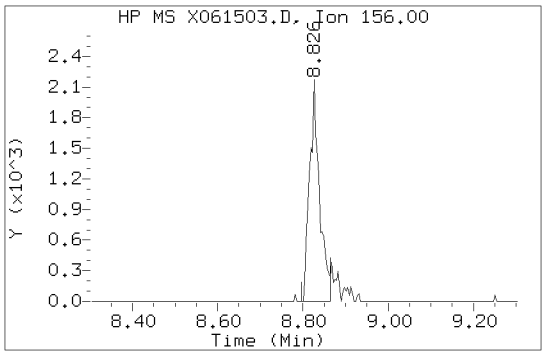
BEFORE

MASS
156
AREA
3535
HEIGHT
2172
20-Jun-2023
18:22
linh
pham



AFTER

MASS
156
AREA
3535
HEIGHT
2172
20-Jun-2023
18:22
linh
pham



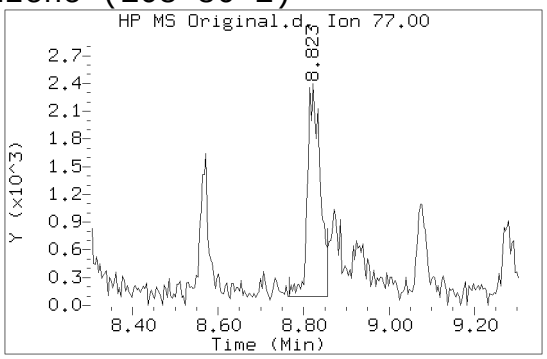
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Bromobenzene (108-86-1)

Reason Code:

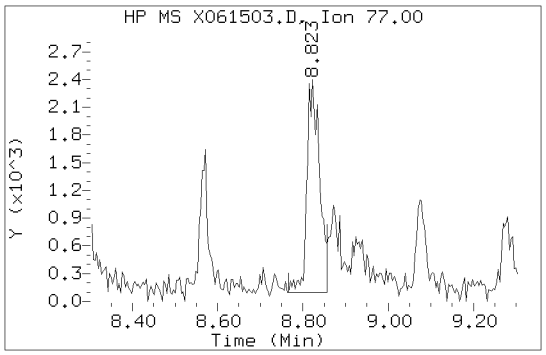
BEFORE

MASS
77
AREA
4744
HEIGHT
2298
20-Jun-2023
18:22
linh
pham



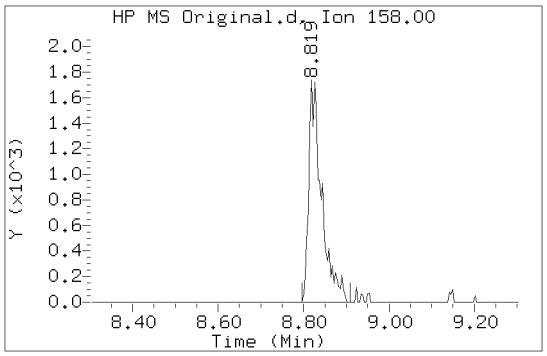
AFTER

MASS
77
AREA
4744
HEIGHT
2298
20-Jun-2023
18:22
linh
pham



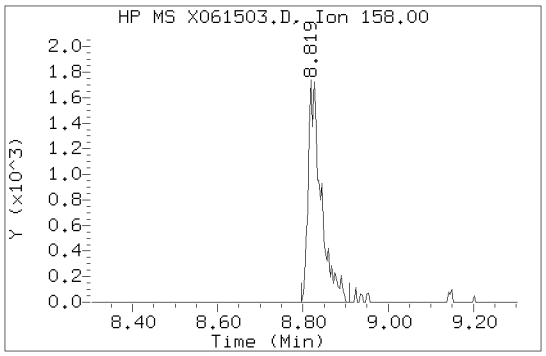
BEFORE

MASS
158
AREA
3619
HEIGHT
1739
20-Jun-2023
18:22
linh
pham



AFTER

MASS
158
AREA
3619
HEIGHT
1739
20-Jun-2023
18:22
linh
pham

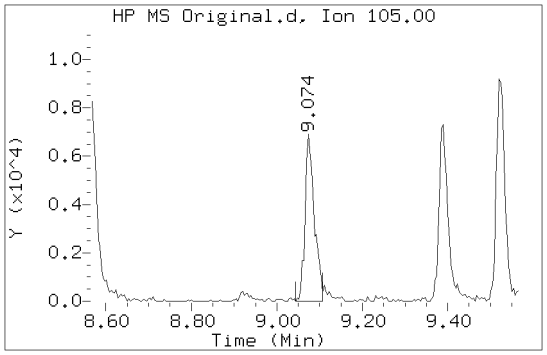


1,3,5-Trimethylbenzene (108-67-8)

Reason Code:

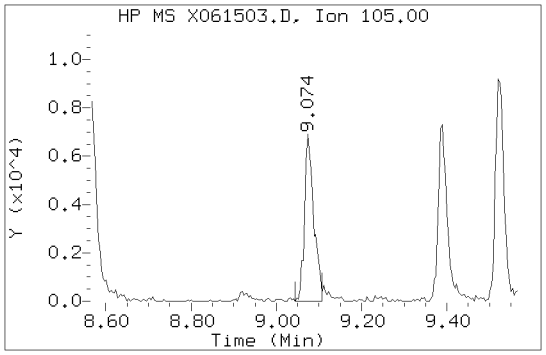
BEFORE

MASS
105
AREA
10589
HEIGHT
6918
20-Jun-2023
18:22
linh
pham



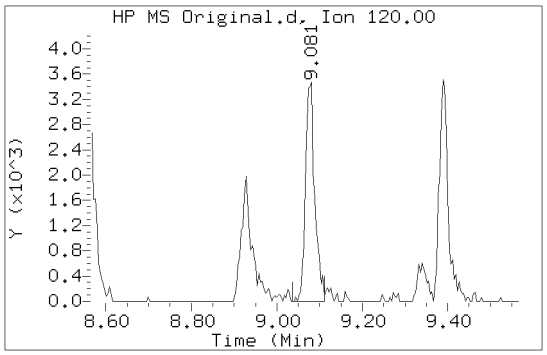
AFTER

MASS
105
AREA
10589
HEIGHT
6918
20-Jun-2023
18:22
linh
pham



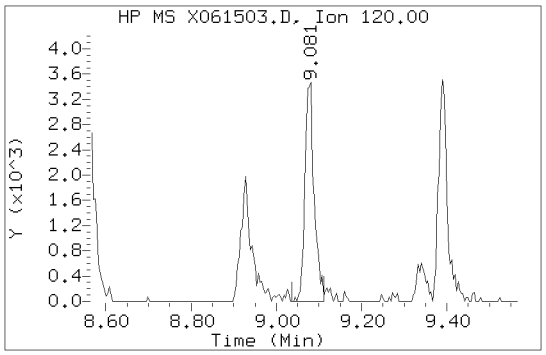
BEFORE

MASS
120
AREA
5301
HEIGHT
3469
20-Jun-2023
18:22
linh
pham



AFTER

MASS
120
AREA
5301
HEIGHT
3469
20-Jun-2023
18:22
linh
pham



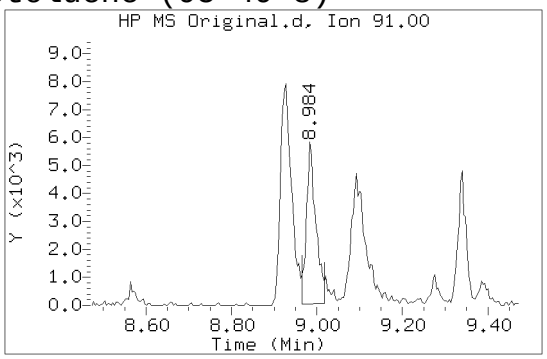
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

2-Chlorotoluene (95-49-8)

Reason Code:

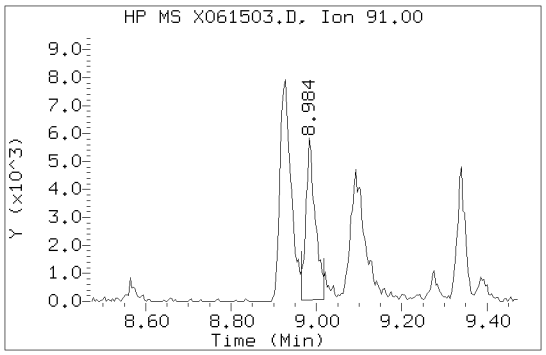
BEFORE

MASS
91
AREA
8949
HEIGHT
5784
20-Jun-2023
18:22
linh
pham



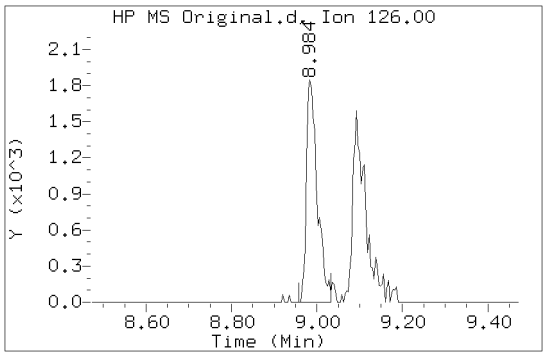
AFTER

MASS
91
AREA
8949
HEIGHT
5784
20-Jun-2023
18:22
linh
pham



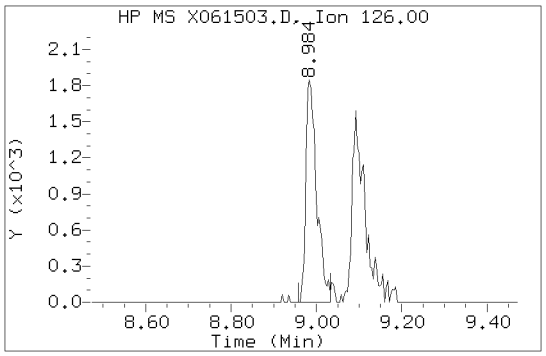
BEFORE

MASS
126
AREA
3287
HEIGHT
1848
20-Jun-2023
18:22
linh
pham



AFTER

MASS
126
AREA
3287
HEIGHT
1848
20-Jun-2023
18:22
linh
pham

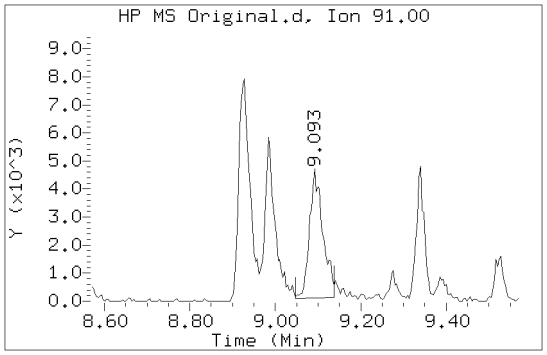


4-Chlorotoluene (106-43-4)

Reason Code:

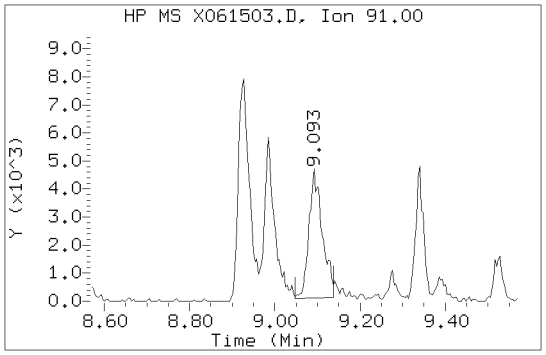
BEFORE

MASS
91
AREA
10012
HEIGHT
4610
20-Jun-2023
18:22
linh
pham



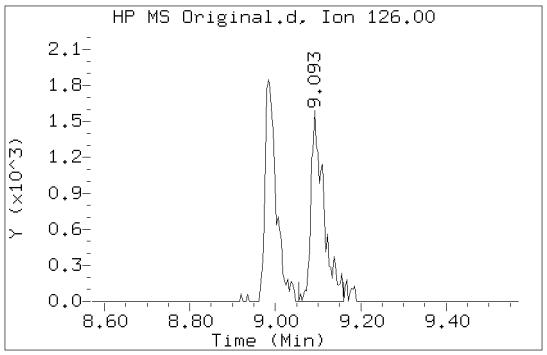
AFTER

MASS
91
AREA
10012
HEIGHT
4610
20-Jun-2023
18:22
linh
pham



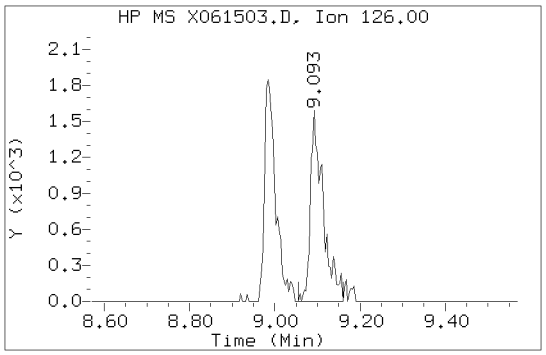
BEFORE

MASS
126
AREA
3291
HEIGHT
1590
20-Jun-2023
18:22
linh
pham



AFTER

MASS
126
AREA
3291
HEIGHT
1590
20-Jun-2023
18:22
linh
pham



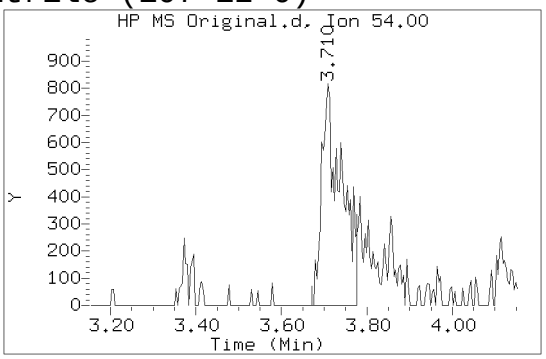
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Propionitrile (107-12-0)

Reason Code:

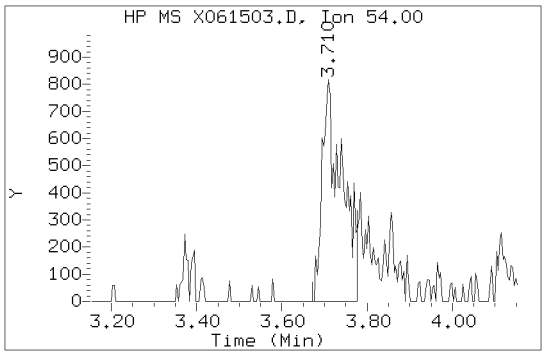
BEFORE

MASS
54
AREA
2622
HEIGHT
817
20-Jun-2023
18:22
linh
pham



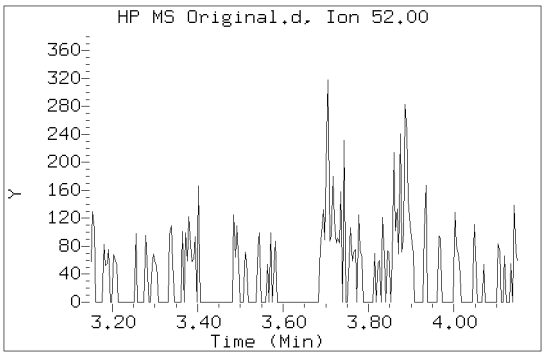
AFTER

MASS
54
AREA
2622
HEIGHT
817
20-Jun-2023
18:22
linh
pham



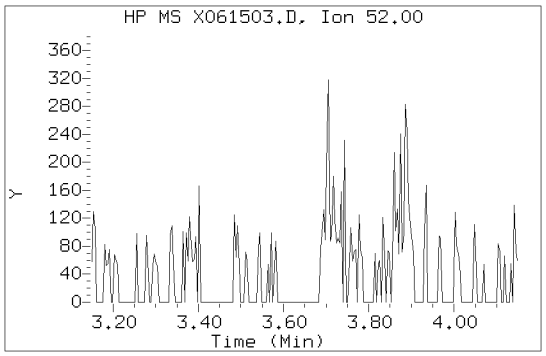
BEFORE

MASS
52
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



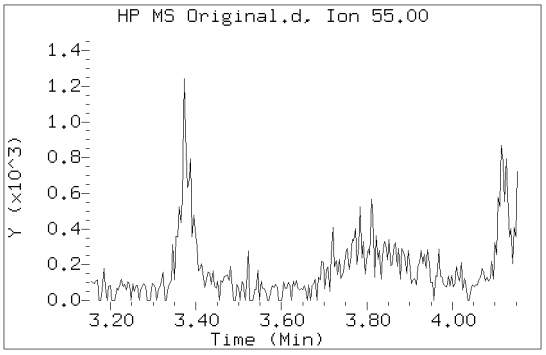
AFTER

MASS
52
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



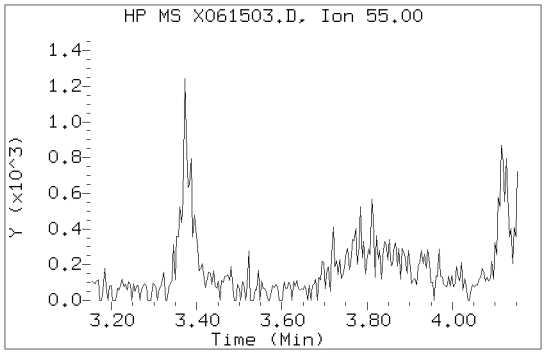
BEFORE

MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

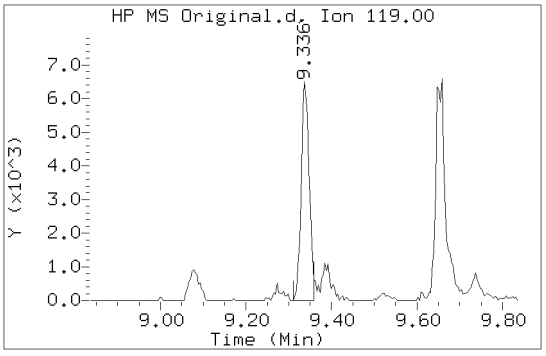


tert-Butylbenzene (98-06-6)

Reason Code:

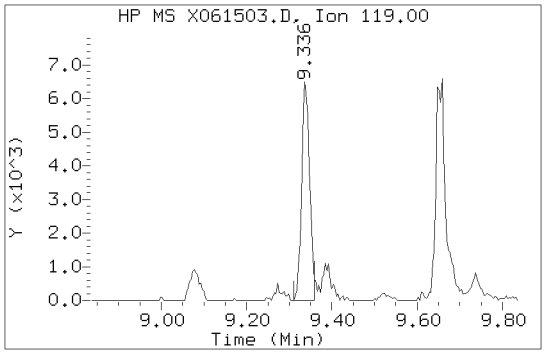
BEFORE

MASS
119
AREA
8719
HEIGHT
6495
20-Jun-2023
18:22
linh
pham



AFTER

MASS
119
AREA
8719
HEIGHT
6495
20-Jun-2023
18:22
linh
pham



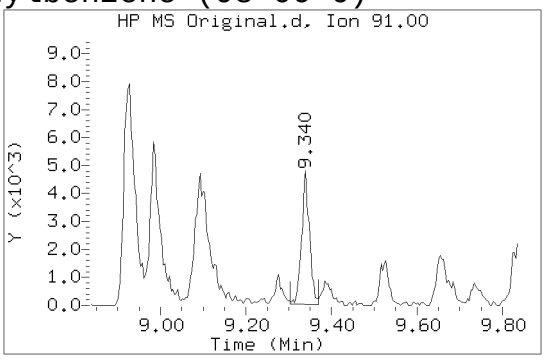
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

tert-Butylbenzene (98-06-6)

Reason Code:

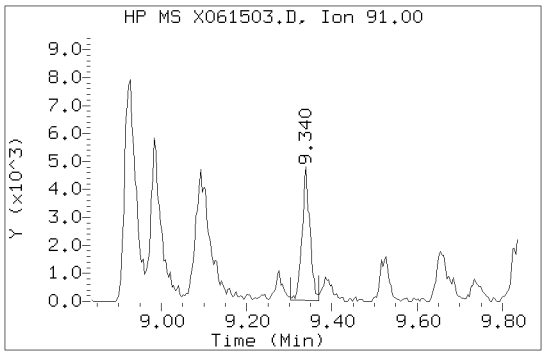
BEFORE

MASS
91
AREA
6264
HEIGHT
4775
20-Jun-2023
18:22
linh
pham



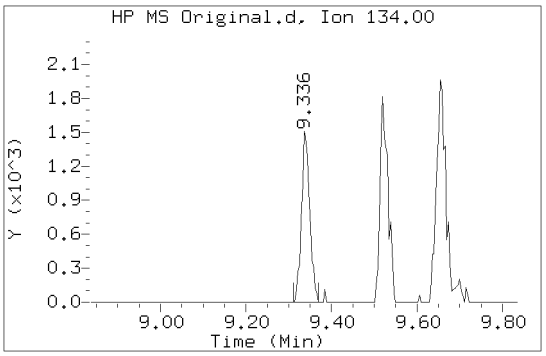
AFTER

MASS
91
AREA
6264
HEIGHT
4775
20-Jun-2023
18:22
linh
pham



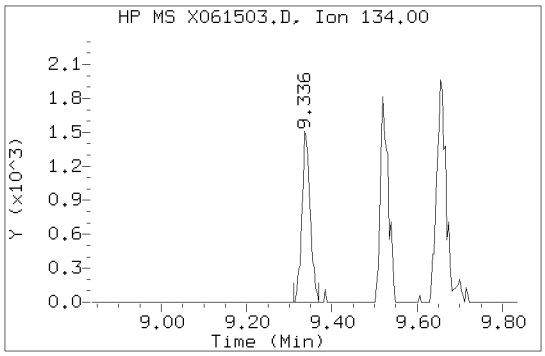
BEFORE

MASS
134
AREA
2080
HEIGHT
1511
20-Jun-2023
18:22
linh
pham



AFTER

MASS
134
AREA
2080
HEIGHT
1511
20-Jun-2023
18:22
linh
pham

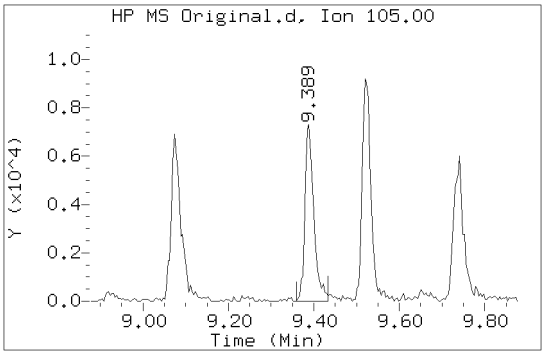


1,2,4-Trimethylbenzene (95-63-6)

Reason Code:

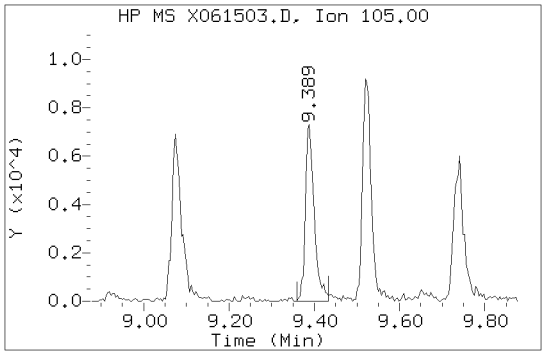
BEFORE

MASS
105
AREA
10657
HEIGHT
7321
20-Jun-2023
18:22
linh
pham



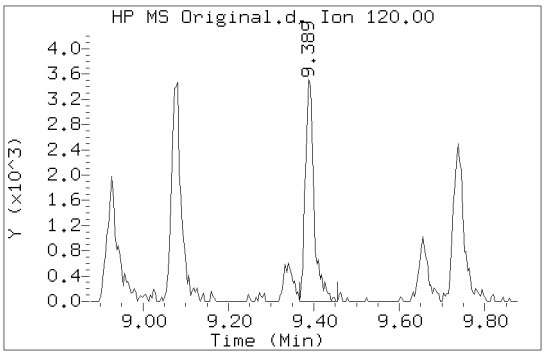
AFTER

MASS
105
AREA
10657
HEIGHT
7321
20-Jun-2023
18:22
linh
pham



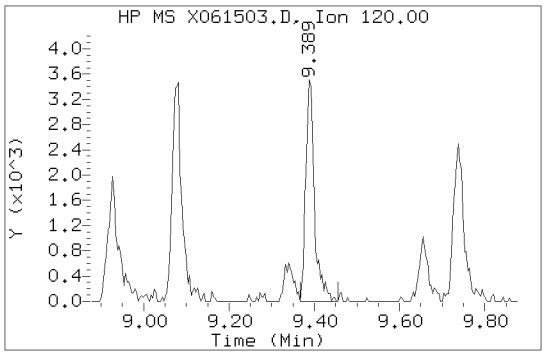
BEFORE

MASS
120
AREA
5063
HEIGHT
3511
20-Jun-2023
18:22
linh
pham



AFTER

MASS
120
AREA
5063
HEIGHT
3511
20-Jun-2023
18:22
linh
pham



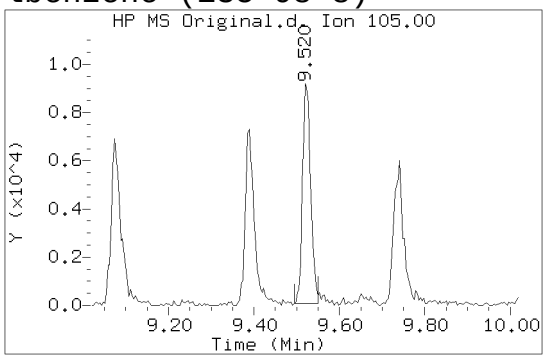
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

sec-Butylbenzene (135-98-8)

Reason Code:

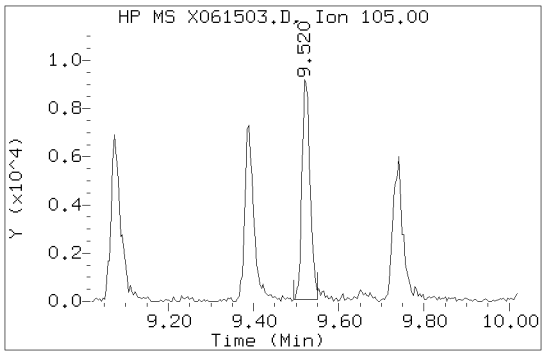
BEFORE

MASS
105
AREA
12512
HEIGHT
9130
20-Jun-2023
18:22
linh
pham



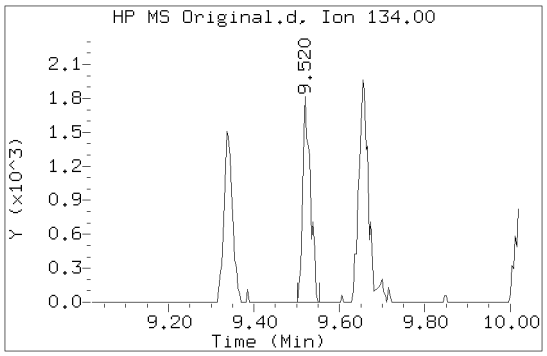
AFTER

MASS
105
AREA
12512
HEIGHT
9130
20-Jun-2023
18:22
linh
pham



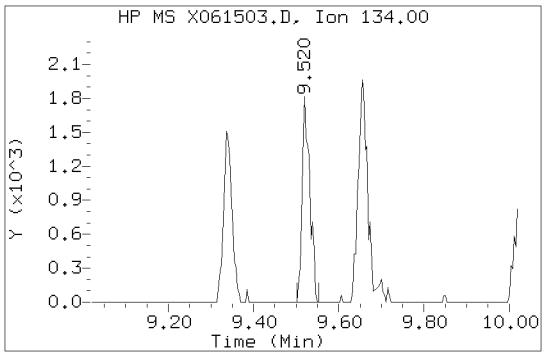
BEFORE

MASS
134
AREA
2345
HEIGHT
1816
20-Jun-2023
18:22
linh
pham



AFTER

MASS
134
AREA
2345
HEIGHT
1816
20-Jun-2023
18:22
linh
pham

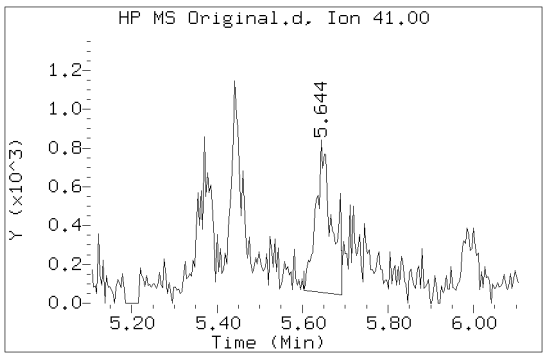


Methyl Methacrylate (80-62-6)

Reason Code:

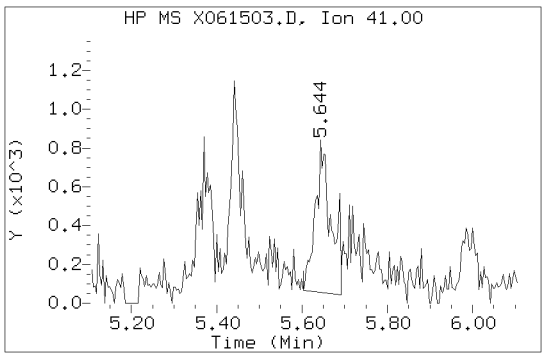
BEFORE

MASS
41
AREA
1972
HEIGHT
785
20-Jun-2023
18:22
linh
pham



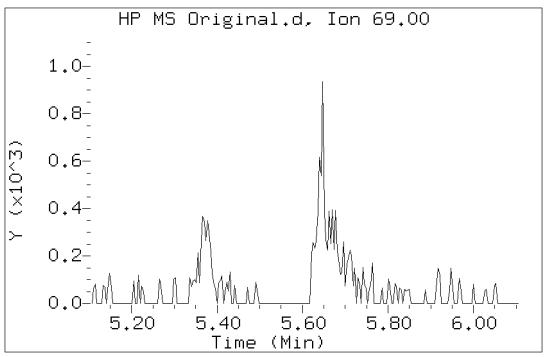
AFTER

MASS
41
AREA
1972
HEIGHT
785
20-Jun-2023
18:22
linh
pham



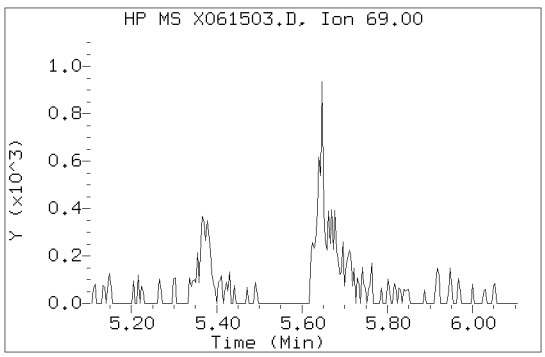
BEFORE

MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



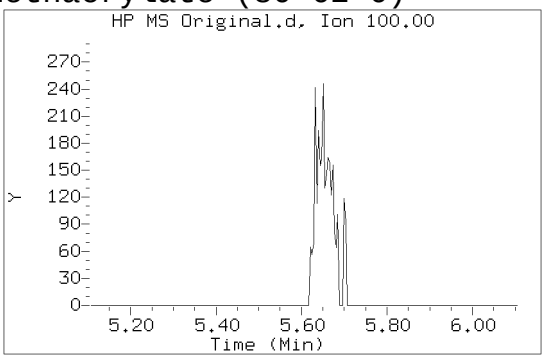
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Methyl Methacrylate (80-62-6)

Reason Code:

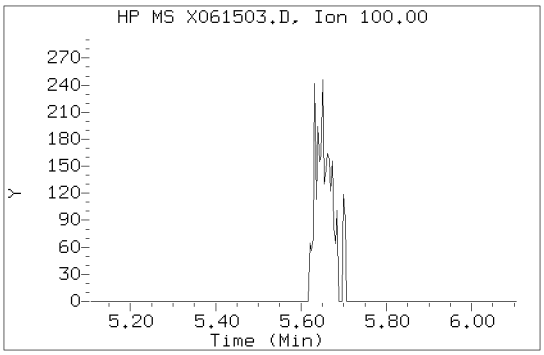
BEFORE

MASS
100
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
100
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

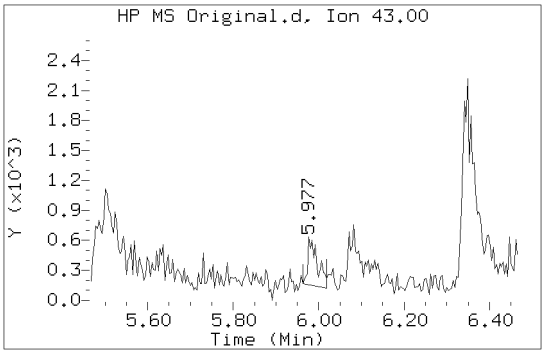


2-Nitropropane (79-46-9)

Reason Code:

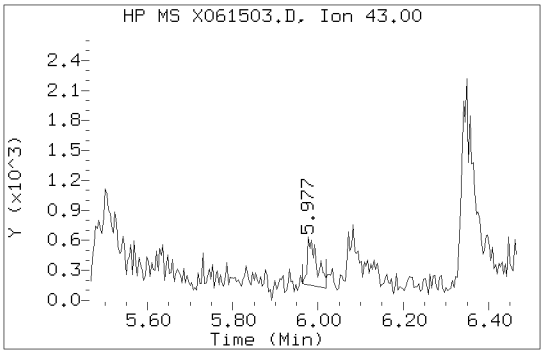
BEFORE

MASS
43
AREA
747
HEIGHT
478
20-Jun-2023
18:22
linh
pham



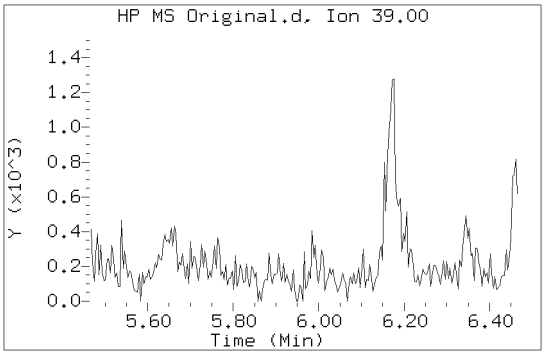
AFTER

MASS
43
AREA
747
HEIGHT
478
20-Jun-2023
18:22
linh
pham



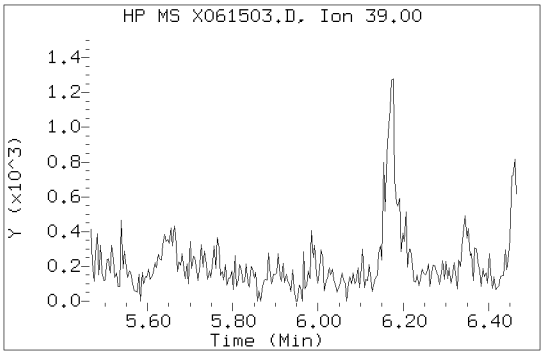
BEFORE

MASS
39
AREA
1700
HEIGHT
750
20-Jun-2023
18:22
linh
pham



AFTER

MASS
39
AREA
1700
HEIGHT
750
20-Jun-2023
18:22
linh
pham

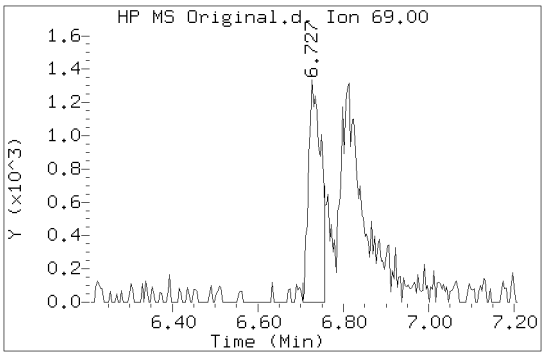


Ethyl Methacrylate (97-63-2)

Reason Code:

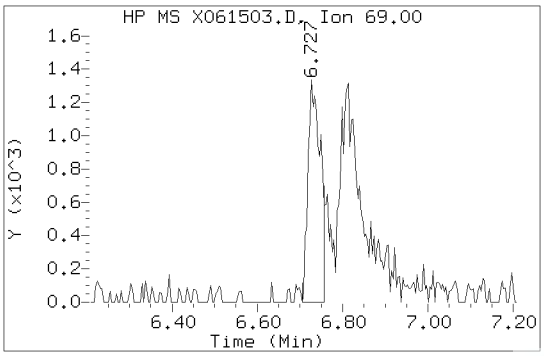
BEFORE

MASS
69
AREA
2688
HEIGHT
1335
20-Jun-2023
18:22
linh
pham



AFTER

MASS
69
AREA
2688
HEIGHT
1335
20-Jun-2023
18:22
linh
pham



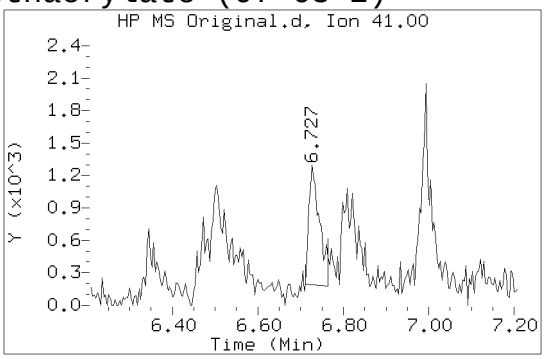
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Ethyl Methacrylate (97-63-2)

Reason Code:

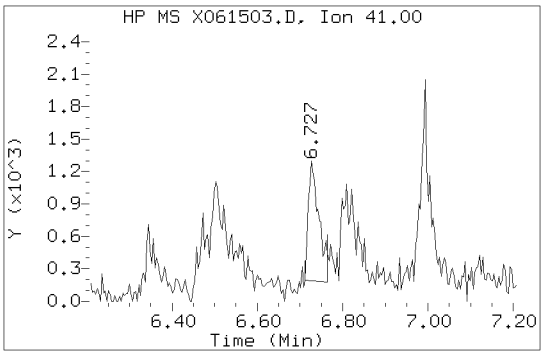
BEFORE

MASS
41
AREA
1926
HEIGHT
1109
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
1926
HEIGHT
1109
20-Jun-2023
18:22
linh
pham

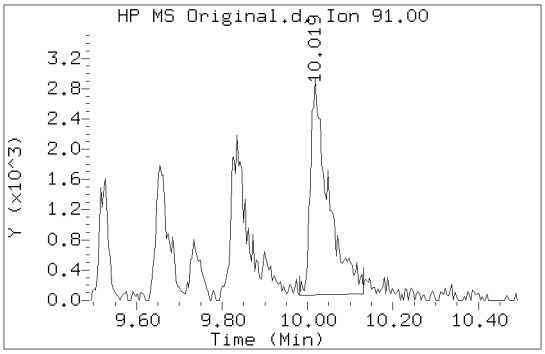


n-Butylbenzene (104-51-8)

Reason Code:

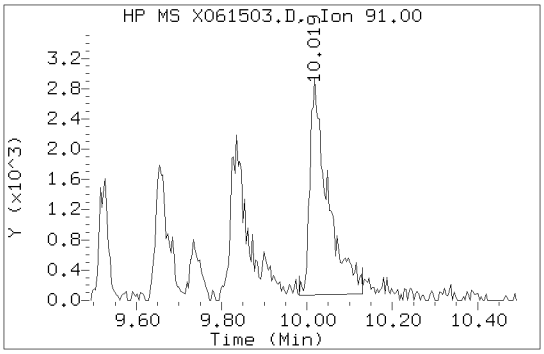
BEFORE

MASS
91
AREA
8377
HEIGHT
2859
20-Jun-2023
18:22
linh
pham



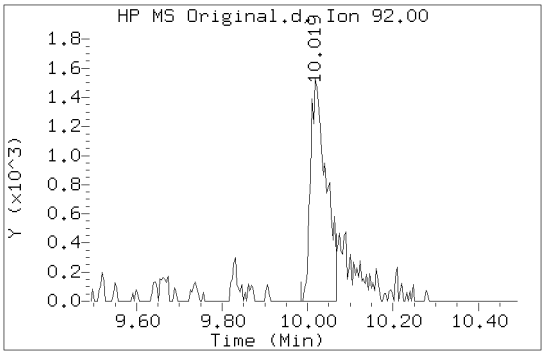
AFTER

MASS
91
AREA
8377
HEIGHT
2859
20-Jun-2023
18:22
linh
pham



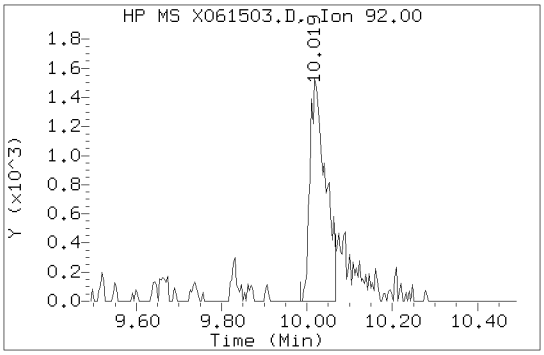
BEFORE

MASS
92
AREA
3858
HEIGHT
1527
20-Jun-2023
18:22
linh
pham



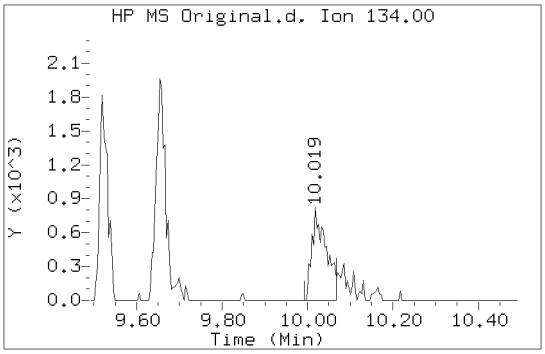
AFTER

MASS
92
AREA
3858
HEIGHT
1527
20-Jun-2023
18:22
linh
pham



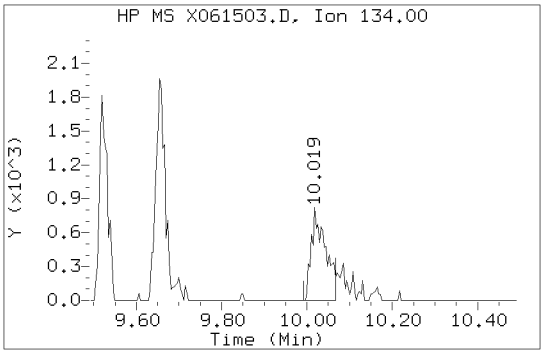
BEFORE

MASS
134
AREA
1911
HEIGHT
821
20-Jun-2023
18:22
linh
pham



AFTER

MASS
134
AREA
1911
HEIGHT
821
20-Jun-2023
18:22
linh
pham

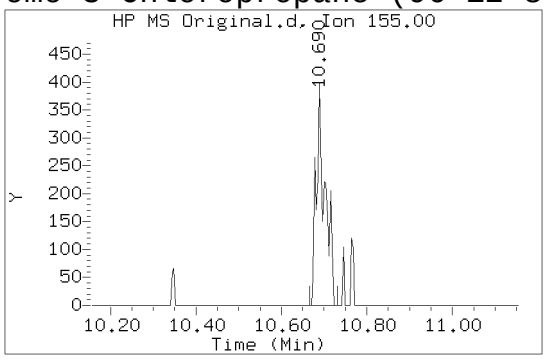


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

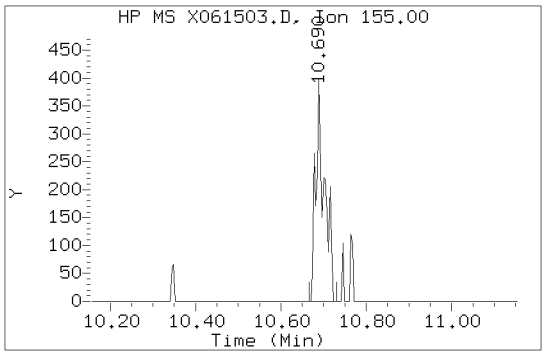
1,2-Dibromo-3-Chloropropane (96-12-8)

Reason Code:

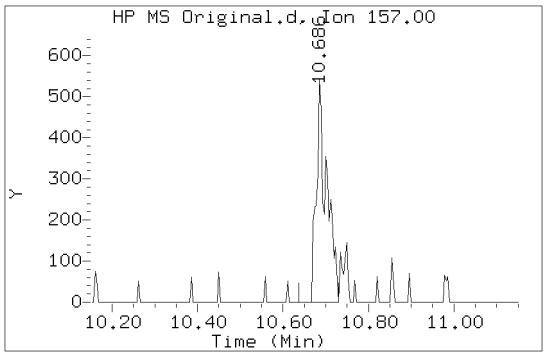
BEFORE
MASS
155
AREA
562
HEIGHT
397
20-Jun-2023
18:22
linh
pham



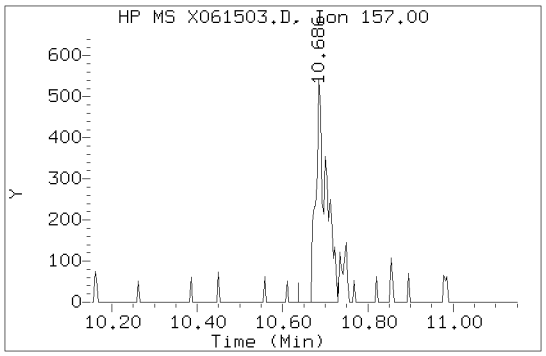
AFTER
MASS
155
AREA
562
HEIGHT
397
20-Jun-2023
18:22
linh
pham



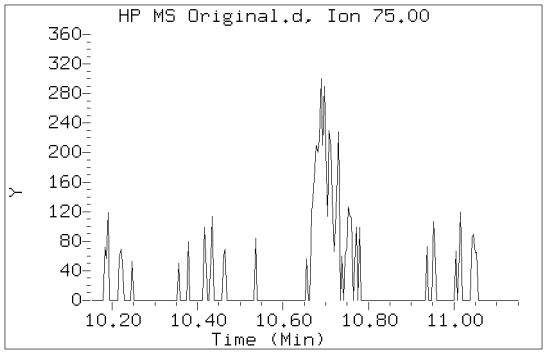
BEFORE
MASS
157
AREA
909
HEIGHT
541
20-Jun-2023
18:22
linh
pham



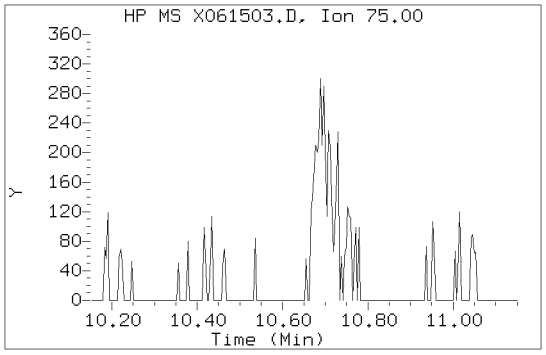
AFTER
MASS
157
AREA
909
HEIGHT
541
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
75
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



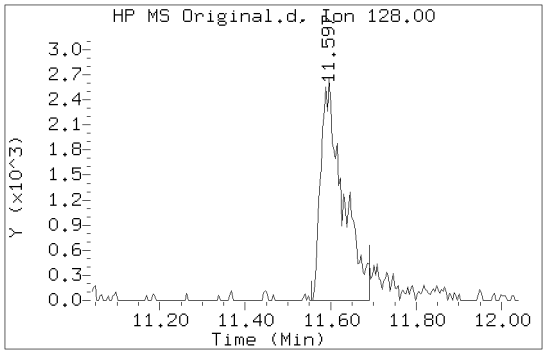
AFTER
MASS
75
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



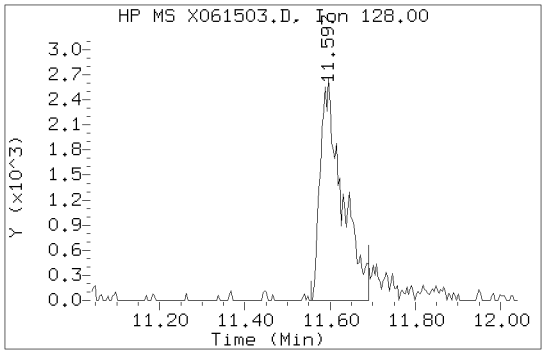
Naphthalene (91-20-3)

Reason Code:

BEFORE
MASS
128
AREA
9500
HEIGHT
2653
20-Jun-2023
18:22
linh
pham



AFTER
MASS
128
AREA
9500
HEIGHT
2653
20-Jun-2023
18:22
linh
pham

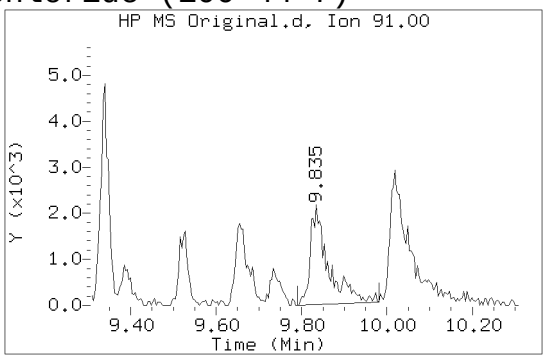


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

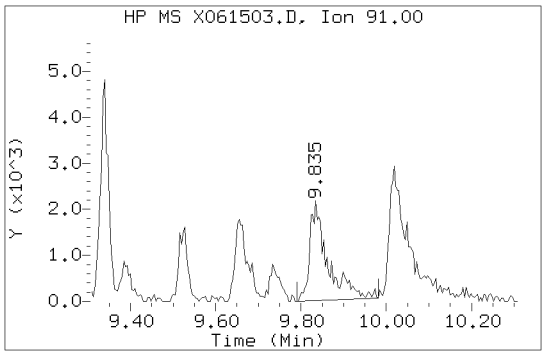
Benzyl Chloride (100-44-7)

Reason Code:

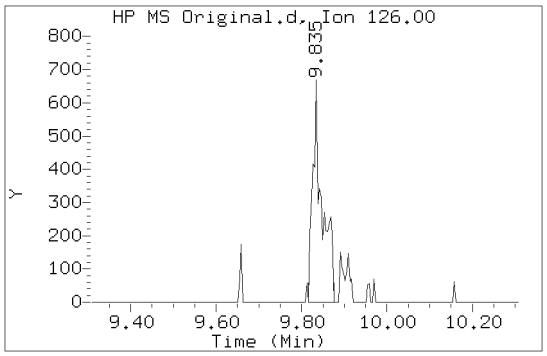
BEFORE
MASS
91
AREA
6300
HEIGHT
2173
20-Jun-2023
18:22
linh
pham



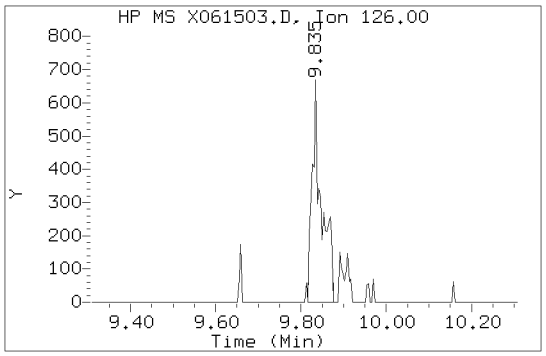
AFTER
MASS
91
AREA
6300
HEIGHT
2173
20-Jun-2023
18:22
linh
pham



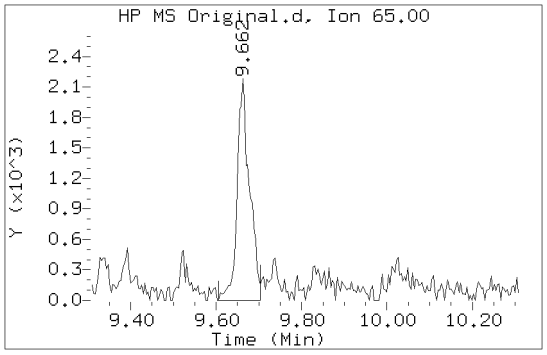
BEFORE
MASS
126
AREA
1021
HEIGHT
669
20-Jun-2023
18:22
linh
pham



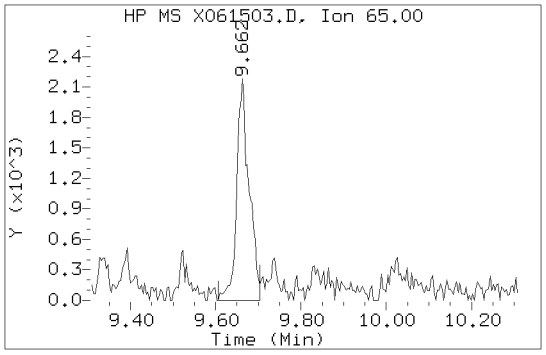
AFTER
MASS
126
AREA
1021
HEIGHT
669
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
65
AREA
4393
HEIGHT
2182
20-Jun-2023
18:22
linh
pham



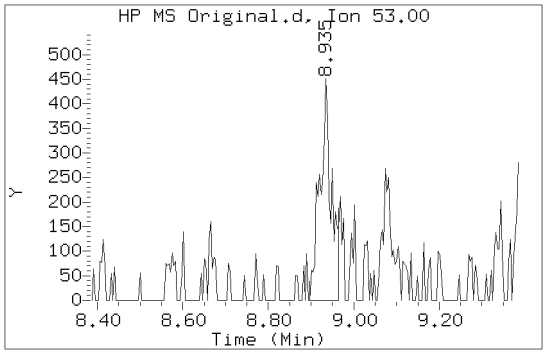
AFTER
MASS
65
AREA
4393
HEIGHT
2182
20-Jun-2023
18:22
linh
pham



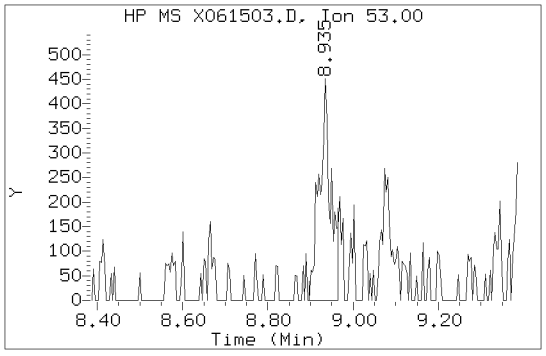
trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

BEFORE
MASS
53
AREA
838
HEIGHT
451
20-Jun-2023
18:22
linh
pham



AFTER
MASS
53
AREA
838
HEIGHT
451
20-Jun-2023
18:22
linh
pham



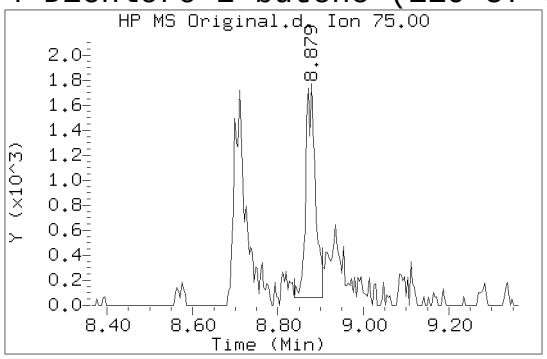
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

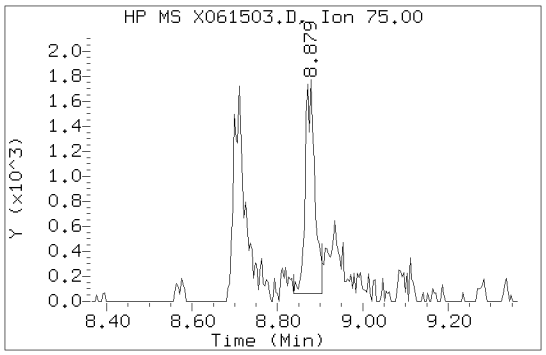
BEFORE

MASS
75
AREA
2689
HEIGHT
1711
20-Jun-2023
18:22
linh
pham



AFTER

MASS
75
AREA
2689
HEIGHT
1711
20-Jun-2023
18:22
linh
pham

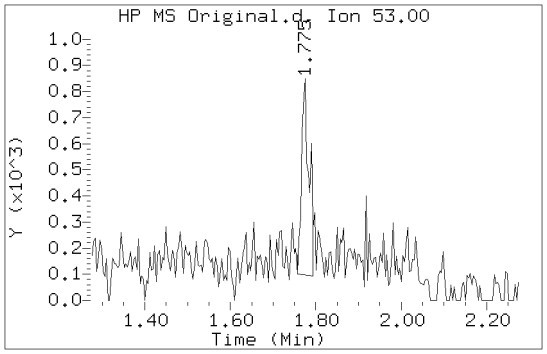


Chloroprene (126-99-8)

Reason Code:

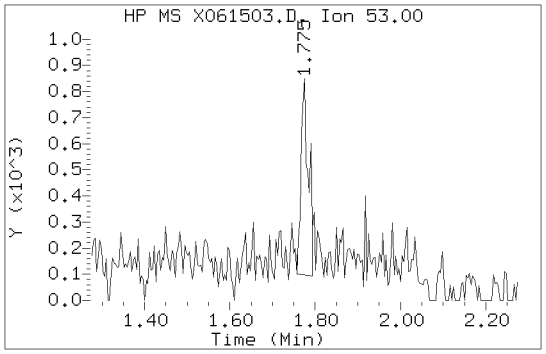
BEFORE

MASS
53
AREA
937
HEIGHT
752
20-Jun-2023
18:22
linh
pham



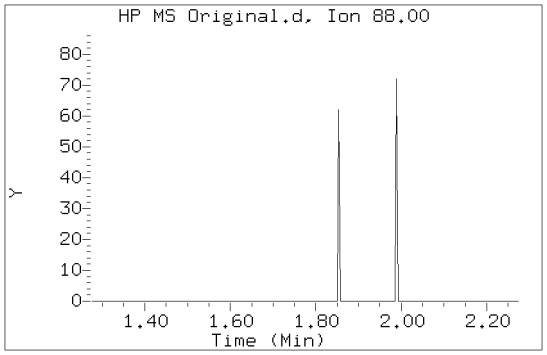
AFTER

MASS
53
AREA
937
HEIGHT
752
20-Jun-2023
18:22
linh
pham



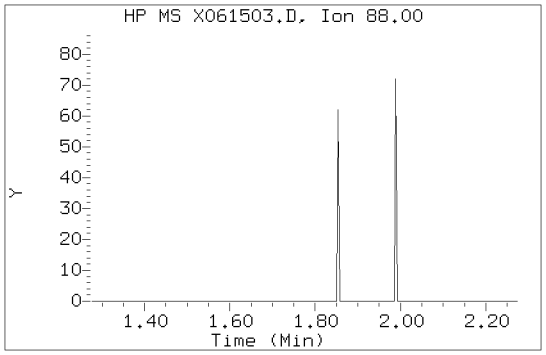
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

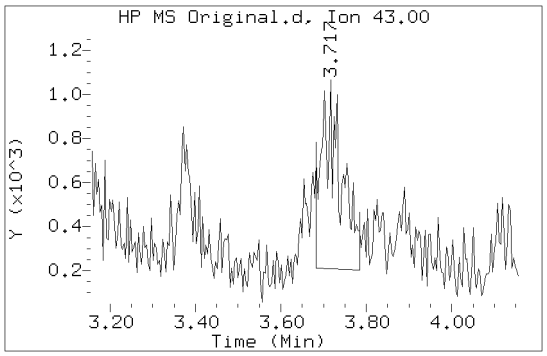


Ethyl Acetate (141-78-6)

Reason Code:

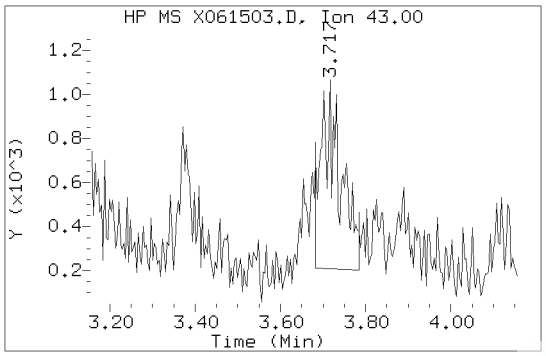
BEFORE

MASS
43
AREA
2678
HEIGHT
857
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
2678
HEIGHT
857
20-Jun-2023
18:22
linh
pham

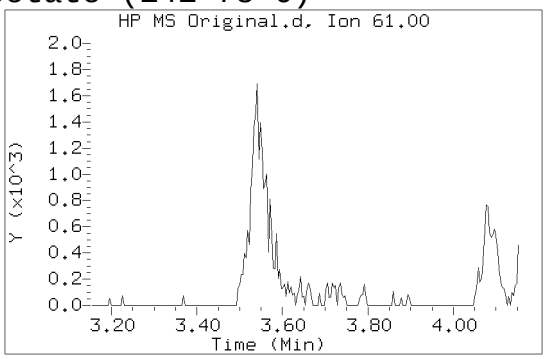


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

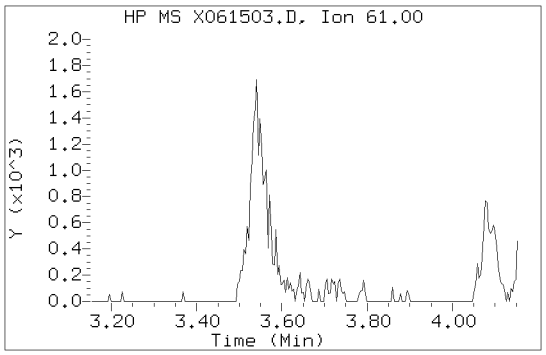
Ethyl Acetate (141-78-6)

Reason Code:

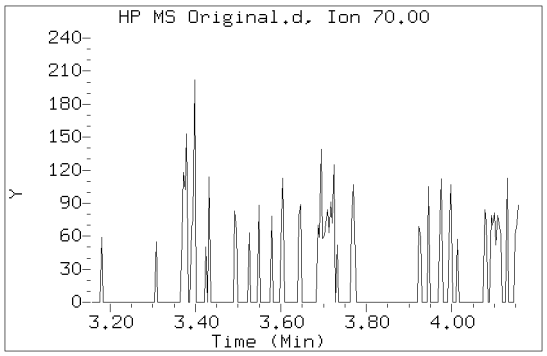
BEFORE
MASS
61
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



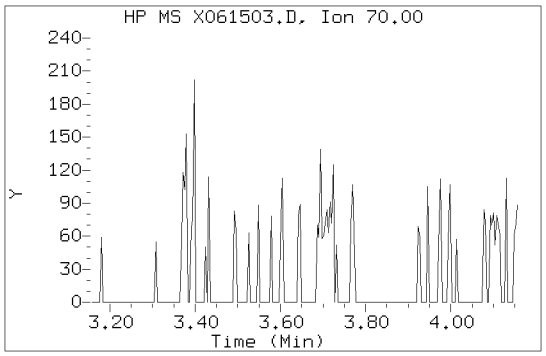
AFTER
MASS
61
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



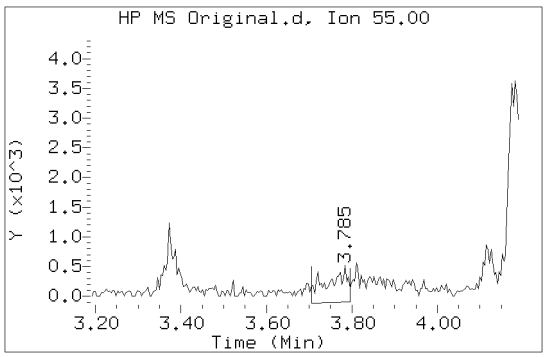
AFTER
MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



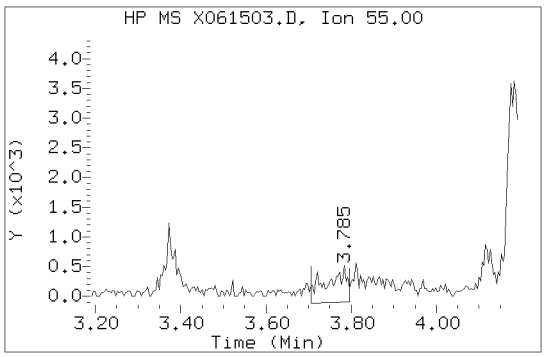
Methyl Acrylate (96-33-3)

Reason Code:

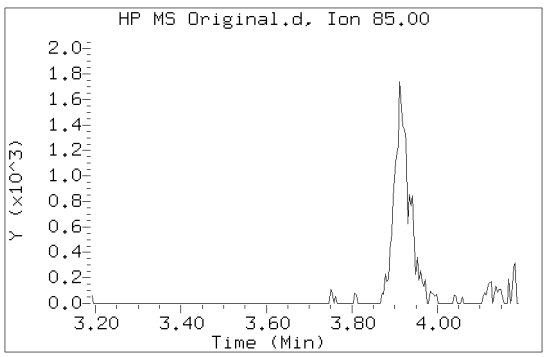
BEFORE
MASS
55
AREA
1944
HEIGHT
618
20-Jun-2023
18:22
linh
pham



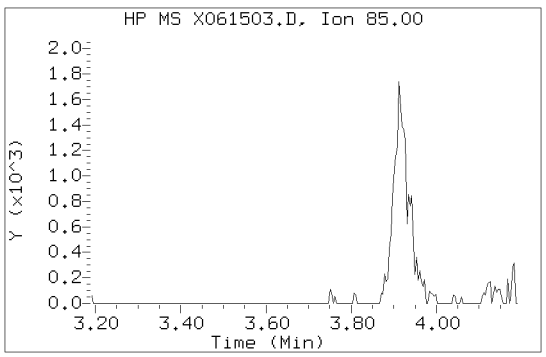
AFTER
MASS
55
AREA
1944
HEIGHT
618
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
85
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
85
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

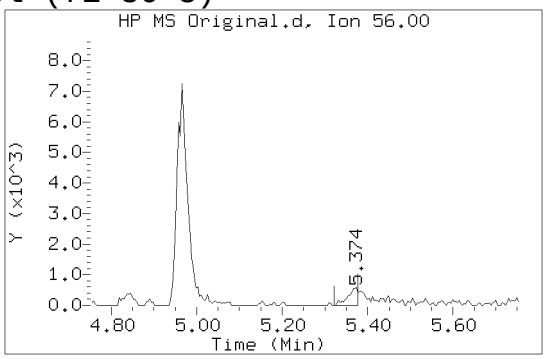


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

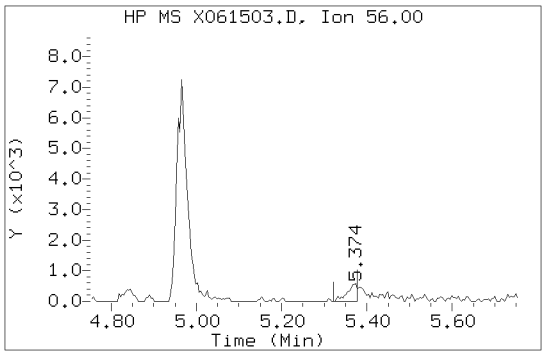
n-Butanol (71-36-3)

Reason Code:

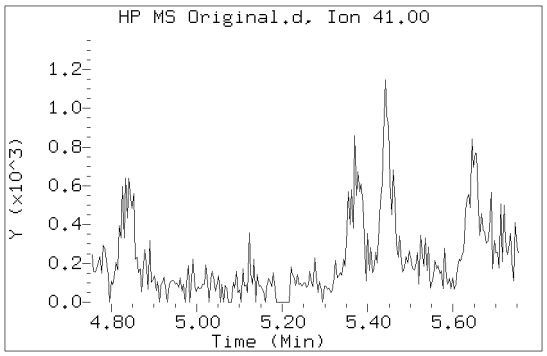
BEFORE
MASS
56
AREA
934
HEIGHT
597
20-Jun-2023
18:22
linh
pham



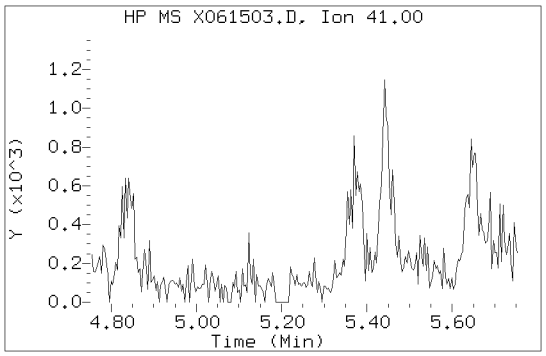
AFTER
MASS
56
AREA
934
HEIGHT
597
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



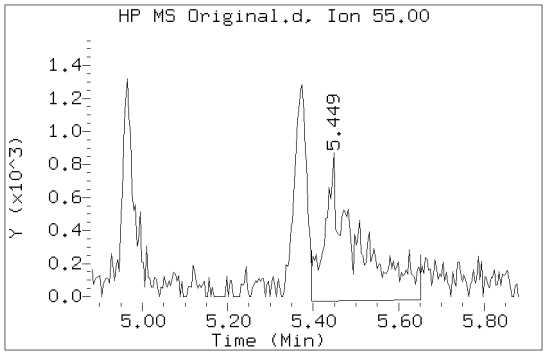
AFTER
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



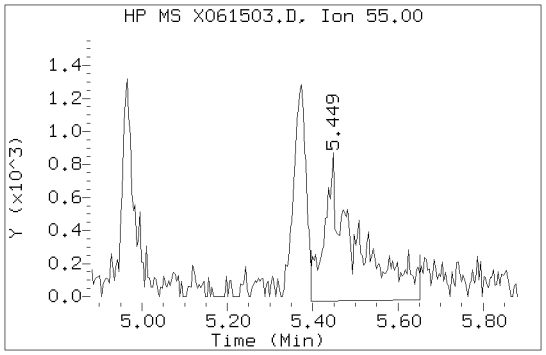
Ethyl Acrylate (140-88-5)

Reason Code:

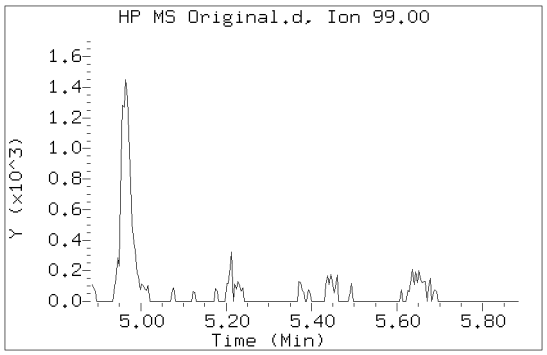
BEFORE
MASS
55
AREA
4696
HEIGHT
895
20-Jun-2023
18:22
linh
pham



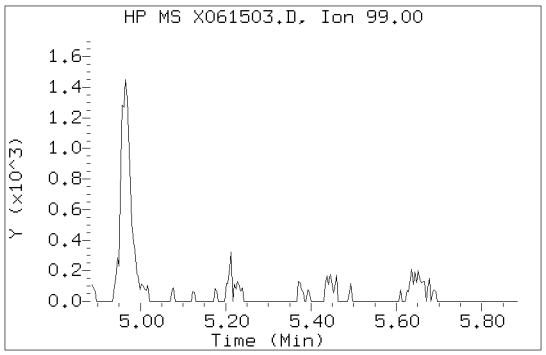
AFTER
MASS
55
AREA
4696
HEIGHT
895
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
99
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
99
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

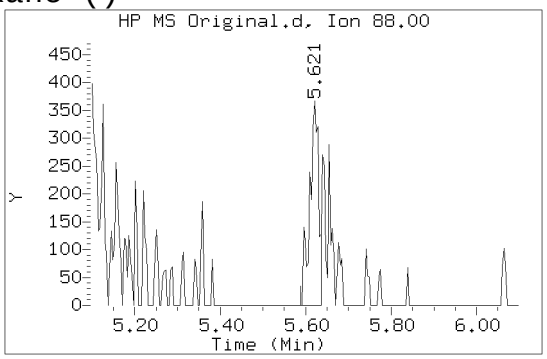


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

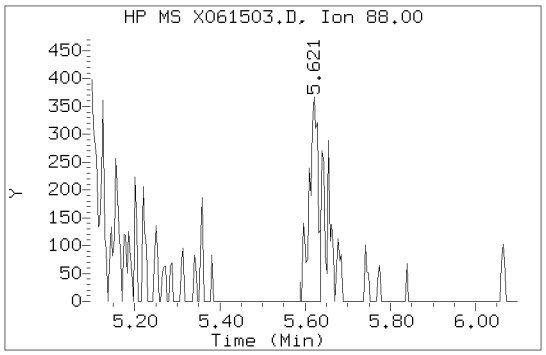
1,4-Dioxane ()

Reason Code:

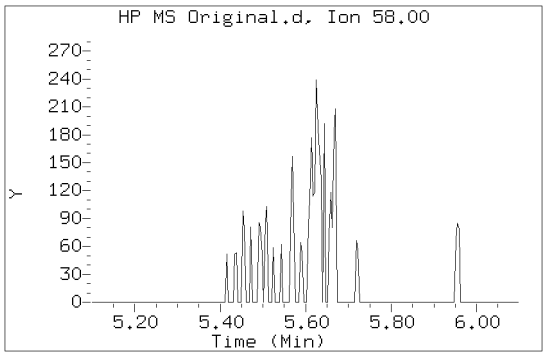
BEFORE
MASS
88
AREA
539
HEIGHT
367
20-Jun-2023
18:22
linh
pham



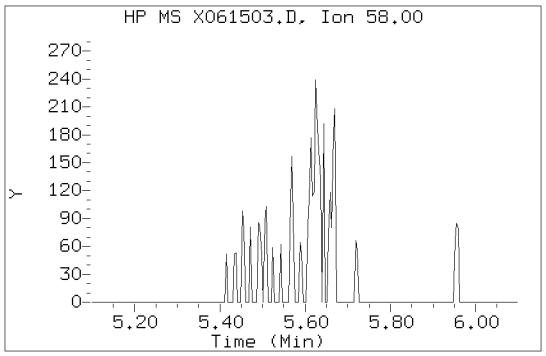
AFTER
MASS
88
AREA
539
HEIGHT
367
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
58
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



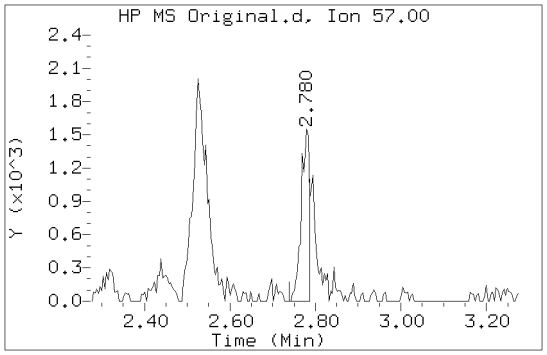
AFTER
MASS
58
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



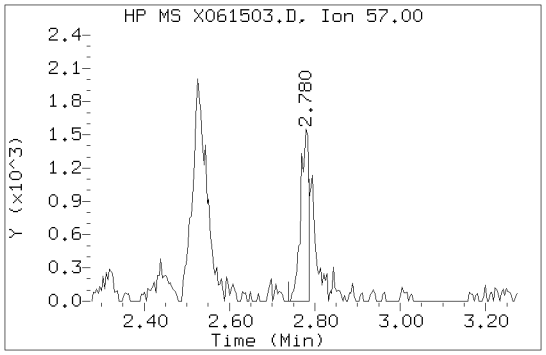
n-Hexane (110-54-3)

Reason Code:

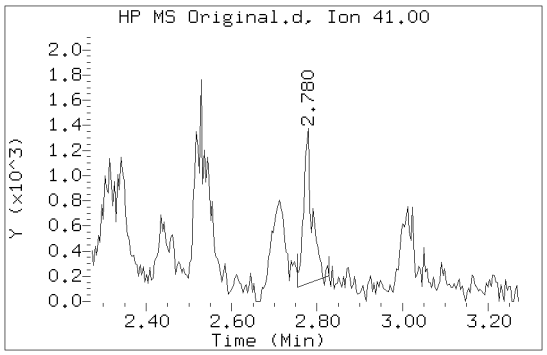
BEFORE
MASS
57
AREA
2120
HEIGHT
1552
20-Jun-2023
18:22
linh
pham



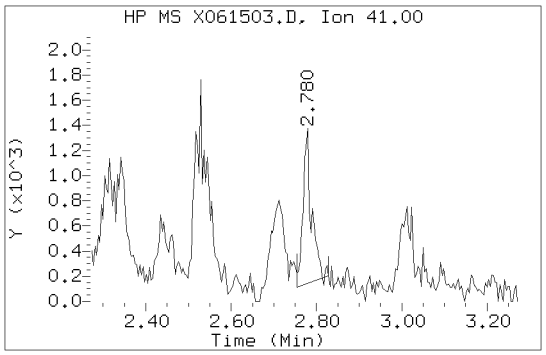
AFTER
MASS
57
AREA
2120
HEIGHT
1552
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
1753
HEIGHT
1232
20-Jun-2023
18:22
linh
pham



AFTER
MASS
41
AREA
1753
HEIGHT
1232
20-Jun-2023
18:22
linh
pham



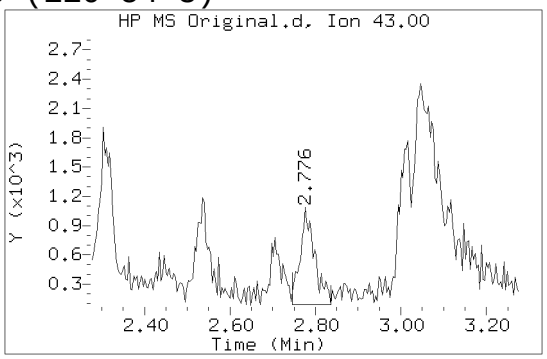
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

n-Hexane (110-54-3)

Reason Code:

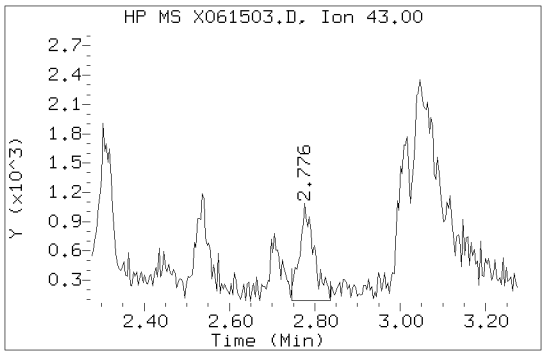
BEFORE

MASS
43
AREA
2389
HEIGHT
995
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
2389
HEIGHT
995
20-Jun-2023
18:22
linh
pham

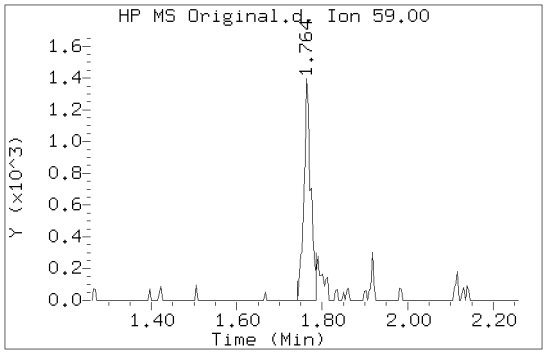


Diethyl ether (60-29-7)

Reason Code:

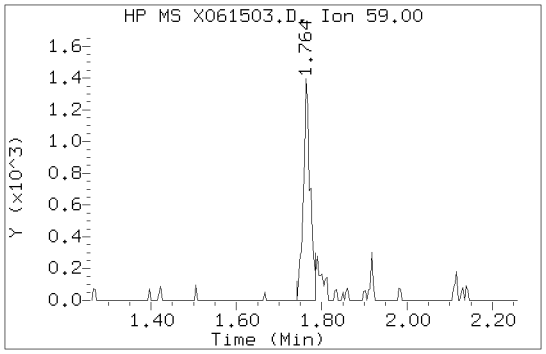
BEFORE

MASS
59
AREA
1591
HEIGHT
1396
20-Jun-2023
18:22
linh
pham



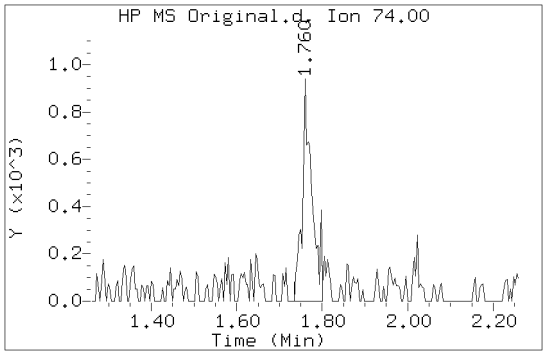
AFTER

MASS
59
AREA
1591
HEIGHT
1396
20-Jun-2023
18:22
linh
pham



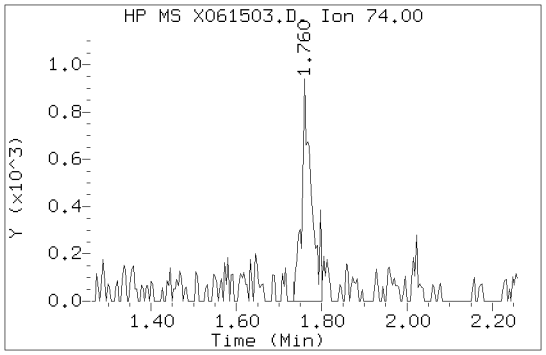
BEFORE

MASS
74
AREA
1526
HEIGHT
940
20-Jun-2023
18:22
linh
pham



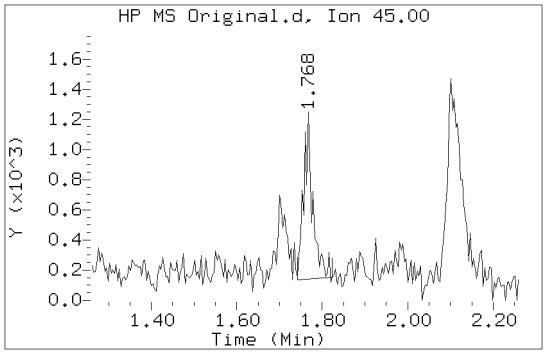
AFTER

MASS
74
AREA
1526
HEIGHT
940
20-Jun-2023
18:22
linh
pham



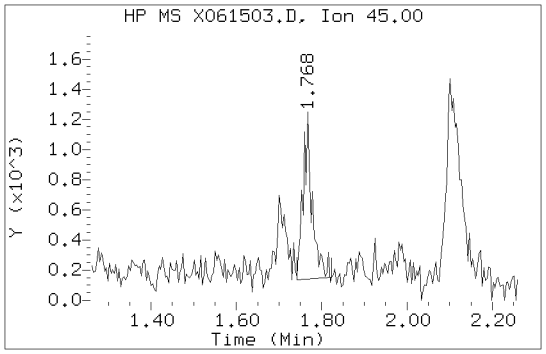
BEFORE

MASS
45
AREA
1636
HEIGHT
1108
20-Jun-2023
18:22
linh
pham



AFTER

MASS
45
AREA
1636
HEIGHT
1108
20-Jun-2023
18:22
linh
pham

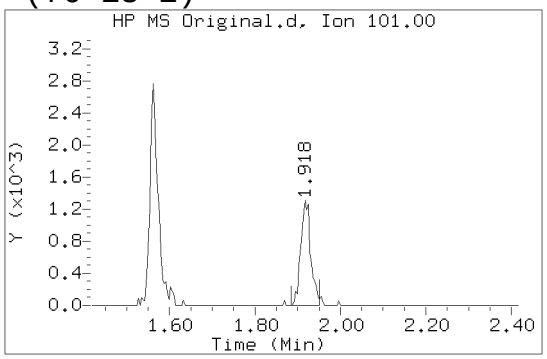


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

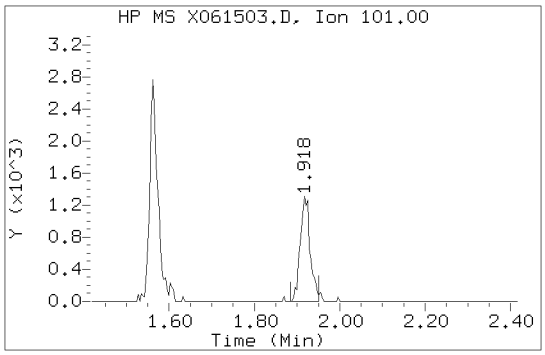
Freon TF (76-13-1)

Reason Code:

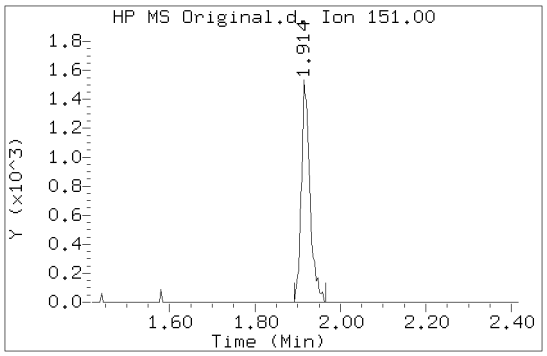
BEFORE
MASS
101
AREA
2188
HEIGHT
1312
20-Jun-2023
18:22
linh
pham



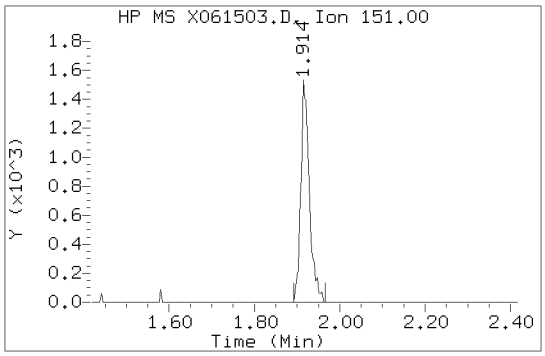
AFTER
MASS
101
AREA
2188
HEIGHT
1312
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
151
AREA
2200
HEIGHT
1534
20-Jun-2023
18:22
linh
pham



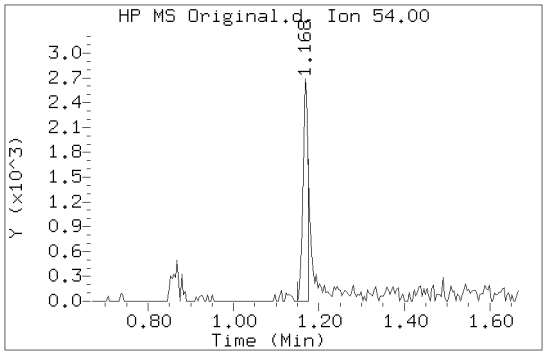
AFTER
MASS
151
AREA
2200
HEIGHT
1534
20-Jun-2023
18:22
linh
pham



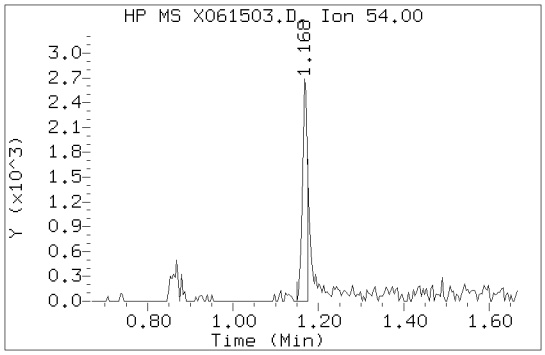
1,3-Butadiene (106-99-0)

Reason Code:

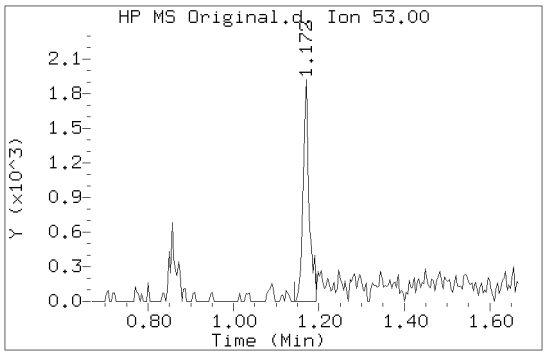
BEFORE
MASS
54
AREA
2248
HEIGHT
2688
20-Jun-2023
18:22
linh
pham



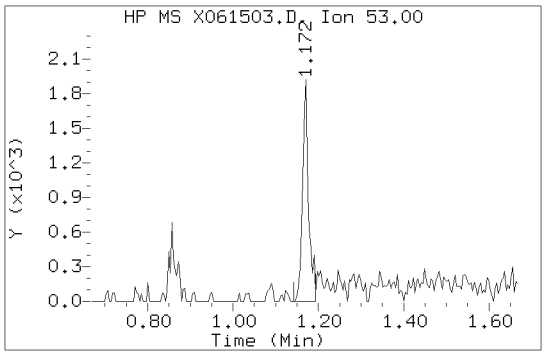
AFTER
MASS
54
AREA
2248
HEIGHT
2688
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
53
AREA
1960
HEIGHT
1923
20-Jun-2023
18:22
linh
pham



AFTER
MASS
53
AREA
1960
HEIGHT
1923
20-Jun-2023
18:22
linh
pham

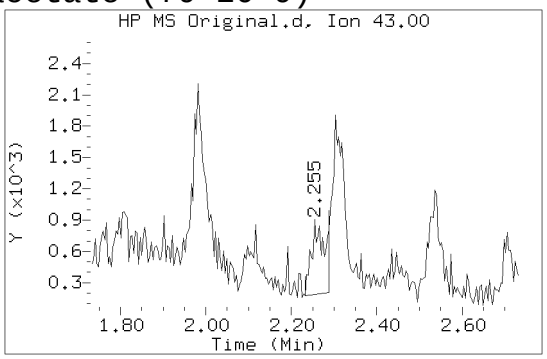


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

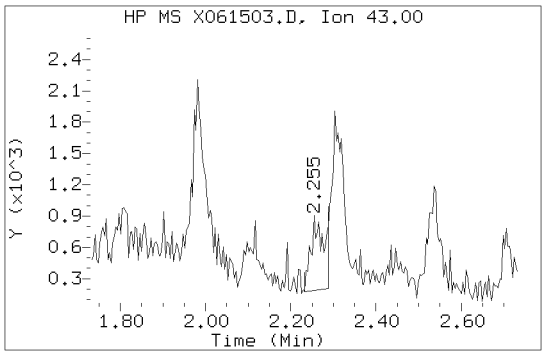
Methyl acetate (79-20-9)

Reason Code:

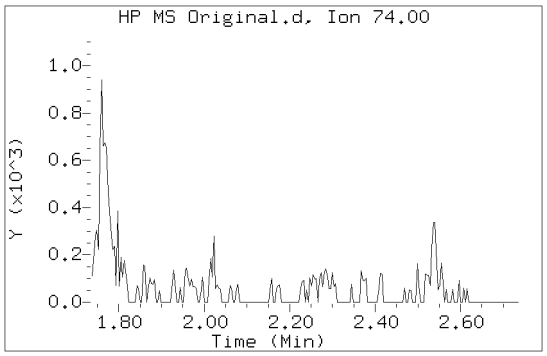
BEFORE
MASS
43
AREA
1514
HEIGHT
716
20-Jun-2023
18:22
linh
pham



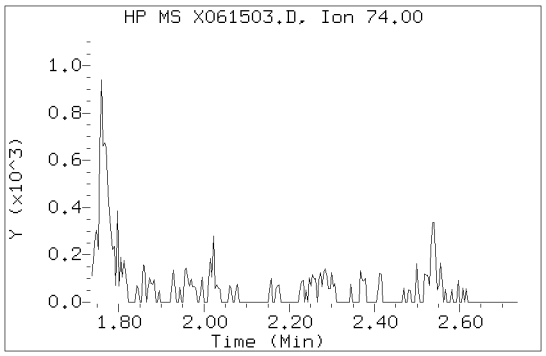
AFTER
MASS
43
AREA
1514
HEIGHT
716
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
74
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



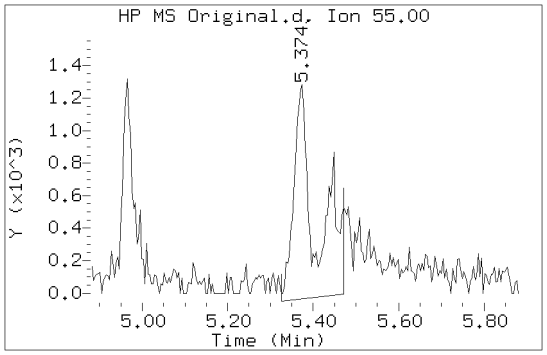
AFTER
MASS
74
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



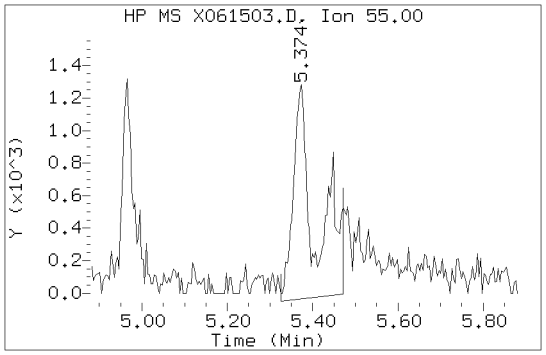
Methylcyclohexane (108-87-2)

Reason Code:

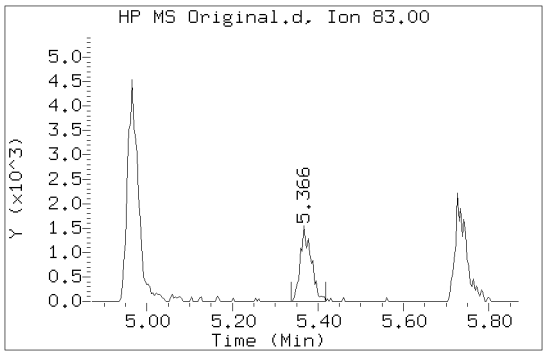
BEFORE
MASS
55
AREA
4698
HEIGHT
1316
20-Jun-2023
18:22
linh
pham



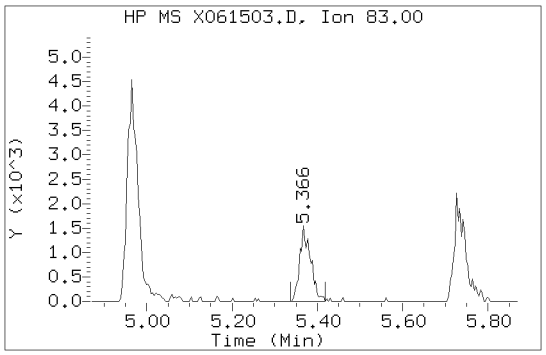
AFTER
MASS
55
AREA
4698
HEIGHT
1316
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
83
AREA
2765
HEIGHT
1543
20-Jun-2023
18:22
linh
pham



AFTER
MASS
83
AREA
2765
HEIGHT
1543
20-Jun-2023
18:22
linh
pham

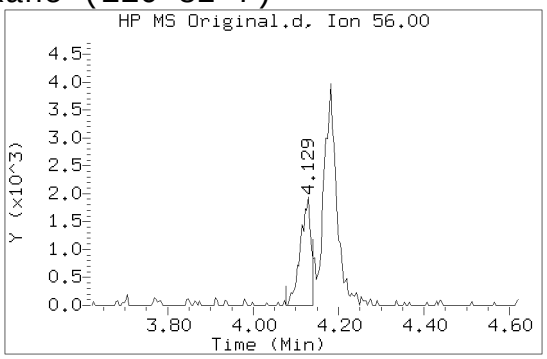


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

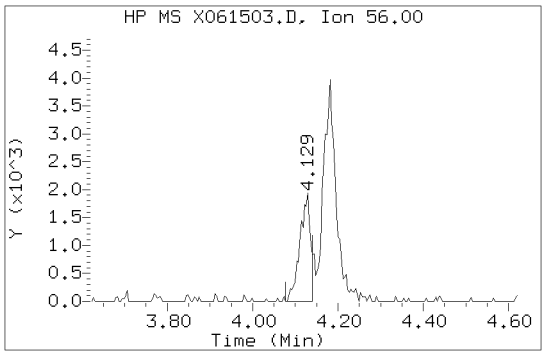
Cyclohexane (110-82-7)

Reason Code:

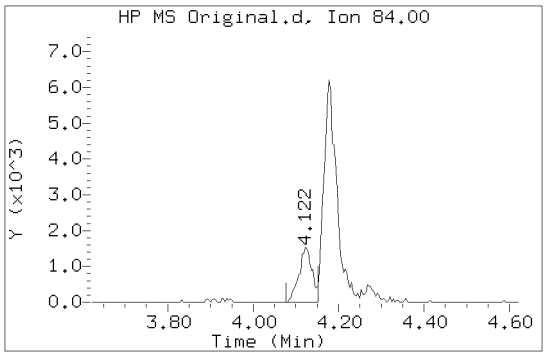
BEFORE
MASS
56
AREA
3419
HEIGHT
1943
20-Jun-2023
18:22
linh
pham



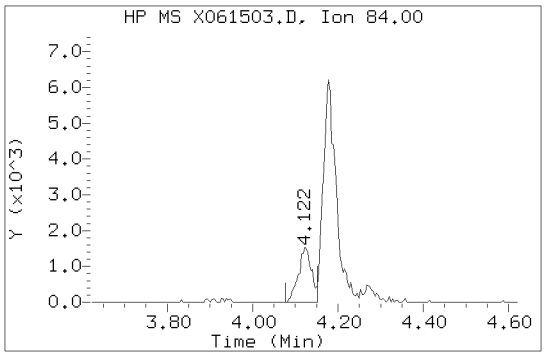
AFTER
MASS
56
AREA
3419
HEIGHT
1943
20-Jun-2023
18:22
linh
pham



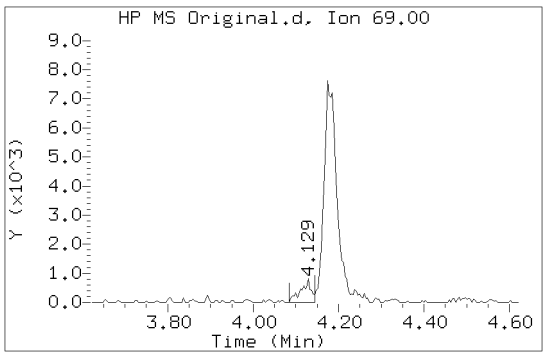
BEFORE
MASS
84
AREA
3364
HEIGHT
1527
20-Jun-2023
18:22
linh
pham



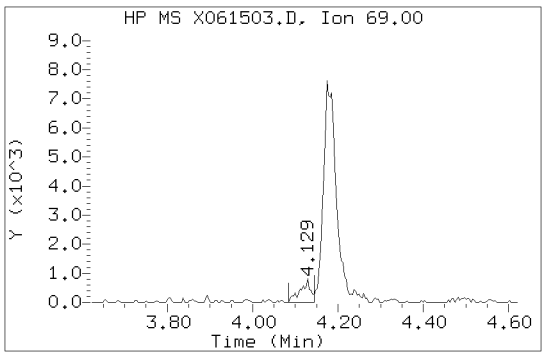
AFTER
MASS
84
AREA
3364
HEIGHT
1527
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
69
AREA
1355
HEIGHT
815
20-Jun-2023
18:22
linh
pham



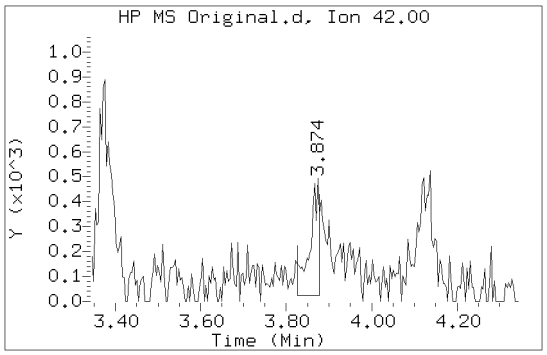
AFTER
MASS
69
AREA
1355
HEIGHT
815
20-Jun-2023
18:22
linh
pham



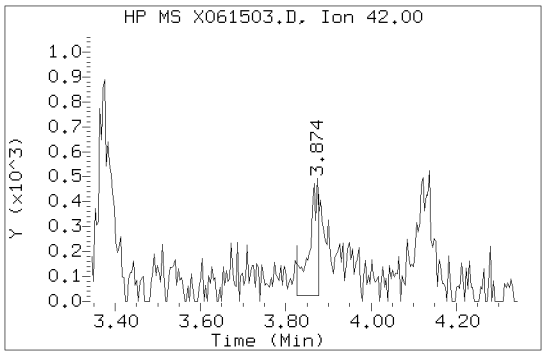
Tetrahydrofuran (109-99-9)

Reason Code:

BEFORE
MASS
42
AREA
724
HEIGHT
470
20-Jun-2023
18:22
linh
pham



AFTER
MASS
42
AREA
724
HEIGHT
470
20-Jun-2023
18:22
linh
pham



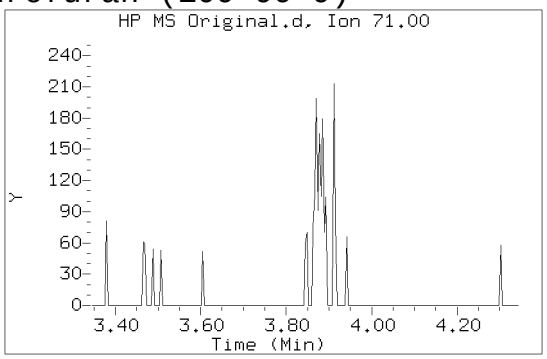
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Tetrahydrofuran (109-99-9)

Reason Code:

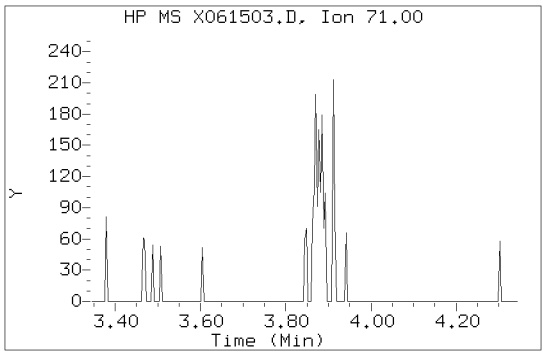
BEFORE

MASS
71
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
71
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

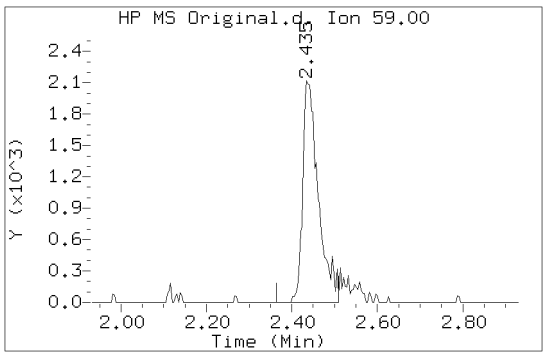


Tert-butyl alcohol (75-65-0)

Reason Code:

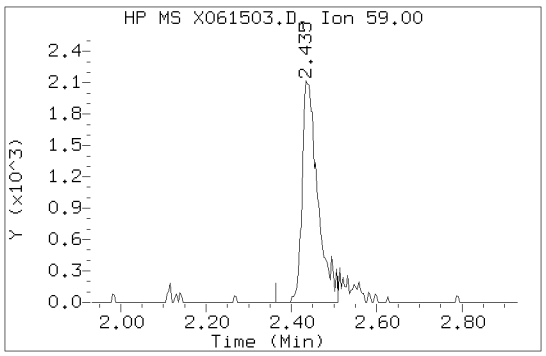
BEFORE

MASS
59
AREA
5403
HEIGHT
2119
20-Jun-2023
18:22
linh
pham



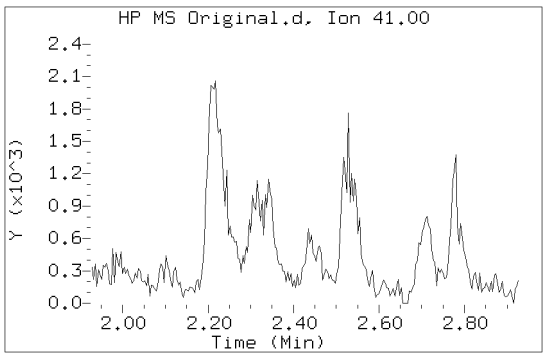
AFTER

MASS
59
AREA
5403
HEIGHT
2119
20-Jun-2023
18:22
linh
pham



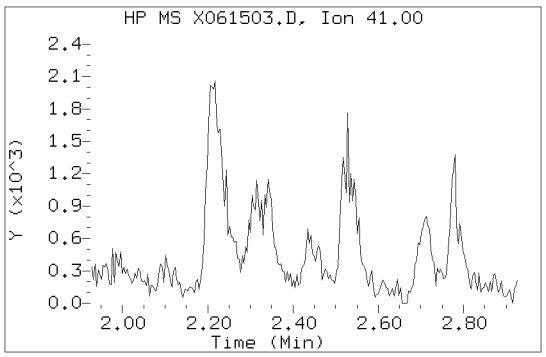
BEFORE

MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

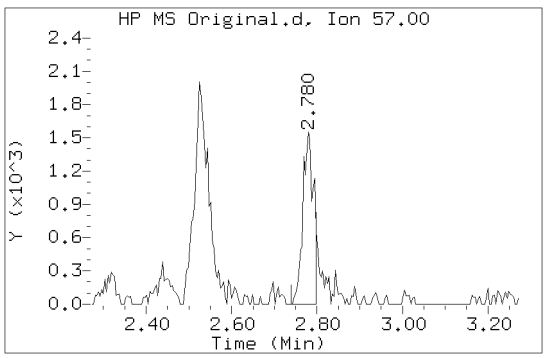


Allyl alcohol (107-18-6)

Reason Code:

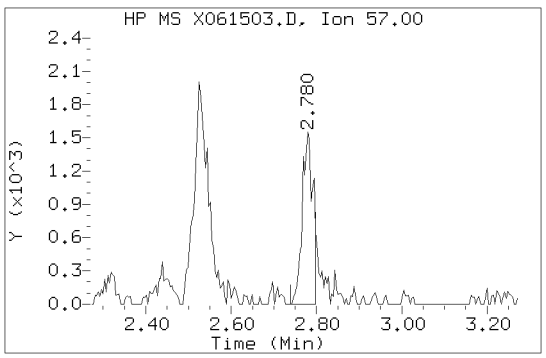
BEFORE

MASS
57
AREA
2756
HEIGHT
1552
20-Jun-2023
18:22
linh
pham



AFTER

MASS
57
AREA
2756
HEIGHT
1552
20-Jun-2023
18:22
linh
pham

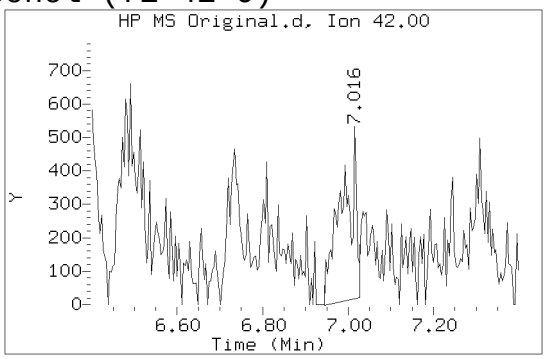


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

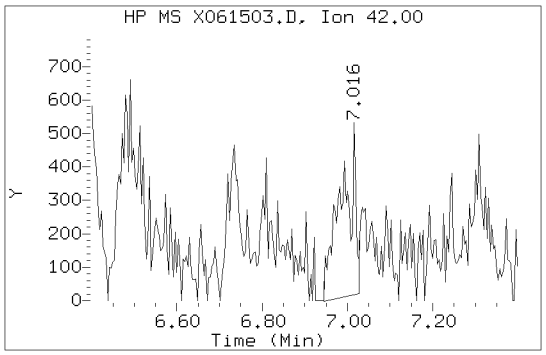
Amyl alcohol (71-41-0)

Reason Code:

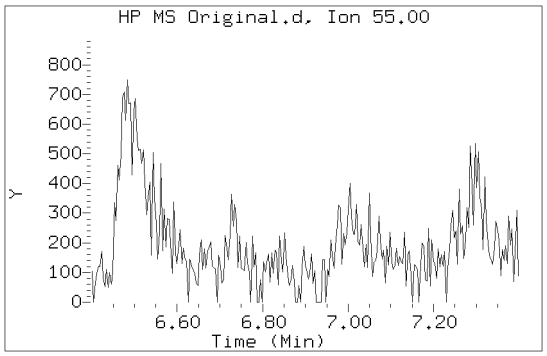
BEFORE
MASS
42
AREA
1185
HEIGHT
514
20-Jun-2023
18:22
linh
pham



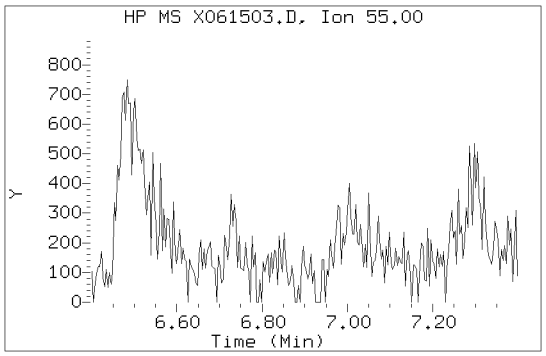
AFTER
MASS
42
AREA
1185
HEIGHT
514
20-Jun-2023
18:22
linh
pham



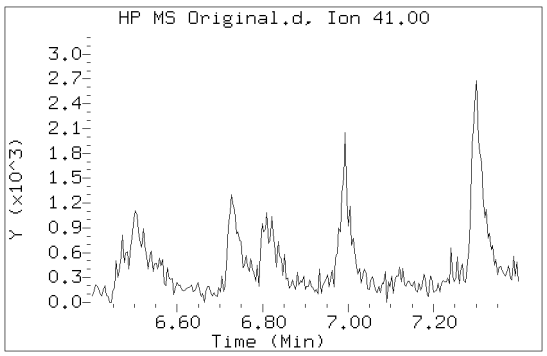
BEFORE
MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



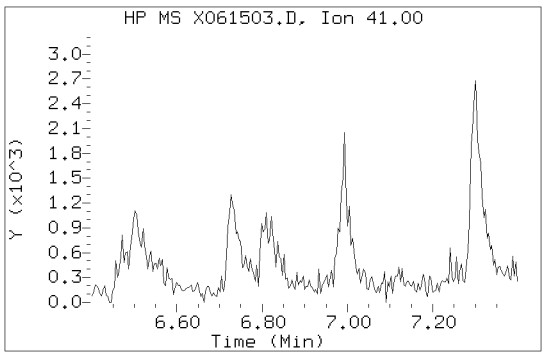
AFTER
MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



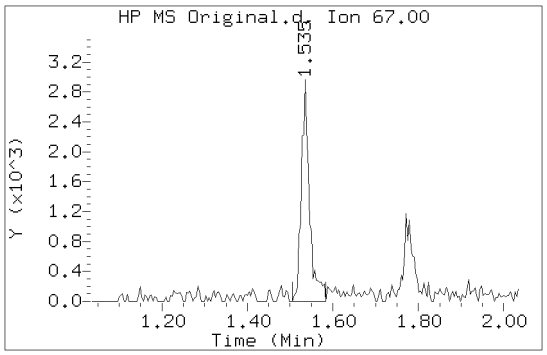
AFTER
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



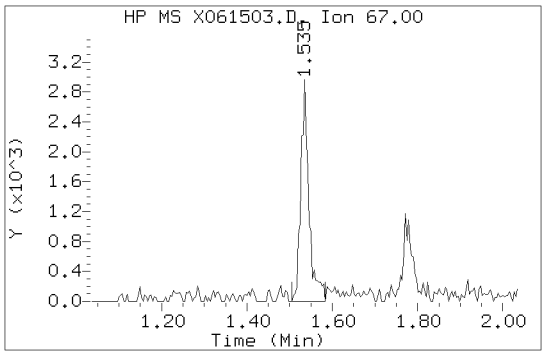
Dichlorofluoromethane (75-43-4)

Reason Code:

BEFORE
MASS
67
AREA
4041
HEIGHT
2965
20-Jun-2023
18:22
linh
pham



AFTER
MASS
67
AREA
4041
HEIGHT
2965
20-Jun-2023
18:22
linh
pham

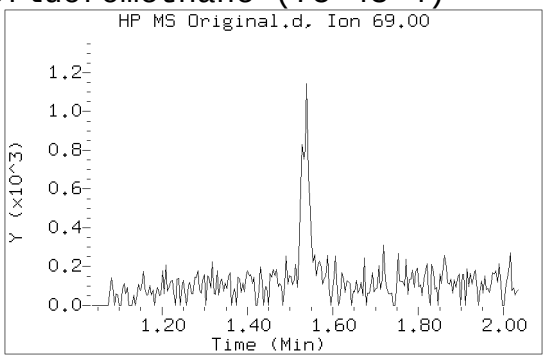


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

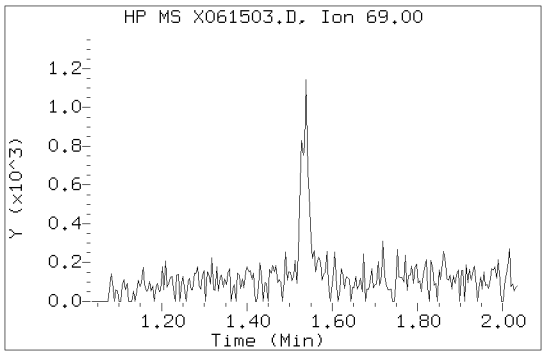
Dichlorofluoromethane (75-43-4)

Reason Code:

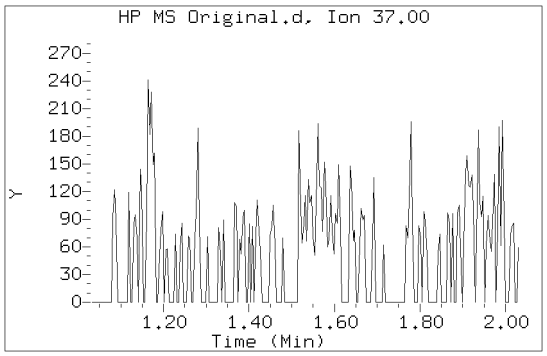
BEFORE
MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



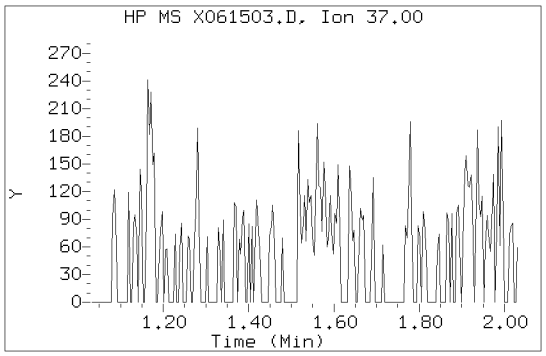
AFTER
MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
37
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



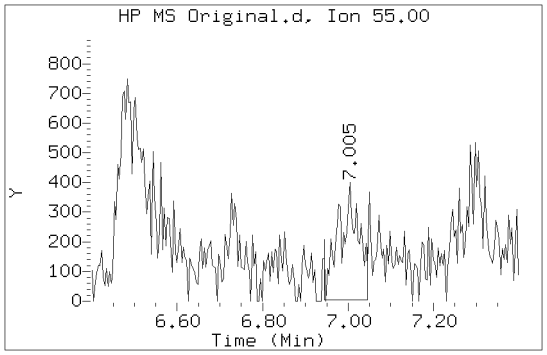
AFTER
MASS
37
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



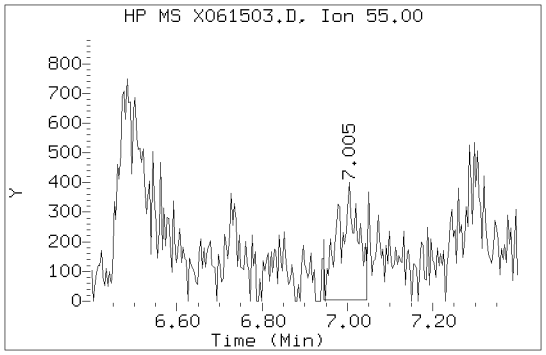
3-Methyl-1-butanol (123-51-3)

Reason Code:

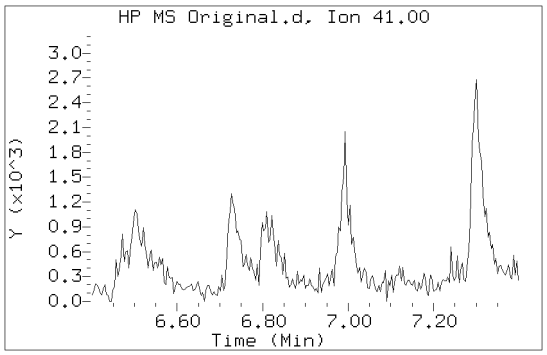
BEFORE
MASS
55
AREA
1270
HEIGHT
395
20-Jun-2023
18:22
linh
pham



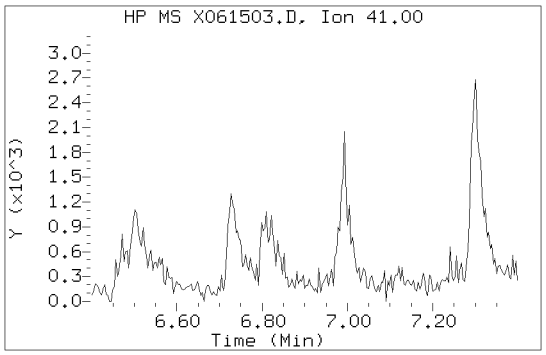
AFTER
MASS
55
AREA
1270
HEIGHT
395
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



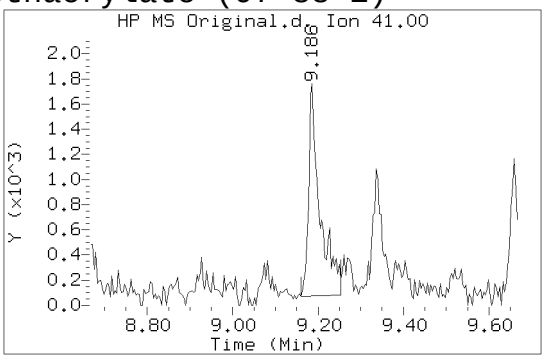
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Butyl methacrylate (97-88-1)

Reason Code:

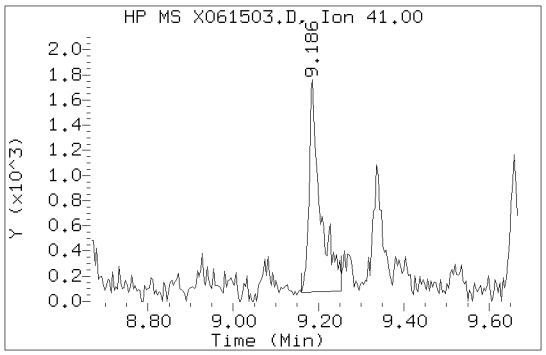
BEFORE

MASS
41
AREA
3107
HEIGHT
1689
20-Jun-2023
18:22
linh
pham



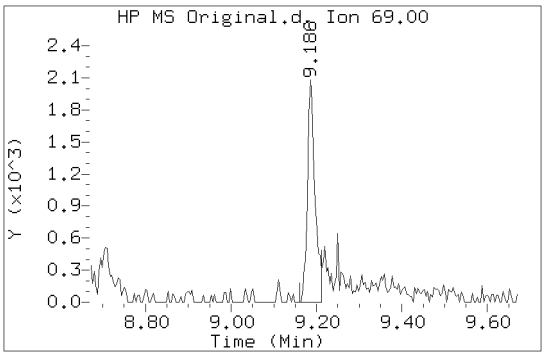
AFTER

MASS
41
AREA
3107
HEIGHT
1689
20-Jun-2023
18:22
linh
pham



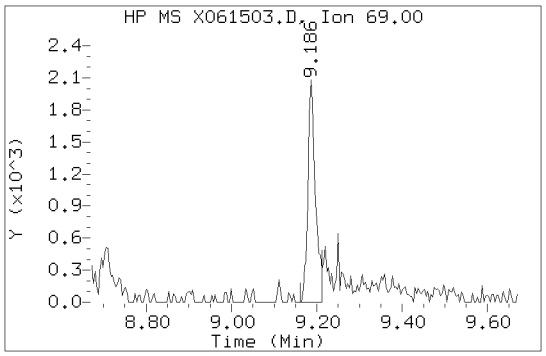
BEFORE

MASS
69
AREA
2593
HEIGHT
2081
20-Jun-2023
18:22
linh
pham



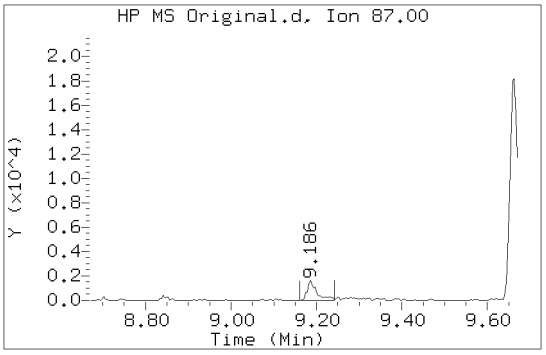
AFTER

MASS
69
AREA
2593
HEIGHT
2081
20-Jun-2023
18:22
linh
pham



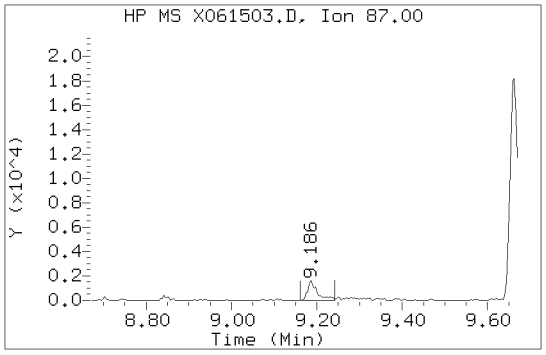
BEFORE

MASS
87
AREA
2538
HEIGHT
1610
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
2538
HEIGHT
1610
20-Jun-2023
18:22
linh
pham

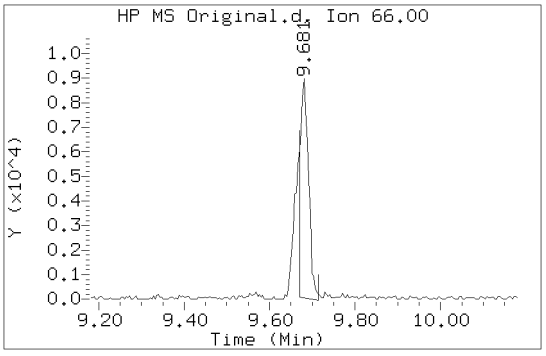


Dicyclopentadiene (77-73-6)

Reason Code:

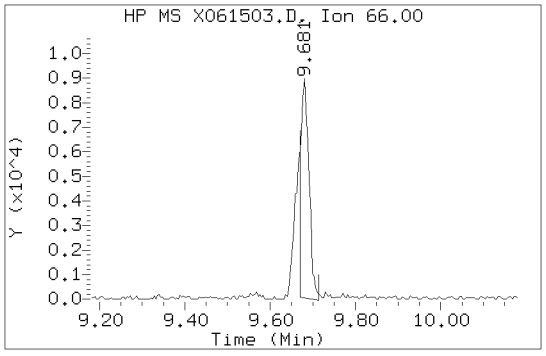
BEFORE

MASS
66
AREA
12411
HEIGHT
8929
20-Jun-2023
18:22
linh
pham



AFTER

MASS
66
AREA
12411
HEIGHT
8929
20-Jun-2023
18:22
linh
pham



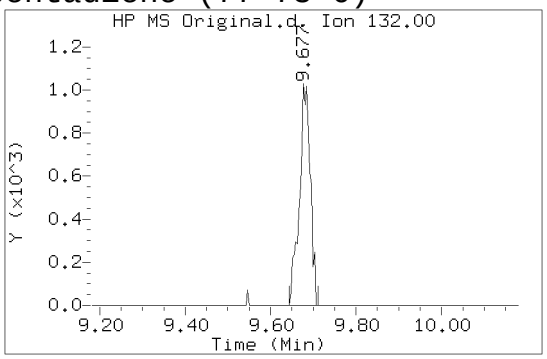
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Dicyclopentadiene (77-73-6)

Reason Code:

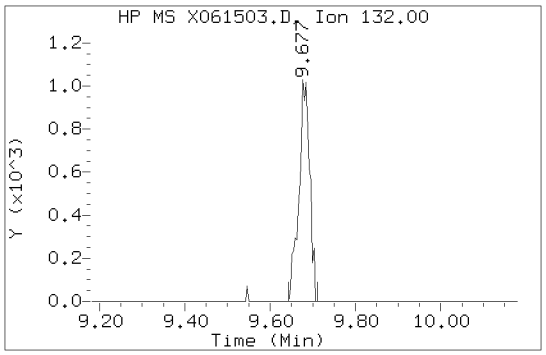
BEFORE

MASS
132
AREA
1844
HEIGHT
1029
20-Jun-2023
18:22
linh
pham



AFTER

MASS
132
AREA
1844
HEIGHT
1029
20-Jun-2023
18:22
linh
pham

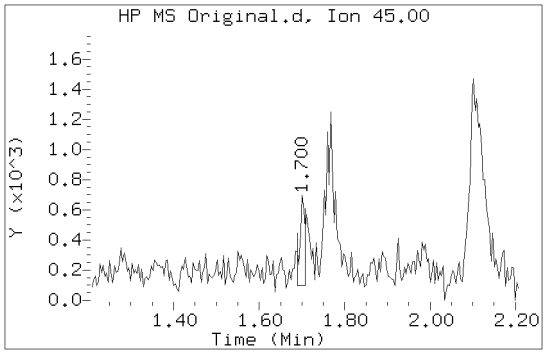


Ethanol (64-17-5)

Reason Code:

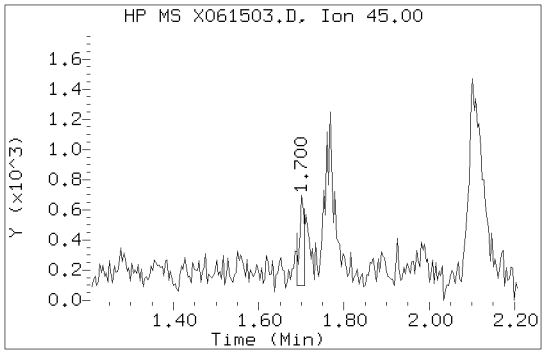
BEFORE

MASS
45
AREA
492
HEIGHT
597
20-Jun-2023
18:22
linh
pham



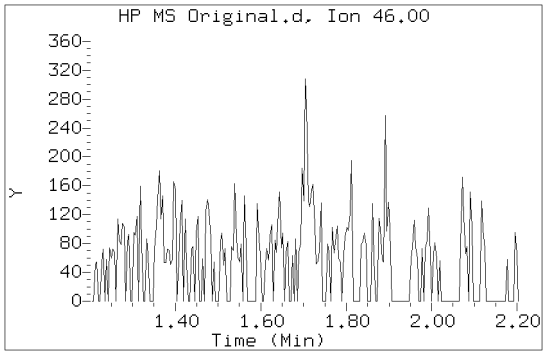
AFTER

MASS
45
AREA
492
HEIGHT
597
20-Jun-2023
18:22
linh
pham



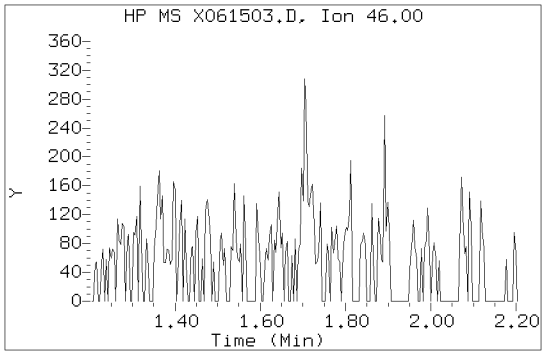
BEFORE

MASS
46
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



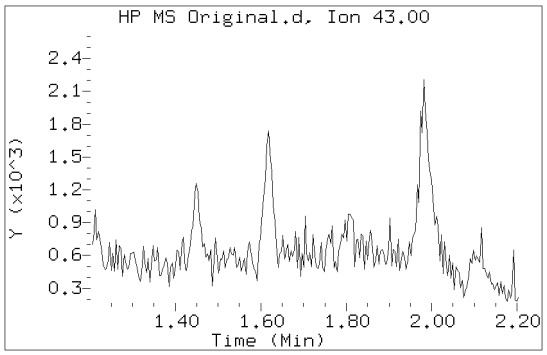
AFTER

MASS
46
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



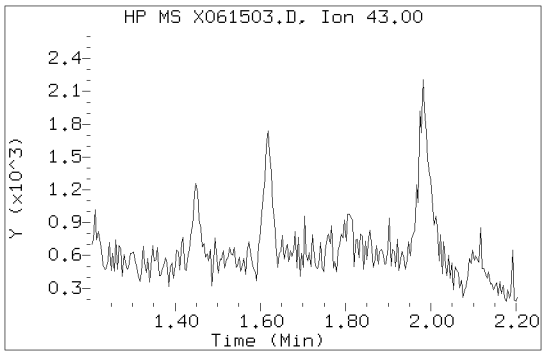
BEFORE

MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

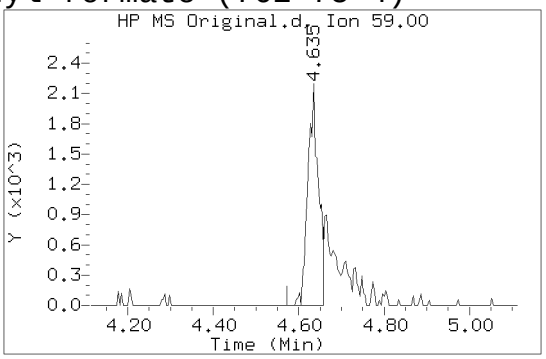


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

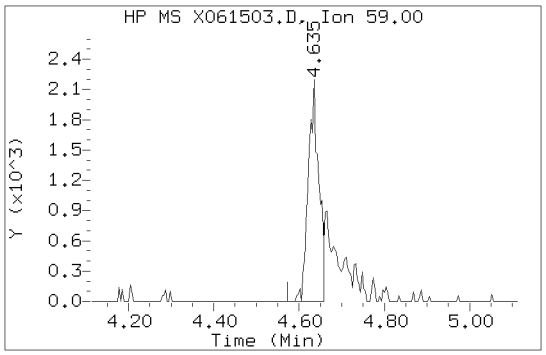
tert-Butyl formate (762-75-4)

Reason Code:

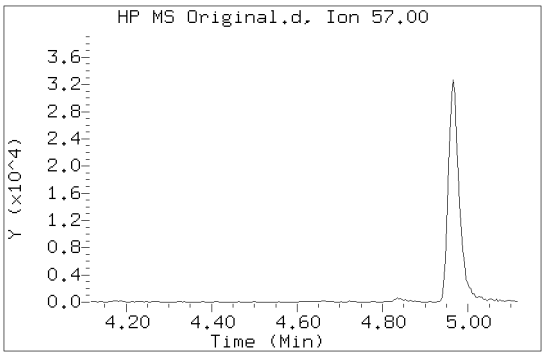
BEFORE
MASS
59
AREA
3776
HEIGHT
2196
20-Jun-2023
18:22
linh
pham



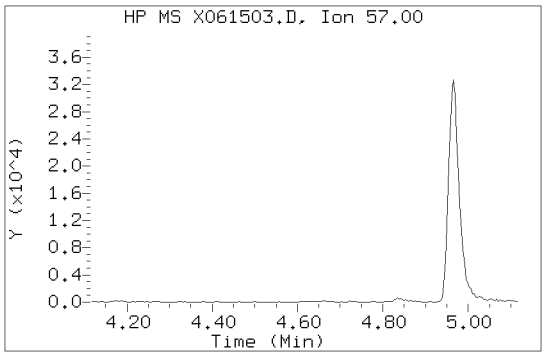
AFTER
MASS
59
AREA
3776
HEIGHT
2196
20-Jun-2023
18:22
linh
pham



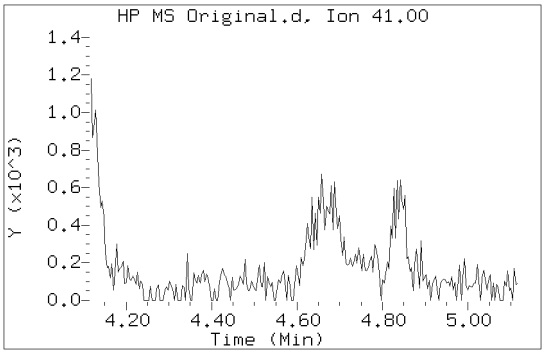
BEFORE
MASS
57
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



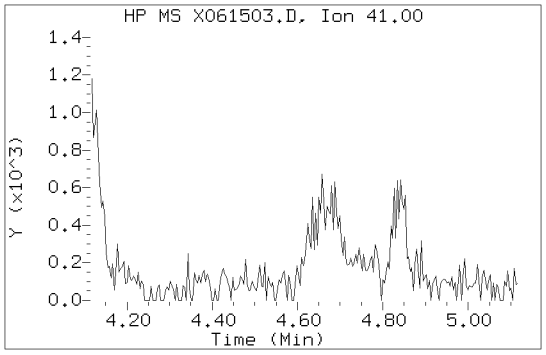
AFTER
MASS
57
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



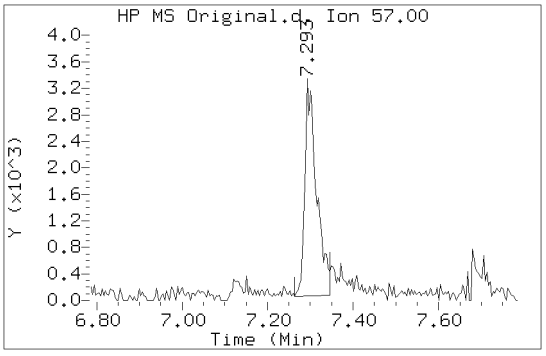
AFTER
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



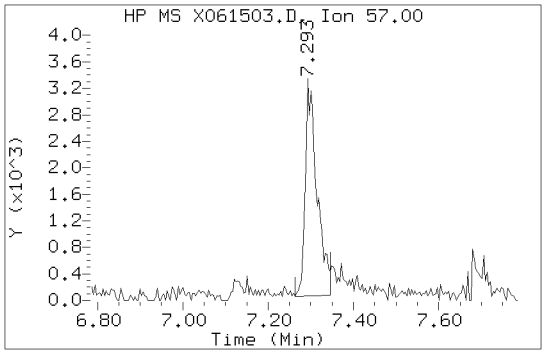
3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

BEFORE
MASS
57
AREA
6294
HEIGHT
3279
20-Jun-2023
18:22
linh
pham



AFTER
MASS
57
AREA
6294
HEIGHT
3279
20-Jun-2023
18:22
linh
pham



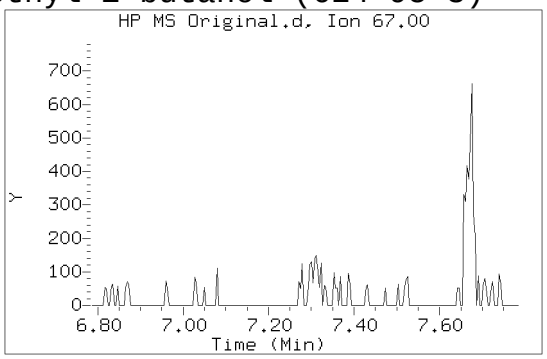
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

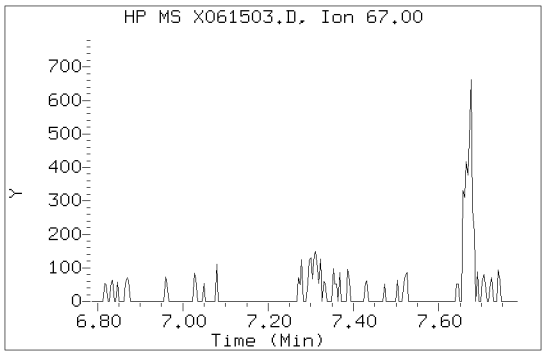
BEFORE

MASS
67
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



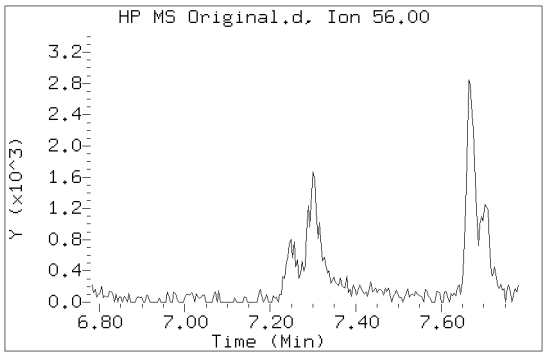
AFTER

MASS
67
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



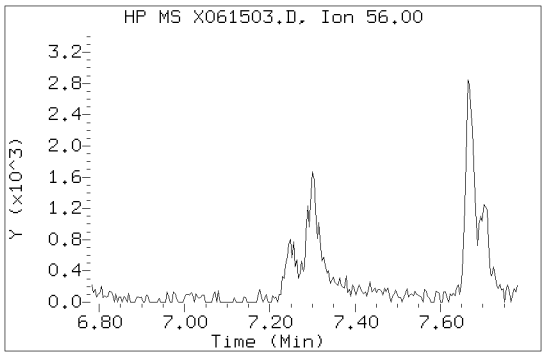
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

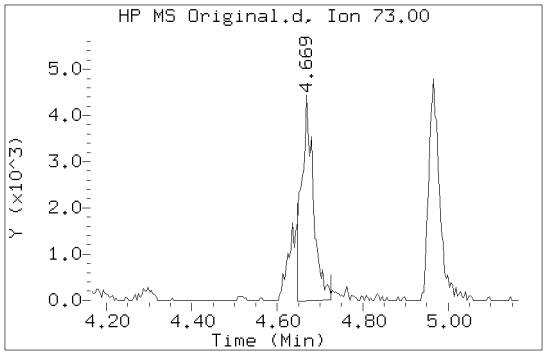


tert-Amyl methyl ether (974-05-08)

Reason Code:

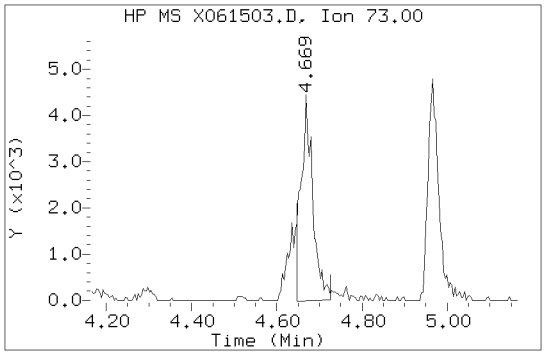
BEFORE

MASS
73
AREA
8758
HEIGHT
4459
20-Jun-2023
18:22
linh
pham



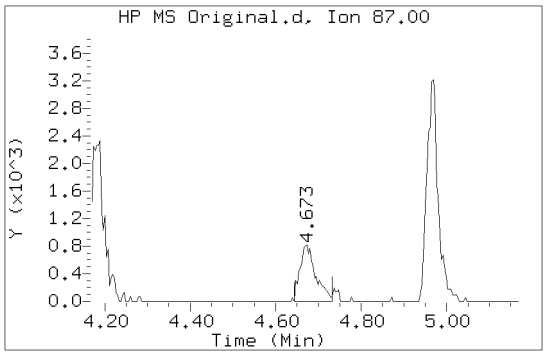
AFTER

MASS
73
AREA
8758
HEIGHT
4459
20-Jun-2023
18:22
linh
pham



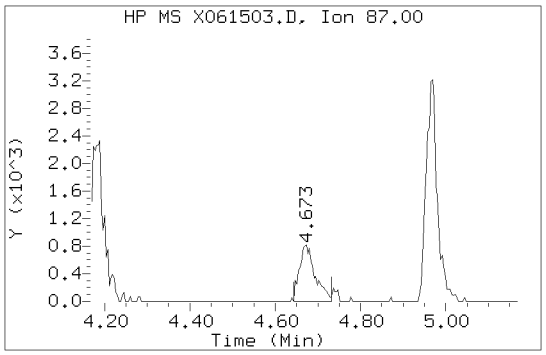
BEFORE

MASS
87
AREA
2131
HEIGHT
816
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
2131
HEIGHT
816
20-Jun-2023
18:22
linh
pham



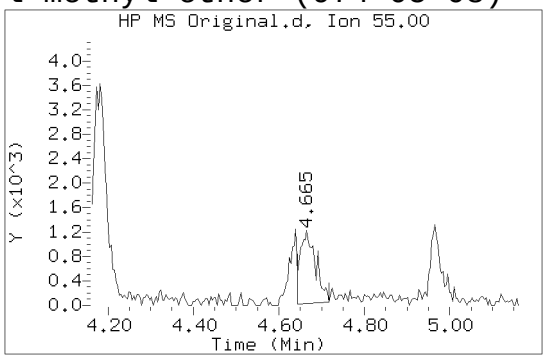
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

tert-Amyl methyl ether (974-05-08)

Reason Code:

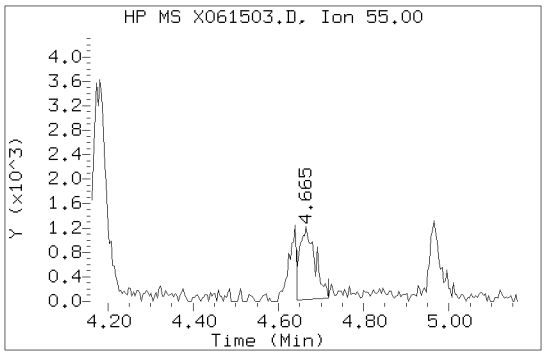
BEFORE

MASS
55
AREA
3038
HEIGHT
1195
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
3038
HEIGHT
1195
20-Jun-2023
18:22
linh
pham

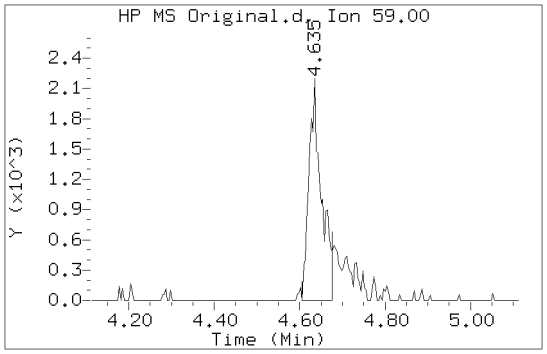


tert-Amyl alcohol (75-85-4)

Reason Code:

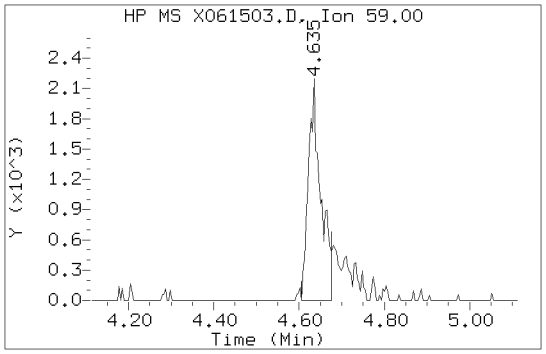
BEFORE

MASS
59
AREA
4487
HEIGHT
2196
20-Jun-2023
18:22
linh
pham



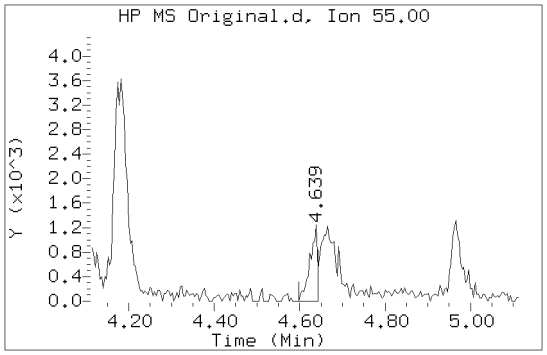
AFTER

MASS
59
AREA
4487
HEIGHT
2196
20-Jun-2023
18:22
linh
pham



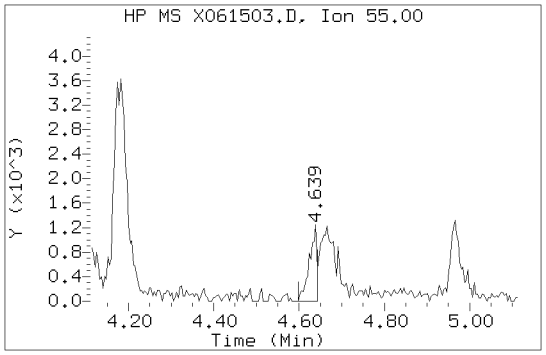
BEFORE

MASS
55
AREA
1491
HEIGHT
1253
20-Jun-2023
18:22
linh
pham



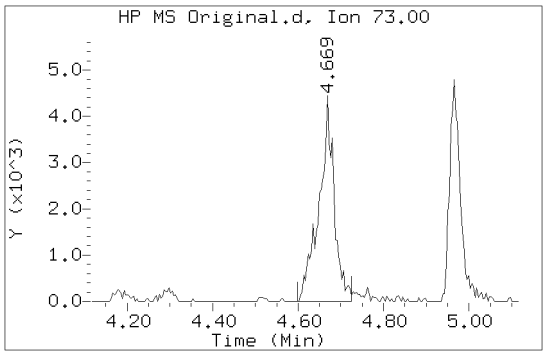
AFTER

MASS
55
AREA
1491
HEIGHT
1253
20-Jun-2023
18:22
linh
pham



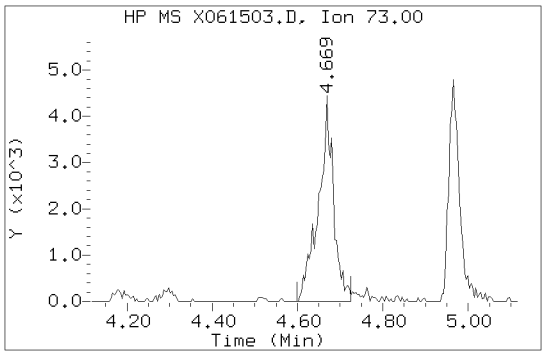
BEFORE

MASS
73
AREA
10859
HEIGHT
4450
20-Jun-2023
18:22
linh
pham



AFTER

MASS
73
AREA
10859
HEIGHT
4450
20-Jun-2023
18:22
linh
pham



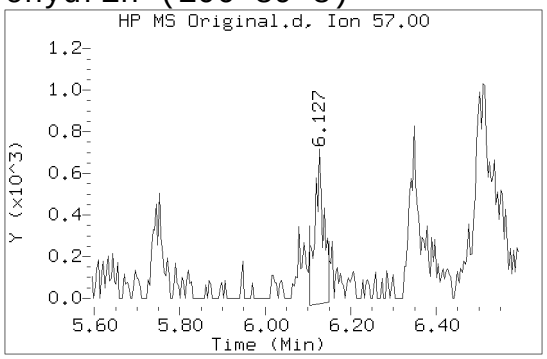
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

Epichlorohydrin (106-89-8)

Reason Code:

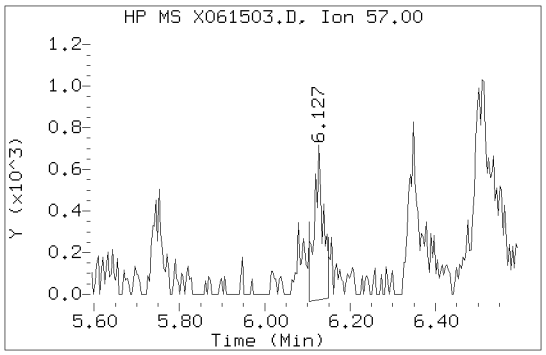
BEFORE

MASS
57
AREA
1097
HEIGHT
743
20-Jun-2023
18:22
linh
pham



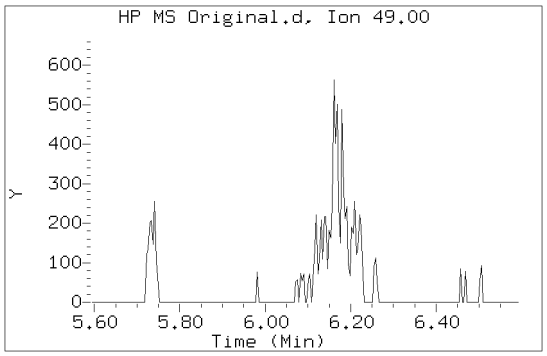
AFTER

MASS
57
AREA
1097
HEIGHT
743
20-Jun-2023
18:22
linh
pham



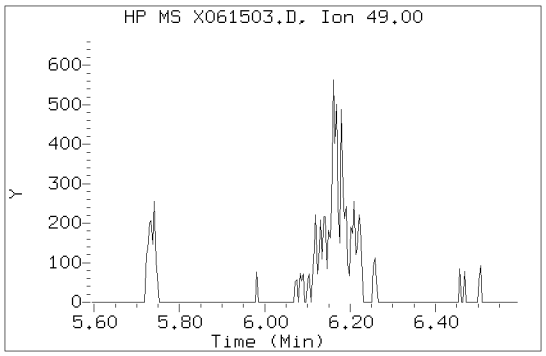
BEFORE

MASS
49
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
49
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

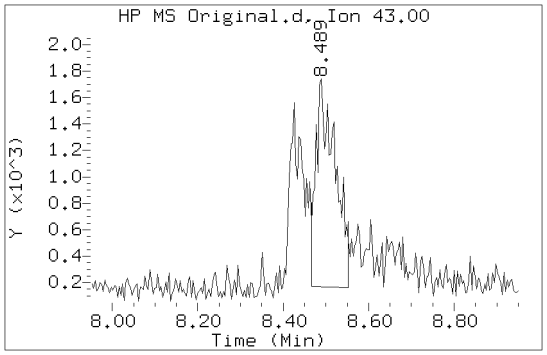


n-Amyl acetate (628-63-7)

Reason Code:

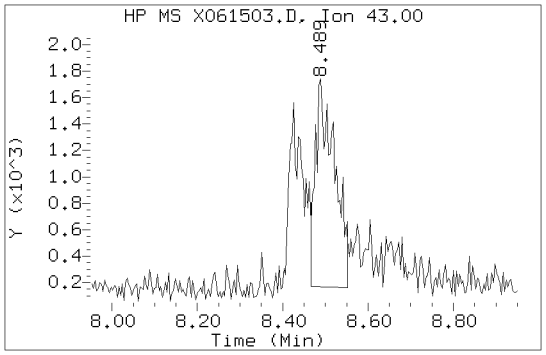
BEFORE

MASS
43
AREA
4951
HEIGHT
1570
20-Jun-2023
18:22
linh
pham



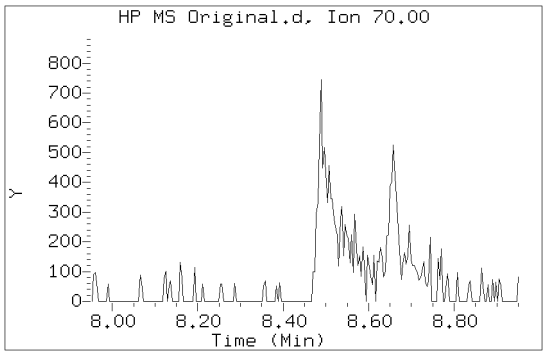
AFTER

MASS
43
AREA
4951
HEIGHT
1570
20-Jun-2023
18:22
linh
pham



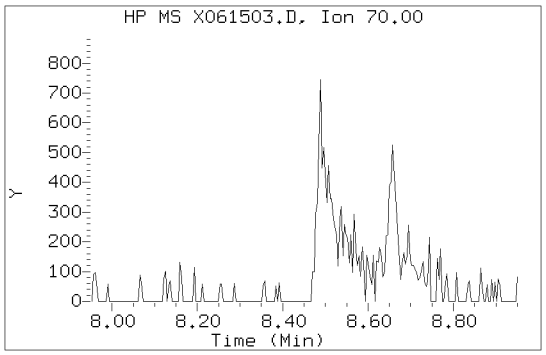
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



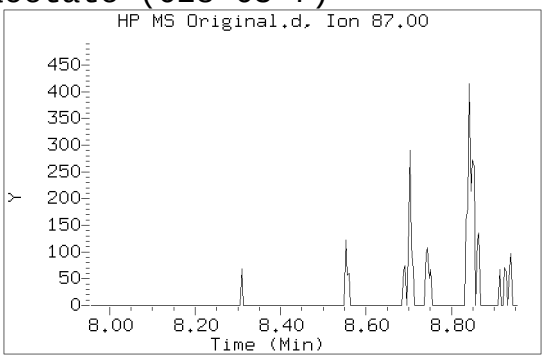
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

n-Amyl acetate (628-63-7)

Reason Code:

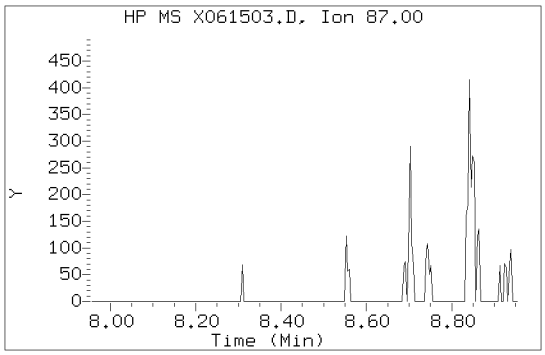
BEFORE

MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

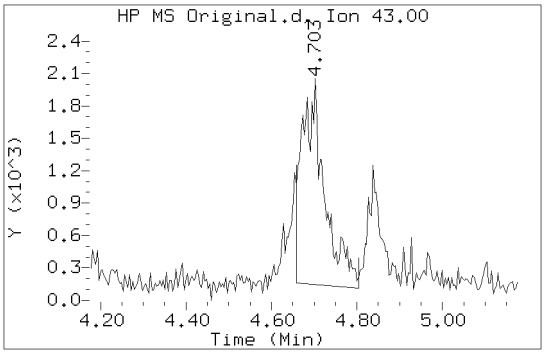


Isopropyl acetate (108-21-4)

Reason Code:

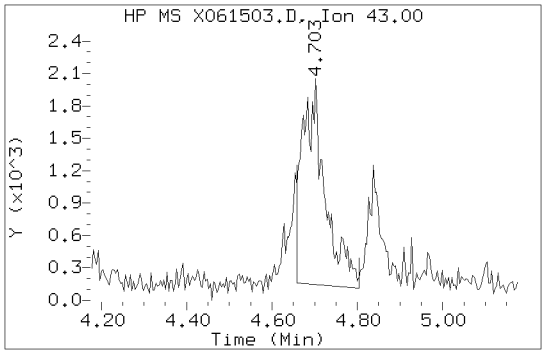
BEFORE

MASS
43
AREA
7126
HEIGHT
1907
20-Jun-2023
18:22
linh
pham



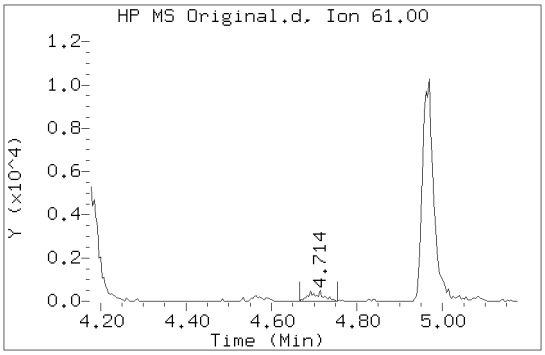
AFTER

MASS
43
AREA
7126
HEIGHT
1907
20-Jun-2023
18:22
linh
pham



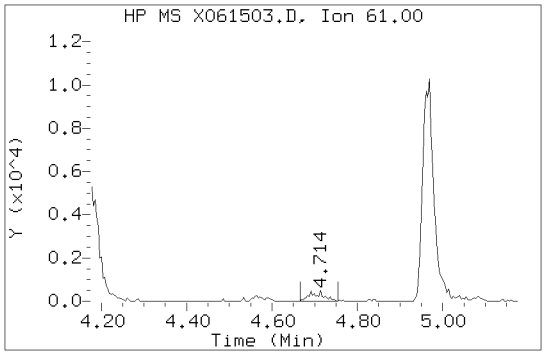
BEFORE

MASS
61
AREA
1030
HEIGHT
498
20-Jun-2023
18:22
linh
pham



AFTER

MASS
61
AREA
1030
HEIGHT
498
20-Jun-2023
18:22
linh
pham

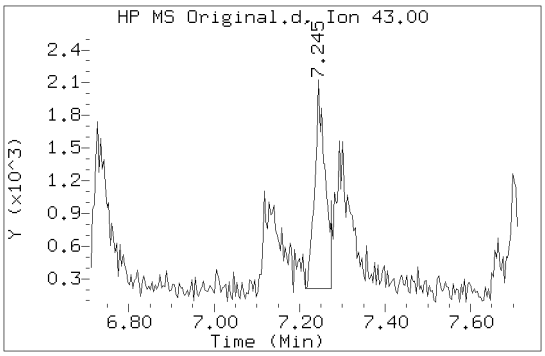


n-Butyl acetate (123-86-4)

Reason Code:

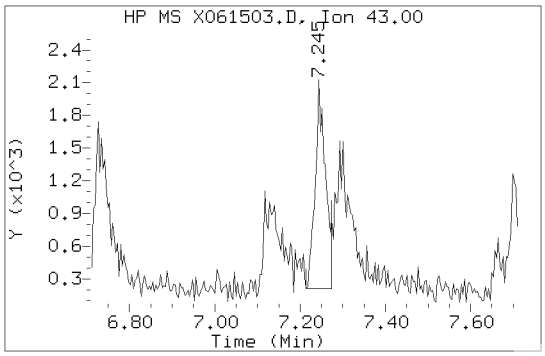
BEFORE

MASS
43
AREA
3227
HEIGHT
1914
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
3227
HEIGHT
1914
20-Jun-2023
18:22
linh
pham

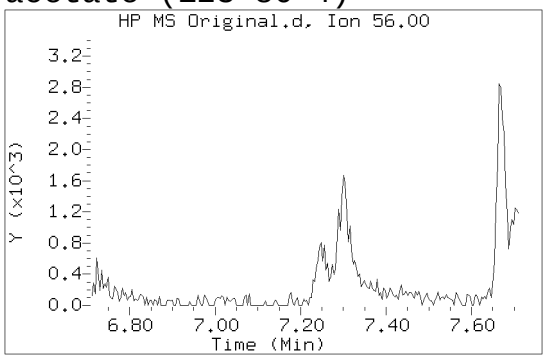


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

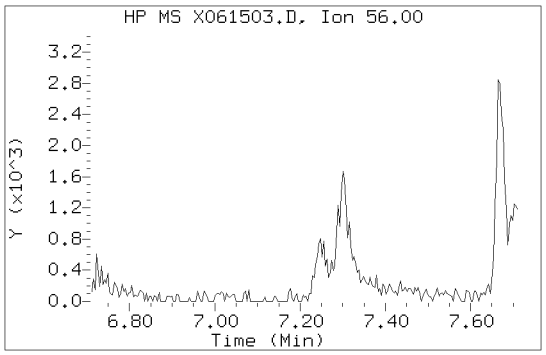
n-Butyl acetate (123-86-4)

Reason Code:

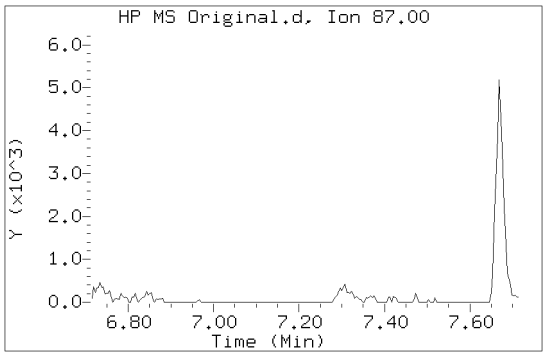
BEFORE
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



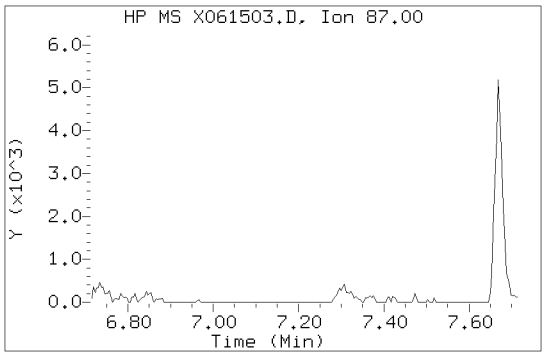
AFTER
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



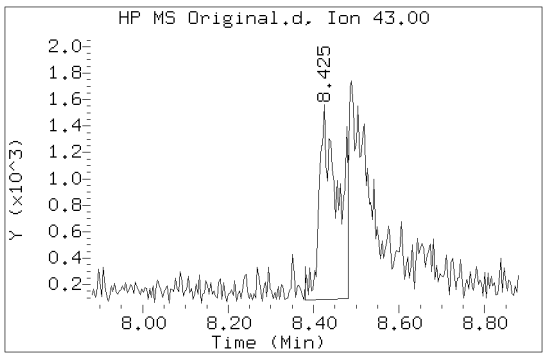
AFTER
MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



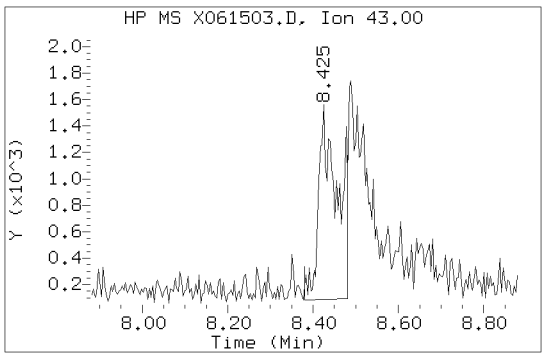
Methyl Amyl Ketone (110-43-0)

Reason Code:

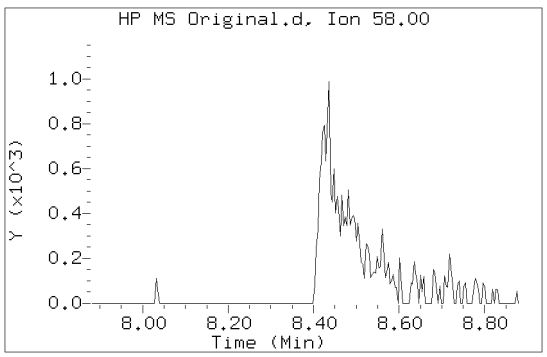
BEFORE
MASS
43
AREA
4519
HEIGHT
1475
20-Jun-2023
18:22
linh
pham



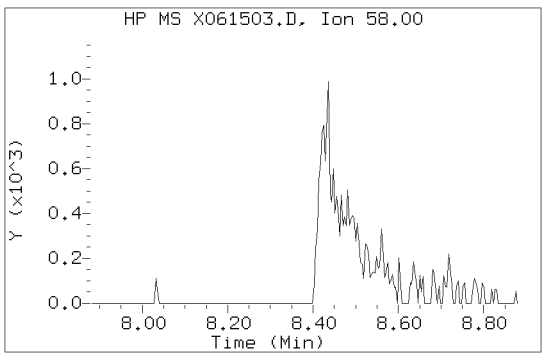
AFTER
MASS
43
AREA
4519
HEIGHT
1475
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
58
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
58
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

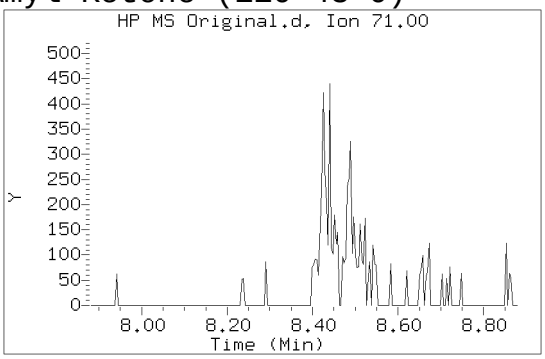


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

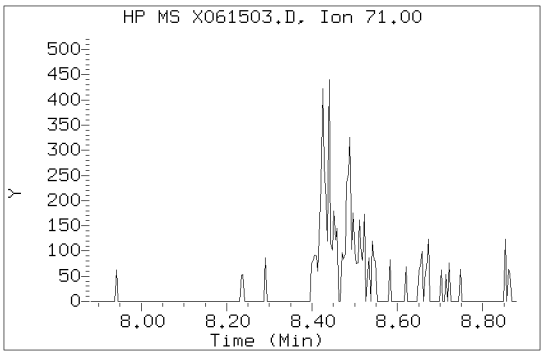
Methyl Amyl Ketone (110-43-0)

Reason Code:

BEFORE
MASS
71
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



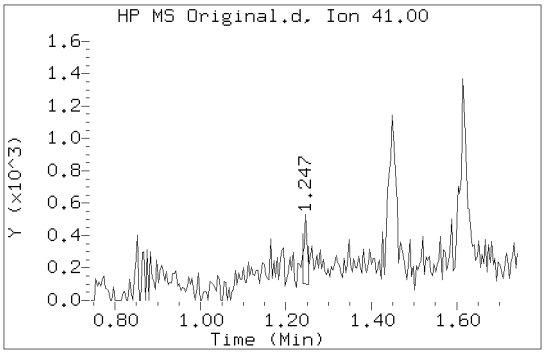
AFTER
MASS
71
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



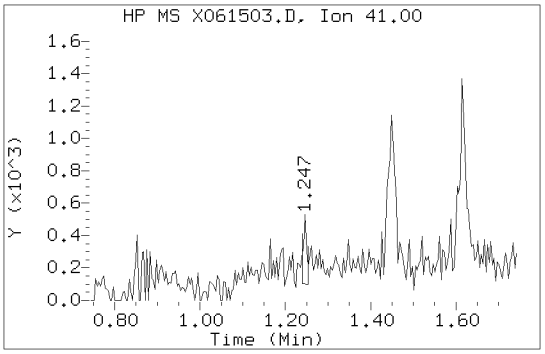
Isobutylene (115-11-7)

Reason Code:

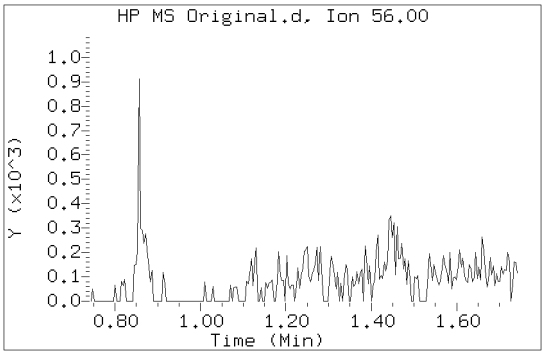
BEFORE
MASS
41
AREA
264
HEIGHT
430
20-Jun-2023
18:22
linh
pham



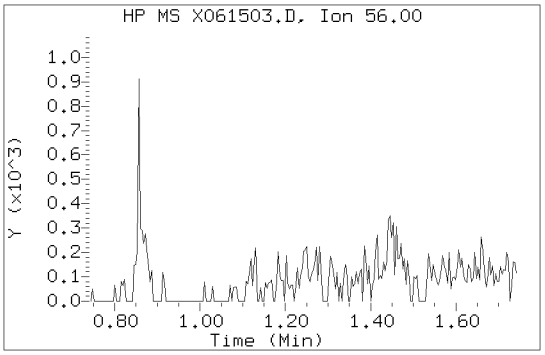
AFTER
MASS
41
AREA
264
HEIGHT
430
20-Jun-2023
18:22
linh
pham



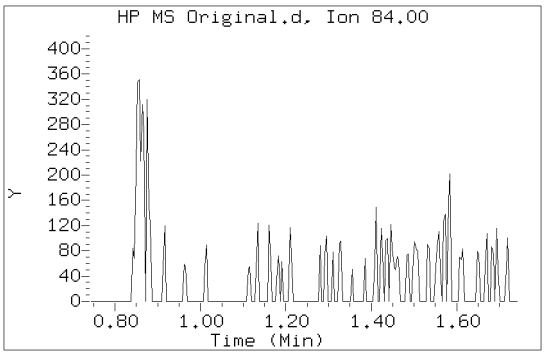
BEFORE
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



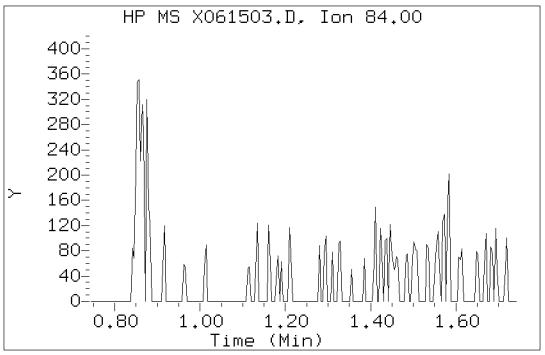
AFTER
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



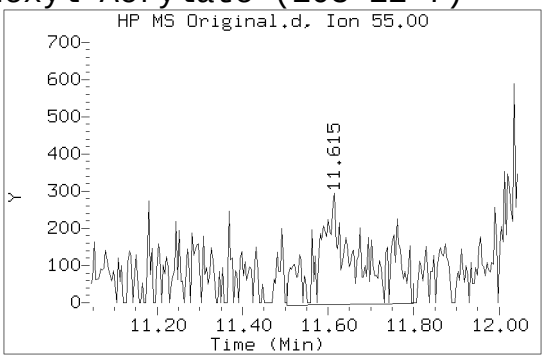
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061503.D
Inj Date : 15-JUN-2023 11:36
InstruID : voa6.i
LabSampID : VSTD000.5

2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

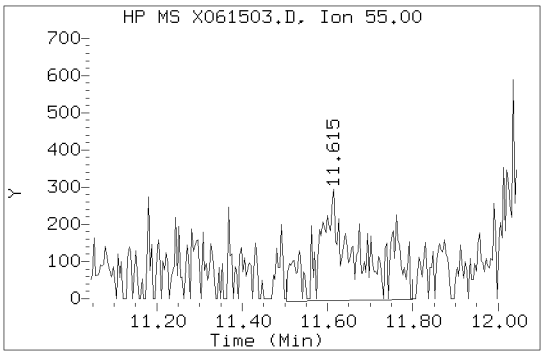
BEFORE

MASS
55
AREA
2087
HEIGHT
299
20-Jun-2023
18:22
linh
pham



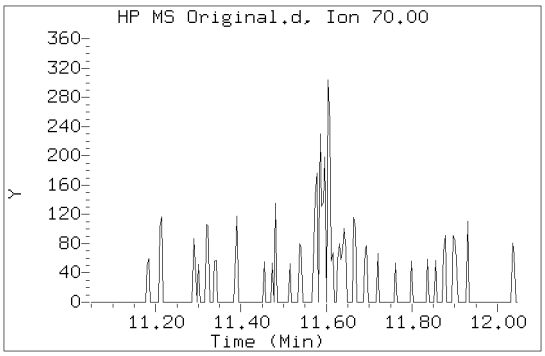
AFTER

MASS
55
AREA
2087
HEIGHT
299
20-Jun-2023
18:22
linh
pham



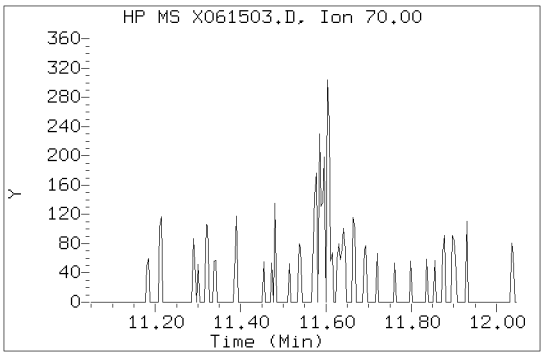
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 15-JUN-2023 12:18
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 12:18 Cal File: X061504.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	476411	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	4505	1.00000	1.42
3	Chloromethane	50	1.081	1.081	(0.259)	5922	1.00000	2.17
4	Propionitrile	54	3.694	3.653	(0.883)	5974	10.0000	10.36(aM)
5	Vinyl Chloride	62	1.145	1.149	(0.274)	5221	1.00000	1.04
6	Bromomethane	94	1.347	1.344	(0.322)	3161	1.00000	1.10(M)
7	Chloroethane	64	1.403	1.407	(0.336)	3224	1.00000	1.05
8	Trichlorofluoromethane	101	1.565	1.565	(0.374)	6281	1.00000	1.05
9	Acrolein	56	1.452	1.449	(0.347)	538	2.00000	1.81(aM)
10	Acetone	43	1.981	1.973	(0.474)	4663	2.00000	3.49(M)
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	4255	1.00000	1.14
12	Isobutyl Alcohol	43	4.687	4.676	(1.121)	12753	20.0000	20.52(a)
13	Acetonitrile	39	2.206	2.202	(0.528)	4200	10.0000	9.08(a)
14	Allyl Chloride	41	2.209	2.202	(0.528)	9998	1.00000	0.95(a)
15	Iodomethane	142	2.029	2.030	(0.485)	6227	2.00000	3.31(M)
16	Acrylonitrile	53	2.592	2.536	(0.620)	2830	2.00000	1.87(M)
17	Methylene Chloride	84	2.311	2.307	(0.553)	6477	1.00000	1.22(M)
18	Methyl tert-butyl ether	73	2.539	2.536	(0.607)	12904	1.00000	0.99
19	Carbon Disulfide	76	2.074	2.071	(0.496)	28412	2.00000	2.13
20	trans-1,2-Dichloroethene	96	2.536	2.532	(0.606)	4869	1.00000	1.09
21	Vinyl Acetate	43	3.030	2.997	(0.725)	25154	2.00000	2.11(M)

22 1,1-Dichloroethane	63	2.925	2.922 (0.700)	8535	1.00000	1.06(M)
23 Chloroprene	53	1.782	1.775 (0.426)	1506	1.00000	0.95(aM)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D Page 2
Report Date: 20-Jun-2023 18:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	24 2-Butanone	43	3.675	3.578	(0.879)	2970	2.00000	1.89(M)
	25 Methacrylonitrile	41	3.859	3.821	(0.923)	4503	1.00000	1.14(aH)
	26 2,2-Dichloropropane	77	3.506	3.514	(0.839)	7438	1.00000	1.16
	27 cis-1,2-Dichloroethene	96	3.533	3.525	(0.845)	5641	1.00000	1.09
	28 Chloroform	83	3.908	3.904	(0.935)	9991	1.00000	1.15
	29 Bromochloromethane	128	3.803	3.795	(0.909)	3072	1.00000	1.12
$	30 Dibromofluoromethane	113	4.106	4.099	(0.982)	5707	1.00000	1.00
	31 1,1,1-Trichloroethane	97	4.080	4.084	(0.976)	7437	1.00000	1.06
	32 1,1-Dichloropropene	75	4.286	4.279	(0.863)	5846	1.00000	0.93
	33 1,2-Dichloroethane	62	4.571	4.556	(0.921)	6607	1.00000	1.05
	34 Carbon Tetrachloride	117	4.260	4.264	(0.858)	6002	1.00000	1.00
$	35 1,2-Dichloroethane-d4	65	4.481	4.470	(1.072)	6368	1.00000	0.55
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	742460	50.0000	
	37 Benzene	78	4.522	4.511	(0.911)	20769	1.00000	1.08
	38 Trichloroethene	130	5.216	5.205	(1.051)	5205	1.00000	0.98(a)
	39 Bromodichloromethane	83	5.729	5.722	(1.154)	7957	1.00000	1.17(a)
	40 Methyl Methacrylate	41	5.624	5.606	(1.345)	3817	1.00000	1.03(aM)
	41 2-Chloroethylvinyl ether	63	6.074	6.048	(1.223)	3674	2.00000	2.00(aM)
	42 1,2-Dichloropropane	63	5.441	5.437	(1.096)	4954	1.00000	0.98(aM)
	43 2-Nitropropane	43	5.977	5.966	(1.429)	1148	1.00000	0.89(aH)
	44 Dibromomethane	93	5.561	5.550	(1.120)	3549	1.00000	1.12(a)
	45 4-Methyl-2-Pentanone	43	6.337	6.322	(0.826)	9202	2.00000	2.06(aM)
	46 cis-1,3-Dichloropropene	75	6.168	6.153	(1.242)	8393	1.00000	1.00(a)
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	689452	50.0000	
$	48 Toluene-d8	98	6.393	6.386	(0.834)	19747	1.00000	1.13(a)
	49 Ethyl Methacrylate	69	6.727	6.708	(1.355)	5923	1.00000	1.11(a)
	50 Toluene	91	6.457	6.445	(0.842)	20722	1.00000	1.02(a)
	51 trans-1,3-Dichloropropene	75	6.697	6.678	(1.349)	7608	1.00000	1.09(a)
	52 2-Hexanone	43	7.116	7.083	(0.928)	5813	2.00000	1.95(a)
	53 1,1,2-Trichloroethane	83	6.843	6.835	(0.892)	4096	1.00000	1.03(a)
	54 1,3-Dichloropropane	76	6.985	6.978	(0.911)	8386	1.00000	1.05(a)
	55 Dibromochloromethane	129	7.184	7.173	(0.937)	5861	1.00000	1.04(a)
	56 Tetrachloroethene	164	6.929	6.925	(0.904)	4148	1.00000	0.99(a)
	57 1,2-Dibromoethane	107	7.266	7.259	(0.948)	5555	1.00000	1.10(a)
	58 1-Chlorohexane	55	7.697	7.694	(1.550)	4565	1.00000	1.01(a)
	59 Chlorobenzene	112	7.697	7.690	(1.004)	14514	1.00000	1.04(a)
	60 1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	5613	1.00000	1.08(a)
	61 Ethylbenzene	106	7.806	7.799	(1.018)	7471	1.00000	1.04(a)
	62 m,p-Xylenes	106	7.911	7.900	(1.032)	16779	2.00000	1.90(a)
	63 o-Xylene	106	8.248	8.237	(1.076)	9263	1.00000	1.05(a)
	64 Styrene	104	8.286	8.256	(1.081)	14673	1.00000	1.01(a)
	66 Bromoform	173	8.417	8.410	(1.098)	3884	1.00000	0.99(Ta)
	67 Isopropylbenzene	105	8.563	8.560	(1.117)	21399	1.00000	0.98(a)
	68 1,1,2,2-Tetrachloroethane	83	8.841	8.837	(0.915)	7862	1.00000	1.18(a)
$	69 4-Bromofluorobenzene	95	8.698	8.687	(1.134)	11345	1.00000	1.16(a)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	377369	50.0000	
	71 1,2,3-Trichloropropane	75	8.871	8.863	(0.918)	4849	1.00000	1.01(a)
	72 trans-1,4-Dichloro-2-butene	53	8.919	8.886	(1.163)	1668	1.00000	0.99(aM)
	73 n-Propylbenzene	91	8.919	8.908	(0.923)	22989	1.00000	0.92(a)
	74 Bromobenzene	156	8.818	8.803	(0.913)	6344	1.00000	1.03(a)
	75 1,3,5-Trimethylbenzene	105	9.073	9.066	(0.939)	18052	1.00000	0.99(a)
	76 2-Chlorotoluene	91	8.983	8.972	(0.930)	17472	1.00000	1.10(a)

77 4-Chlorotoluene	91	9.088	9.070 (0.941)	17079	1.00000	0.97(a)
78 tert-Butylbenzene	119	9.336	9.336 (0.966)	14794	1.00000	0.97(a)

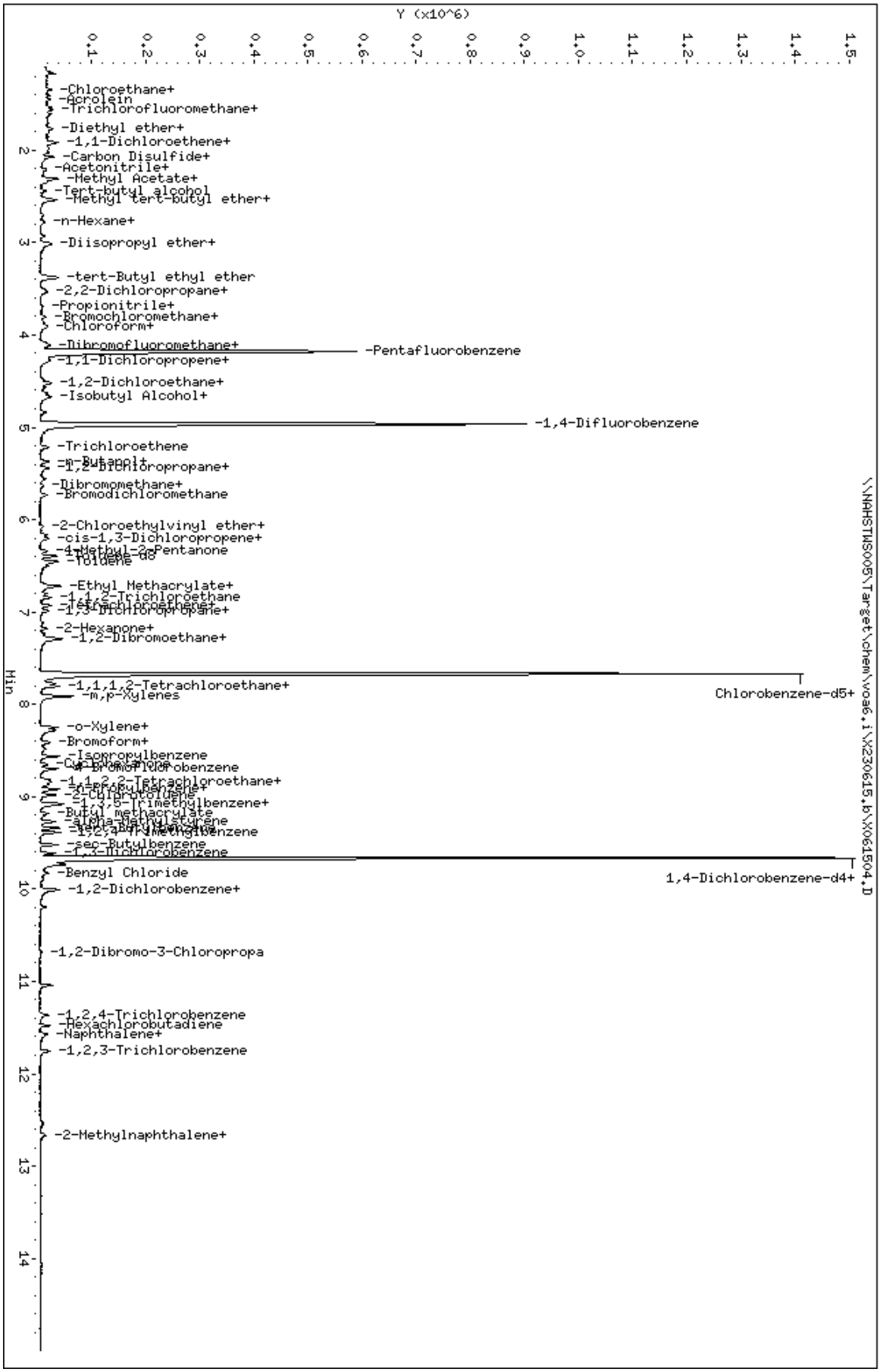
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
79	1,2,4-Trimethylbenzene	105	9.384	9.377	(0.971)	18527	1.00000	1.00(a)
81	sec-Butylbenzene	105	9.523	9.519	(0.986)	21044	1.00000	0.98(a)
82	p-Isopropyltoluene	119	9.650	9.647	(0.999)	17481	1.00000	0.93(a)
83	1,3-Dichlorobenzene	146	9.613	9.602	(0.995)	11009	1.00000	1.00(a)
84	1,4-Dichlorobenzene	146	9.684	9.681	(1.002)	12708	1.00000	1.08(a)
86	Benzyl Chloride	91	9.830	9.808	(1.282)	11104	1.00000	0.97(a)
87	n-Butylbenzene	91	10.014	9.992	(1.036)	13132	1.00000	0.82(aM)
88	1,2-Dichlorobenzene	146	10.007	9.992	(1.036)	10599	1.00000	0.97(a)
89	1,2-Dibromo-3-Chloropropane	155	10.674	10.655	(1.105)	1184	1.00000	1.34(a)
90	1,2,4-Trichlorobenzene	180	11.364	11.334	(1.176)	7174	1.00000	0.94(a)
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	3283	1.00000	0.96(a)
92	Naphthalene	128	11.570	11.540	(1.197)	14944	1.00000	0.87(a)
93	1,2,3-Trichlorobenzene	180	11.750	11.739	(1.216)	6263	1.00000	0.90(a)
146	Methyl acetate	43	2.258	2.232	(0.540)	2984	1.00000	1.05(a)
138	Freon TF	101	1.921	1.917	(0.459)	3869	1.00000	1.20(a)
141	Cyclohexane	56	4.121	4.121	(0.986)	5865	1.00000	0.96(aH)
142	Tetrahydrofuran	42	3.863	3.844	(0.924)	1350	2.00000	1.94(aM)
147	Methylcyclohexane	55	5.373	5.381	(1.082)	9209	1.00000	0.88(aM)
135	1,4-Dioxane	88	5.613	5.598	(1.342)	1286	20.0000	22.27(M)
132	n-Butanol	56	5.370	5.253	(1.284)	2023	20.0000	80.30(aM)
131	Methyl Acrylate	55	3.750	3.690	(0.897)	3465	1.00000	0.89(aM)
133	Ethyl Acrylate	55	5.422	5.381	(1.297)	8042	1.00000	3.07(M)
136	n-Hexane	57	2.775	2.776	(0.664)	4190	1.00000	0.77(a)
139	Diethyl ether	59	1.767	1.760	(0.423)	3143	1.00000	1.05(a)
148	Tert-butyl alcohol	59	2.442	2.431	(0.584)	11634	20.0000	23.78
149	Isopropyl alcohol	45	2.101	2.093	(0.502)	6463	20.0000	23.93(T)
156	Diisopropyl ether	45	3.012	3.000	(0.720)	13921	1.00000	0.99(Ta)
160	2-Methylnaphthalene	142	12.668	12.634	(1.311)	6245	1.00000	0.83(a)
166	1,2,3-Trimethylbenzene	105	9.737	9.729	(1.008)	17649	1.00000	0.98(a)
167	Ethanol	45	1.707	1.707	(0.408)	953	20.0000	20.92(M)
172	tert-Butyl formate	59	4.627	4.612	(1.107)	8761	2.00000	2.23(aM)
173	3,3-Dimethyl-1-butanol	57	7.296	7.285	(0.952)	12186	20.0000	21.61(M)
174	tert-Amyl methyl ether	73	4.669	4.665	(1.117)	15782	1.00000	1.03(aM)
175	tert-Butyl ethyl ether	59	3.383	3.379	(0.809)	14971	1.00000	1.02(a)
176	tert-Amyl alcohol	59	4.627	4.612	(1.107)	8761	20.0000	21.89(M)
151	4-Methyl-2-pentanol	45	6.719	6.708	(1.353)	26840	20.0000	22.73(M)
180	1-Methylnaphthalene	142	12.668	12.634	(1.311)	6245	1.00000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	4172	1.00000	1.05(a)
152	Amyl alcohol	42	6.981	6.899	(0.911)	2449	20.0000	19.06(M)
158	Dichlorofluoromethane	67	1.531	1.535	(0.366)	6498	1.00000	0.94(M)
159	Propylene oxide	43	1.812	1.805	(0.433)	1041	2.00000	2.46(a)
161	3-Methyl-1-butanol	55	6.951	6.899	(0.907)	2518	20.0000	53.71(M)
162	Butyl acrylate	55	8.278	8.249	(1.080)	6899	1.00000	1.21(a)
163	Butyl methacrylate	41	9.182	9.167	(0.950)	6113	1.00000	0.96(a)
164	Dicyclopentadiene	66	9.680	9.681	(1.002)	21021	1.00000	0.99(aM)
182	Epichlorohydrin	57	6.119	6.093	(1.233)	2012	4.00000	4.53(aM)
M 94	1,2-Dichloroethylene (total)	96				10510	2.00000	(a)
130	Ethyl Acetate	43	3.694	3.657	(0.883)	5317	1.00000	1.09(aM)
134	Cyclohexanone	55	8.653	8.642	(0.896)	5123	20.0000	11.33(a)
185	Isoprene	39	1.778	1.775	(0.425)	1889	1.00000	1.45(a)
188	Isopropyl acetate	43	4.687	4.676	(0.944)	12045	1.00000	0.93(a)
187	n-Amyl acetate	43	8.477	8.451	(1.106)	10084	1.00000	1.09(aM)

189 n-Butyl acetate	43	7.233	7.210 (0.943)	7115	1.00000	0.96(aM)
150 Allyl alcohol	57	2.775	2.772 (0.664)	4190	20.0000	14.15

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
195 Methyl Amyl Ketone	43	8.410	8.380	(1.097)	8974	1.00000	0.88(a)
200 Dimethyl Disulfide	94	6.202	6.194	(0.809)	9210	1.00000	0.90(a)
202 Isobutylene	41	1.242	1.242	(0.297)	500	1.00000	1.09(aM)
205 2-Ethylhexyl Acrylate	55	11.577	11.544	(1.198)	3400	1.00000	1.74(aM)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Date : 15-JUN-2023 12:18
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

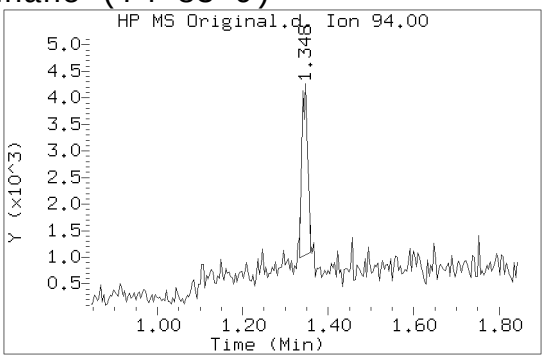
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

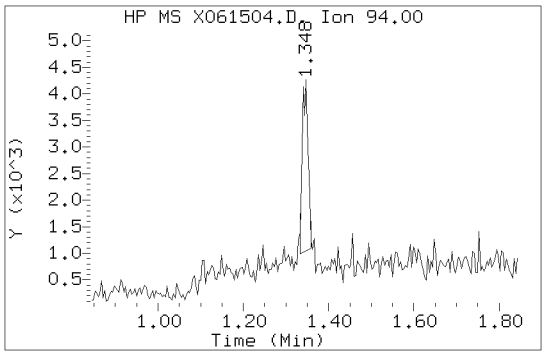
Bromomethane (74-83-9)

Reason Code:

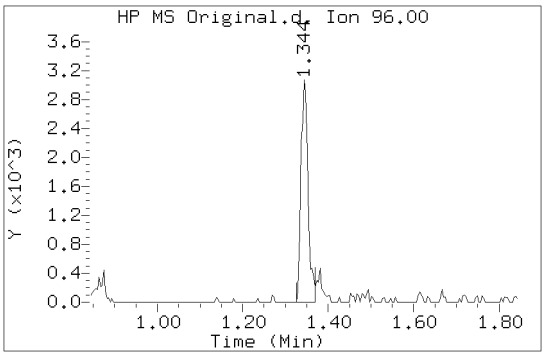
BEFORE
MASS
94
AREA
3161
HEIGHT
3214
20-Jun-2023
18:22
linh
pham



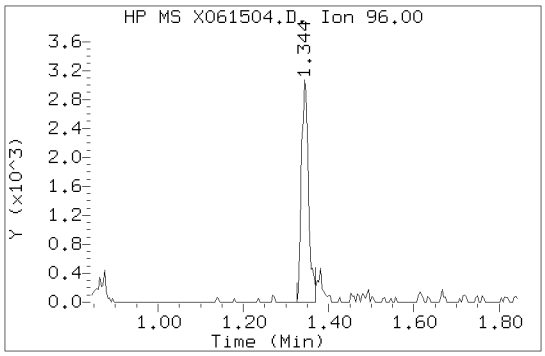
AFTER
MASS
94
AREA
3161
HEIGHT
3214
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
96
AREA
3692
HEIGHT
3071
20-Jun-2023
18:22
linh
pham



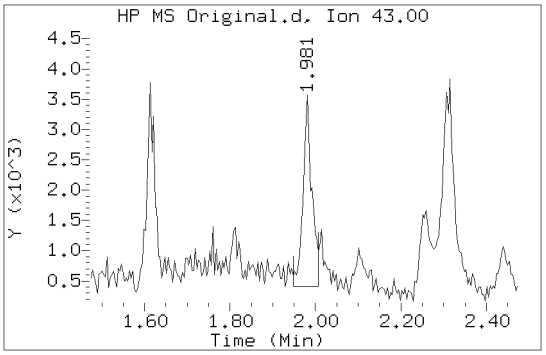
AFTER
MASS
96
AREA
3692
HEIGHT
3071
20-Jun-2023
18:22
linh
pham



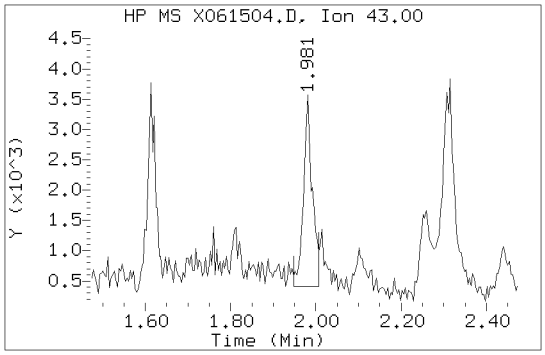
Acetone (67-64-1)

Reason Code:

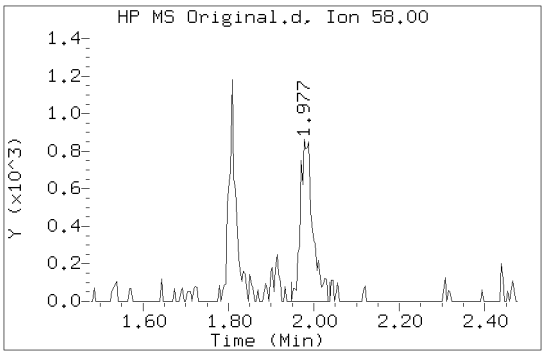
BEFORE
MASS
43
AREA
4663
HEIGHT
3159
20-Jun-2023
18:22
linh
pham



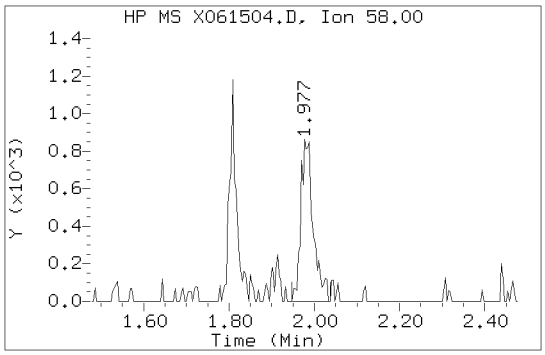
AFTER
MASS
43
AREA
4663
HEIGHT
3159
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
58
AREA
1775
HEIGHT
864
20-Jun-2023
18:22
linh
pham



AFTER
MASS
58
AREA
1775
HEIGHT
864
20-Jun-2023
18:22
linh
pham

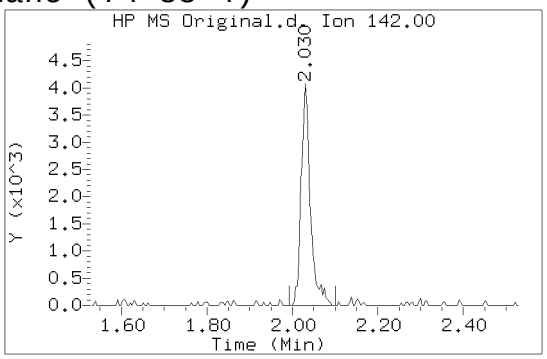


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

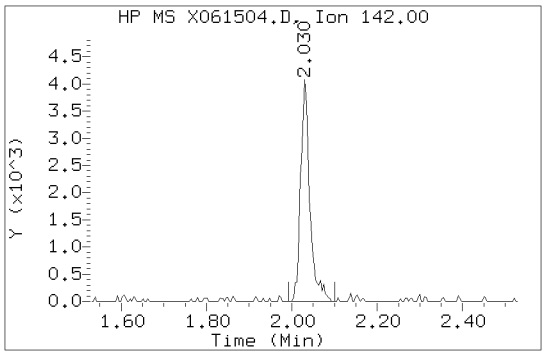
Iodomethane (74-88-4)

Reason Code:

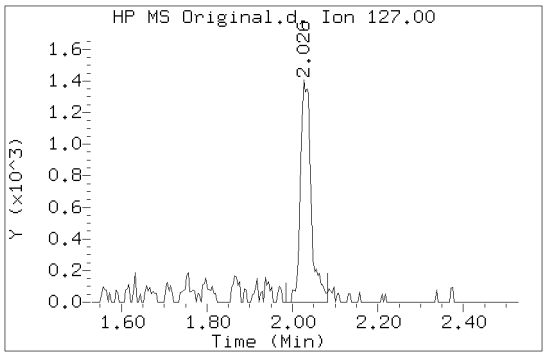
BEFORE
MASS
142
AREA
6227
HEIGHT
4078
20-Jun-2023
18:22
linh
pham



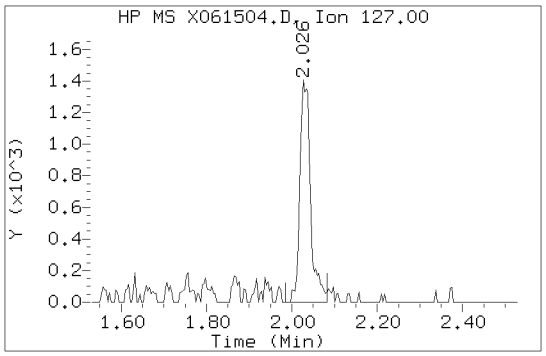
AFTER
MASS
142
AREA
6227
HEIGHT
4078
20-Jun-2023
18:22
linh
pham



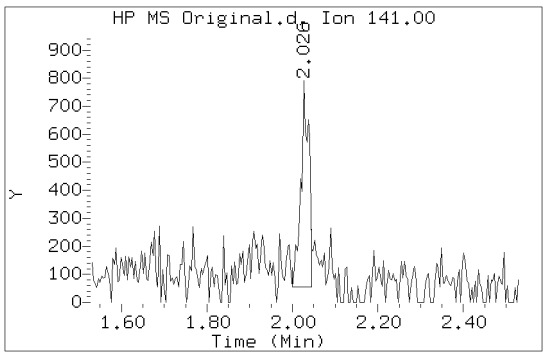
BEFORE
MASS
127
AREA
2508
HEIGHT
1407
20-Jun-2023
18:22
linh
pham



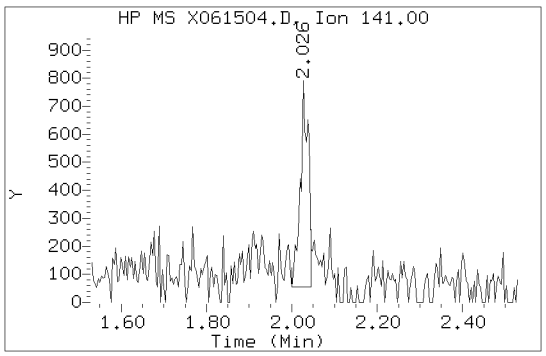
AFTER
MASS
127
AREA
2508
HEIGHT
1407
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
141
AREA
974
HEIGHT
735
20-Jun-2023
18:22
linh
pham



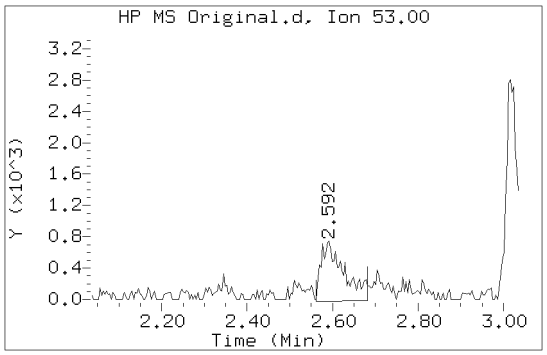
AFTER
MASS
141
AREA
974
HEIGHT
735
20-Jun-2023
18:22
linh
pham



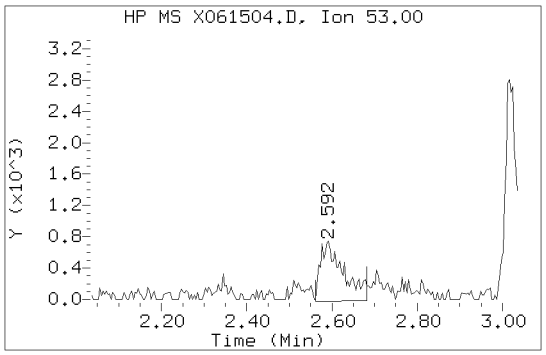
Acrylonitrile (107-13-1)

Reason Code:

BEFORE
MASS
53
AREA
2830
HEIGHT
767
20-Jun-2023
18:22
linh
pham



AFTER
MASS
53
AREA
2830
HEIGHT
767
20-Jun-2023
18:22
linh
pham

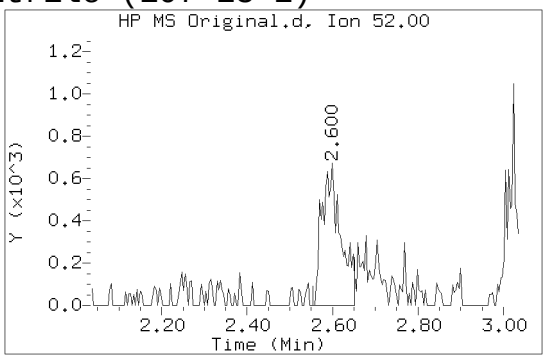


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

Acrylonitrile (107-13-1)

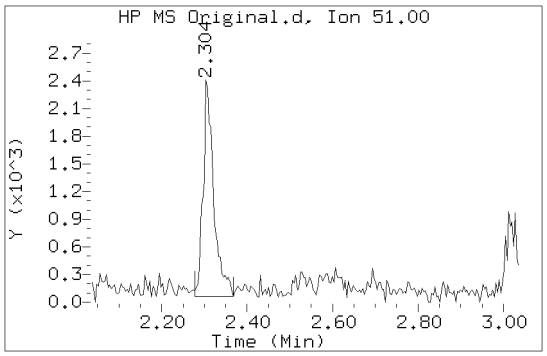
BEFORE

MASS
52
AREA
2033
HEIGHT
674
20-Jun-2023
18:22
linh
pham



BEFORE

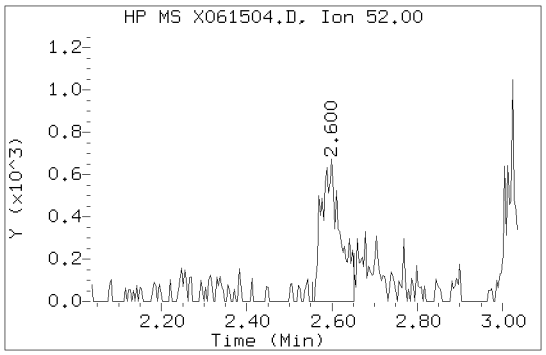
MASS
51
AREA
4036
HEIGHT
2345
20-Jun-2023
18:22
linh
pham



Reason Code:

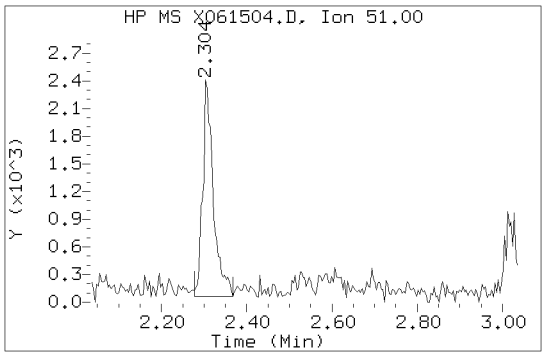
AFTER

MASS
52
AREA
2033
HEIGHT
674
20-Jun-2023
18:22
linh
pham



AFTER

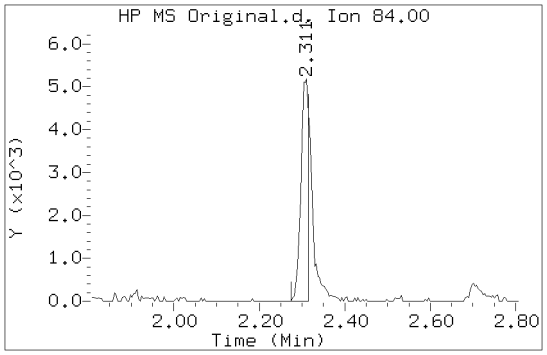
MASS
51
AREA
4036
HEIGHT
2345
20-Jun-2023
18:22
linh
pham



Methylene Chloride (75-09-2)

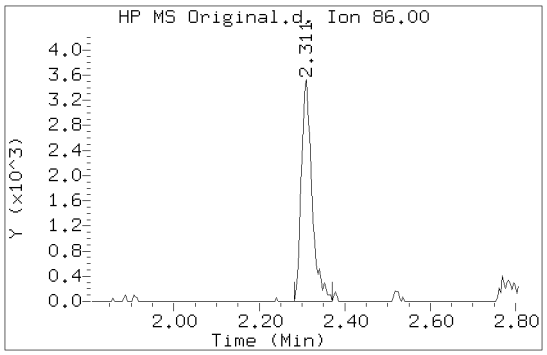
BEFORE

MASS
84
AREA
6477
HEIGHT
5184
20-Jun-2023
18:22
linh
pham



BEFORE

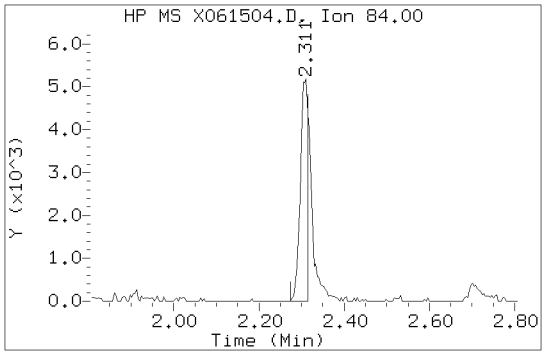
MASS
86
AREA
6276
HEIGHT
3527
20-Jun-2023
18:22
linh
pham



Reason Code:

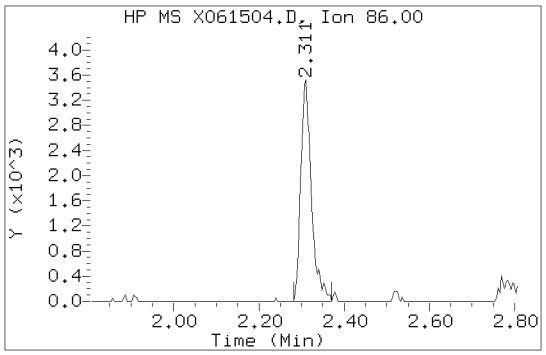
AFTER

MASS
84
AREA
6477
HEIGHT
5184
20-Jun-2023
18:22
linh
pham



AFTER

MASS
86
AREA
6276
HEIGHT
3527
20-Jun-2023
18:22
linh
pham



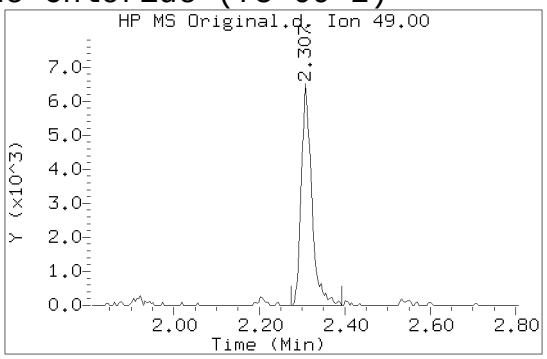
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

Methylene Chloride (75-09-2)

Reason Code:

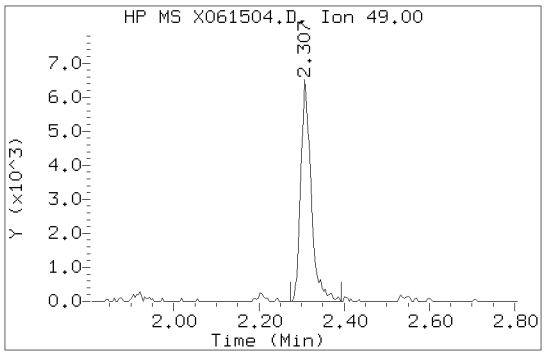
BEFORE

MASS
49
AREA
11339
HEIGHT
6517
20-Jun-2023
18:22
linh
pham



AFTER

MASS
49
AREA
11339
HEIGHT
6517
20-Jun-2023
18:22
linh
pham

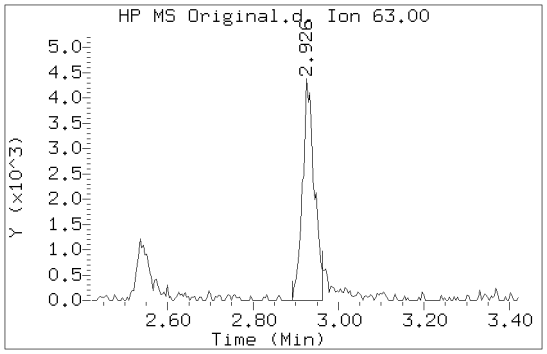


1,1-Dichloroethane (75-34-3)

Reason Code:

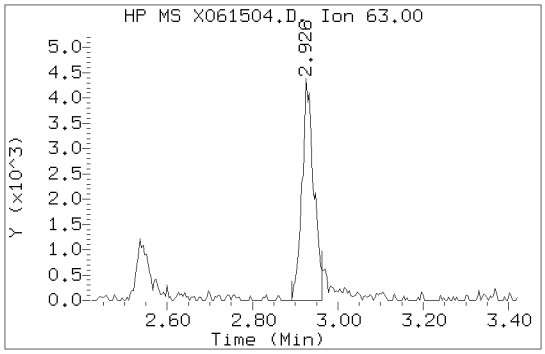
BEFORE

MASS
63
AREA
8535
HEIGHT
4383
20-Jun-2023
18:22
linh
pham



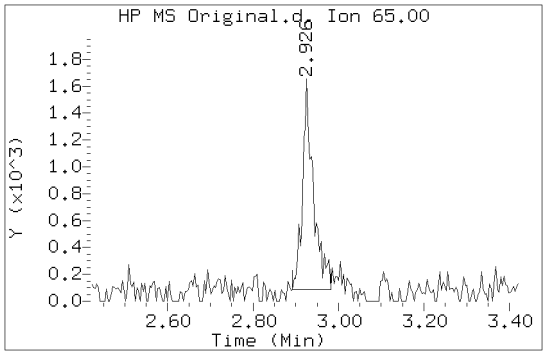
AFTER

MASS
63
AREA
8535
HEIGHT
4383
20-Jun-2023
18:22
linh
pham



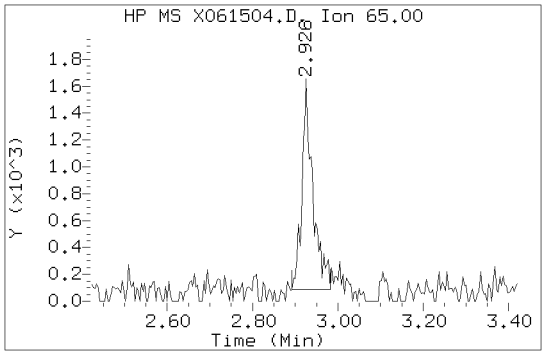
BEFORE

MASS
65
AREA
2816
HEIGHT
1567
20-Jun-2023
18:22
linh
pham



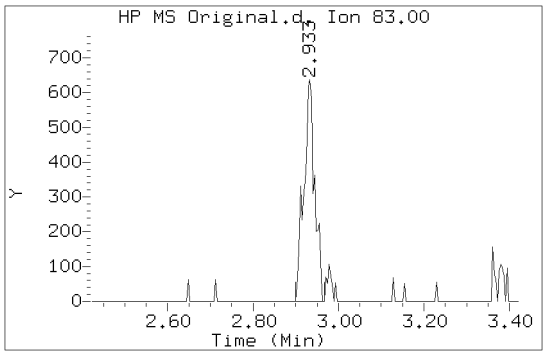
AFTER

MASS
65
AREA
2816
HEIGHT
1567
20-Jun-2023
18:22
linh
pham



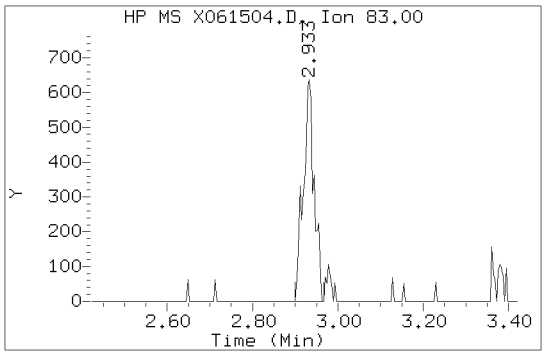
BEFORE

MASS
83
AREA
1137
HEIGHT
637
20-Jun-2023
18:22
linh
pham



AFTER

MASS
83
AREA
1137
HEIGHT
637
20-Jun-2023
18:22
linh
pham

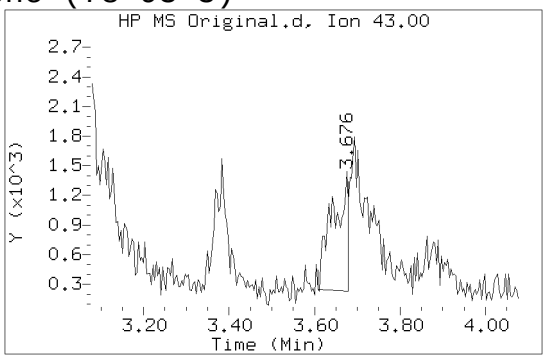


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

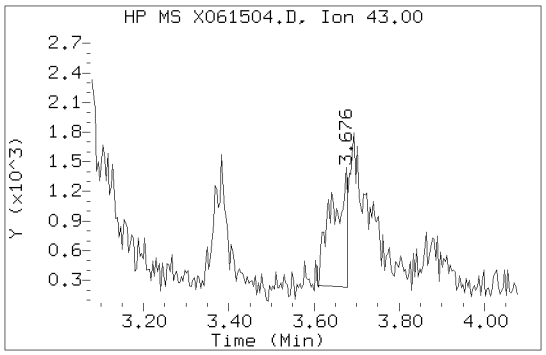
2-Butanone (78-93-3)

Reason Code:

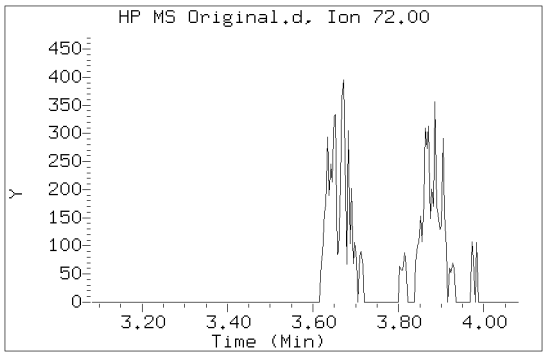
BEFORE
MASS
43
AREA
2970
HEIGHT
1211
20-Jun-2023
18:22
linh
pham



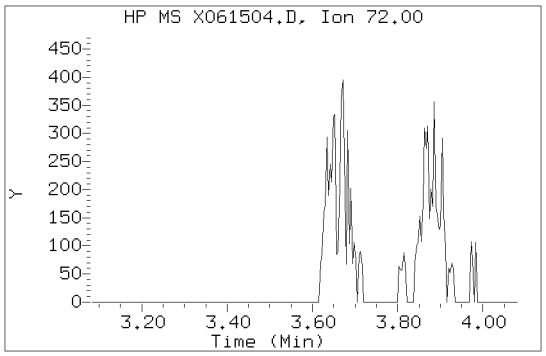
AFTER
MASS
43
AREA
2970
HEIGHT
1211
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
72
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



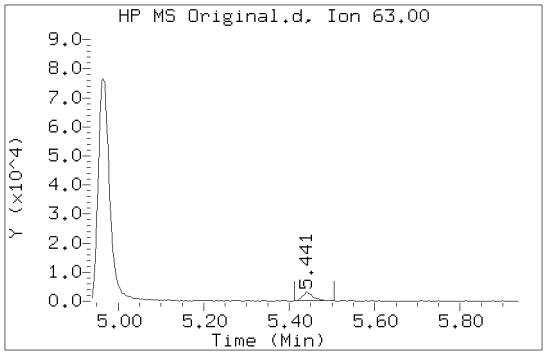
AFTER
MASS
72
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



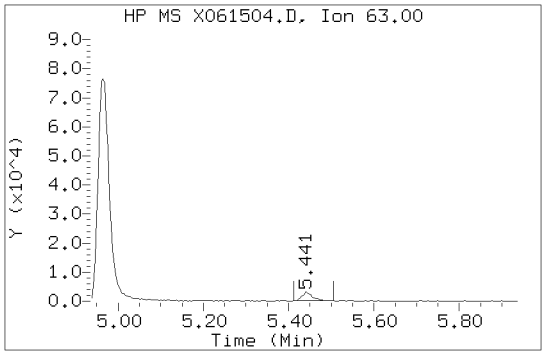
1,2-Dichloropropane (78-87-5)

Reason Code:

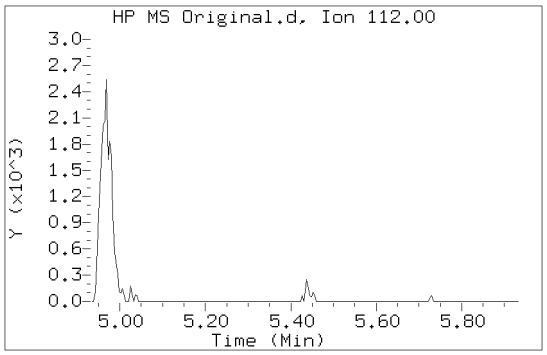
BEFORE
MASS
63
AREA
4954
HEIGHT
3161
20-Jun-2023
18:22
linh
pham



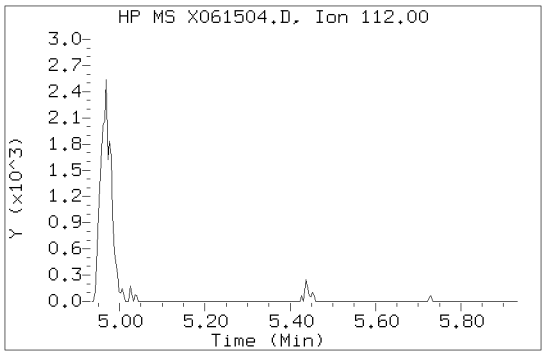
AFTER
MASS
63
AREA
4954
HEIGHT
3161
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
112
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
112
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

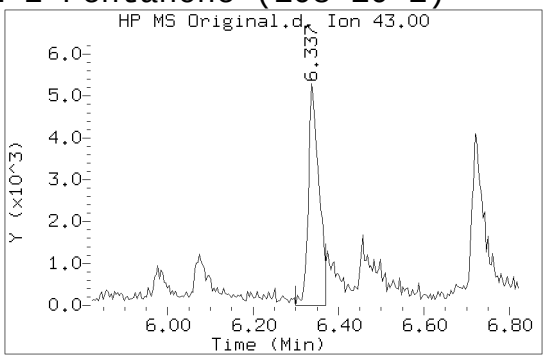


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

4-Methyl-2-Pentanone (108-10-1)

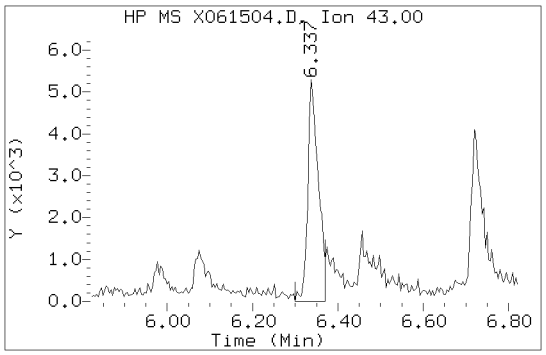
BEFORE

MASS
43
AREA
9202
HEIGHT
5295
20-Jun-2023
18:22
linh
pham



AFTER

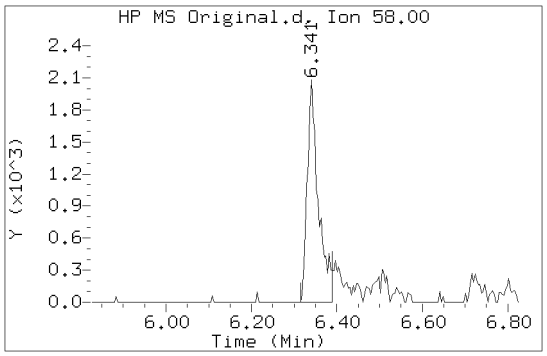
MASS
43
AREA
9202
HEIGHT
5295
20-Jun-2023
18:22
linh
pham



Reason Code:

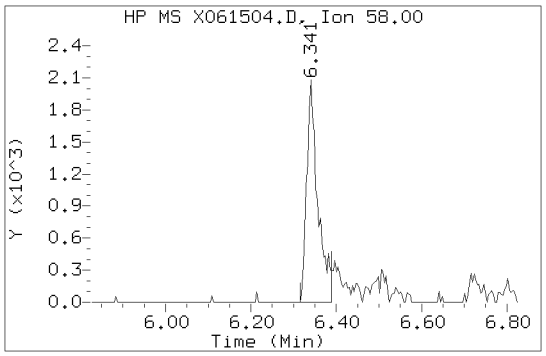
BEFORE

MASS
58
AREA
3808
HEIGHT
2081
20-Jun-2023
18:22
linh
pham



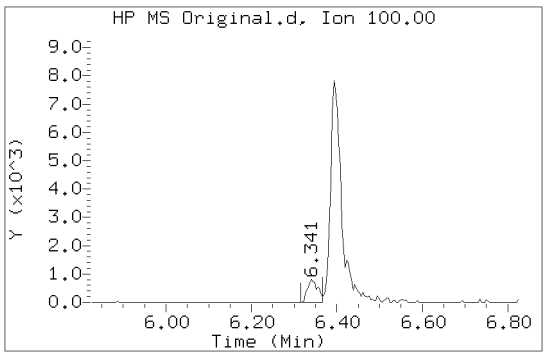
AFTER

MASS
58
AREA
3808
HEIGHT
2081
20-Jun-2023
18:22
linh
pham



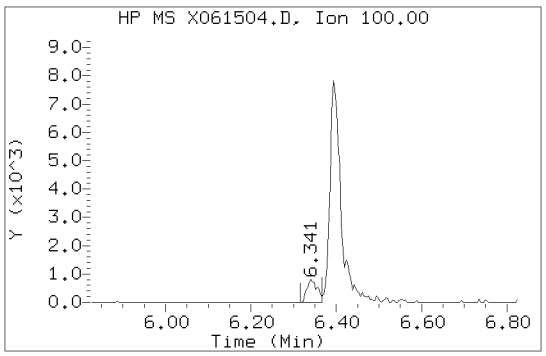
BEFORE

MASS
100
AREA
1400
HEIGHT
812
20-Jun-2023
18:22
linh
pham



AFTER

MASS
100
AREA
1400
HEIGHT
812
20-Jun-2023
18:22
linh
pham

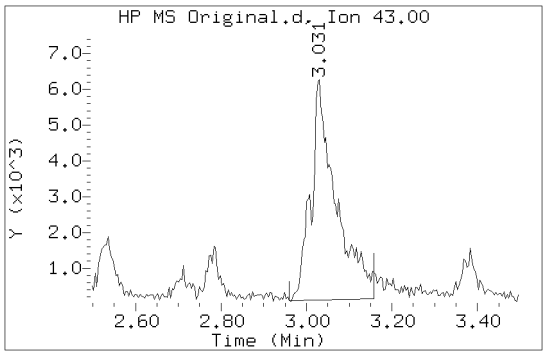


Vinyl Acetate (108-05-4)

Reason Code:

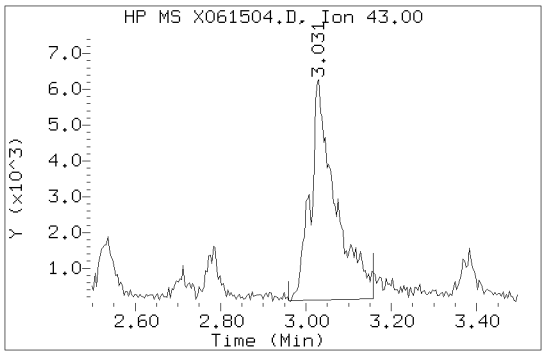
BEFORE

MASS
43
AREA
25154
HEIGHT
6147
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
25154
HEIGHT
6147
20-Jun-2023
18:22
linh
pham



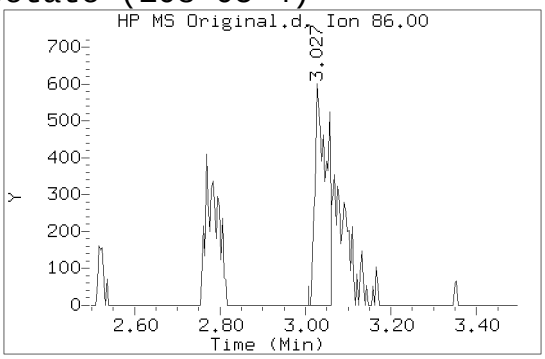
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

Vinyl Acetate (108-05-4)

Reason Code:

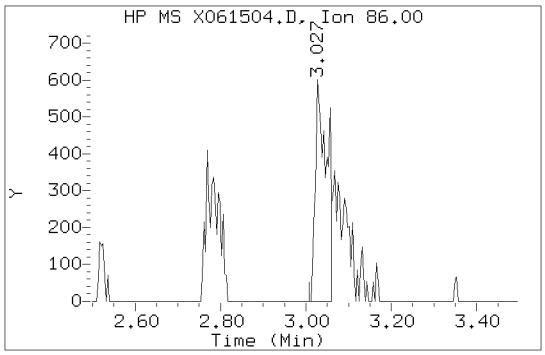
BEFORE

MASS
86
AREA
1128
HEIGHT
601
20-Jun-2023
18:22
linh
pham



AFTER

MASS
86
AREA
1128
HEIGHT
601
20-Jun-2023
18:22
linh
pham

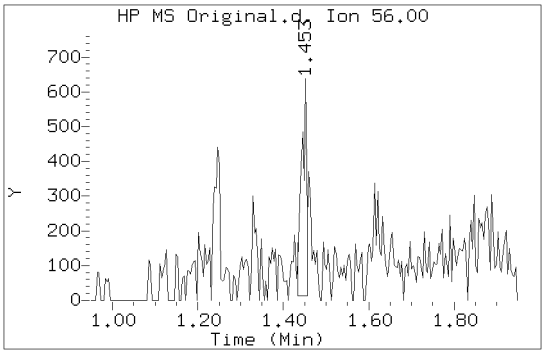


Acrolein (107-02-8)

Reason Code:

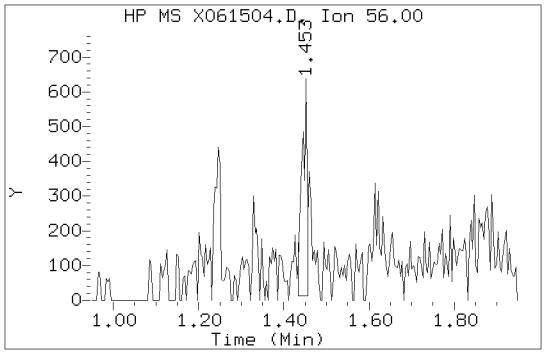
BEFORE

MASS
56
AREA
538
HEIGHT
626
20-Jun-2023
18:22
linh
pham



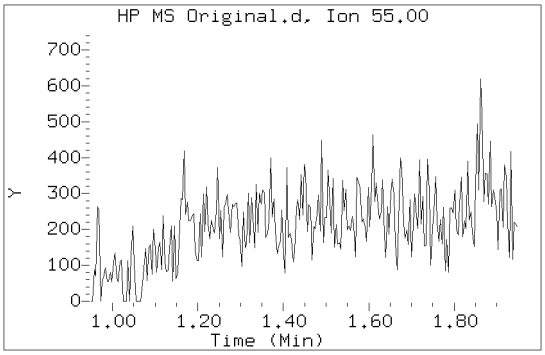
AFTER

MASS
56
AREA
538
HEIGHT
626
20-Jun-2023
18:22
linh
pham



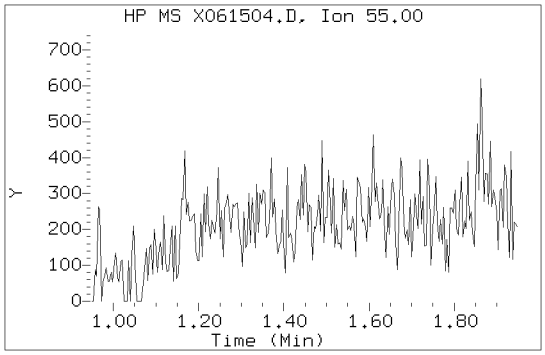
BEFORE

MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

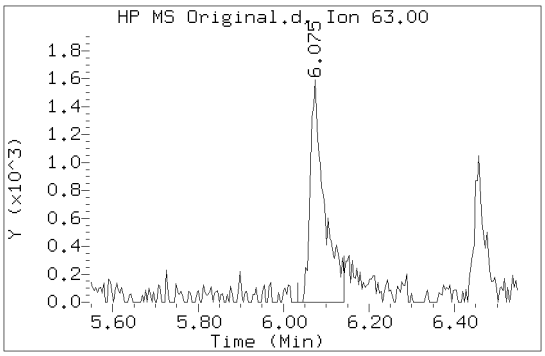


2-Chloroethylvinyl ether (110-75-8)

Reason Code:

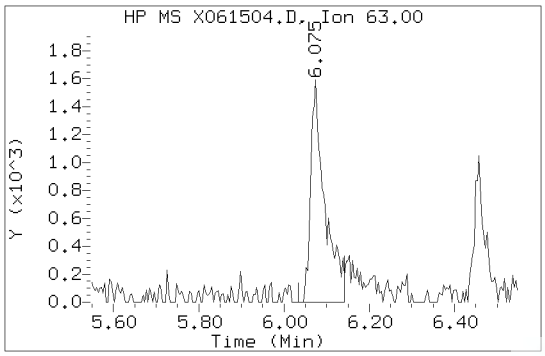
BEFORE

MASS
63
AREA
3674
HEIGHT
1592
20-Jun-2023
18:22
linh
pham



AFTER

MASS
63
AREA
3674
HEIGHT
1592
20-Jun-2023
18:22
linh
pham

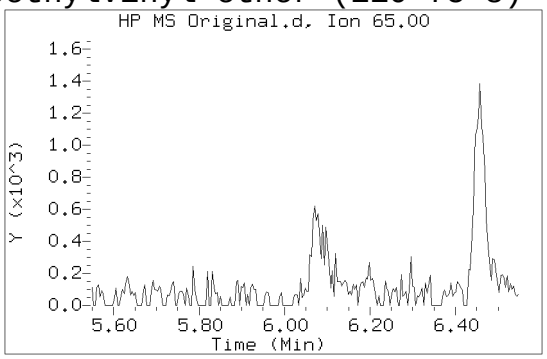


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

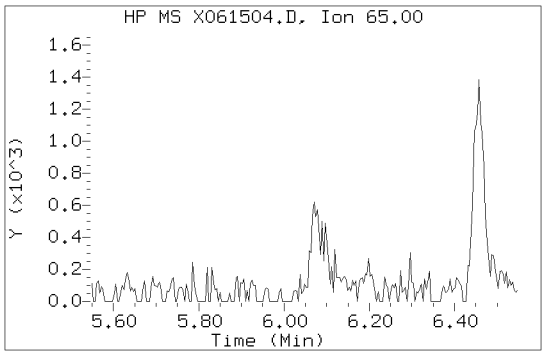
2-Chloroethylvinyl ether (110-75-8)

Reason Code:

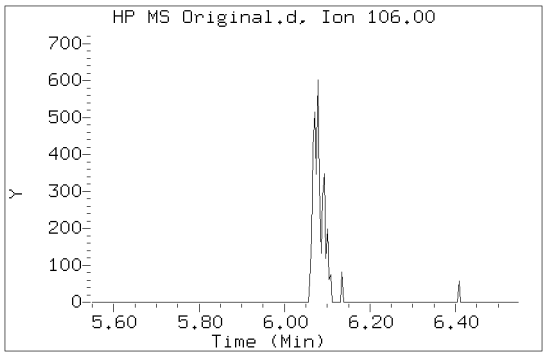
BEFORE
MASS
65
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



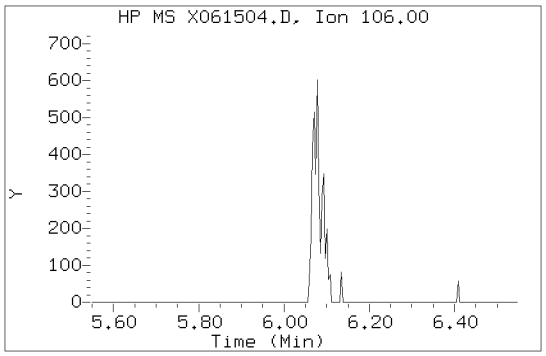
AFTER
MASS
65
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
106
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



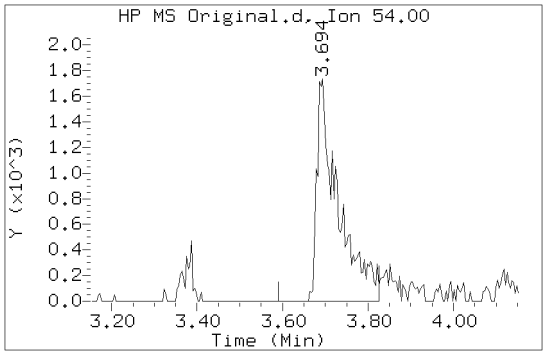
AFTER
MASS
106
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



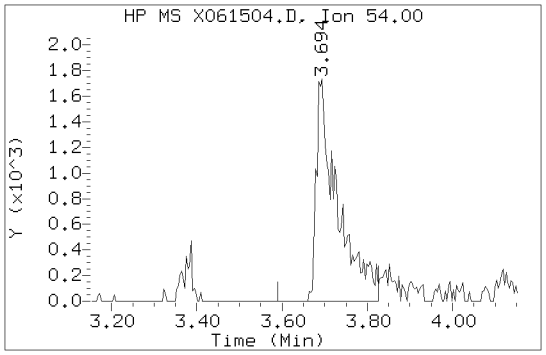
Propionitrile (107-12-0)

Reason Code:

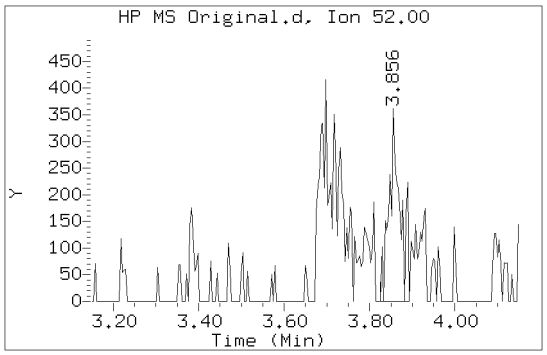
BEFORE
MASS
54
AREA
5974
HEIGHT
1735
20-Jun-2023
18:22
linh
pham



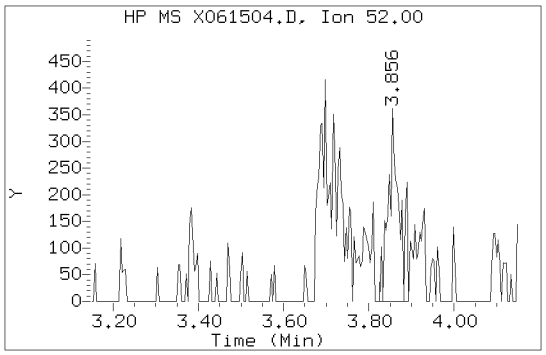
AFTER
MASS
54
AREA
5974
HEIGHT
1735
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
52
AREA
648
HEIGHT
362
20-Jun-2023
18:22
linh
pham



AFTER
MASS
52
AREA
648
HEIGHT
362
20-Jun-2023
18:22
linh
pham



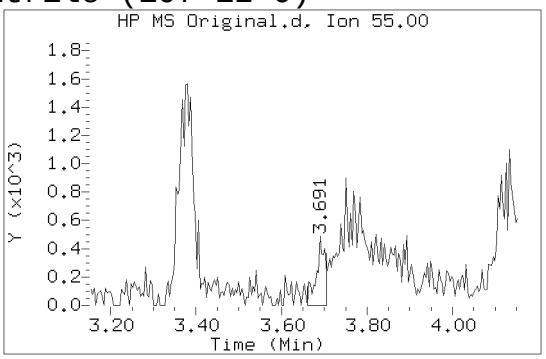
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

Propionitrile (107-12-0)

Reason Code:

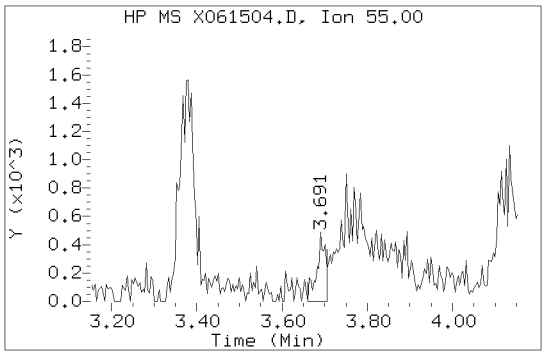
BEFORE

MASS
55
AREA
674
HEIGHT
489
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
674
HEIGHT
489
20-Jun-2023
18:22
linh
pham

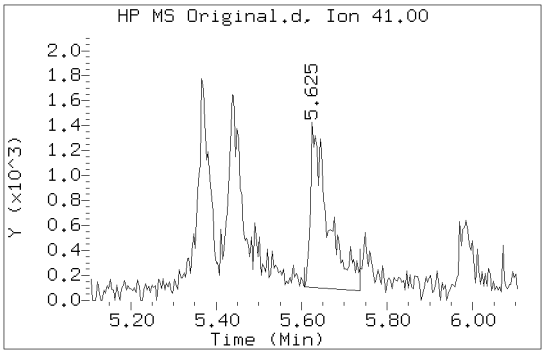


Methyl Methacrylate (80-62-6)

Reason Code:

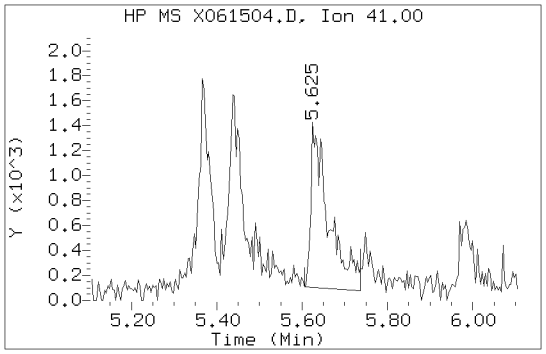
BEFORE

MASS
41
AREA
3817
HEIGHT
1324
20-Jun-2023
18:22
linh
pham



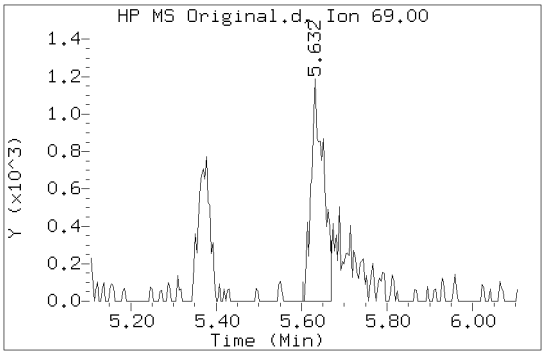
AFTER

MASS
41
AREA
3817
HEIGHT
1324
20-Jun-2023
18:22
linh
pham



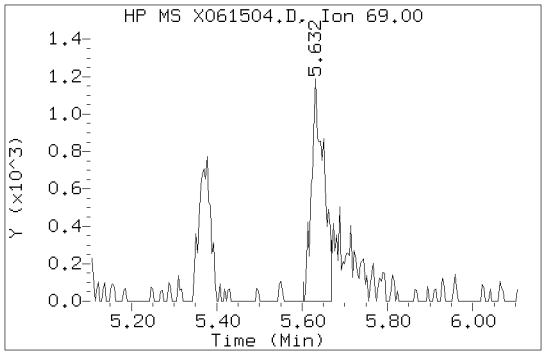
BEFORE

MASS
69
AREA
2379
HEIGHT
1188
20-Jun-2023
18:22
linh
pham



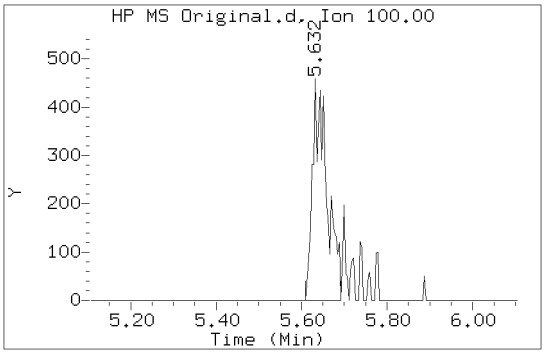
AFTER

MASS
69
AREA
2379
HEIGHT
1188
20-Jun-2023
18:22
linh
pham



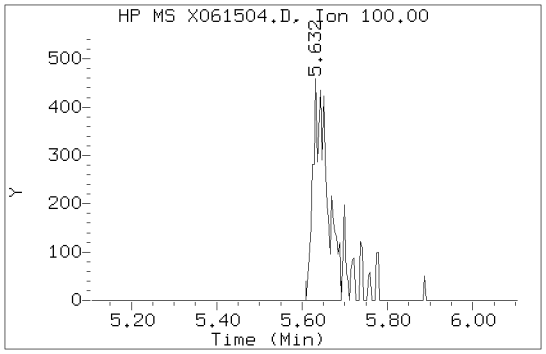
BEFORE

MASS
100
AREA
1063
HEIGHT
459
20-Jun-2023
18:22
linh
pham



AFTER

MASS
100
AREA
1063
HEIGHT
459
20-Jun-2023
18:22
linh
pham



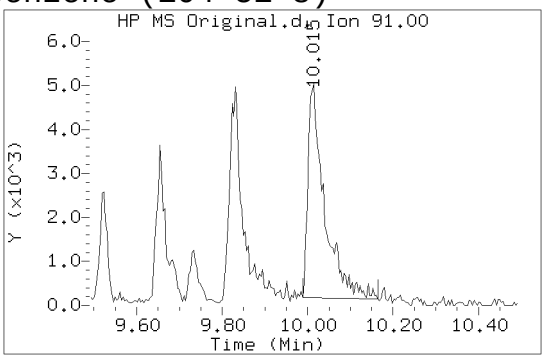
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

n-Butylbenzene (104-51-8)

Reason Code:

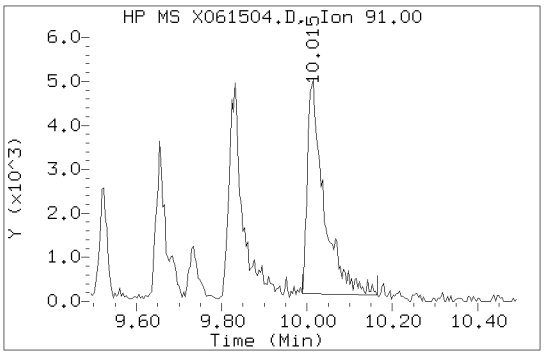
BEFORE

MASS
91
AREA
13132
HEIGHT
4870
20-Jun-2023
18:22
linh
pham



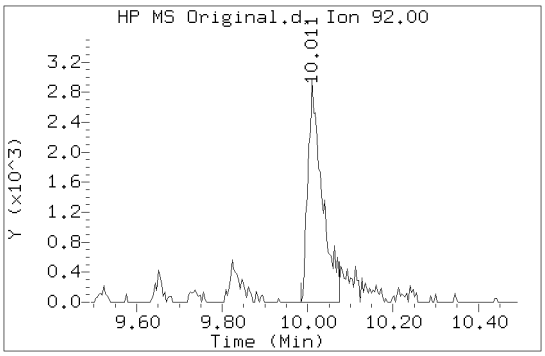
AFTER

MASS
91
AREA
13132
HEIGHT
4870
20-Jun-2023
18:22
linh
pham



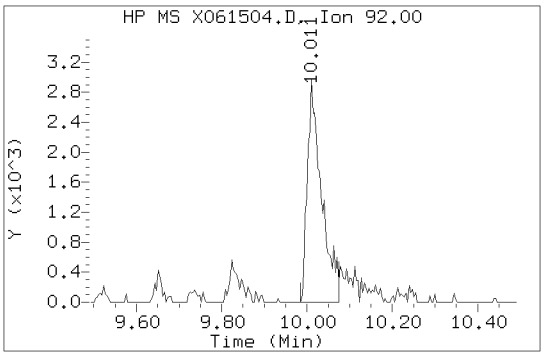
BEFORE

MASS
92
AREA
6834
HEIGHT
2964
20-Jun-2023
18:22
linh
pham



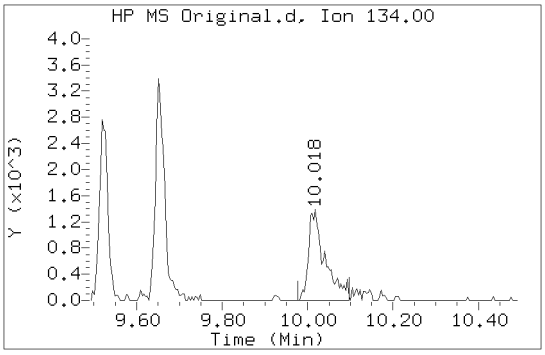
AFTER

MASS
92
AREA
6834
HEIGHT
2964
20-Jun-2023
18:22
linh
pham



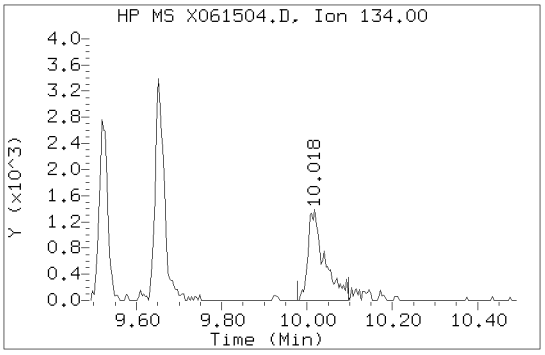
BEFORE

MASS
134
AREA
3724
HEIGHT
1389
20-Jun-2023
18:22
linh
pham



AFTER

MASS
134
AREA
3724
HEIGHT
1389
20-Jun-2023
18:22
linh
pham

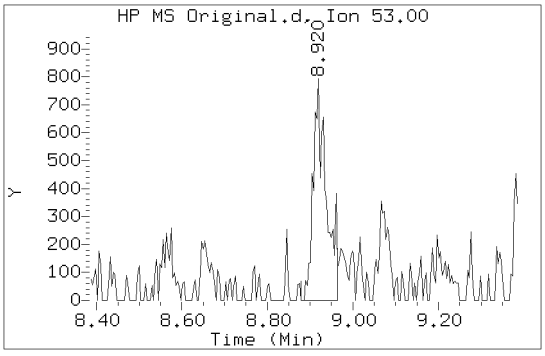


trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

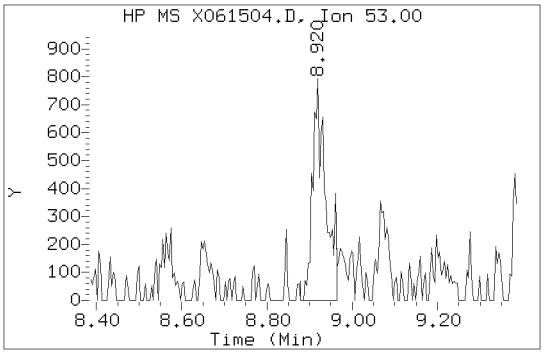
BEFORE

MASS
53
AREA
1668
HEIGHT
793
20-Jun-2023
18:22
linh
pham



AFTER

MASS
53
AREA
1668
HEIGHT
793
20-Jun-2023
18:22
linh
pham



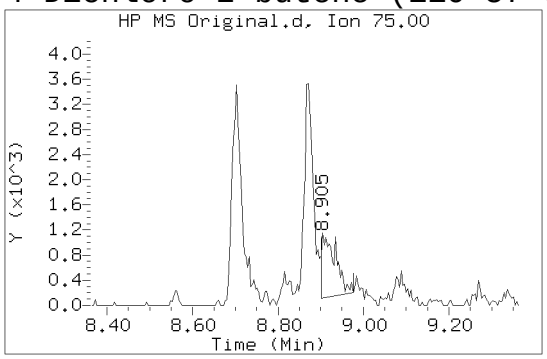
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

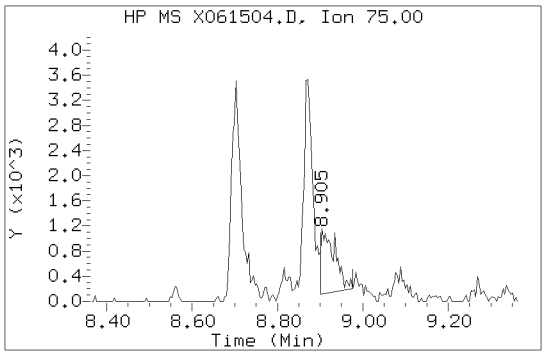
BEFORE

MASS
75
AREA
2315
HEIGHT
1032
20-Jun-2023
18:22
linh
pham



AFTER

MASS
75
AREA
2315
HEIGHT
1032
20-Jun-2023
18:22
linh
pham

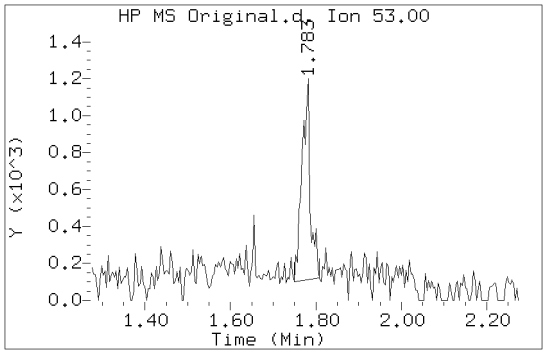


Chloroprene (126-99-8)

Reason Code:

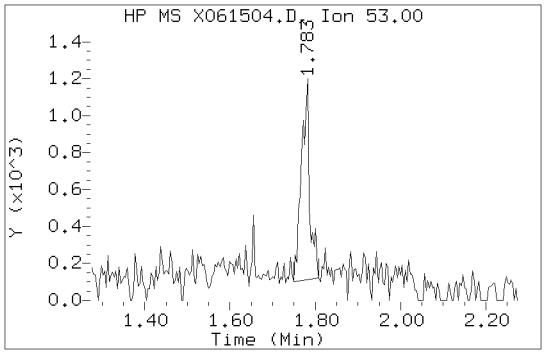
BEFORE

MASS
53
AREA
1506
HEIGHT
1087
20-Jun-2023
18:22
linh
pham



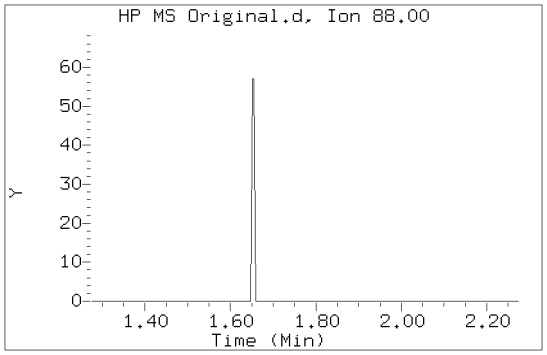
AFTER

MASS
53
AREA
1506
HEIGHT
1087
20-Jun-2023
18:22
linh
pham



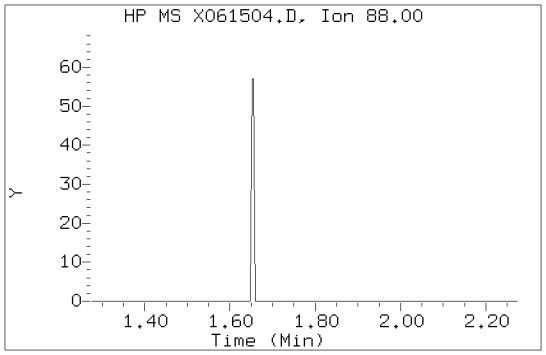
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

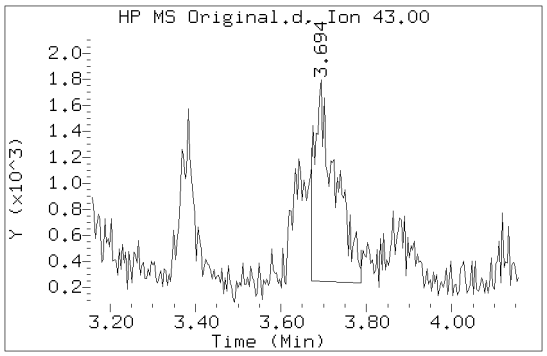


Ethyl Acetate (141-78-6)

Reason Code:

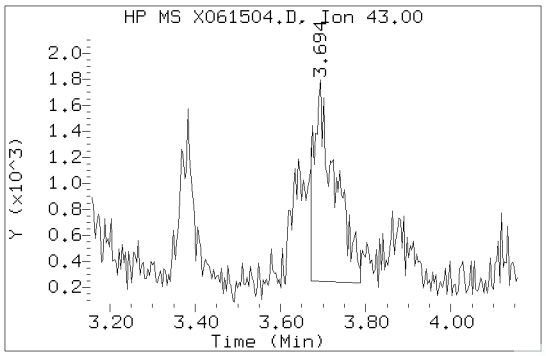
BEFORE

MASS
43
AREA
5317
HEIGHT
1547
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
5317
HEIGHT
1547
20-Jun-2023
18:22
linh
pham



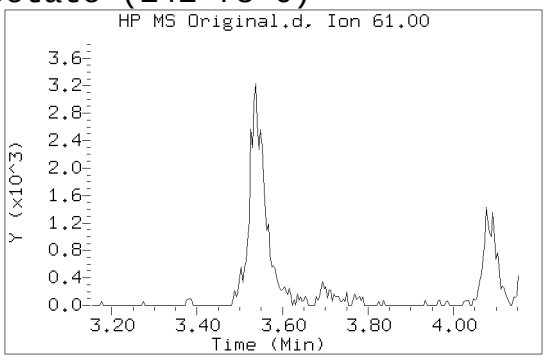
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

Ethyl Acetate (141-78-6)

Reason Code:

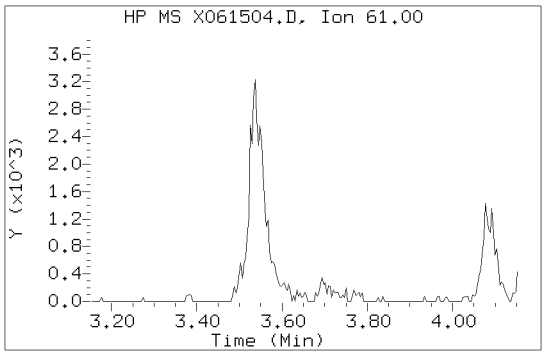
BEFORE

MASS
61
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



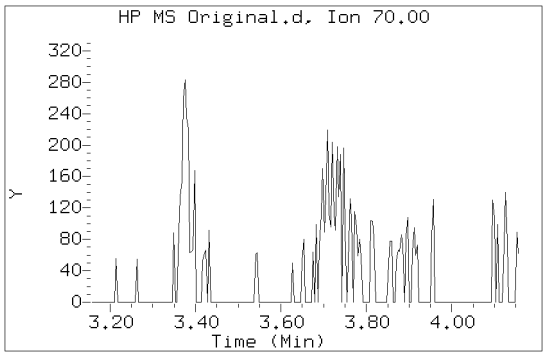
AFTER

MASS
61
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



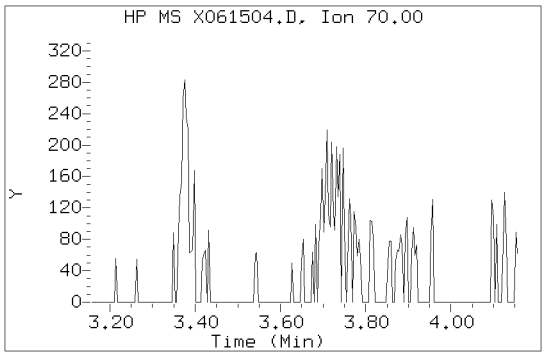
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

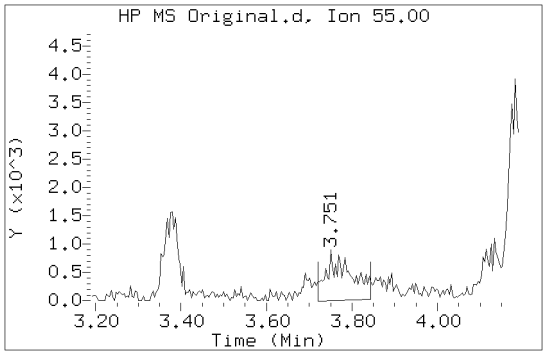


Methyl Acrylate (96-33-3)

Reason Code:

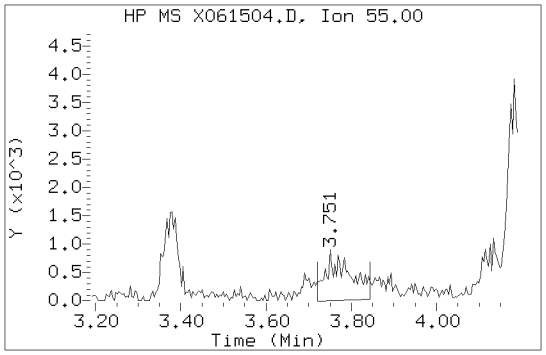
BEFORE

MASS
55
AREA
3465
HEIGHT
896
20-Jun-2023
18:22
linh
pham



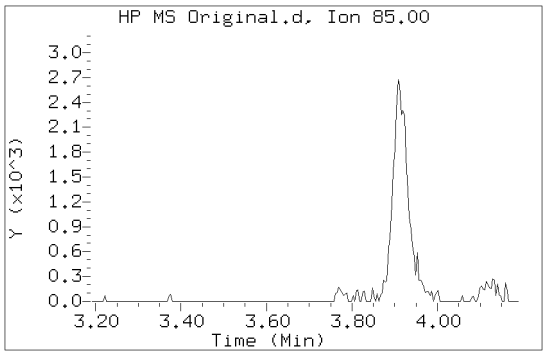
AFTER

MASS
55
AREA
3465
HEIGHT
896
20-Jun-2023
18:22
linh
pham



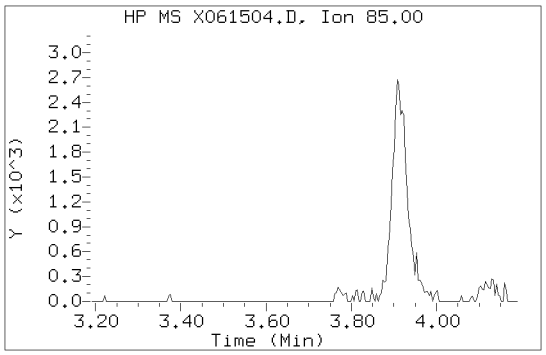
BEFORE

MASS
85
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
85
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



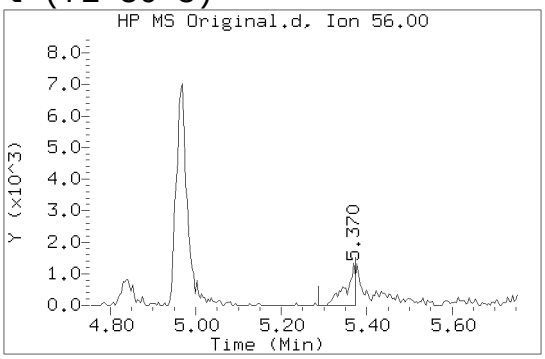
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

n-Butanol (71-36-3)

Reason Code:

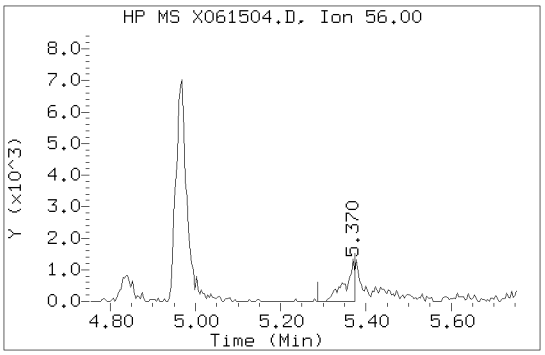
BEFORE

MASS
56
AREA
2023
HEIGHT
1343
20-Jun-2023
18:22
linh
pham



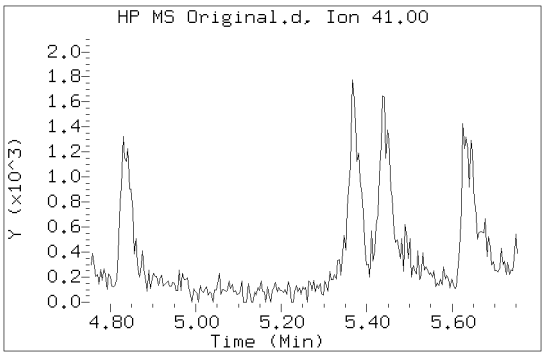
AFTER

MASS
56
AREA
2023
HEIGHT
1343
20-Jun-2023
18:22
linh
pham



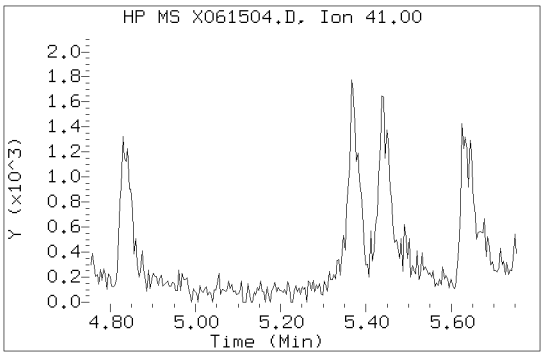
BEFORE

MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

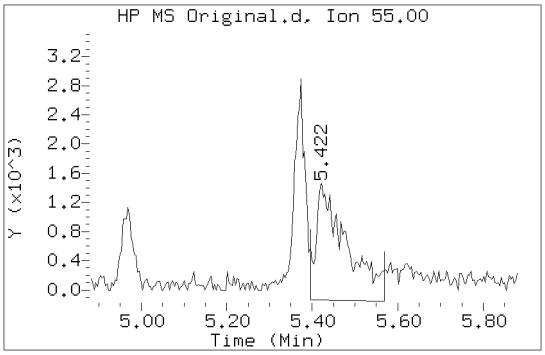


Ethyl Acrylate (140-88-5)

Reason Code:

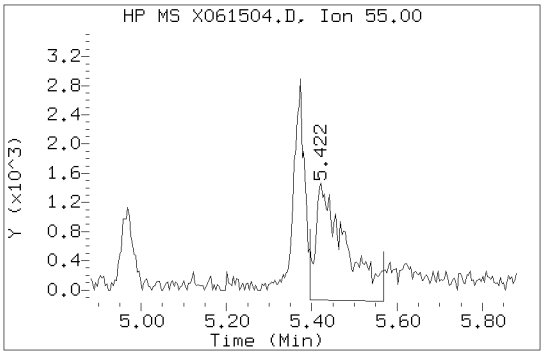
BEFORE

MASS
55
AREA
8042
HEIGHT
1606
20-Jun-2023
18:22
linh
pham



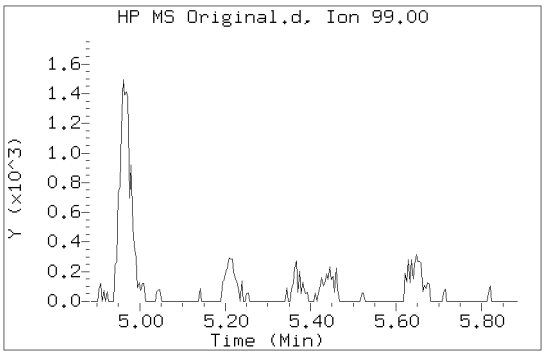
AFTER

MASS
55
AREA
8042
HEIGHT
1606
20-Jun-2023
18:22
linh
pham



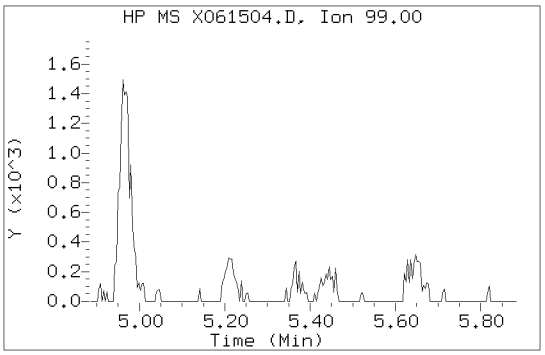
BEFORE

MASS
99
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
99
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

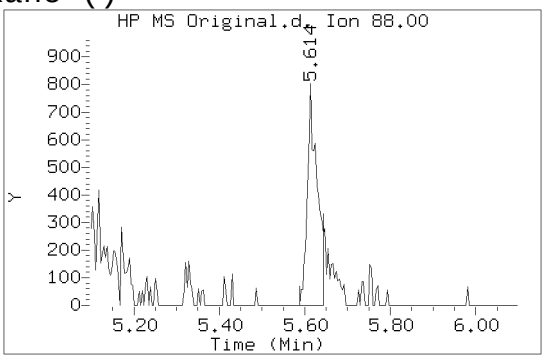


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

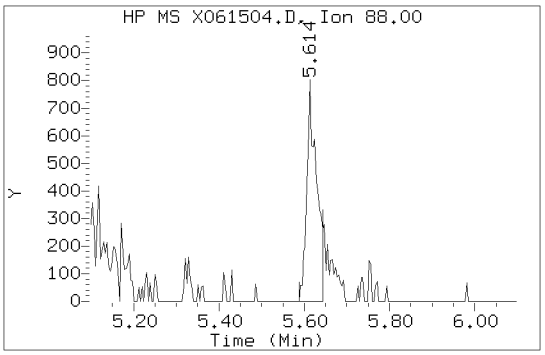
1,4-Dioxane ()

Reason Code:

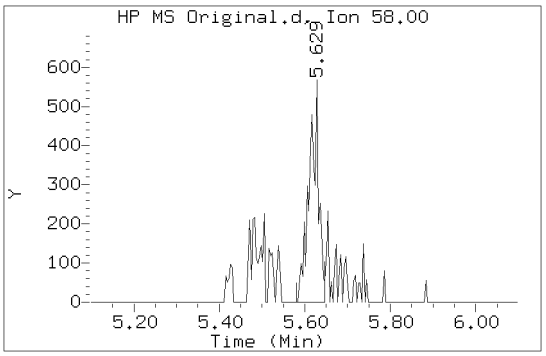
BEFORE
MASS
88
AREA
1286
HEIGHT
803
20-Jun-2023
18:22
linh
pham



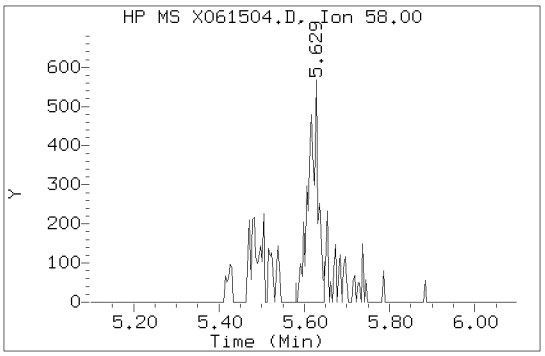
AFTER
MASS
88
AREA
1286
HEIGHT
803
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
58
AREA
874
HEIGHT
568
20-Jun-2023
18:22
linh
pham



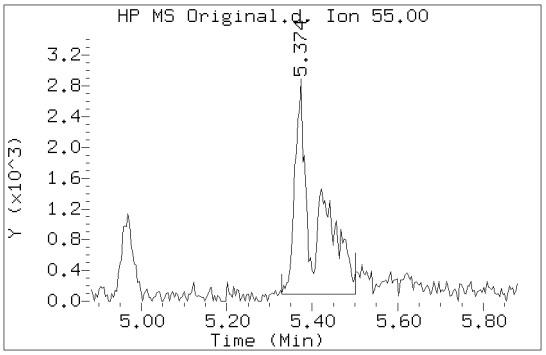
AFTER
MASS
58
AREA
874
HEIGHT
568
20-Jun-2023
18:22
linh
pham



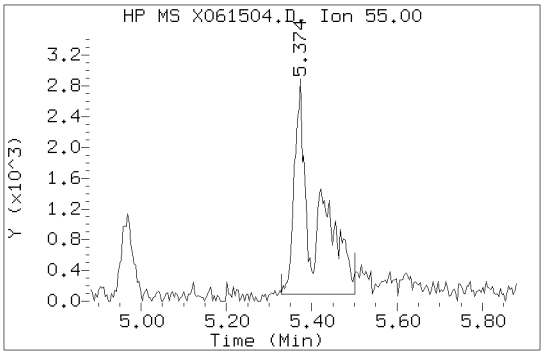
Methylcyclohexane (108-87-2)

Reason Code:

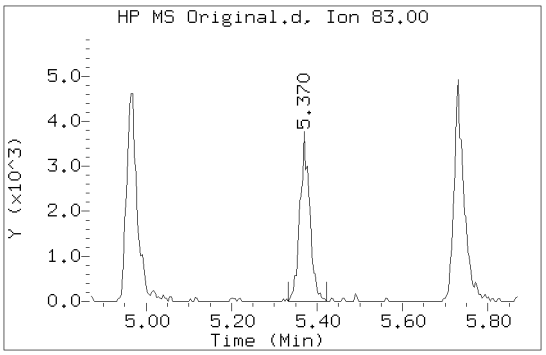
BEFORE
MASS
55
AREA
9209
HEIGHT
2801
20-Jun-2023
18:22
linh
pham



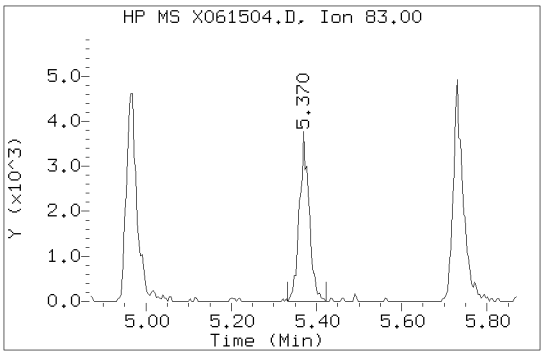
AFTER
MASS
55
AREA
9209
HEIGHT
2801
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
83
AREA
6088
HEIGHT
3776
20-Jun-2023
18:22
linh
pham



AFTER
MASS
83
AREA
6088
HEIGHT
3776
20-Jun-2023
18:22
linh
pham

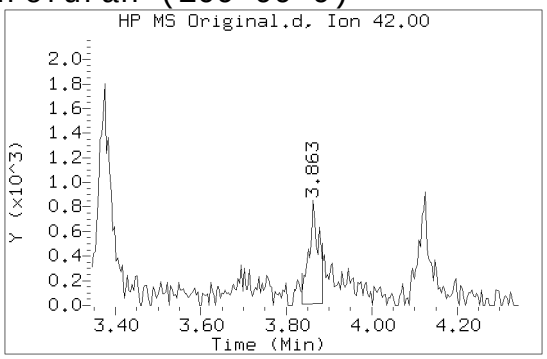


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

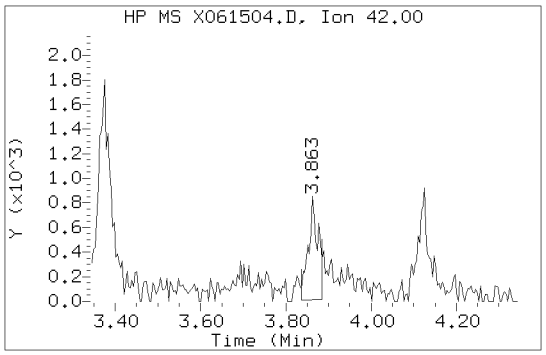
Tetrahydrofuran (109-99-9)

Reason Code:

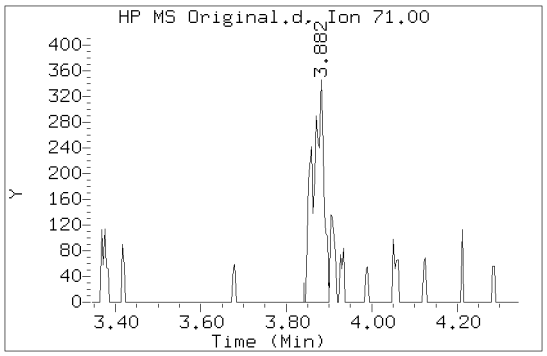
BEFORE
MASS
42
AREA
1350
HEIGHT
841
20-Jun-2023
18:22
linh
pham



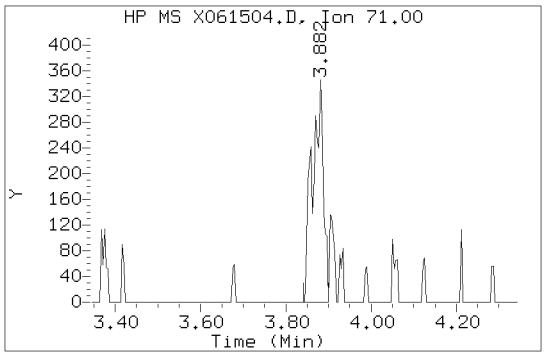
AFTER
MASS
42
AREA
1350
HEIGHT
841
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
71
AREA
625
HEIGHT
346
20-Jun-2023
18:22
linh
pham



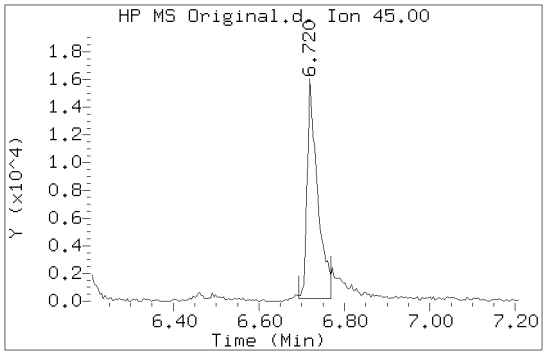
AFTER
MASS
71
AREA
625
HEIGHT
346
20-Jun-2023
18:22
linh
pham



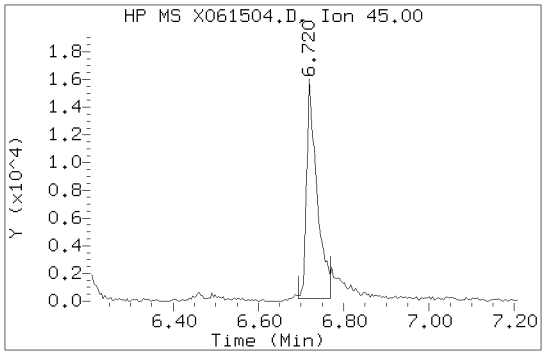
4-Methyl-2-pentanol (108-11-2)

Reason Code:

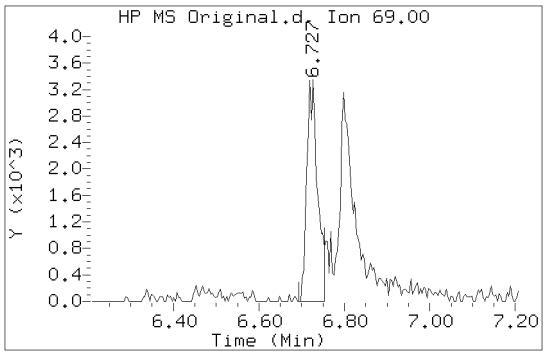
BEFORE
MASS
45
AREA
26840
HEIGHT
15843
20-Jun-2023
18:22
linh
pham



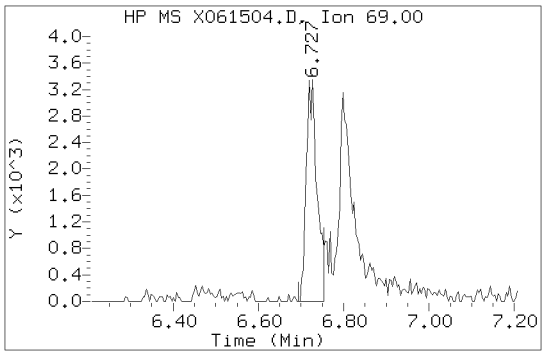
AFTER
MASS
45
AREA
26840
HEIGHT
15843
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
69
AREA
5923
HEIGHT
3349
20-Jun-2023
18:22
linh
pham



AFTER
MASS
69
AREA
5923
HEIGHT
3349
20-Jun-2023
18:22
linh
pham

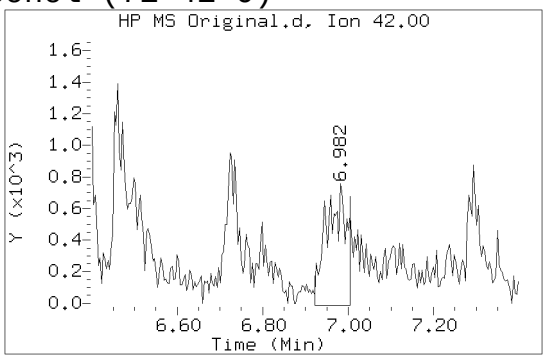


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

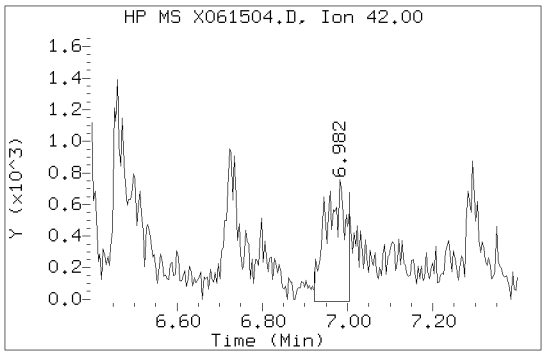
Amyl alcohol (71-41-0)

Reason Code:

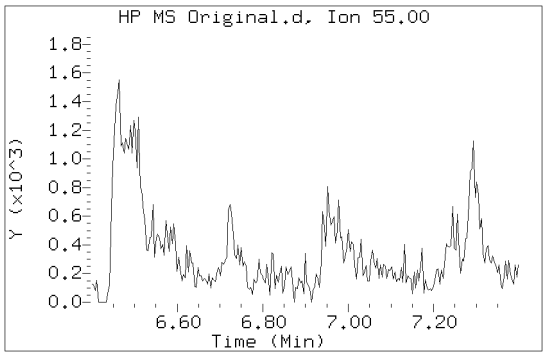
BEFORE
MASS
42
AREA
2449
HEIGHT
771
20-Jun-2023
18:22
linh
pham



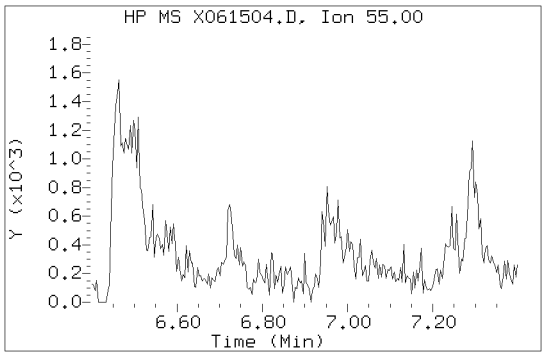
AFTER
MASS
42
AREA
2449
HEIGHT
771
20-Jun-2023
18:22
linh
pham



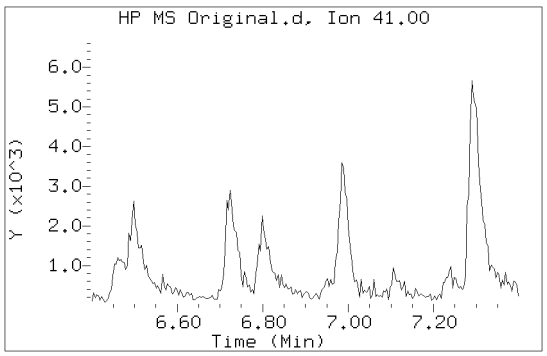
BEFORE
MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



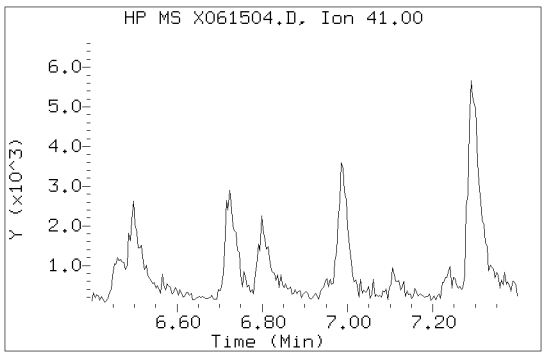
AFTER
MASS
55
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



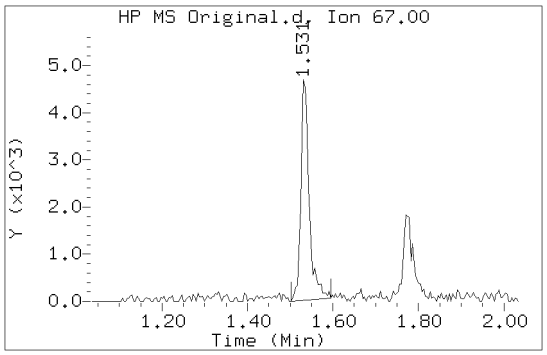
AFTER
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



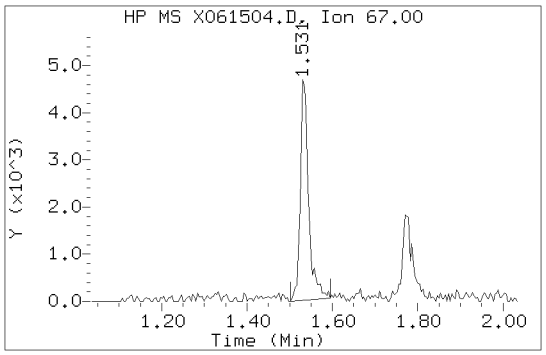
Dichlorofluoromethane (75-43-4)

Reason Code:

BEFORE
MASS
67
AREA
6498
HEIGHT
4679
20-Jun-2023
18:22
linh
pham



AFTER
MASS
67
AREA
6498
HEIGHT
4679
20-Jun-2023
18:22
linh
pham

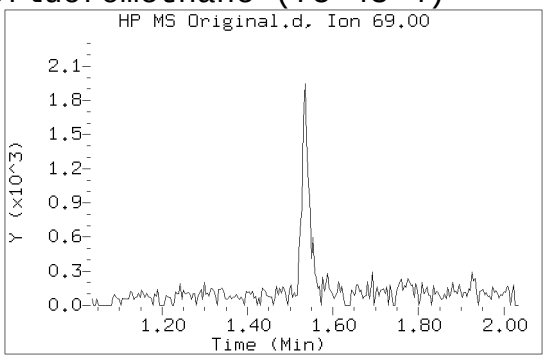


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

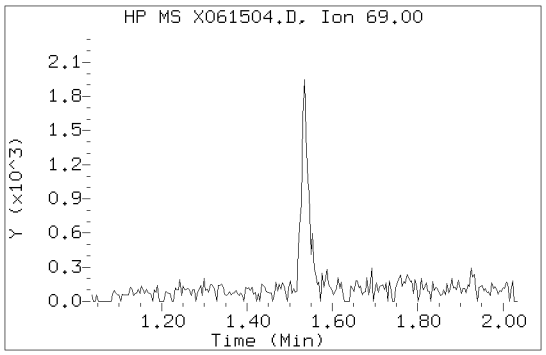
Dichlorofluoromethane (75-43-4)

Reason Code:

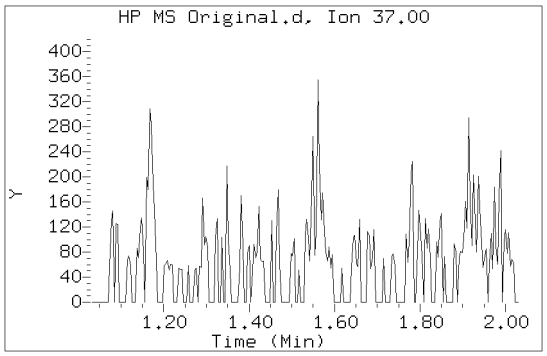
BEFORE
MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



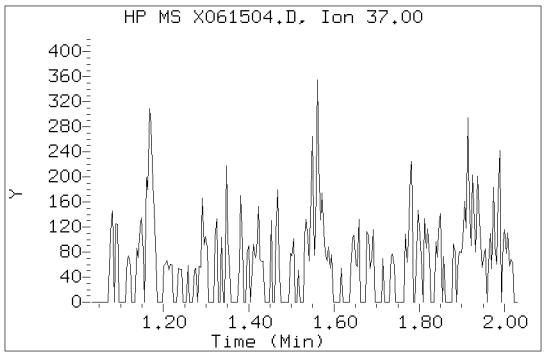
AFTER
MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
37
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



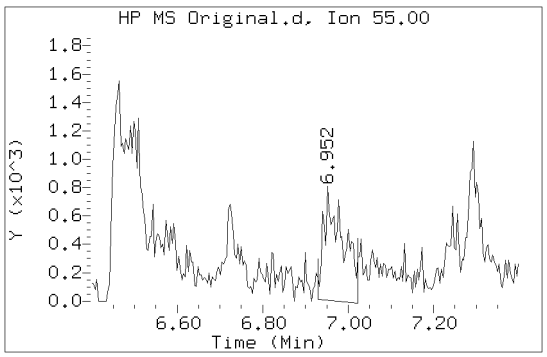
AFTER
MASS
37
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



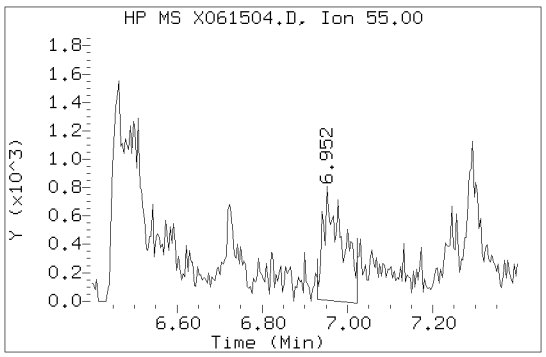
3-Methyl-1-butanol (123-51-3)

Reason Code:

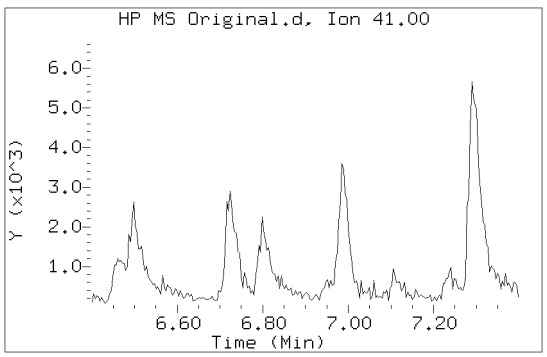
BEFORE
MASS
55
AREA
2518
HEIGHT
804
20-Jun-2023
18:22
linh
pham



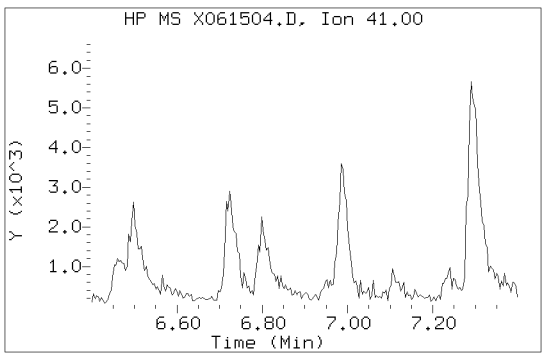
AFTER
MASS
55
AREA
2518
HEIGHT
804
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

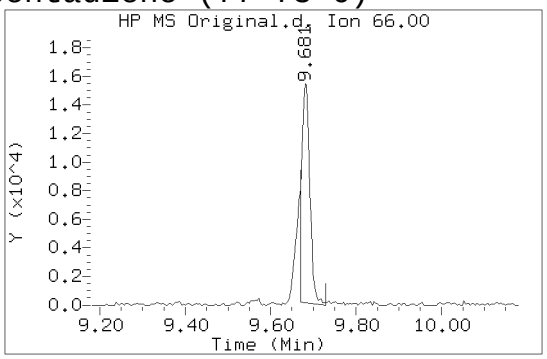


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

Dicyclopentadiene (77-73-6)

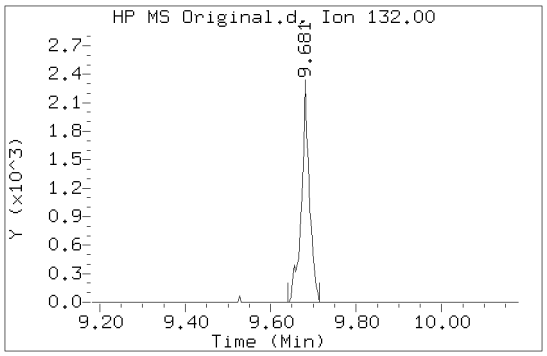
BEFORE

MASS
66
AREA
21021
HEIGHT
15318
20-Jun-2023
18:22
linh
pham



BEFORE

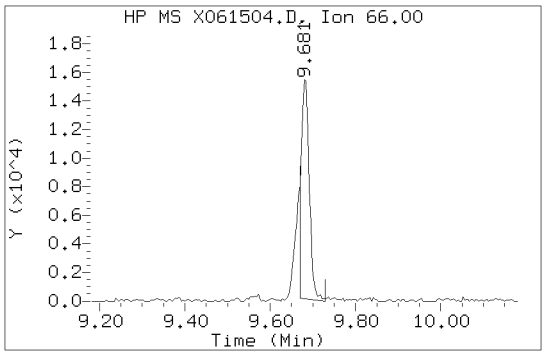
MASS
132
AREA
3124
HEIGHT
2340
20-Jun-2023
18:22
linh
pham



Reason Code:

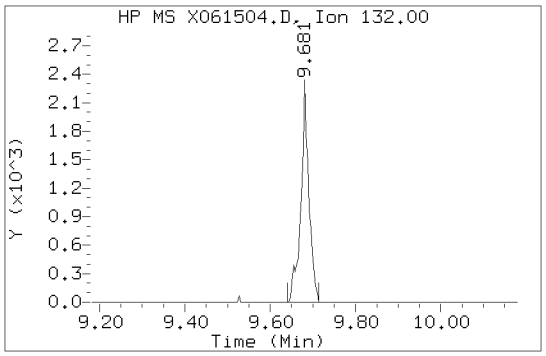
AFTER

MASS
66
AREA
21021
HEIGHT
15318
20-Jun-2023
18:22
linh
pham



AFTER

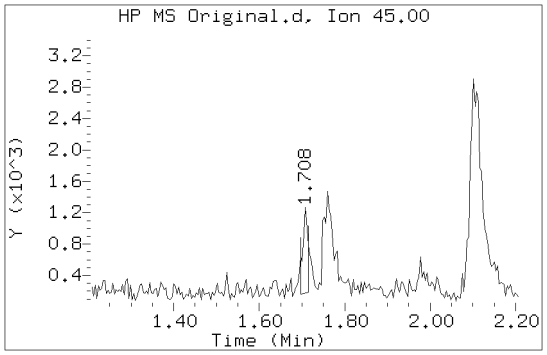
MASS
132
AREA
3124
HEIGHT
2340
20-Jun-2023
18:22
linh
pham



Ethanol (64-17-5)

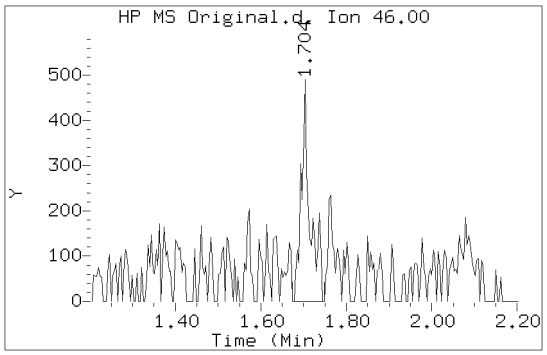
BEFORE

MASS
45
AREA
953
HEIGHT
1090
20-Jun-2023
18:22
linh
pham



BEFORE

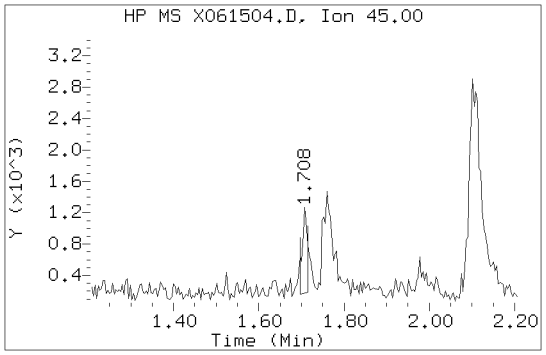
MASS
46
AREA
716
HEIGHT
490
20-Jun-2023
18:22
linh
pham



Reason Code:

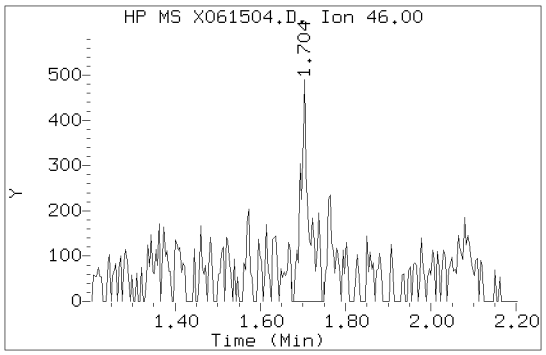
AFTER

MASS
45
AREA
953
HEIGHT
1090
20-Jun-2023
18:22
linh
pham



AFTER

MASS
46
AREA
716
HEIGHT
490
20-Jun-2023
18:22
linh
pham



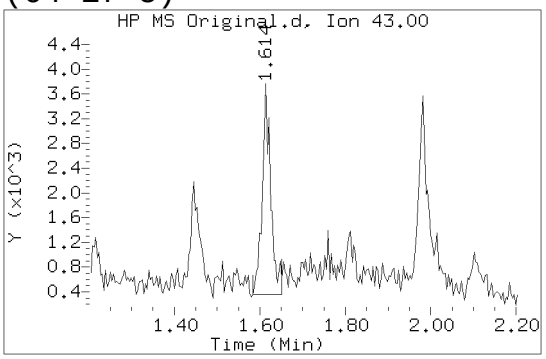
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

Ethanol (64-17-5)

Reason Code:

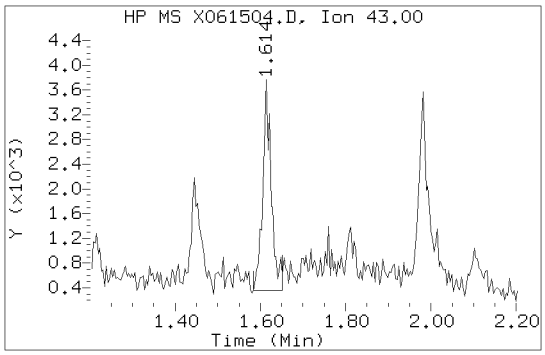
BEFORE

MASS
43
AREA
4694
HEIGHT
3406
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
4694
HEIGHT
3406
20-Jun-2023
18:22
linh
pham

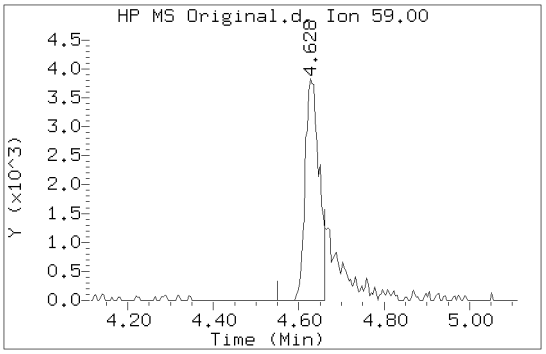


tert-Butyl formate (762-75-4)

Reason Code:

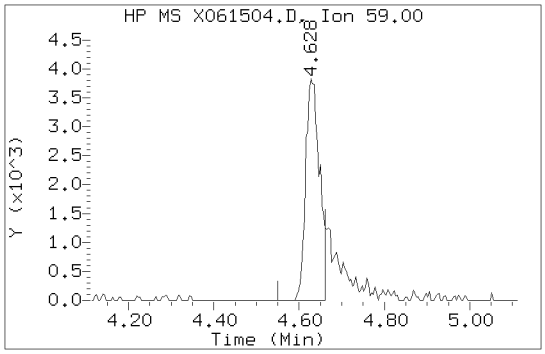
BEFORE

MASS
59
AREA
8761
HEIGHT
3830
20-Jun-2023
18:22
linh
pham



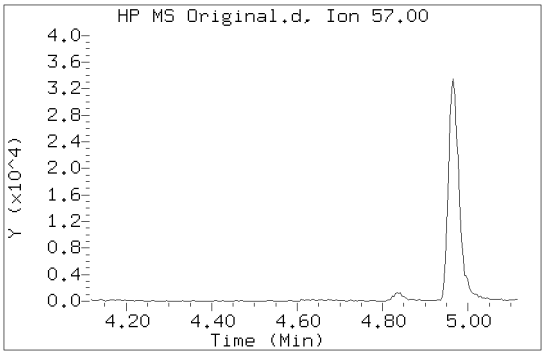
AFTER

MASS
59
AREA
8761
HEIGHT
3830
20-Jun-2023
18:22
linh
pham



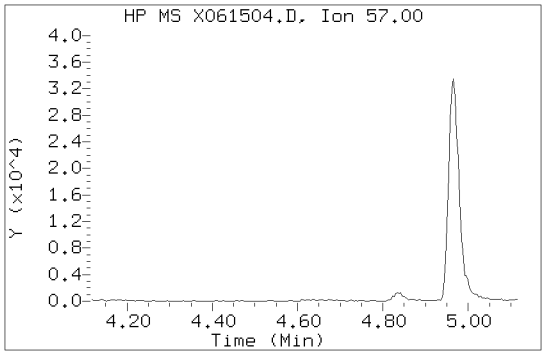
BEFORE

MASS
57
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



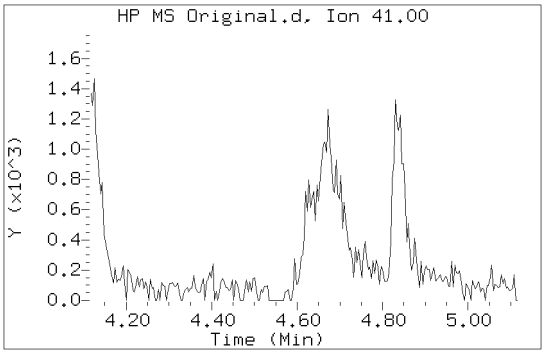
AFTER

MASS
57
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



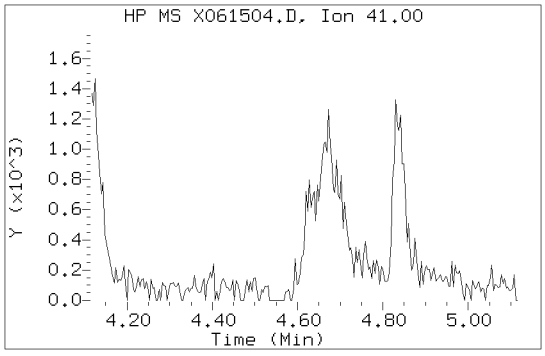
BEFORE

MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



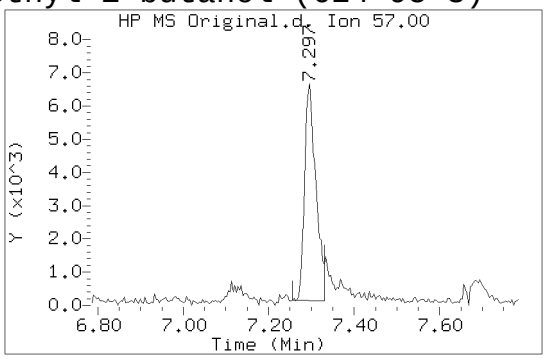
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

3,3-Dimethyl-1-butanol (624-95-3)

Reason Code:

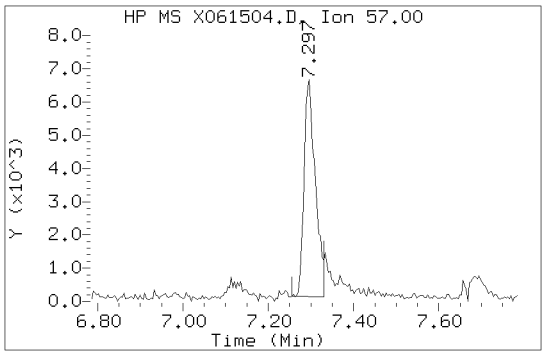
BEFORE

MASS
57
AREA
12186
HEIGHT
6525
20-Jun-2023
18:22
linh
pham



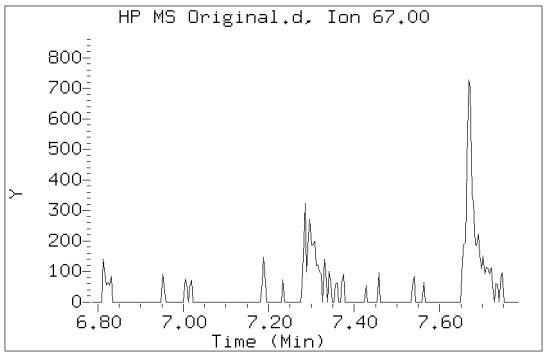
AFTER

MASS
57
AREA
12186
HEIGHT
6525
20-Jun-2023
18:22
linh
pham



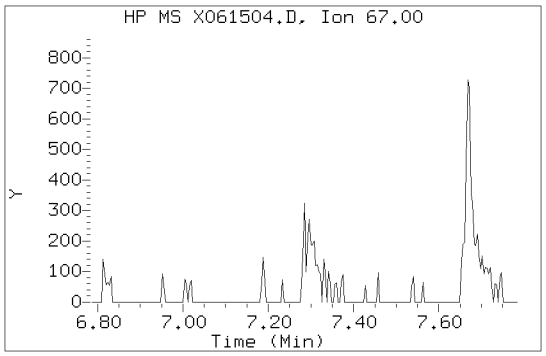
BEFORE

MASS
67
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



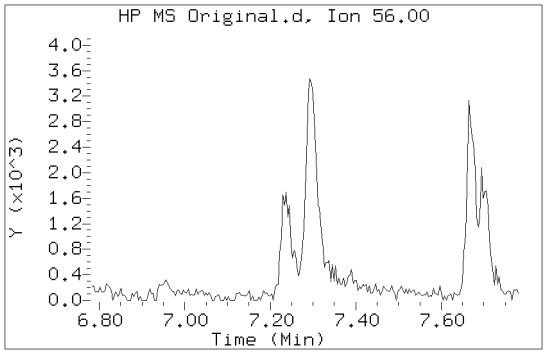
AFTER

MASS
67
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



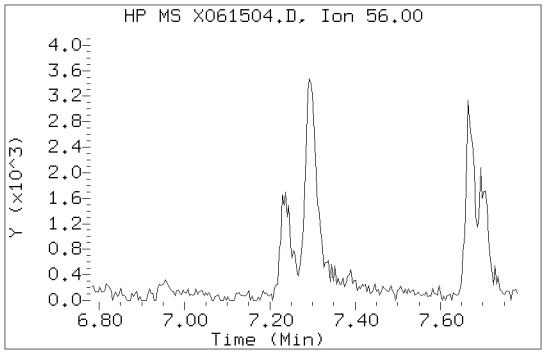
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

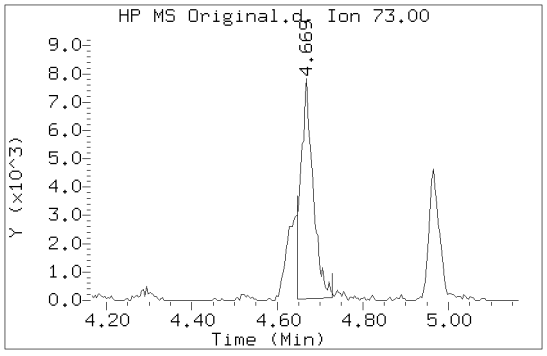


tert-Amyl methyl ether (974-05-08)

Reason Code:

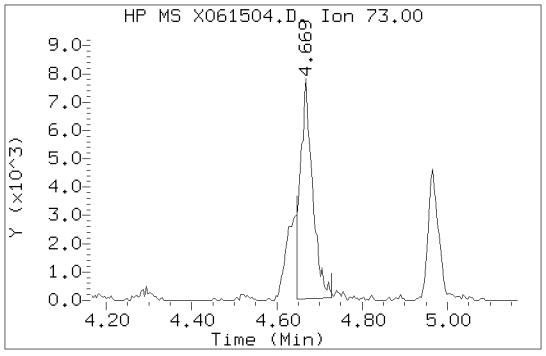
BEFORE

MASS
73
AREA
15782
HEIGHT
7775
20-Jun-2023
18:22
linh
pham



AFTER

MASS
73
AREA
15782
HEIGHT
7775
20-Jun-2023
18:22
linh
pham

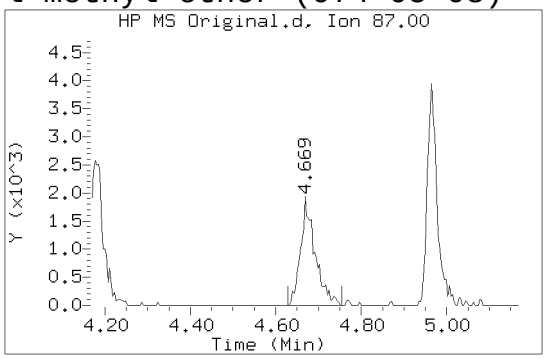


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

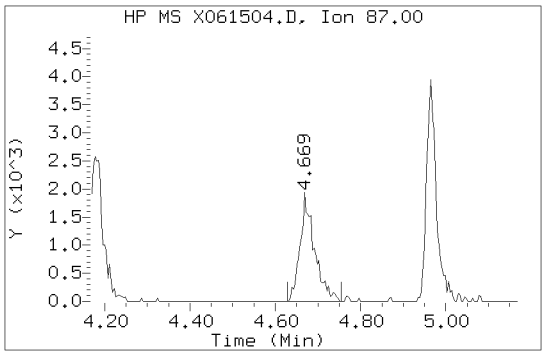
tert-Amyl methyl ether (974-05-08)

Reason Code:

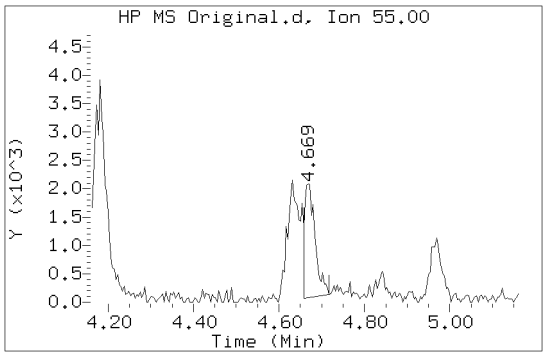
BEFORE
MASS
87
AREA
4614
HEIGHT
1942
20-Jun-2023
18:22
linh
pham



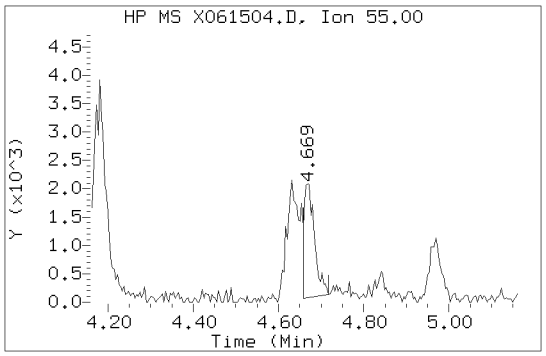
AFTER
MASS
87
AREA
4614
HEIGHT
1942
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
55
AREA
3580
HEIGHT
2001
20-Jun-2023
18:22
linh
pham



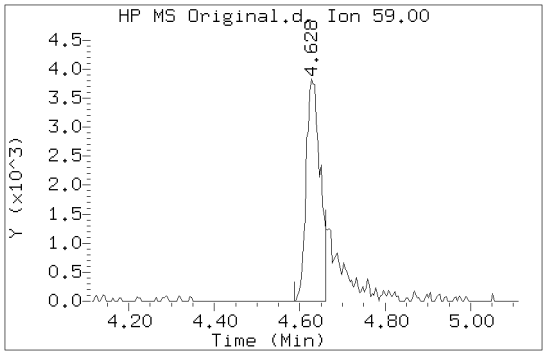
AFTER
MASS
55
AREA
3580
HEIGHT
2001
20-Jun-2023
18:22
linh
pham



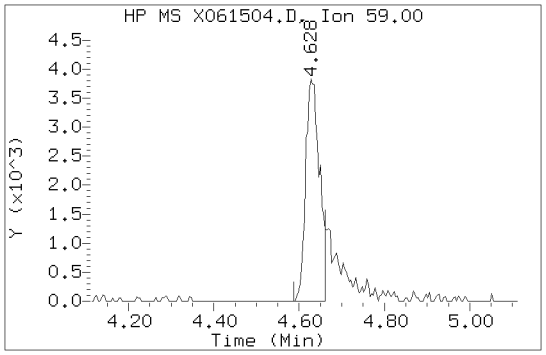
tert-Amyl alcohol (75-85-4)

Reason Code:

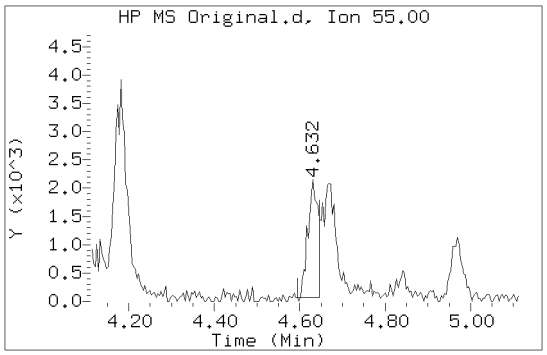
BEFORE
MASS
59
AREA
8761
HEIGHT
3830
20-Jun-2023
18:22
linh
pham



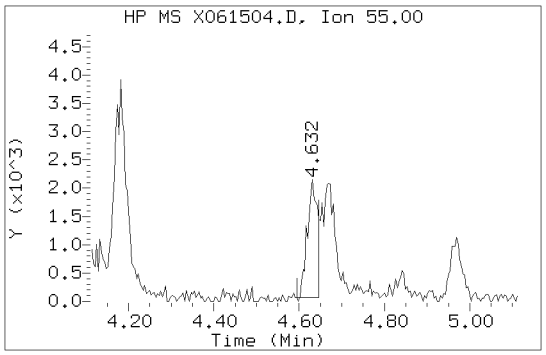
AFTER
MASS
59
AREA
8761
HEIGHT
3830
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
55
AREA
3431
HEIGHT
2078
20-Jun-2023
18:22
linh
pham



AFTER
MASS
55
AREA
3431
HEIGHT
2078
20-Jun-2023
18:22
linh
pham



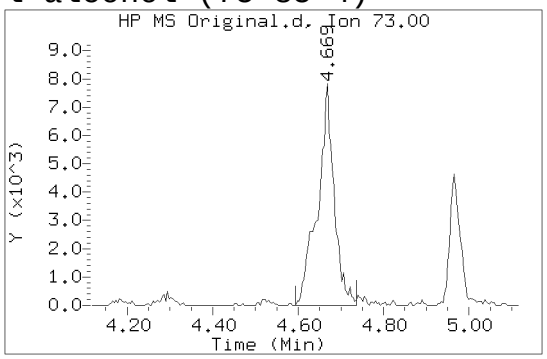
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

tert-Amyl alcohol (75-85-4)

Reason Code:

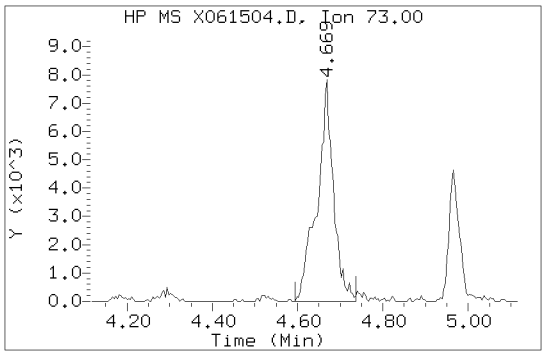
BEFORE

MASS
73
AREA
20939
HEIGHT
7828
20-Jun-2023
18:22
linh
pham



AFTER

MASS
73
AREA
20939
HEIGHT
7828
20-Jun-2023
18:22
linh
pham

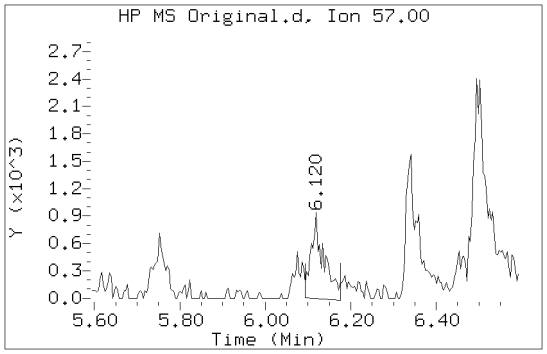


Epichlorohydrin (106-89-8)

Reason Code:

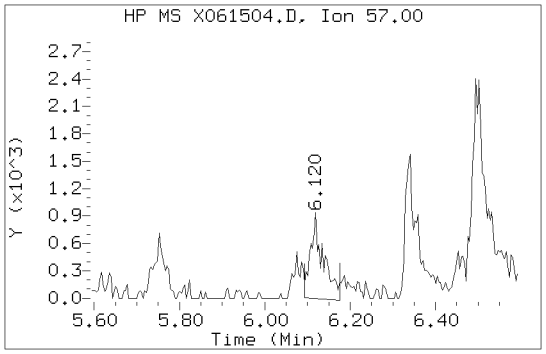
BEFORE

MASS
57
AREA
2012
HEIGHT
943
20-Jun-2023
18:22
linh
pham



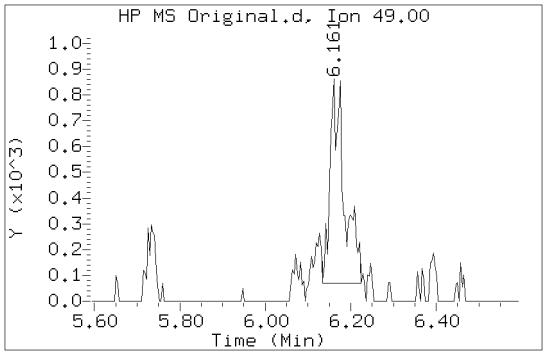
AFTER

MASS
57
AREA
2012
HEIGHT
943
20-Jun-2023
18:22
linh
pham



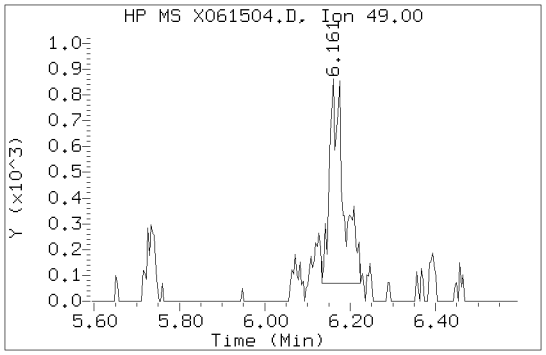
BEFORE

MASS
49
AREA
1811
HEIGHT
791
20-Jun-2023
18:22
linh
pham



AFTER

MASS
49
AREA
1811
HEIGHT
791
20-Jun-2023
18:22
linh
pham

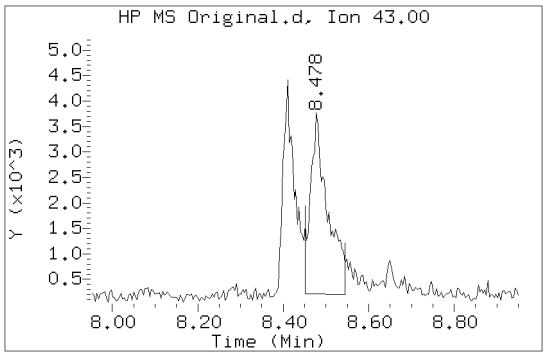


n-Amyl acetate (628-63-7)

Reason Code:

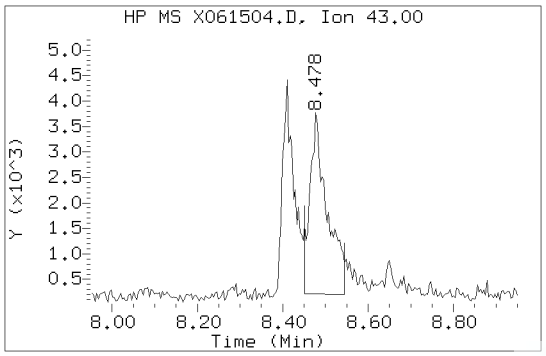
BEFORE

MASS
43
AREA
10084
HEIGHT
3554
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
10084
HEIGHT
3554
20-Jun-2023
18:22
linh
pham



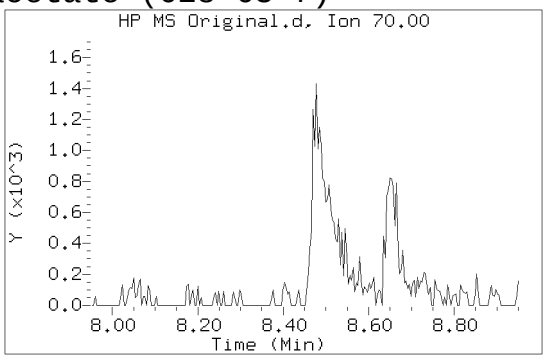
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

n-Amyl acetate (628-63-7)

Reason Code:

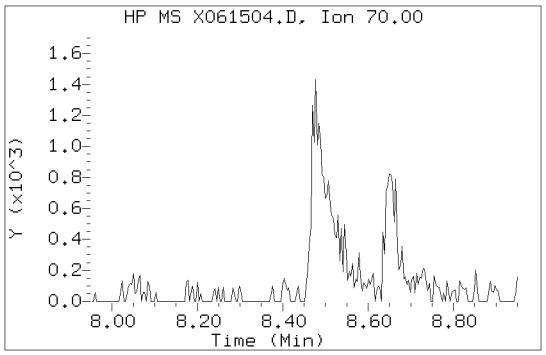
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



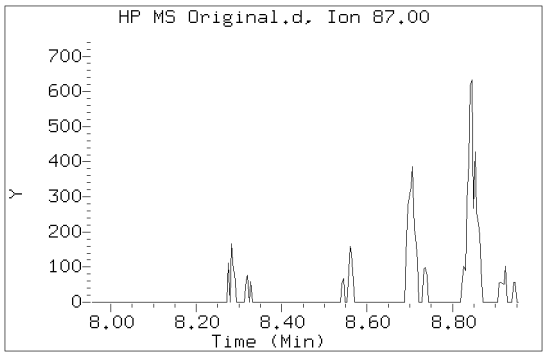
AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



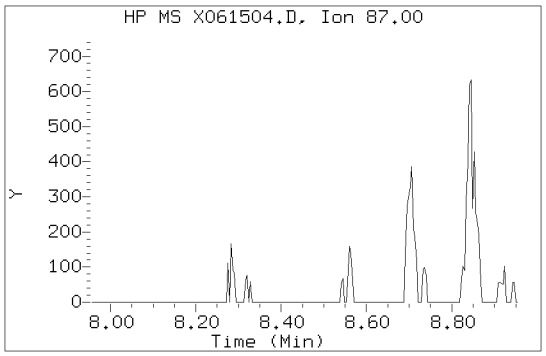
BEFORE

MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

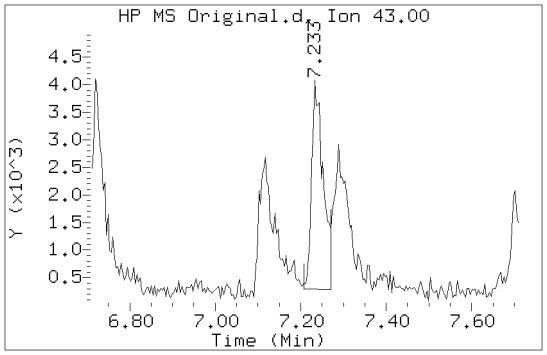


n-Butyl acetate (123-86-4)

Reason Code:

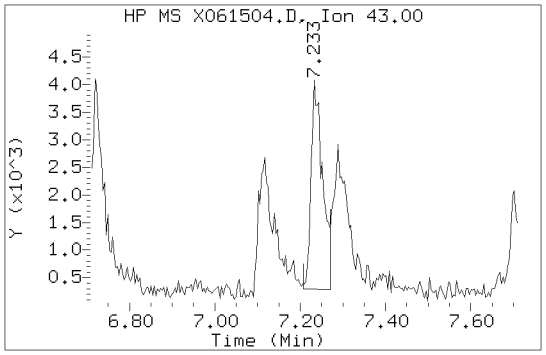
BEFORE

MASS
43
AREA
7115
HEIGHT
3783
20-Jun-2023
18:22
linh
pham



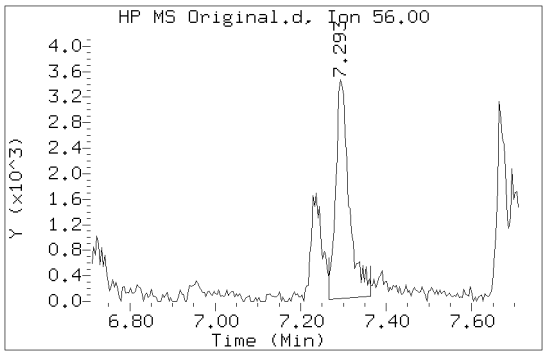
AFTER

MASS
43
AREA
7115
HEIGHT
3783
20-Jun-2023
18:22
linh
pham



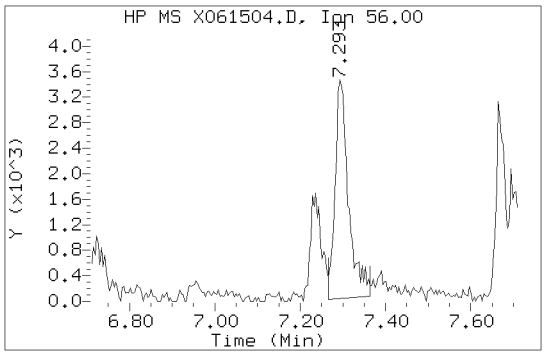
BEFORE

MASS
56
AREA
7504
HEIGHT
3430
20-Jun-2023
18:22
linh
pham



AFTER

MASS
56
AREA
7504
HEIGHT
3430
20-Jun-2023
18:22
linh
pham



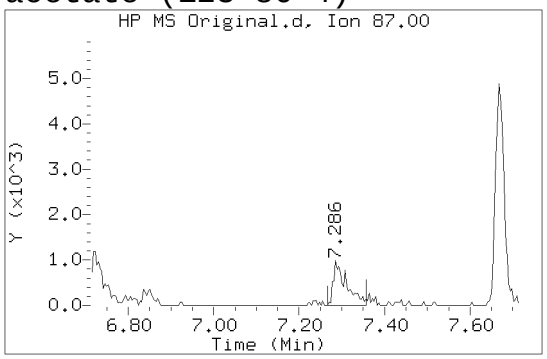
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

n-Butyl acetate (123-86-4)

Reason Code:

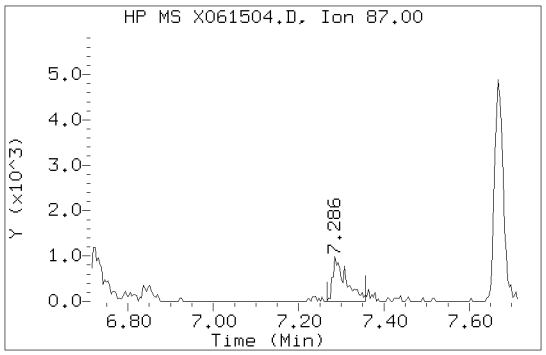
BEFORE

MASS
87
AREA
2090
HEIGHT
984
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
2090
HEIGHT
984
20-Jun-2023
18:22
linh
pham

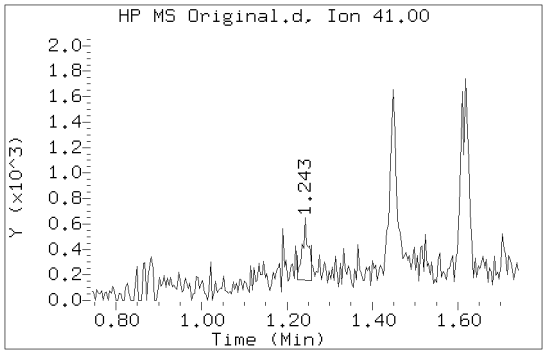


Isobutylene (115-11-7)

Reason Code:

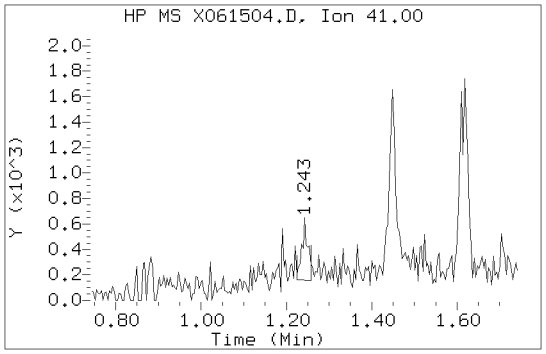
BEFORE

MASS
41
AREA
500
HEIGHT
491
20-Jun-2023
18:22
linh
pham



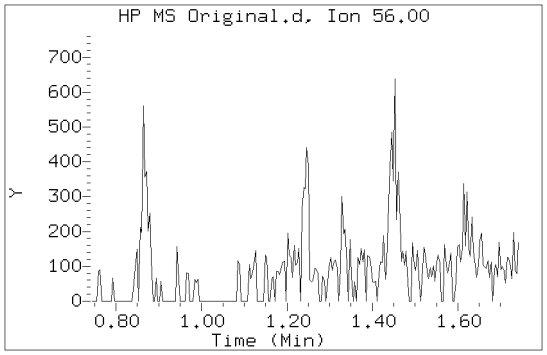
AFTER

MASS
41
AREA
500
HEIGHT
491
20-Jun-2023
18:22
linh
pham



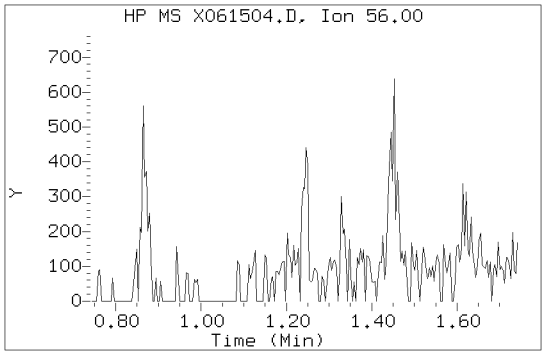
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



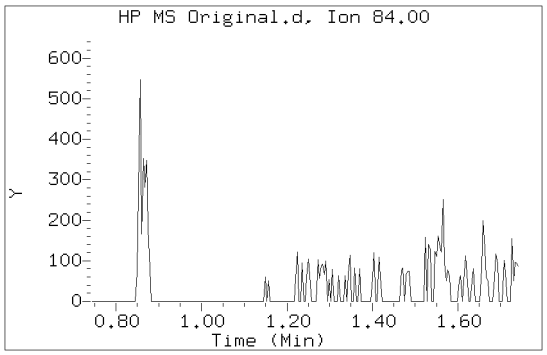
AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



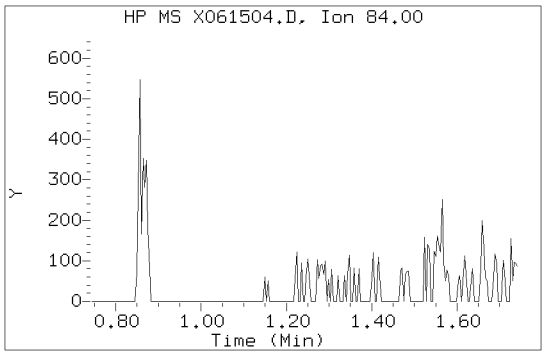
BEFORE

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



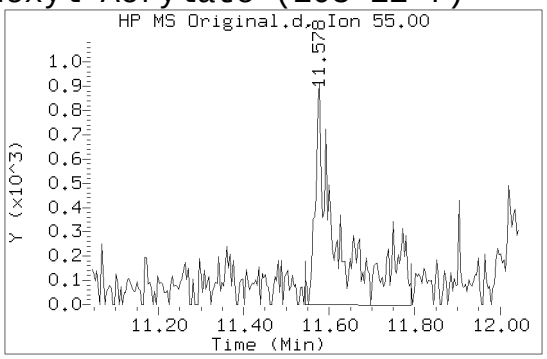
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061504.D
Inj Date : 15-JUN-2023 12:18
InstruID : voa6.i
LabSampID : VSTD001

2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

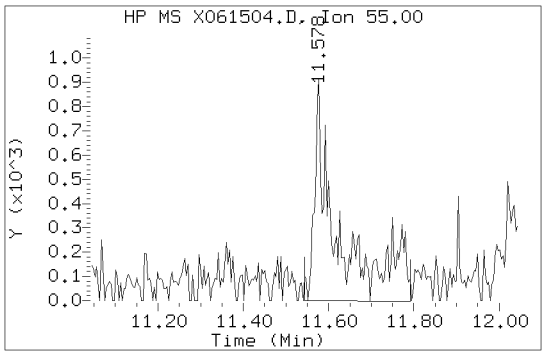
BEFORE

MASS
55
AREA
3400
HEIGHT
911
20-Jun-2023
18:22
linh
pham



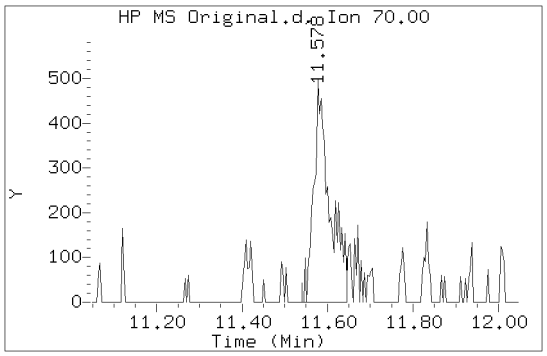
AFTER

MASS
55
AREA
3400
HEIGHT
911
20-Jun-2023
18:22
linh
pham



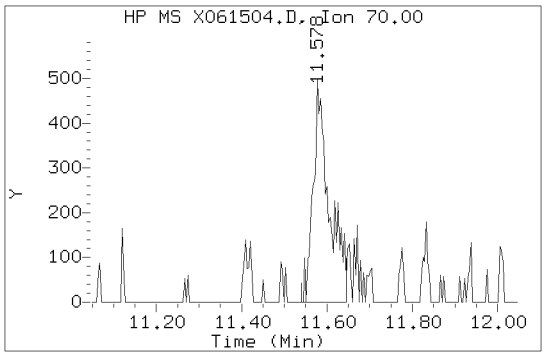
BEFORE

MASS
70
AREA
1291
HEIGHT
497
20-Jun-2023
18:22
linh
pham



AFTER

MASS
70
AREA
1291
HEIGHT
497
20-Jun-2023
18:22
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 15-JUN-2023 12:39
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 12:39 Cal File: X061505.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.181	(1.000)	491447	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	9827	2.00000	2.63
3	Chloromethane	50	1.081	1.081	(0.259)	11295	2.00000	3.15(M)
4	Propionitrile	54	3.675	3.653	(0.880)	10893	20.0000	18.32(a)
5	Vinyl Chloride	62	1.145	1.149	(0.274)	11284	2.00000	2.18(M)
6	Bromomethane	94	1.347	1.344	(0.323)	6397	2.00000	2.15
7	Chloroethane	64	1.404	1.407	(0.336)	6480	2.00000	2.05(M)
8	Trichlorofluoromethane	101	1.561	1.565	(0.374)	13596	2.00000	2.21(M)
9	Acrolein	56	1.449	1.449	(0.347)	1177	4.00000	3.85(aM)
10	Acetone	43	1.977	1.973	(0.473)	7818	4.00000	5.84
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	8233	2.00000	2.13(M)
12	Isobutyl Alcohol	43	4.680	4.676	(1.120)	25931	40.0000	40.46(a)
13	Acetonitrile	39	2.210	2.202	(0.529)	9828	20.0000	20.61(a)
14	Allyl Chloride	41	2.210	2.202	(0.529)	21197	2.00000	1.96(a)
15	Iodomethane	142	2.030	2.030	(0.486)	14998	4.00000	4.64
16	Acrylonitrile	53	2.577	2.536	(0.617)	6148	4.00000	3.94(M)
17	Methylene Chloride	84	2.311	2.307	(0.553)	10372	2.00000	1.90(M)
18	Methyl tert-butyl ether	73	2.539	2.536	(0.608)	28898	2.00000	2.15
19	Carbon Disulfide	76	2.071	2.071	(0.496)	57380	4.00000	4.18
20	trans-1,2-Dichloroethene	96	2.539	2.532	(0.608)	9744	2.00000	2.11
21	Vinyl Acetate	43	3.019	2.997	(0.723)	44460	4.00000	3.61(M)

22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	17688	2.00000	2.13
23 Chloroprene	53	1.775	1.775 (0.425)	3814	2.00000	2.33(aM)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.660	3.578	(0.876)	6420	4.00000	3.96(M)
25	Methacrylonitrile	41	3.859	3.821	(0.924)	6777	2.00000	1.67(aH)
26	2,2-Dichloropropane	77	3.510	3.514	(0.840)	15188	2.00000	2.31
27	cis-1,2-Dichloroethene	96	3.529	3.525	(0.845)	10709	2.00000	2.01
28	Chloroform	83	3.912	3.904	(0.936)	19699	2.00000	2.20
29	Bromochloromethane	128	3.799	3.795	(0.909)	6232	2.00000	2.20
$ 30	Dibromofluoromethane	113	4.110	4.099	(0.984)	9855	2.00000	1.91
31	1,1,1-Trichloroethane	97	4.084	4.084	(0.978)	15758	2.00000	2.18
32	1,1-Dichloropropene	75	4.283	4.279	(0.863)	13845	2.00000	2.18
33	1,2-Dichloroethane	62	4.568	4.556	(0.920)	11862	2.00000	1.86
34	Carbon Tetrachloride	117	4.268	4.264	(0.860)	13225	2.00000	2.16(M)
$ 35	1,2-Dichloroethane-d4	65	4.485	4.470	(1.074)	11054	2.00000	1.51
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	756725	50.0000	
37	Benzene	78	4.519	4.511	(0.910)	40051	2.00000	2.05
38	Trichloroethene	130	5.209	5.205	(1.049)	11520	2.00000	2.14(a)
39	Bromodichloromethane	83	5.726	5.722	(1.153)	13844	2.00000	2.01(a)
40	Methyl Methacrylate	41	5.625	5.606	(1.346)	6671	2.00000	1.75(a)
41	2-Chloroethylvinyl ether	63	6.067	6.048	(1.222)	7359	4.00000	3.94(a)
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	10261	2.00000	2.00(aM)
43	2-Nitropropane	43	5.973	5.966	(1.430)	2410	2.00000	1.81(aH)
44	Dibromomethane	93	5.561	5.550	(1.120)	6792	2.00000	2.11(a)
45	4-Methyl-2-Pentanone	43	6.333	6.322	(0.826)	18797	4.00000	4.09(a)
46	cis-1,3-Dichloropropene	75	6.164	6.153	(1.242)	16469	2.00000	1.93(a)
* 47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	710505	50.0000	
$ 48	Toluene-d8	98	6.393	6.386	(0.834)	37063	2.00000	2.06(a)
49	Ethyl Methacrylate	69	6.719	6.708	(1.353)	11631	2.00000	2.14(aM)
50	Toluene	91	6.453	6.445	(0.842)	44414	2.00000	2.12(a)
51	trans-1,3-Dichloropropene	75	6.689	6.678	(1.347)	13530	2.00000	1.90(a)
52	2-Hexanone	43	7.105	7.083	(0.927)	12601	4.00000	4.11(a)
53	1,1,2-Trichloroethane	83	6.843	6.835	(0.892)	8751	2.00000	2.15(a)
54	1,3-Dichloropropane	76	6.985	6.978	(0.911)	16399	2.00000	1.99(a)
55	Dibromochloromethane	129	7.180	7.173	(0.936)	11673	2.00000	2.02(a)
56	Tetrachloroethene	164	6.929	6.925	(0.904)	9492	2.00000	2.21(a)
57	1,2-Dibromoethane	107	7.263	7.259	(0.947)	10319	2.00000	1.98(a)
58	1-Chlorohexane	55	7.701	7.694	(1.551)	10171	2.00000	2.21(a)
59	Chlorobenzene	112	7.698	7.690	(1.004)	29078	2.00000	2.03(a)
60	1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	10908	2.00000	2.04(a)
61	Ethylbenzene	106	7.806	7.799	(1.018)	15525	2.00000	2.11(a)
62	m,p-Xylenes	106	7.908	7.900	(1.031)	37098	4.00000	4.09(a)
63	o-Xylene	106	8.245	8.237	(1.075)	19383	2.00000	2.14(a)
64	Styrene	104	8.271	8.256	(1.079)	29379	2.00000	1.97(a)
66	Bromoform	173	8.414	8.410	(1.097)	7721	2.00000	1.92(Ta)
67	Isopropylbenzene	105	8.564	8.560	(1.117)	47118	2.00000	2.10(a)
68	1,1,2,2-Tetrachloroethane	83	8.841	8.837	(0.915)	14437	2.00000	2.11(a)
$ 69	4-Bromofluorobenzene	95	8.695	8.687	(1.134)	16470	2.00000	1.86(a)
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	388397	50.0000	
71	1,2,3-Trichloropropane	75	8.867	8.863	(0.918)	10499	2.00000	2.14(a)
72	trans-1,4-Dichloro-2-butene	53	8.905	8.886	(1.161)	3093	2.00000	1.78(aM)
73	n-Propylbenzene	91	8.916	8.908	(0.923)	55786	2.00000	2.18(a)
74	Bromobenzene	156	8.815	8.803	(0.912)	13387	2.00000	2.11(aM)
75	1,3,5-Trimethylbenzene	105	9.070	9.066	(0.939)	39913	2.00000	2.12(a)
76	2-Chlorotoluene	91	8.976	8.972	(0.929)	35737	2.00000	2.20(a)

77	4-Chlorotoluene	91	9.081	9.070 (0.940)	39085	2.00000	2.15(a)
78	tert-Butylbenzene	119	9.336	9.336 (0.966)	34187	2.00000	2.18(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D Page 3
Report Date: 20-Jun-2023 18:25

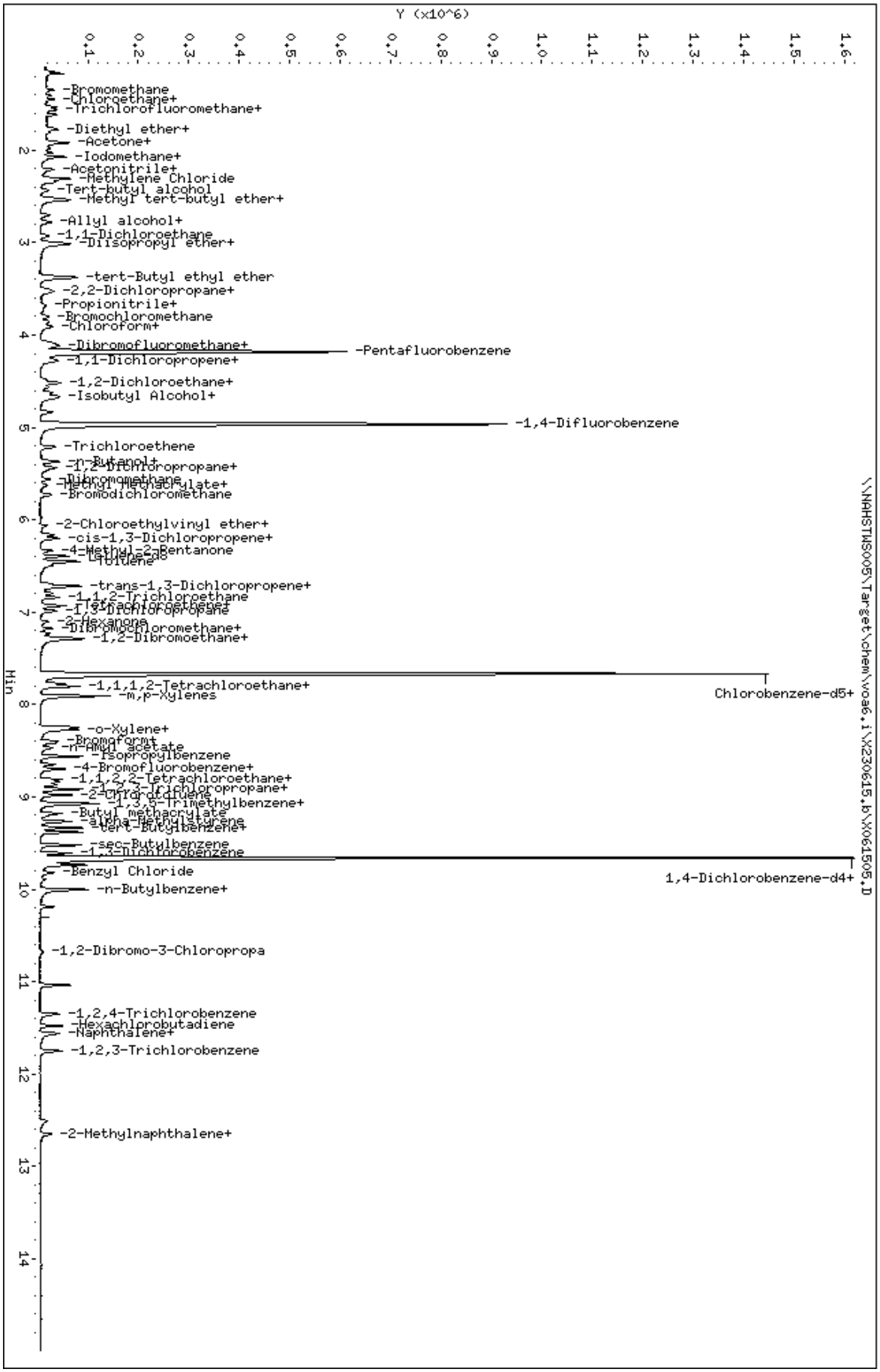
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
79	1,2,4-Trimethylbenzene	105	9.381	9.377	(0.971)	39036	2.00000	2.06(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	46617	2.00000	2.11(a)
82	p-Isopropyltoluene	119	9.651	9.647	(0.999)	40965	2.00000	2.12(a)
83	1,3-Dichlorobenzene	146	9.609	9.602	(0.995)	22900	2.00000	2.03(a)
84	1,4-Dichlorobenzene	146	9.684	9.681	(1.002)	26087	2.00000	2.16(a)
86	Benzyl Chloride	91	9.816	9.808	(1.280)	20389	2.00000	1.73(aM)
87	n-Butylbenzene	91	10.003	9.992	(1.035)	33064	2.00000	2.01(a)
88	1,2-Dichlorobenzene	146	10.003	9.992	(1.035)	23526	2.00000	2.10(a)
89	1,2-Dibromo-3-Chloropropane	155	10.674	10.655	(1.105)	2351	2.00000	2.36(a)
90	1,2,4-Trichlorobenzene	180	11.353	11.334	(1.175)	14424	2.00000	1.85(a)
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	7390	2.00000	2.11(a)
92	Naphthalene	128	11.562	11.540	(1.197)	32050	2.00000	1.82(a)
93	1,2,3-Trichlorobenzene	180	11.750	11.739	(1.216)	14223	2.00000	1.98(a)
146	Methyl acetate	43	2.247	2.232	(0.538)	5157	2.00000	1.77(aM)
138	Freon TF	101	1.921	1.917	(0.460)	8361	2.00000	2.50(aM)
141	Cyclohexane	56	4.125	4.121	(0.987)	13787	2.00000	2.20(aMH)
142	Tetrahydrofuran	42	3.863	3.844	(0.925)	2899	4.00000	4.04(a)
147	Methylcyclohexane	55	5.370	5.381	(1.082)	20990	2.00000	1.98(aM)
135	1,4-Dioxane	88	5.613	5.598	(1.344)	2444	40.0000	41.03(M)
132	n-Butanol	56	5.355	5.253	(1.282)	3179	40.0000	88.25(aM)
131	Methyl Acrylate	55	3.735	3.690	(0.894)	8064	2.00000	2.02(aM)
133	Ethyl Acrylate	55	5.407	5.381	(1.294)	14275	2.00000	3.59(M)
136	n-Hexane	57	2.776	2.776	(0.664)	10696	2.00000	2.27(aM)
139	Diethyl ether	59	1.764	1.760	(0.422)	6390	2.00000	2.07(a)
148	Tert-butyl alcohol	59	2.438	2.431	(0.584)	20278	40.0000	40.18
149	Isopropyl alcohol	45	2.105	2.093	(0.504)	11338	40.0000	40.70(T)
156	Diisopropyl ether	45	3.001	3.000	(0.718)	28799	2.00000	1.98(Ta)
160	2-Methylnaphthalene	142	12.646	12.634	(1.309)	12286	2.00000	1.60
166	1,2,3-Trimethylbenzene	105	9.733	9.729	(1.007)	38504	2.00000	2.08(a)
167	Ethanol	45	1.700	1.707	(0.407)	2336	40.0000	49.73(TM)
172	tert-Butyl formate	59	4.627	4.612	(1.108)	16716	4.00000	4.13(aM)
173	3,3-Dimethyl-1-butanol	57	7.293	7.285	(0.951)	26671	40.0000	45.89
174	tert-Amyl methyl ether	73	4.669	4.665	(1.118)	32910	2.00000	2.08(aM)
175	tert-Butyl ethyl ether	59	3.375	3.379	(0.808)	30807	2.00000	2.05(a)
176	tert-Amyl alcohol	59	4.627	4.612	(1.108)	16715	40.0000	40.49
151	4-Methyl-2-pentanol	45	6.715	6.708	(1.353)	56864	40.0000	47.25(M)
180	1-Methylnaphthalene	142	12.646	12.634	(1.309)	12286	2.00000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	8478	2.00000	2.08(aM)
152	Amyl alcohol	42	6.944	6.899	(0.906)	5090	40.0000	38.44(M)
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	15880	2.00000	2.24(M)
159	Propylene oxide	43	1.809	1.805	(0.433)	2196	4.00000	5.04
161	3-Methyl-1-butanol	55	6.937	6.899	(0.905)	3850	40.0000	62.56(M)
162	Butyl acrylate	55	8.267	8.249	(1.078)	19207	2.00000	2.35(a)
163	Butyl methacrylate	41	9.178	9.167	(0.950)	13349	2.00000	2.04(a)
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	45923	2.00000	2.11(aM)
182	Epichlorohydrin	57	6.112	6.093	(1.231)	3820	8.00000	8.43(M)
M 94	1,2-Dichloroethylene (total)	96				20453	4.00000	(a)
130	Ethyl Acetate	43	3.672	3.657	(0.879)	10775	2.00000	2.15(Ta)
134	Cyclohexanone	55	8.650	8.642	(0.895)	11759	40.0000	41.26(a)
185	Isoprene	39	1.779	1.775	(0.426)	3339	2.00000	2.49(a)
188	Isopropyl acetate	43	4.680	4.676	(0.943)	24959	2.00000	1.90(a)
187	n-Amyl acetate	43	8.470	8.451	(1.105)	18078	2.00000	1.90(aM)

189 n-Butyl acetate	43	7.229	7.210 (0.943)	14580	2.00000	1.91(aM)
150 Allyl alcohol	57	2.776	2.772 (0.664)	11222	40.0000	46.69

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
194 Acetaldehyde	44	1.209	1.216	(0.289)	4310	8.00000	13.50(M)
195 Methyl Amyl Ketone	43	8.395	8.380	(1.095)	20788	2.00000	1.98(a)
200 Dimethyl Disulfide	94	6.198	6.194	(0.808)	20124	2.00000	1.90(a)
202 Isobutylene	41	1.246	1.242	(0.298)	964	2.00000	2.05(aM)
205 2-Ethylhexyl Acrylate	55	11.566	11.544	(1.197)	8837	2.00000	2.46(aM)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Date : 15-JUN-2023 12:39
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

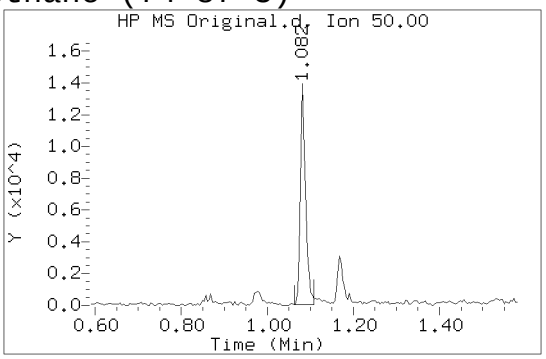
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Chloromethane (74-87-3)

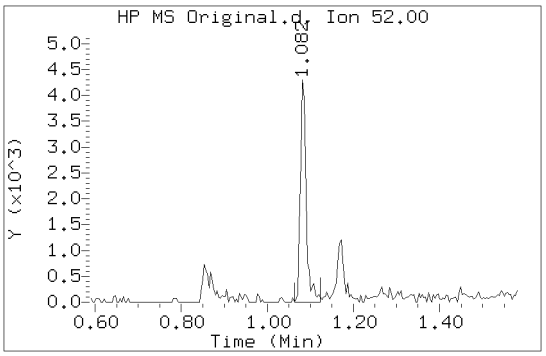
BEFORE

MASS
50
AREA
11295
HEIGHT
13896
20-Jun-2023
18:22
linh
pham



BEFORE

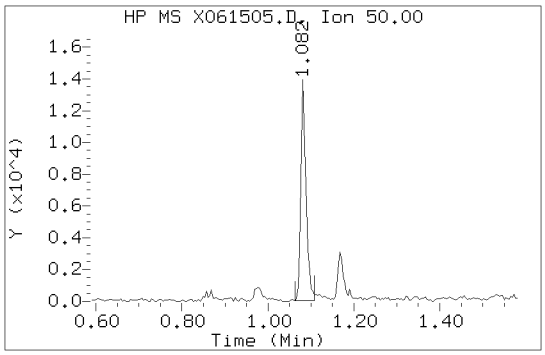
MASS
52
AREA
3925
HEIGHT
4298
20-Jun-2023
18:22
linh
pham



Reason Code:

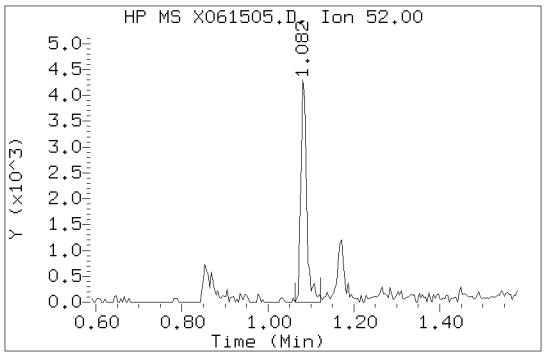
AFTER

MASS
50
AREA
11295
HEIGHT
13896
20-Jun-2023
18:22
linh
pham



AFTER

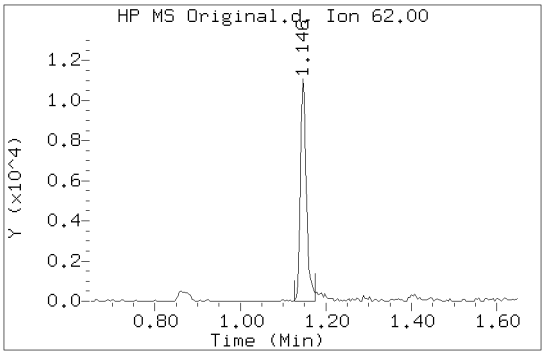
MASS
52
AREA
3925
HEIGHT
4298
20-Jun-2023
18:22
linh
pham



Vinyl Chloride (75-01-4)

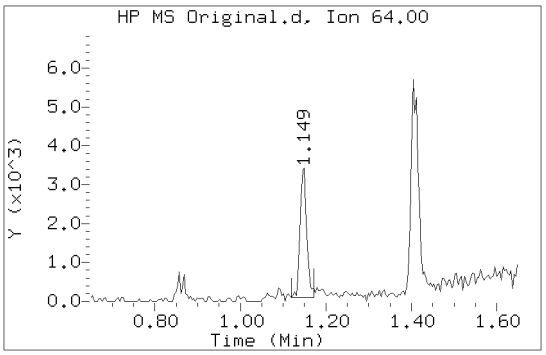
BEFORE

MASS
62
AREA
11284
HEIGHT
11076
20-Jun-2023
18:22
linh
pham



BEFORE

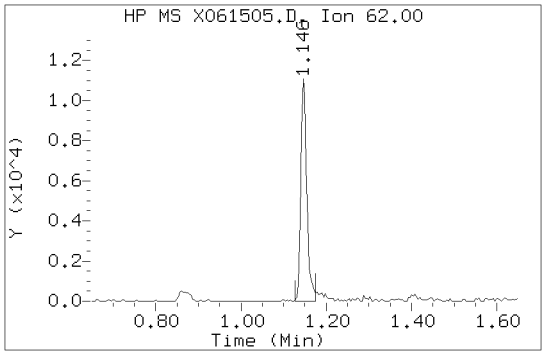
MASS
64
AREA
3791
HEIGHT
3342
20-Jun-2023
18:22
linh
pham



Reason Code:

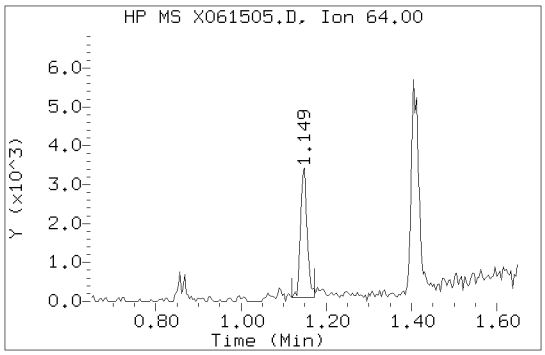
AFTER

MASS
62
AREA
11284
HEIGHT
11076
20-Jun-2023
18:22
linh
pham



AFTER

MASS
64
AREA
3791
HEIGHT
3342
20-Jun-2023
18:22
linh
pham

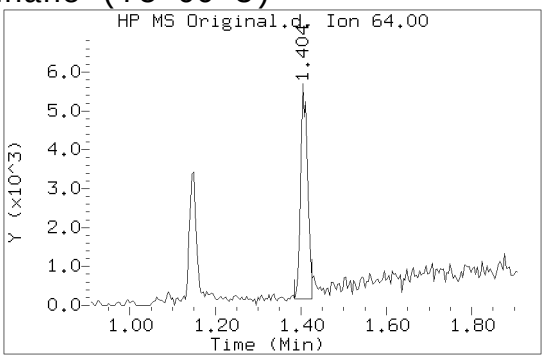


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Chloroethane (75-00-3)

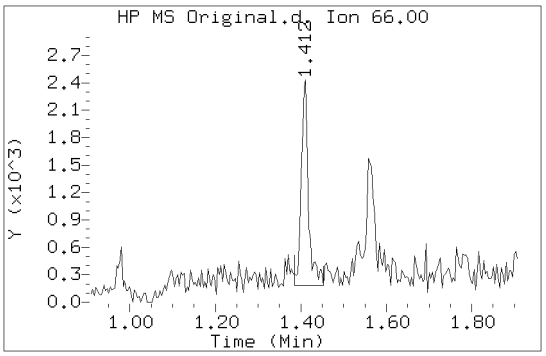
BEFORE

MASS
64
AREA
6480
HEIGHT
5531
20-Jun-2023
18:22
linh
pham



BEFORE

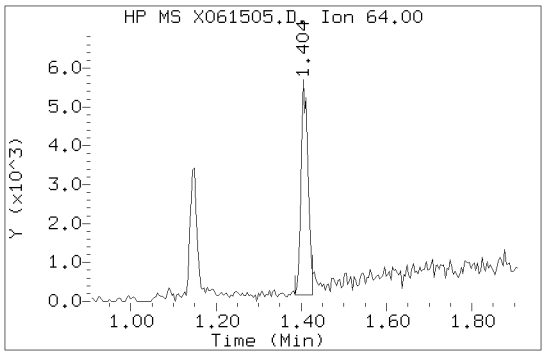
MASS
66
AREA
2720
HEIGHT
2251
20-Jun-2023
18:22
linh
pham



Reason Code:

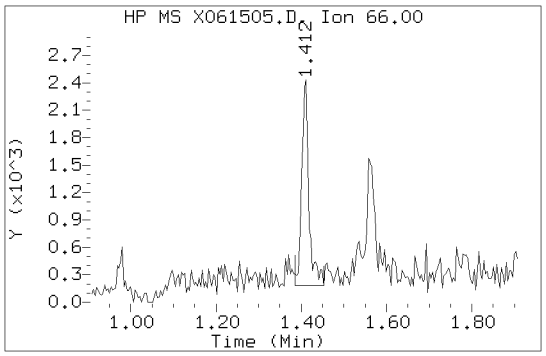
AFTER

MASS
64
AREA
6480
HEIGHT
5531
20-Jun-2023
18:22
linh
pham



AFTER

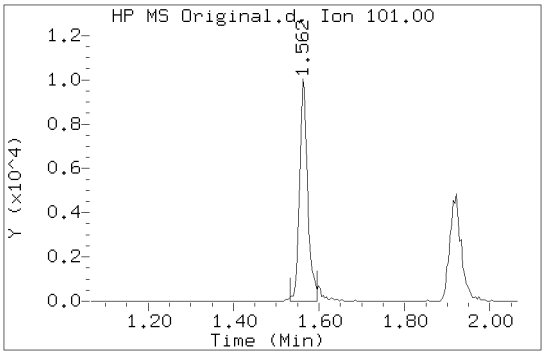
MASS
66
AREA
2720
HEIGHT
2251
20-Jun-2023
18:22
linh
pham



Trichlorofluoromethane (75-69-4)

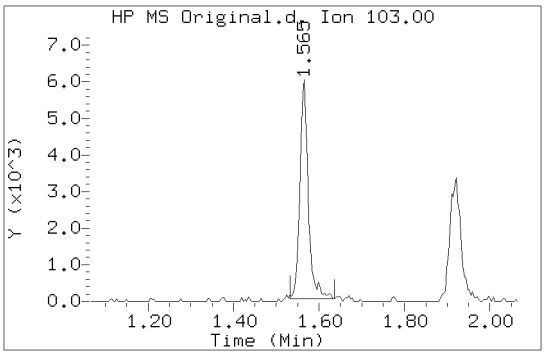
BEFORE

MASS
101
AREA
13596
HEIGHT
10043
20-Jun-2023
18:22
linh
pham



BEFORE

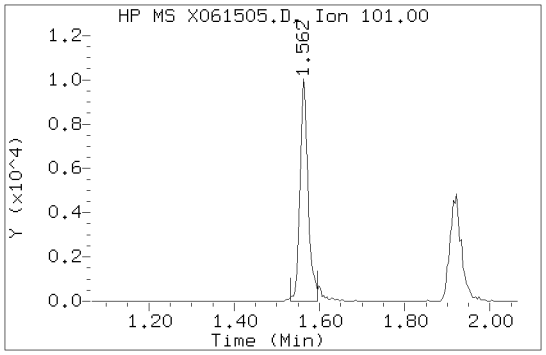
MASS
103
AREA
8502
HEIGHT
5995
20-Jun-2023
18:22
linh
pham



Reason Code:

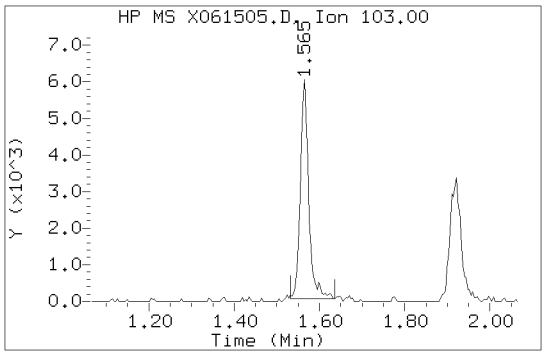
AFTER

MASS
101
AREA
13596
HEIGHT
10043
20-Jun-2023
18:22
linh
pham



AFTER

MASS
103
AREA
8502
HEIGHT
5995
20-Jun-2023
18:22
linh
pham



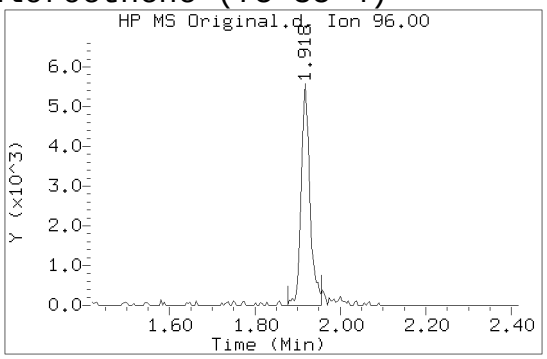
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

1,1-Dichloroethene (75-35-4)

Reason Code:

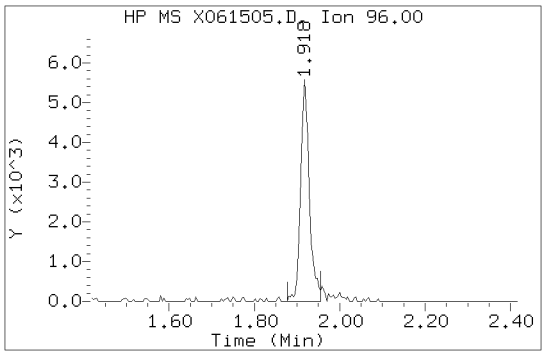
BEFORE

MASS
96
AREA
8233
HEIGHT
5577
20-Jun-2023
18:22
linh
pham



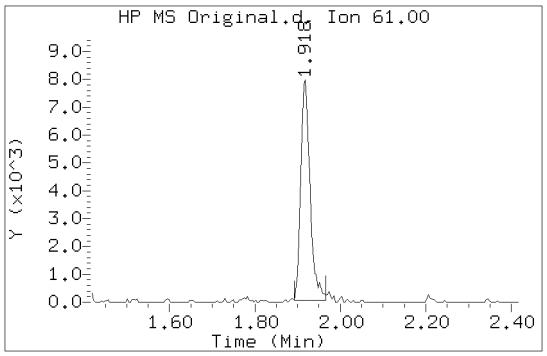
AFTER

MASS
96
AREA
8233
HEIGHT
5577
20-Jun-2023
18:22
linh
pham



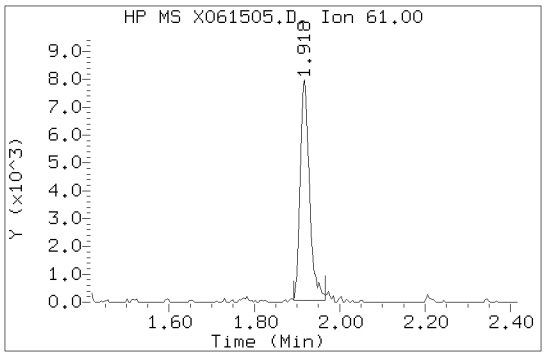
BEFORE

MASS
61
AREA
12389
HEIGHT
7918
20-Jun-2023
18:22
linh
pham



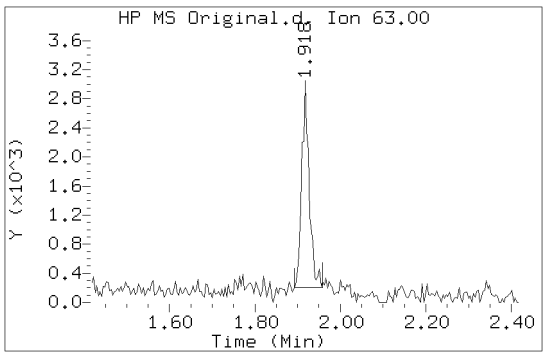
AFTER

MASS
61
AREA
12389
HEIGHT
7918
20-Jun-2023
18:22
linh
pham



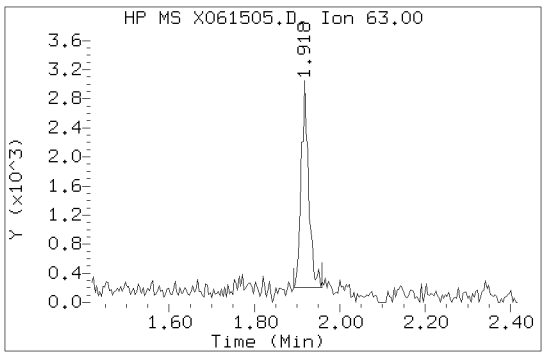
BEFORE

MASS
63
AREA
3575
HEIGHT
2850
20-Jun-2023
18:22
linh
pham



AFTER

MASS
63
AREA
3575
HEIGHT
2850
20-Jun-2023
18:22
linh
pham

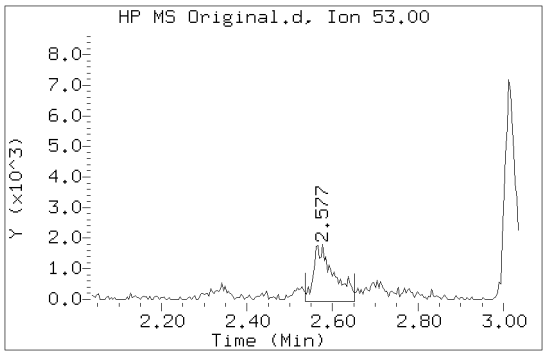


Acrylonitrile (107-13-1)

Reason Code:

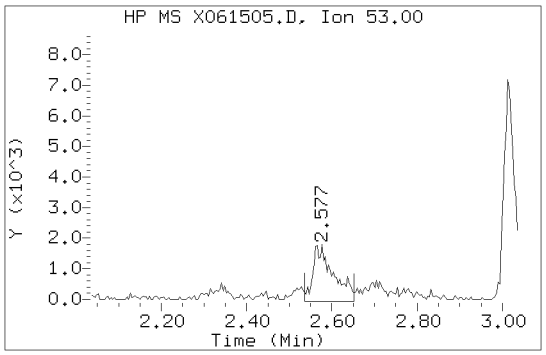
BEFORE

MASS
53
AREA
6148
HEIGHT
1862
20-Jun-2023
18:22
linh
pham



AFTER

MASS
53
AREA
6148
HEIGHT
1862
20-Jun-2023
18:22
linh
pham



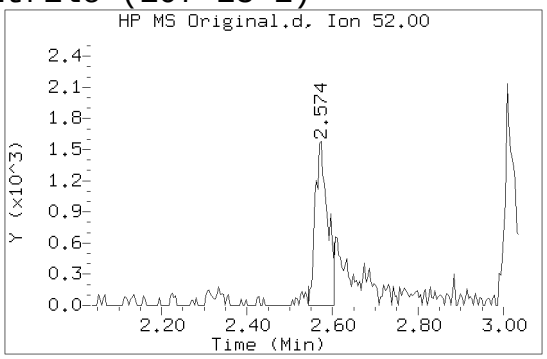
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Acrylonitrile (107-13-1)

Reason Code:

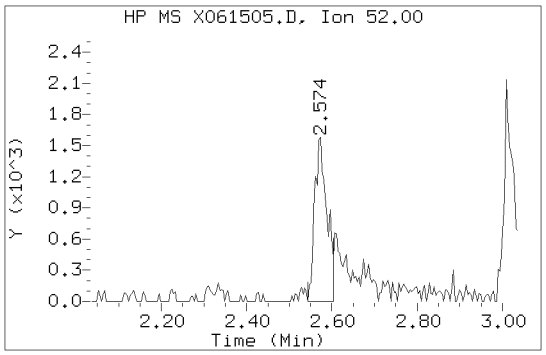
BEFORE

MASS
52
AREA
3159
HEIGHT
1580
20-Jun-2023
18:22
linh
pham



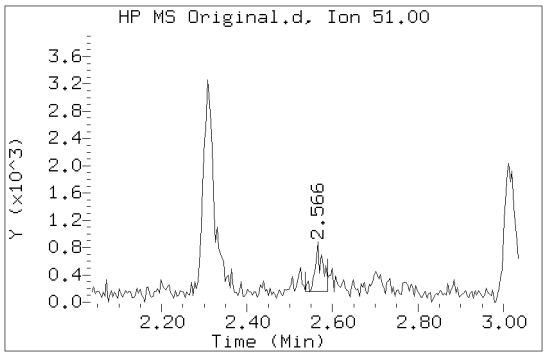
AFTER

MASS
52
AREA
3159
HEIGHT
1580
20-Jun-2023
18:22
linh
pham



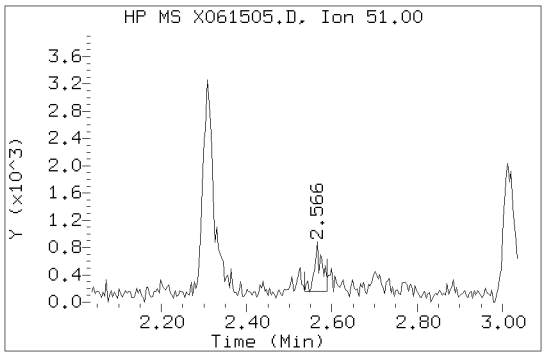
BEFORE

MASS
51
AREA
891
HEIGHT
729
20-Jun-2023
18:22
linh
pham



AFTER

MASS
51
AREA
891
HEIGHT
729
20-Jun-2023
18:22
linh
pham

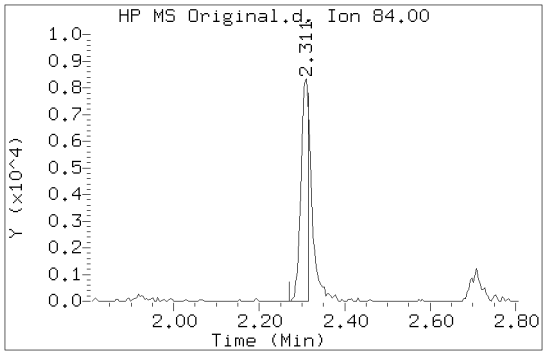


Methylene Chloride (75-09-2)

Reason Code:

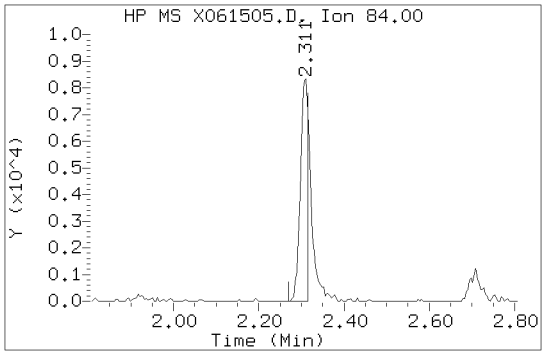
BEFORE

MASS
84
AREA
10372
HEIGHT
8340
20-Jun-2023
18:22
linh
pham



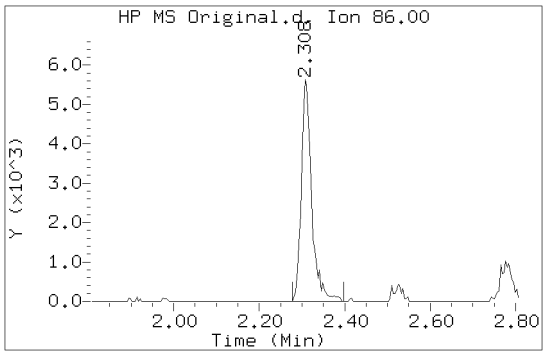
AFTER

MASS
84
AREA
10372
HEIGHT
8340
20-Jun-2023
18:22
linh
pham



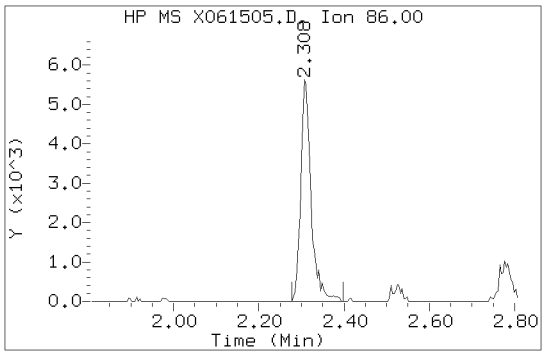
BEFORE

MASS
86
AREA
9744
HEIGHT
5630
20-Jun-2023
18:22
linh
pham



AFTER

MASS
86
AREA
9744
HEIGHT
5630
20-Jun-2023
18:22
linh
pham

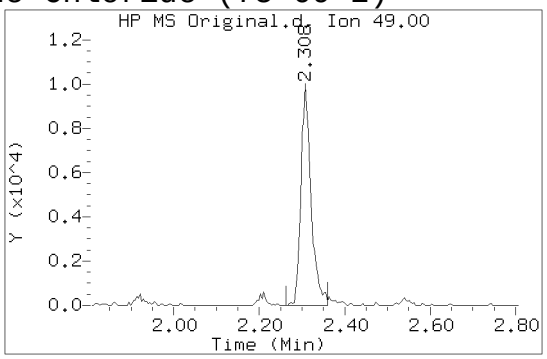


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Methylene Chloride (75-09-2)

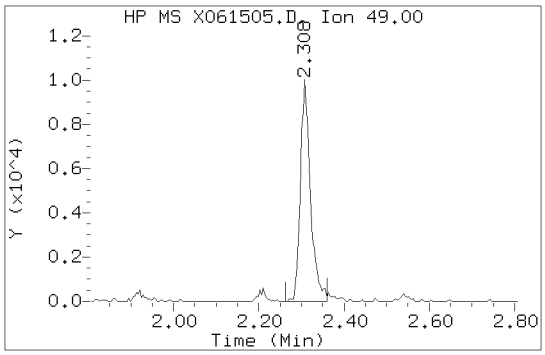
BEFORE

MASS
49
AREA
16901
HEIGHT
10016
20-Jun-2023
18:22
linh
pham



AFTER

MASS
49
AREA
16901
HEIGHT
10016
20-Jun-2023
18:22
linh
pham

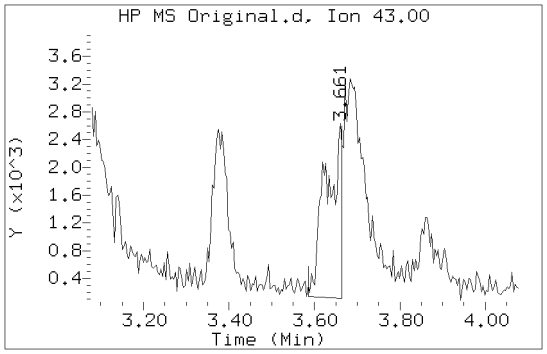


Reason Code:

2-Butanone (78-93-3)

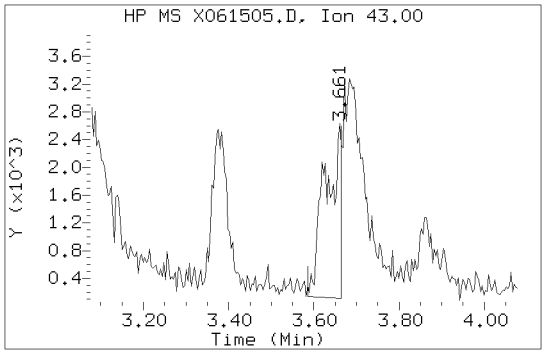
BEFORE

MASS
43
AREA
6420
HEIGHT
2515
20-Jun-2023
18:22
linh
pham



AFTER

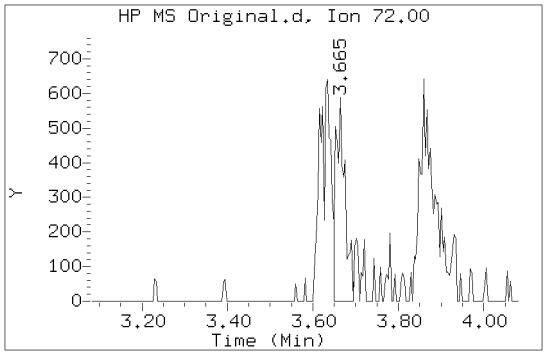
MASS
43
AREA
6420
HEIGHT
2515
20-Jun-2023
18:22
linh
pham



Reason Code:

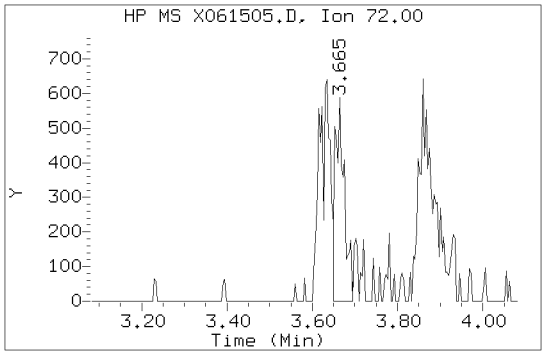
BEFORE

MASS
72
AREA
878
HEIGHT
589
20-Jun-2023
18:22
linh
pham



AFTER

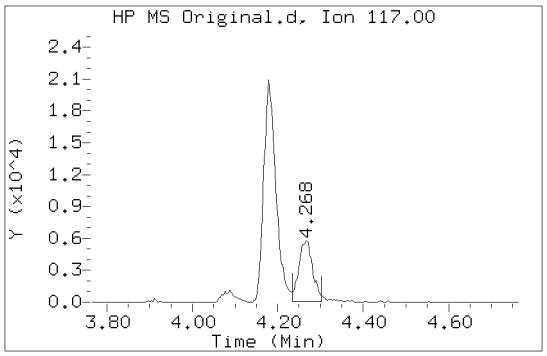
MASS
72
AREA
878
HEIGHT
589
20-Jun-2023
18:22
linh
pham



Carbon Tetrachloride (56-23-5)

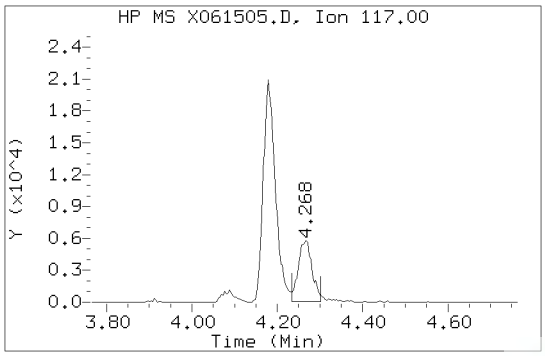
BEFORE

MASS
117
AREA
13225
HEIGHT
5768
20-Jun-2023
18:22
linh
pham



AFTER

MASS
117
AREA
13225
HEIGHT
5768
20-Jun-2023
18:22
linh
pham



Reason Code:

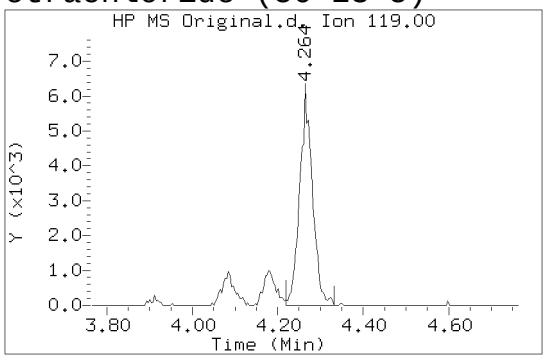
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Carbon Tetrachloride (56-23-5)

Reason Code:

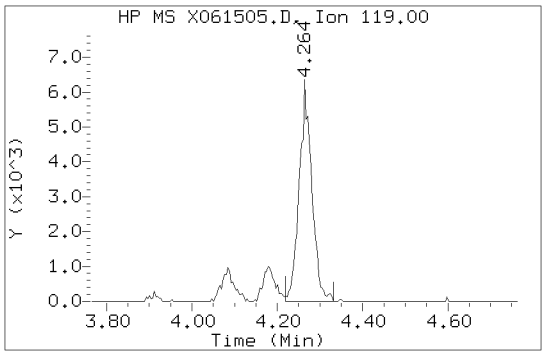
BEFORE

MASS
119
AREA
13241
HEIGHT
6356
20-Jun-2023
18:22
linh
pham



AFTER

MASS
119
AREA
13241
HEIGHT
6356
20-Jun-2023
18:22
linh
pham

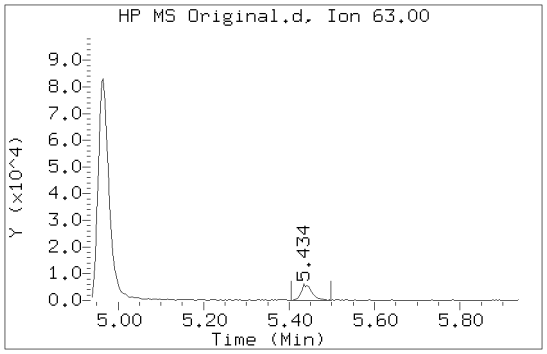


1,2-Dichloropropane (78-87-5)

Reason Code:

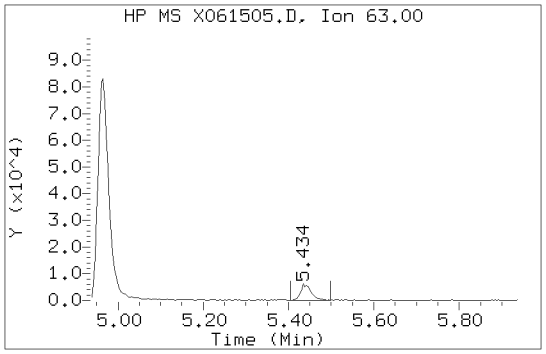
BEFORE

MASS
63
AREA
10261
HEIGHT
6073
20-Jun-2023
18:22
linh
pham



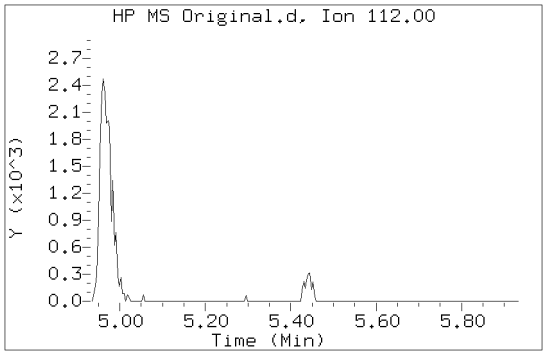
AFTER

MASS
63
AREA
10261
HEIGHT
6073
20-Jun-2023
18:22
linh
pham



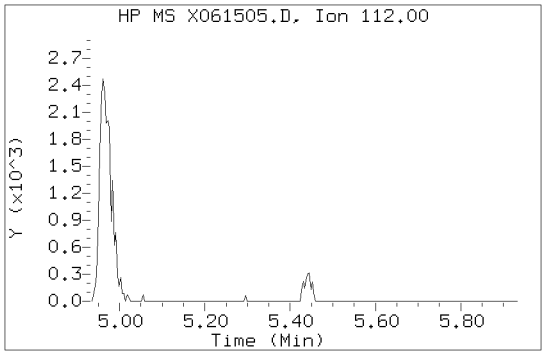
BEFORE

MASS
112
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
112
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

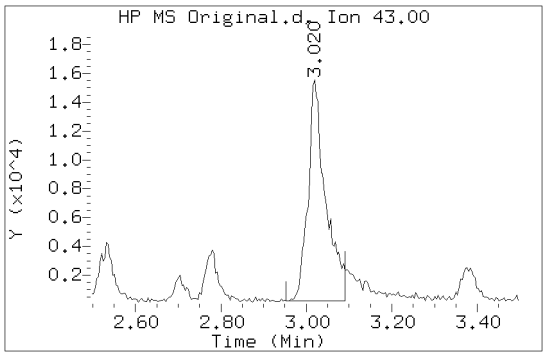


Vinyl Acetate (108-05-4)

Reason Code:

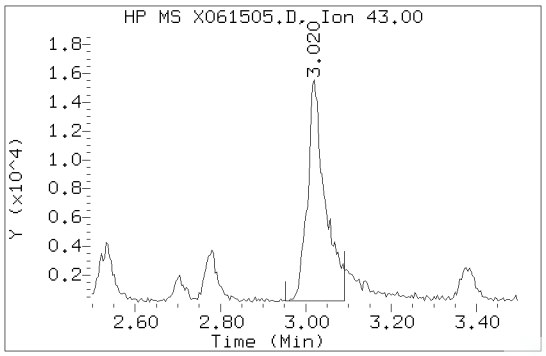
BEFORE

MASS
43
AREA
44460
HEIGHT
15343
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
44460
HEIGHT
15343
20-Jun-2023
18:22
linh
pham



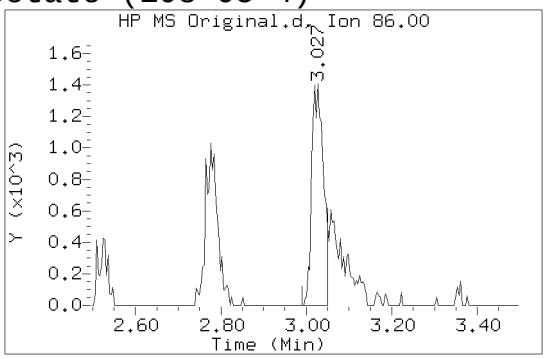
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Vinyl Acetate (108-05-4)

Reason Code:

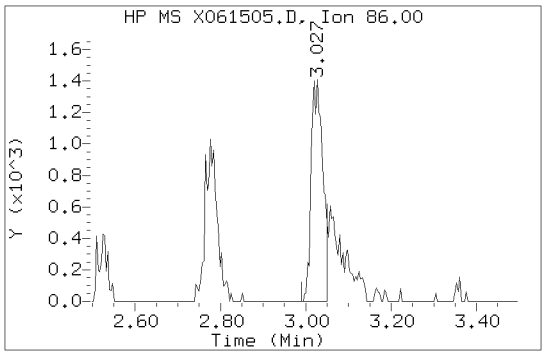
BEFORE

MASS
86
AREA
2664
HEIGHT
1408
20-Jun-2023
18:22
linh
pham



AFTER

MASS
86
AREA
2664
HEIGHT
1408
20-Jun-2023
18:22
linh
pham

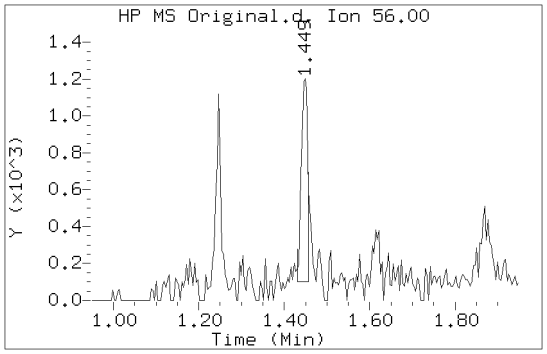


Acrolein (107-02-8)

Reason Code:

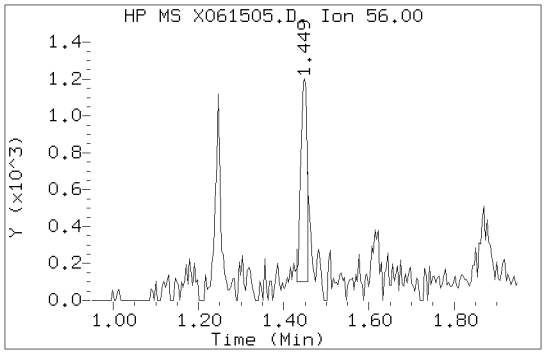
BEFORE

MASS
56
AREA
1177
HEIGHT
1102
20-Jun-2023
18:22
linh
pham



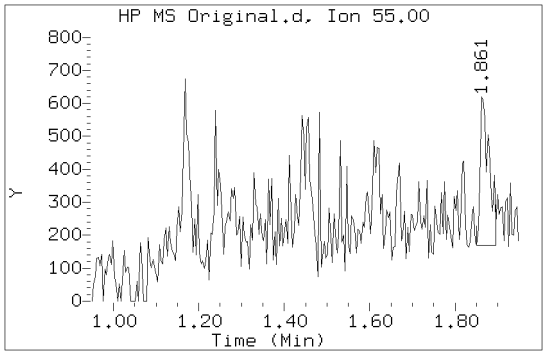
AFTER

MASS
56
AREA
1177
HEIGHT
1102
20-Jun-2023
18:22
linh
pham



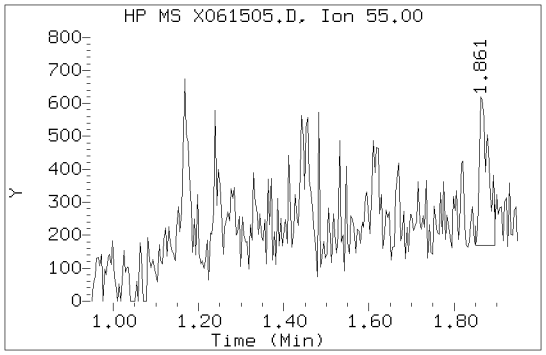
BEFORE

MASS
55
AREA
650
HEIGHT
449
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
650
HEIGHT
449
20-Jun-2023
18:22
linh
pham

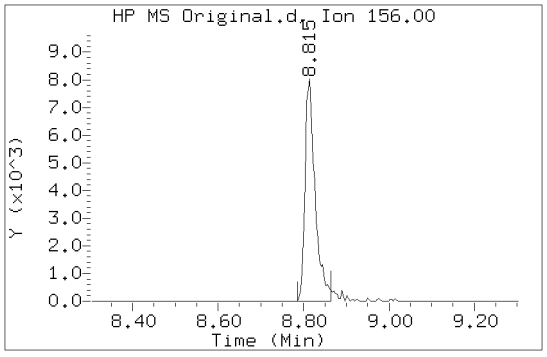


Bromobenzene (108-86-1)

Reason Code:

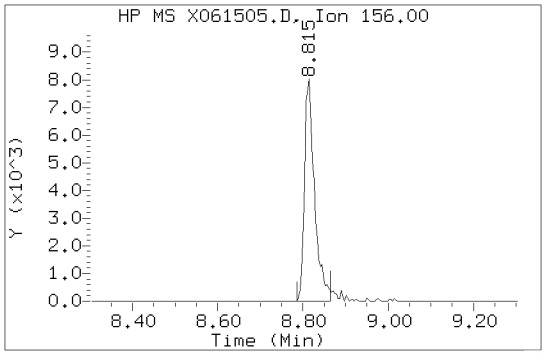
BEFORE

MASS
156
AREA
13387
HEIGHT
8032
20-Jun-2023
18:22
linh
pham



AFTER

MASS
156
AREA
13387
HEIGHT
8032
20-Jun-2023
18:22
linh
pham



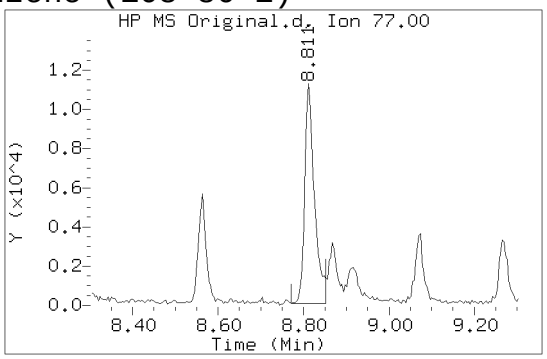
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Bromobenzene (108-86-1)

Reason Code:

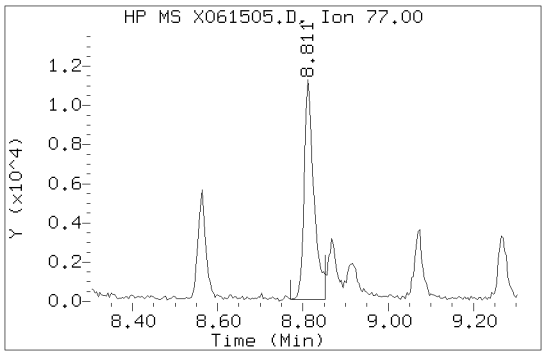
BEFORE

MASS
77
AREA
18077
HEIGHT
11211
20-Jun-2023
18:22
linh
pham



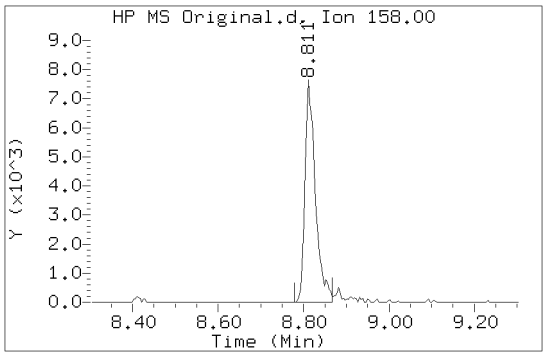
AFTER

MASS
77
AREA
18077
HEIGHT
11211
20-Jun-2023
18:22
linh
pham



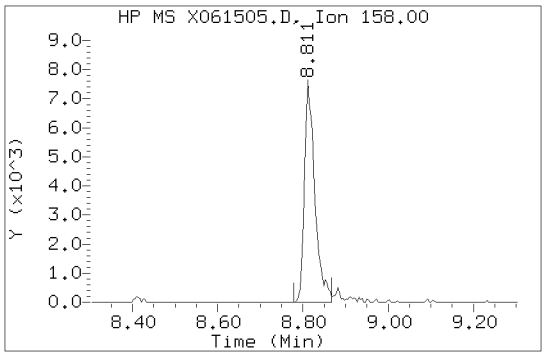
BEFORE

MASS
158
AREA
13121
HEIGHT
7648
20-Jun-2023
18:22
linh
pham



AFTER

MASS
158
AREA
13121
HEIGHT
7648
20-Jun-2023
18:22
linh
pham

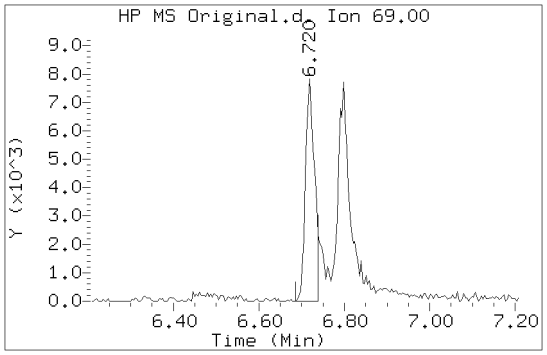


Ethyl Methacrylate (97-63-2)

Reason Code:

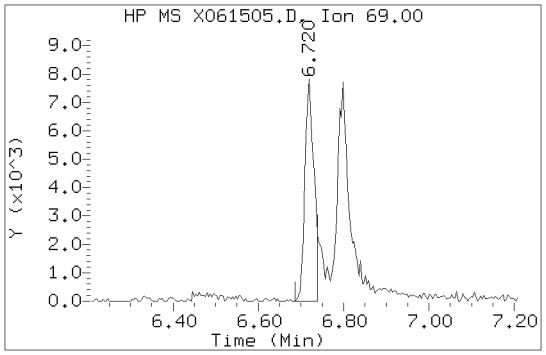
BEFORE

MASS
69
AREA
11631
HEIGHT
7830
20-Jun-2023
18:22
linh
pham



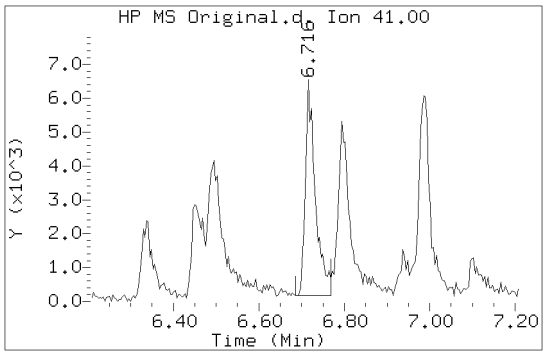
AFTER

MASS
69
AREA
11631
HEIGHT
7830
20-Jun-2023
18:22
linh
pham



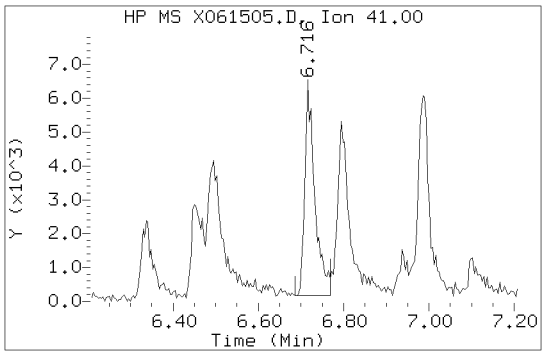
BEFORE

MASS
41
AREA
10404
HEIGHT
6367
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
10404
HEIGHT
6367
20-Jun-2023
18:22
linh
pham



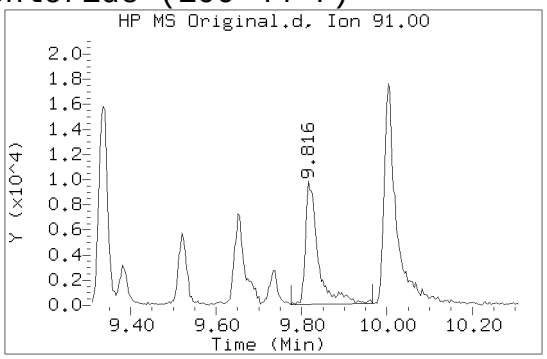
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Benzyl Chloride (100-44-7)

Reason Code:

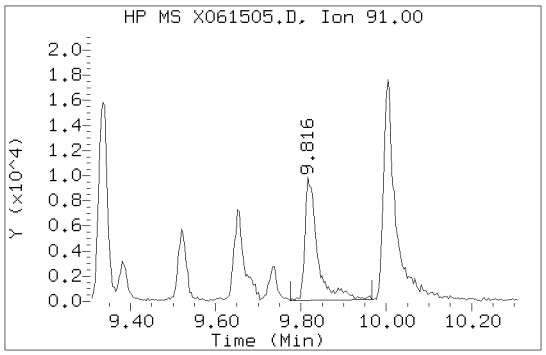
BEFORE

MASS
91
AREA
20389
HEIGHT
9812
20-Jun-2023
18:22
linh
pham



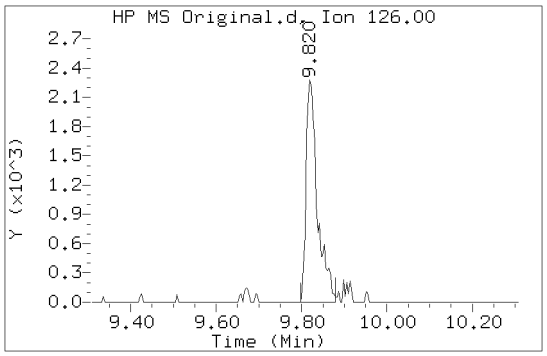
AFTER

MASS
91
AREA
20389
HEIGHT
9812
20-Jun-2023
18:22
linh
pham



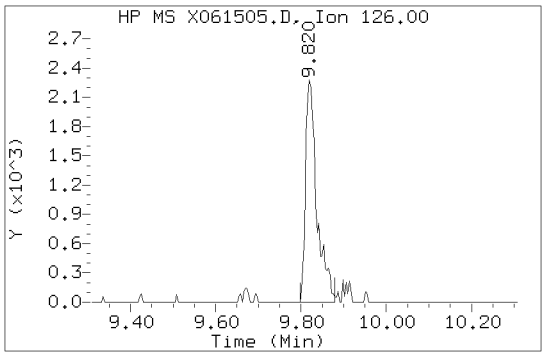
BEFORE

MASS
126
AREA
4211
HEIGHT
2279
20-Jun-2023
18:22
linh
pham



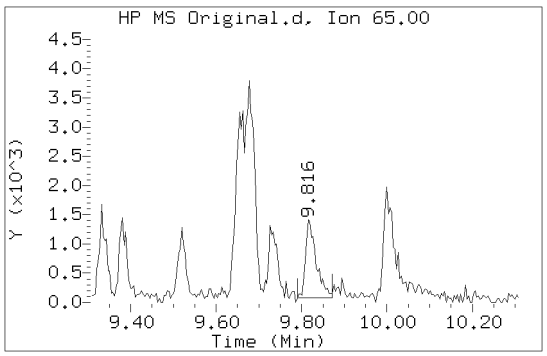
AFTER

MASS
126
AREA
4211
HEIGHT
2279
20-Jun-2023
18:22
linh
pham



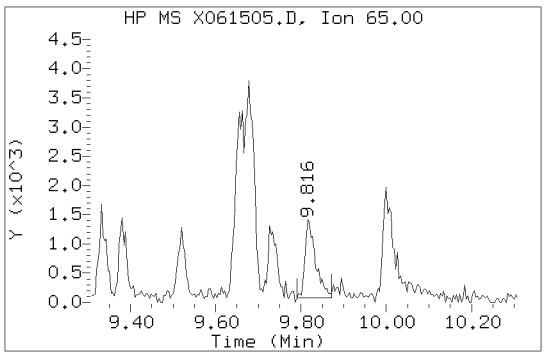
BEFORE

MASS
65
AREA
2345
HEIGHT
1335
20-Jun-2023
18:22
linh
pham



AFTER

MASS
65
AREA
2345
HEIGHT
1335
20-Jun-2023
18:22
linh
pham

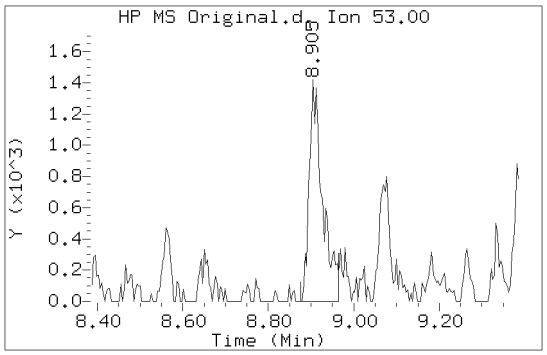


trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

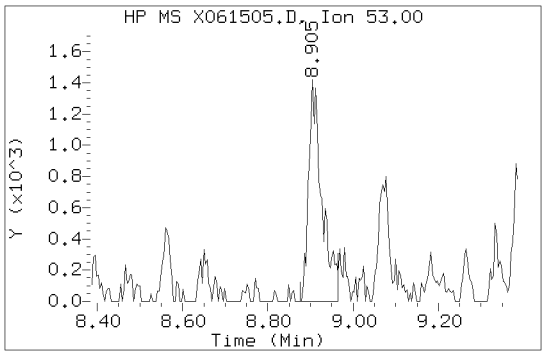
BEFORE

MASS
53
AREA
3093
HEIGHT
1420
20-Jun-2023
18:22
linh
pham



AFTER

MASS
53
AREA
3093
HEIGHT
1420
20-Jun-2023
18:22
linh
pham



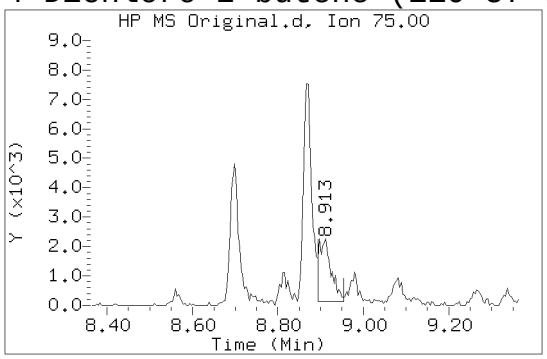
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

trans-1,4-Dichloro-2-butene (110-57-6)

Reason Code:

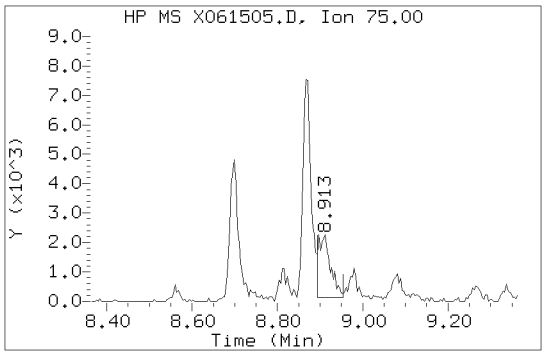
BEFORE

MASS
75
AREA
4233
HEIGHT
2139
20-Jun-2023
18:22
linh
pham



AFTER

MASS
75
AREA
4233
HEIGHT
2139
20-Jun-2023
18:22
linh
pham

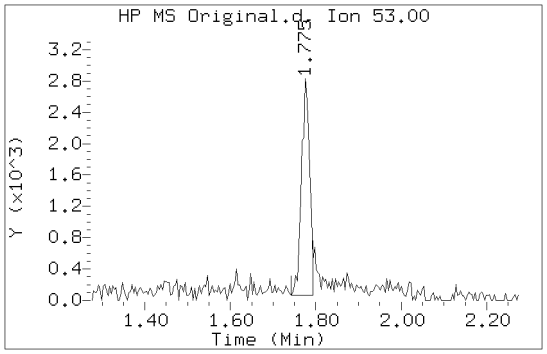


Chloroprene (126-99-8)

Reason Code:

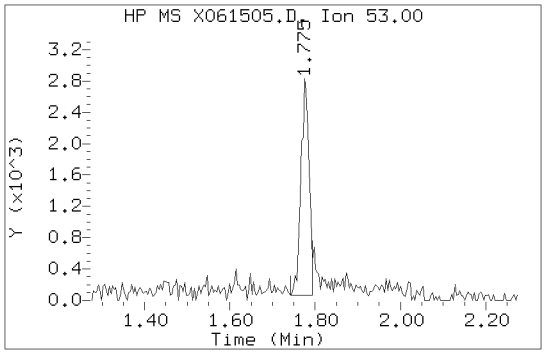
BEFORE

MASS
53
AREA
3814
HEIGHT
2765
20-Jun-2023
18:22
linh
pham



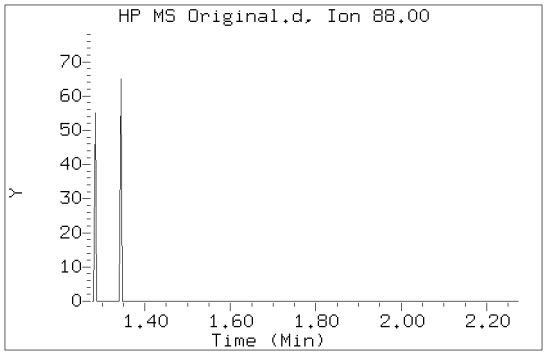
AFTER

MASS
53
AREA
3814
HEIGHT
2765
20-Jun-2023
18:22
linh
pham



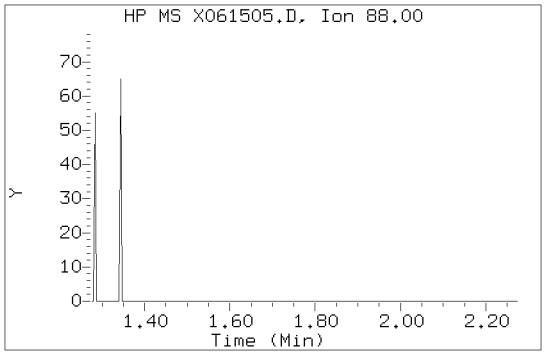
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

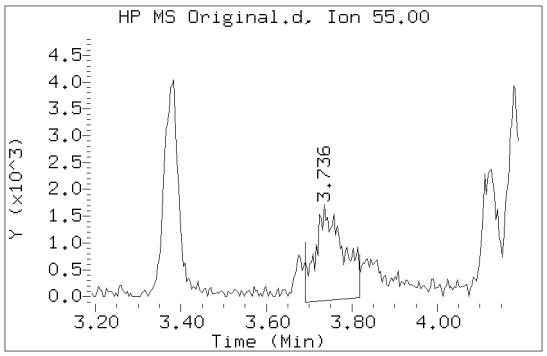


Methyl Acrylate (96-33-3)

Reason Code:

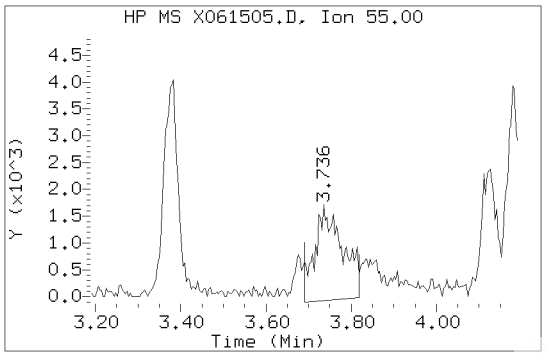
BEFORE

MASS
55
AREA
8064
HEIGHT
1791
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
8064
HEIGHT
1791
20-Jun-2023
18:22
linh
pham



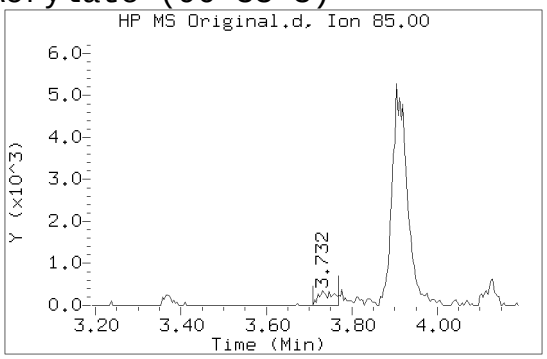
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Methyl Acrylate (96-33-3)

Reason Code:

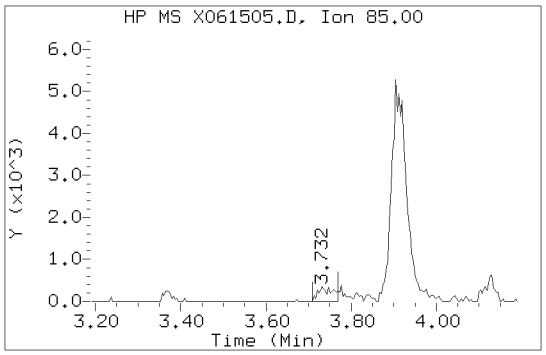
BEFORE

MASS
85
AREA
844
HEIGHT
344
20-Jun-2023
18:22
linh
pham



AFTER

MASS
85
AREA
844
HEIGHT
344
20-Jun-2023
18:22
linh
pham

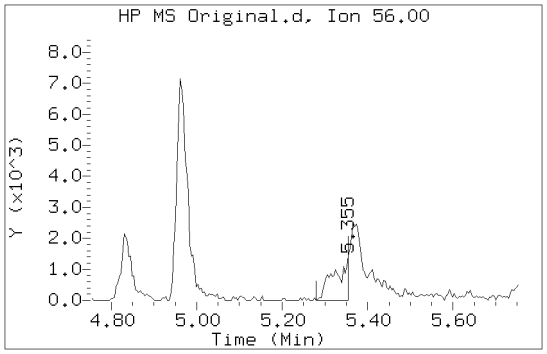


n-Butanol (71-36-3)

Reason Code:

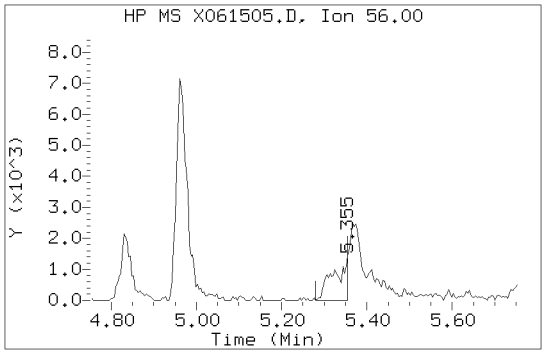
BEFORE

MASS
56
AREA
3179
HEIGHT
1448
20-Jun-2023
18:22
linh
pham



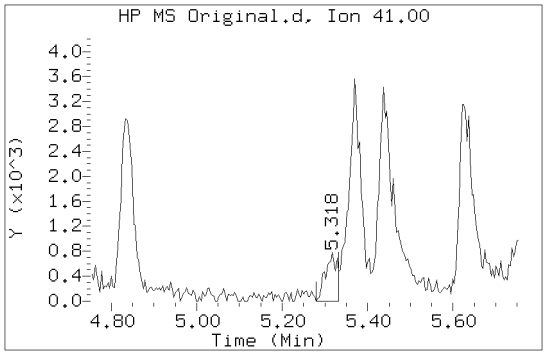
AFTER

MASS
56
AREA
3179
HEIGHT
1448
20-Jun-2023
18:22
linh
pham



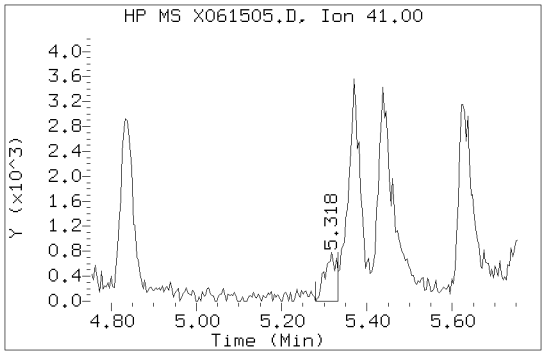
BEFORE

MASS
41
AREA
1455
HEIGHT
782
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
1455
HEIGHT
782
20-Jun-2023
18:22
linh
pham

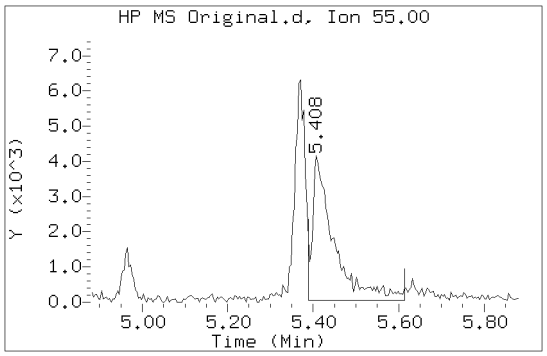


Ethyl Acrylate (140-88-5)

Reason Code:

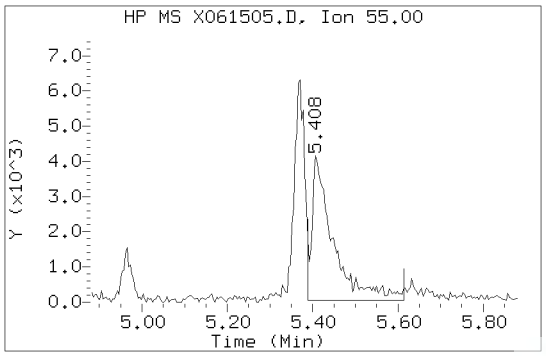
BEFORE

MASS
55
AREA
14275
HEIGHT
4107
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
14275
HEIGHT
4107
20-Jun-2023
18:22
linh
pham



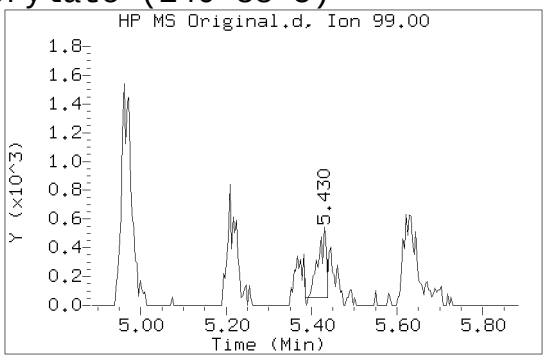
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Ethyl Acrylate (140-88-5)

Reason Code:

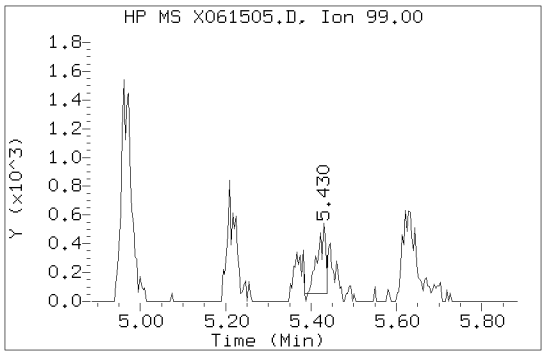
BEFORE

MASS
99
AREA
625
HEIGHT
488
20-Jun-2023
18:22
linh
pham



AFTER

MASS
99
AREA
625
HEIGHT
488
20-Jun-2023
18:22
linh
pham

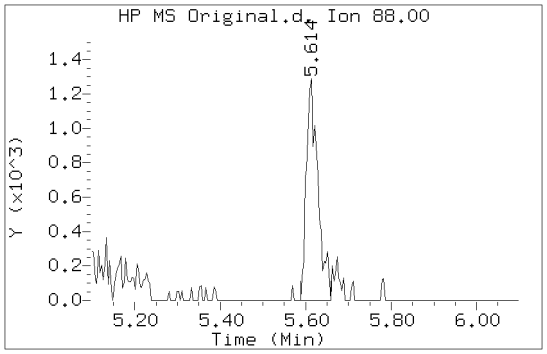


1,4-Dioxane ()

Reason Code:

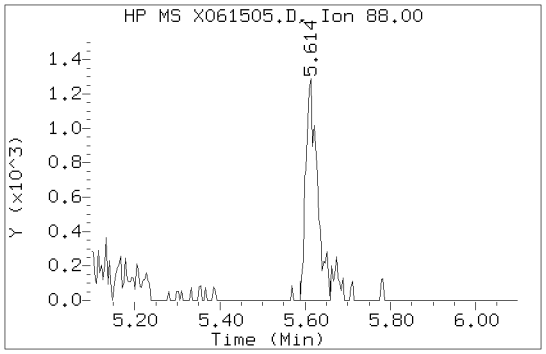
BEFORE

MASS
88
AREA
2444
HEIGHT
1289
20-Jun-2023
18:22
linh
pham



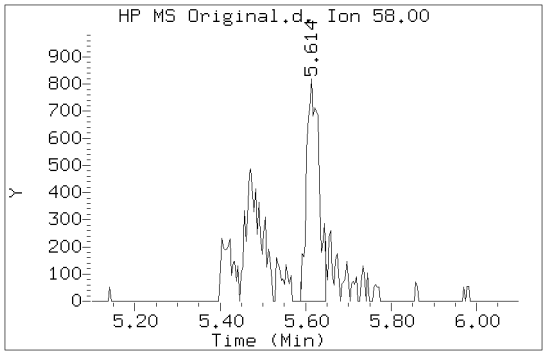
AFTER

MASS
88
AREA
2444
HEIGHT
1289
20-Jun-2023
18:22
linh
pham



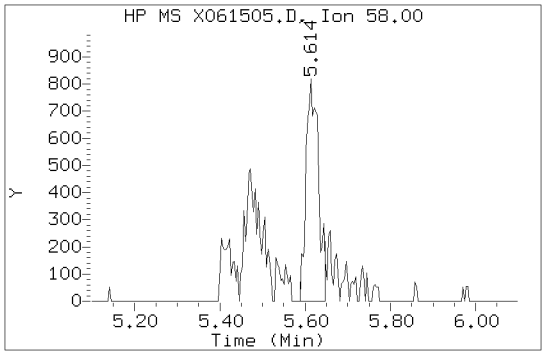
BEFORE

MASS
58
AREA
1653
HEIGHT
819
20-Jun-2023
18:22
linh
pham



AFTER

MASS
58
AREA
1653
HEIGHT
819
20-Jun-2023
18:22
linh
pham

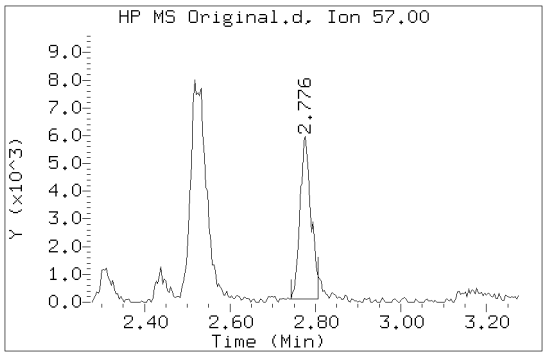


n-Hexane (110-54-3)

Reason Code:

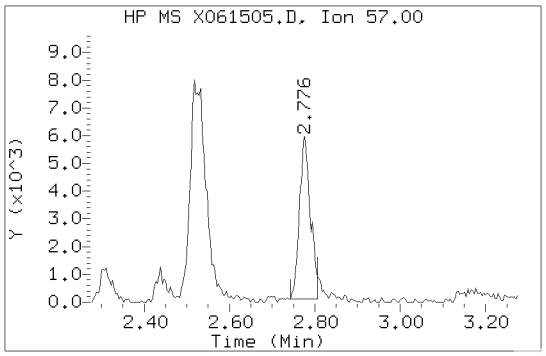
BEFORE

MASS
57
AREA
10696
HEIGHT
5866
20-Jun-2023
18:22
linh
pham



AFTER

MASS
57
AREA
10696
HEIGHT
5866
20-Jun-2023
18:22
linh
pham

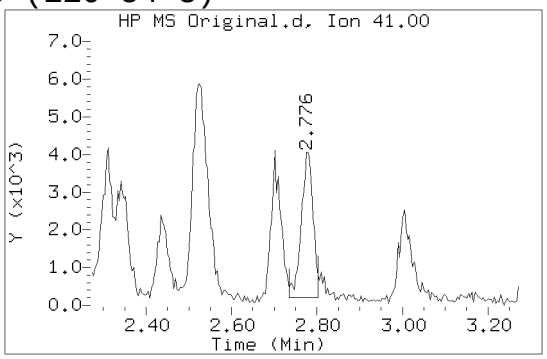


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

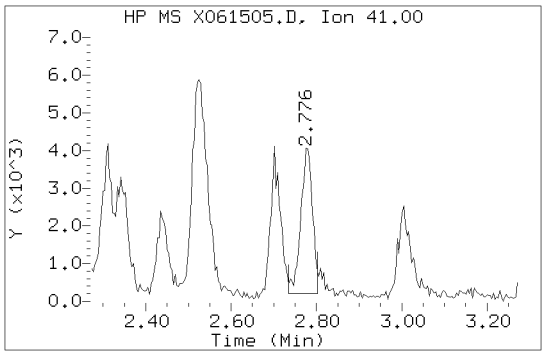
n-Hexane (110-54-3)

Reason Code:

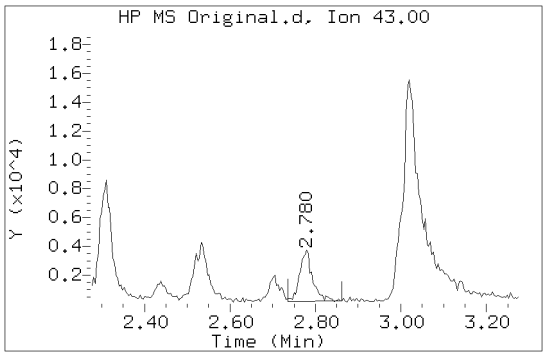
BEFORE
MASS
41
AREA
7540
HEIGHT
3854
20-Jun-2023
18:22
linh
pham



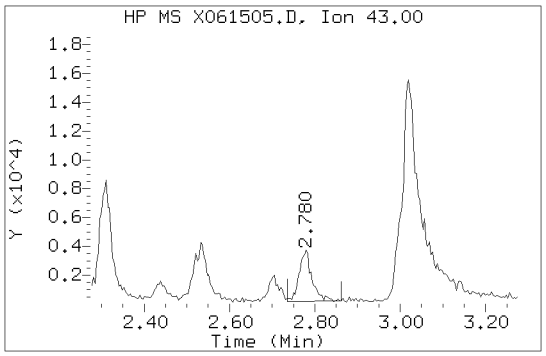
AFTER
MASS
41
AREA
7540
HEIGHT
3854
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
43
AREA
7477
HEIGHT
3518
20-Jun-2023
18:22
linh
pham



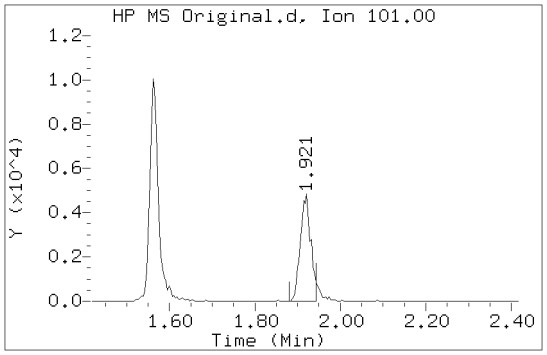
AFTER
MASS
43
AREA
7477
HEIGHT
3518
20-Jun-2023
18:22
linh
pham



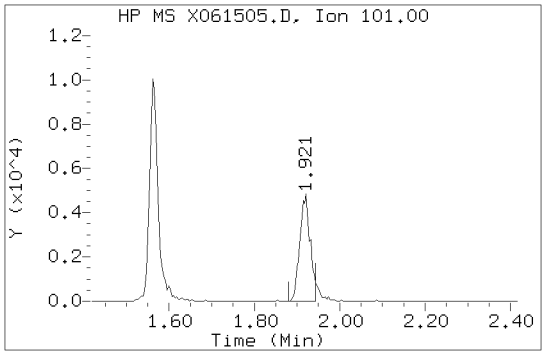
Freon TF (76-13-1)

Reason Code:

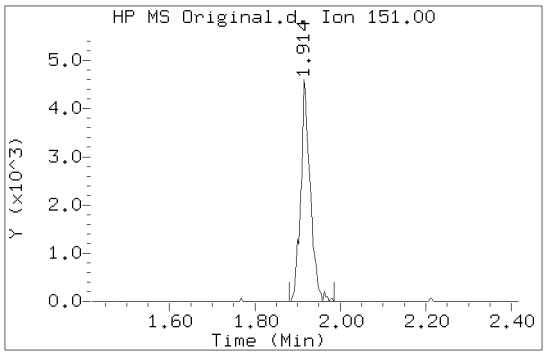
BEFORE
MASS
101
AREA
8361
HEIGHT
4850
20-Jun-2023
18:22
linh
pham



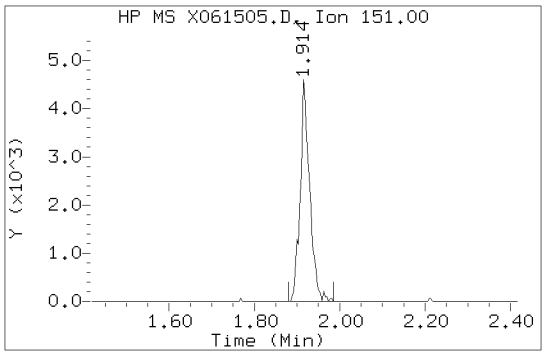
AFTER
MASS
101
AREA
8361
HEIGHT
4850
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
151
AREA
7295
HEIGHT
4601
20-Jun-2023
18:22
linh
pham



AFTER
MASS
151
AREA
7295
HEIGHT
4601
20-Jun-2023
18:22
linh
pham

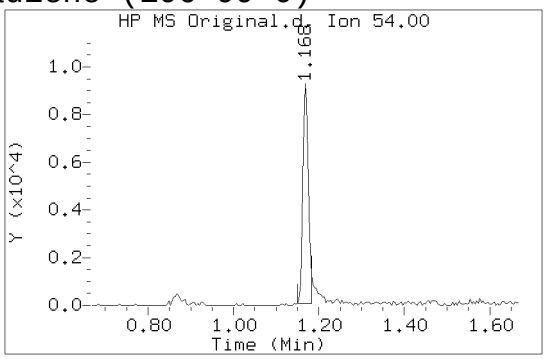


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

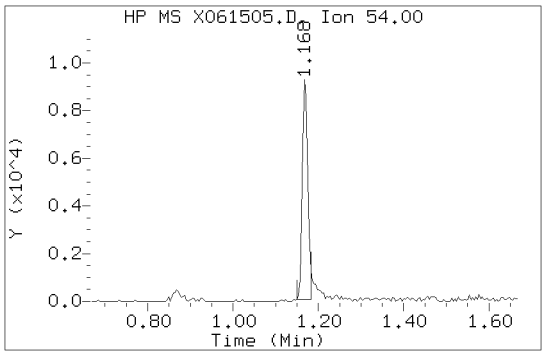
1,3-Butadiene (106-99-0)

Reason Code:

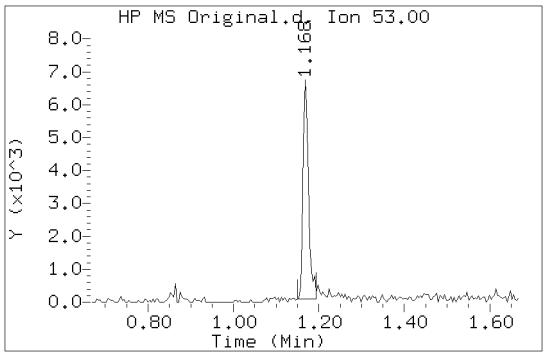
BEFORE
MASS
54
AREA
8478
HEIGHT
9216
20-Jun-2023
18:22
linh
pham



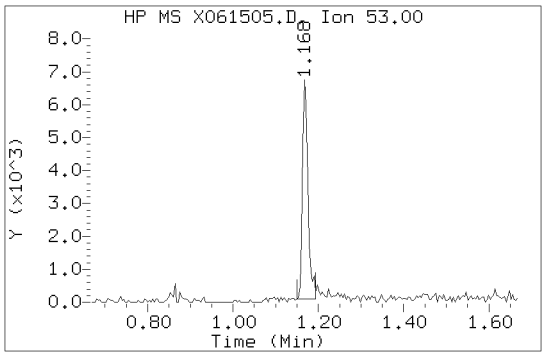
AFTER
MASS
54
AREA
8478
HEIGHT
9216
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
53
AREA
6095
HEIGHT
6659
20-Jun-2023
18:22
linh
pham



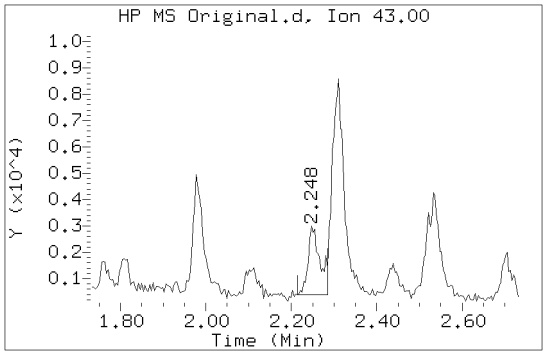
AFTER
MASS
53
AREA
6095
HEIGHT
6659
20-Jun-2023
18:22
linh
pham



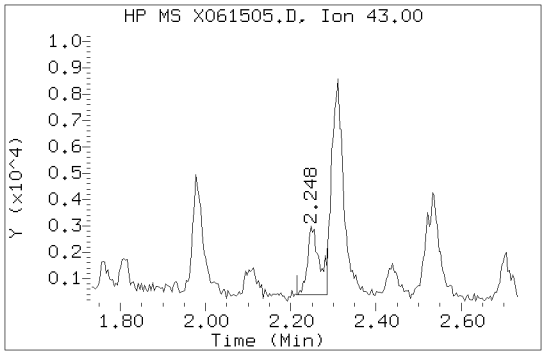
Methyl acetate (79-20-9)

Reason Code:

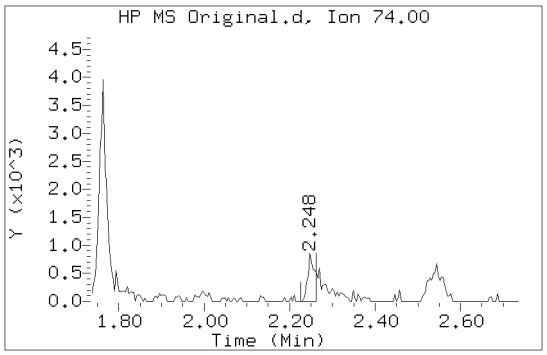
BEFORE
MASS
43
AREA
5157
HEIGHT
2617
20-Jun-2023
18:22
linh
pham



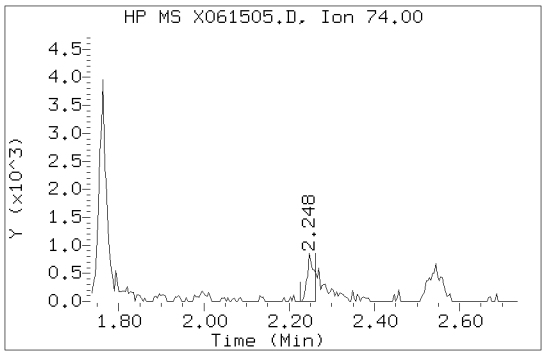
AFTER
MASS
43
AREA
5157
HEIGHT
2617
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
74
AREA
940
HEIGHT
855
20-Jun-2023
18:22
linh
pham



AFTER
MASS
74
AREA
940
HEIGHT
855
20-Jun-2023
18:22
linh
pham



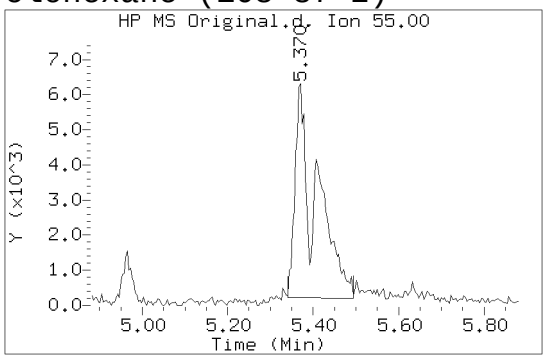
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Methylcyclohexane (108-87-2)

Reason Code:

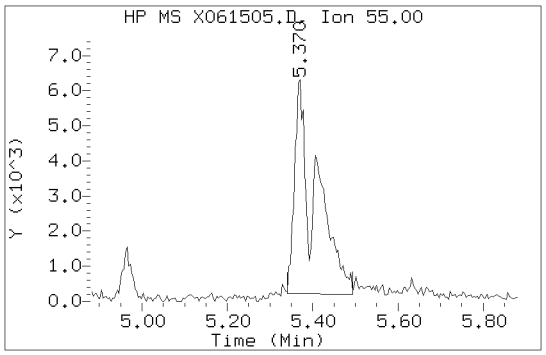
BEFORE

MASS
55
AREA
20990
HEIGHT
6091
20-Jun-2023
18:22
linh
pham



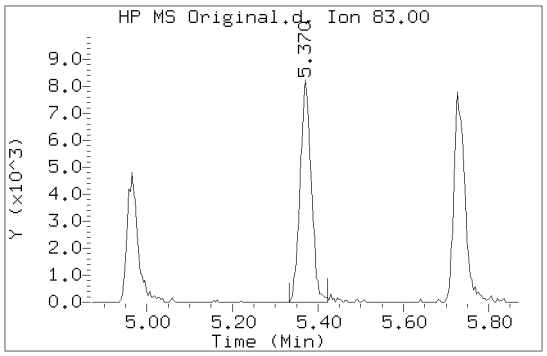
AFTER

MASS
55
AREA
20990
HEIGHT
6091
20-Jun-2023
18:22
linh
pham



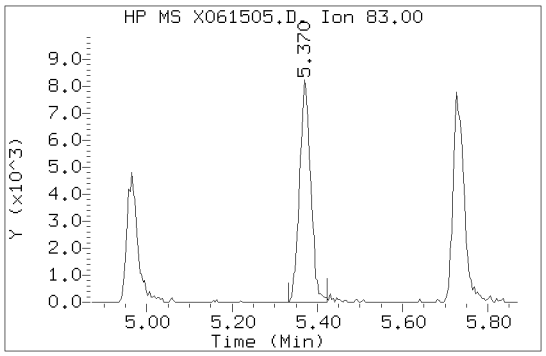
BEFORE

MASS
83
AREA
15282
HEIGHT
8235
20-Jun-2023
18:22
linh
pham



AFTER

MASS
83
AREA
15282
HEIGHT
8235
20-Jun-2023
18:22
linh
pham

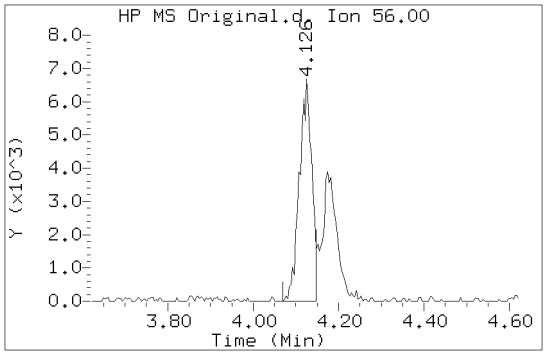


Cyclohexane (110-82-7)

Reason Code:

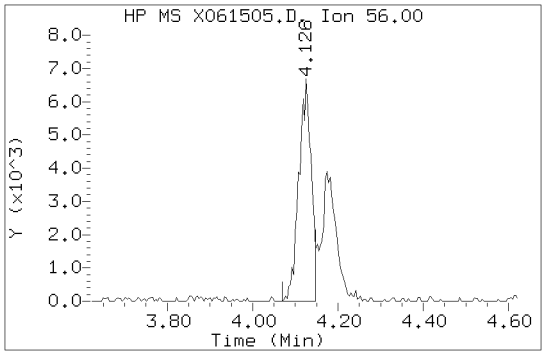
BEFORE

MASS
56
AREA
13787
HEIGHT
6686
20-Jun-2023
18:22
linh
pham



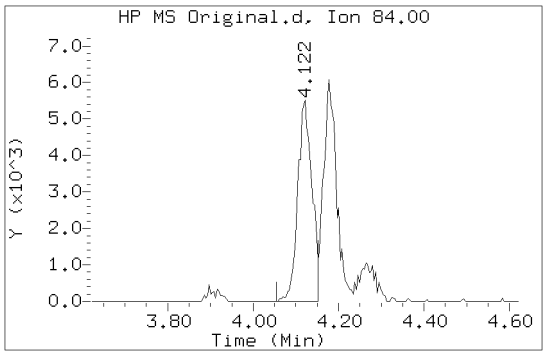
AFTER

MASS
56
AREA
13787
HEIGHT
6686
20-Jun-2023
18:22
linh
pham



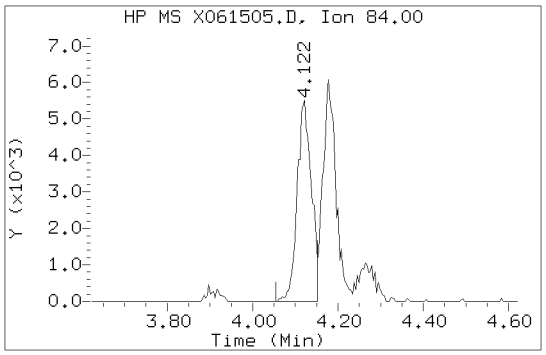
BEFORE

MASS
84
AREA
12922
HEIGHT
5508
20-Jun-2023
18:22
linh
pham



AFTER

MASS
84
AREA
12922
HEIGHT
5508
20-Jun-2023
18:22
linh
pham



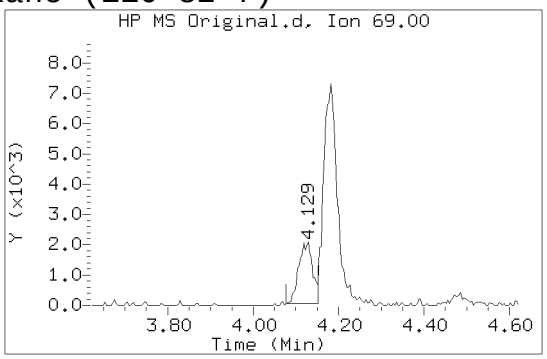
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Cyclohexane (110-82-7)

Reason Code:

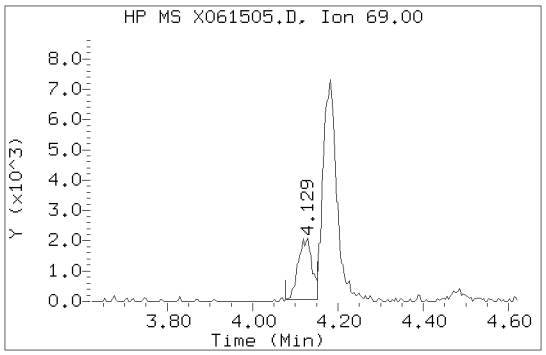
BEFORE

MASS
69
AREA
4668
HEIGHT
2038
20-Jun-2023
18:22
linh
pham



AFTER

MASS
69
AREA
4668
HEIGHT
2038
20-Jun-2023
18:22
linh
pham

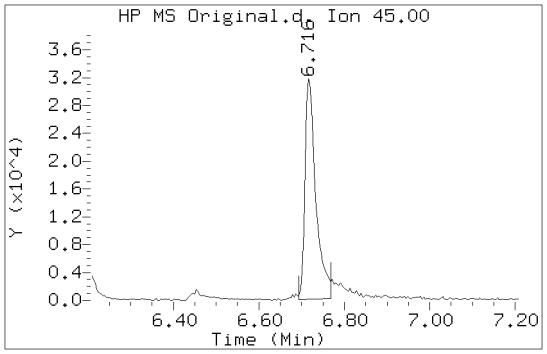


4-Methyl-2-pentanol (108-11-2)

Reason Code:

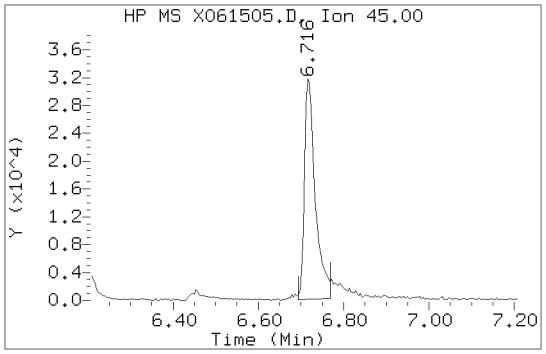
BEFORE

MASS
45
AREA
56864
HEIGHT
31680
20-Jun-2023
18:22
linh
pham



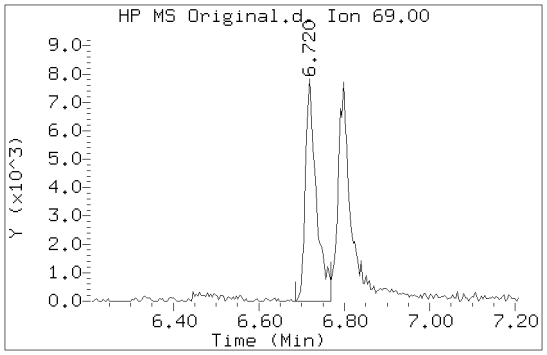
AFTER

MASS
45
AREA
56864
HEIGHT
31680
20-Jun-2023
18:22
linh
pham



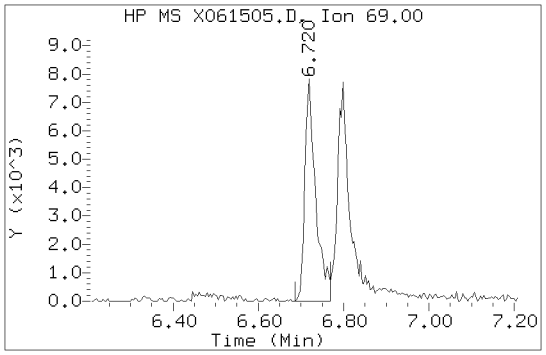
BEFORE

MASS
69
AREA
14049
HEIGHT
7830
20-Jun-2023
18:22
linh
pham



AFTER

MASS
69
AREA
14049
HEIGHT
7830
20-Jun-2023
18:22
linh
pham

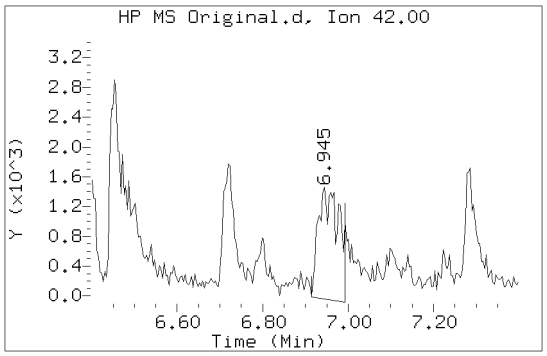


Amyl alcohol (71-41-0)

Reason Code:

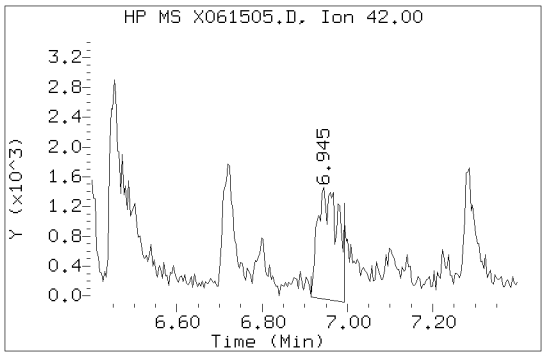
BEFORE

MASS
42
AREA
5090
HEIGHT
1499
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
5090
HEIGHT
1499
20-Jun-2023
18:22
linh
pham

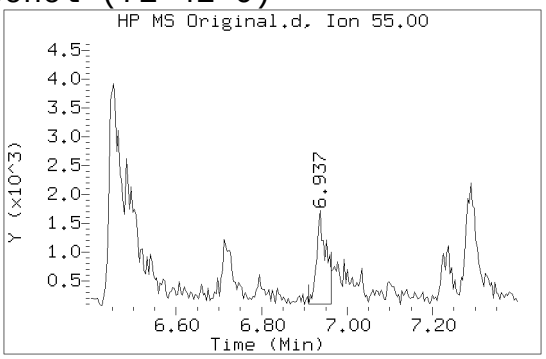


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

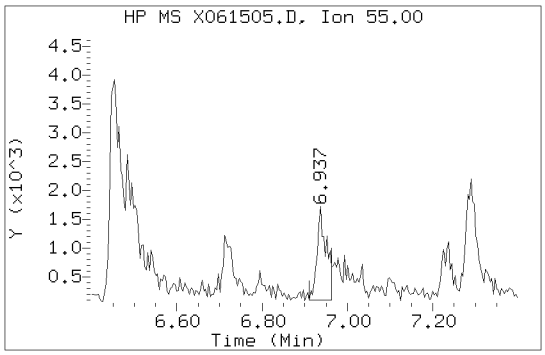
Amyl alcohol (71-41-0)

Reason Code:

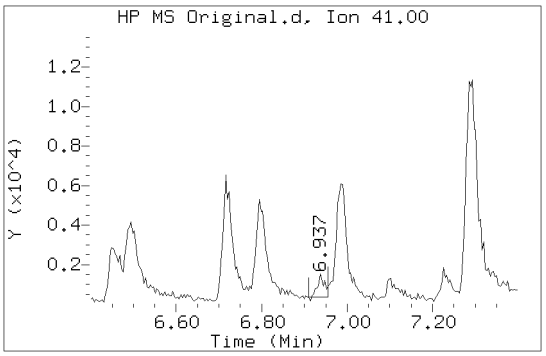
BEFORE
MASS
55
AREA
2484
HEIGHT
1619
20-Jun-2023
18:22
linh
pham



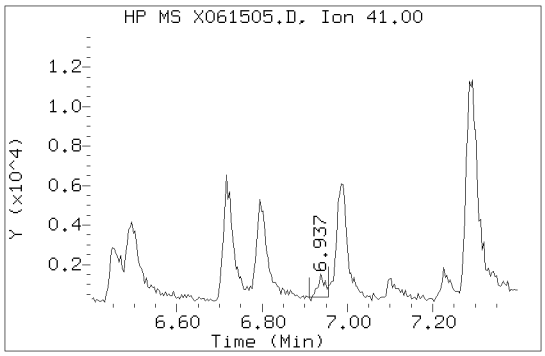
AFTER
MASS
55
AREA
2484
HEIGHT
1619
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
1377
HEIGHT
1194
20-Jun-2023
18:22
linh
pham



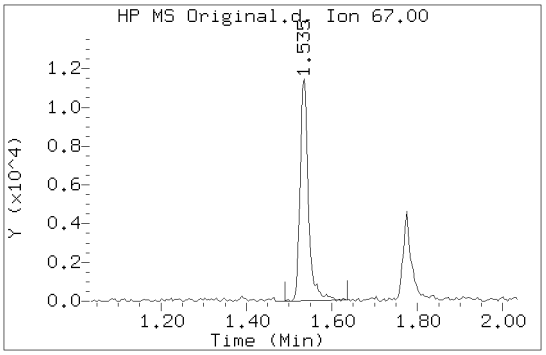
AFTER
MASS
41
AREA
1377
HEIGHT
1194
20-Jun-2023
18:22
linh
pham



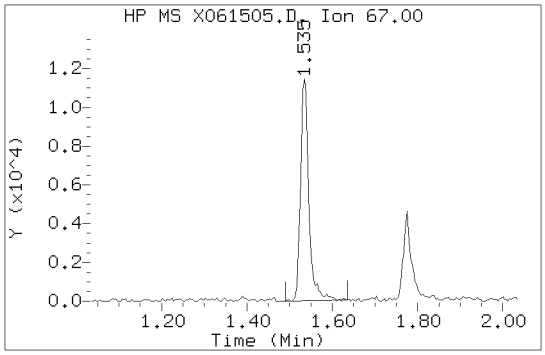
Dichlorofluoromethane (75-43-4)

Reason Code:

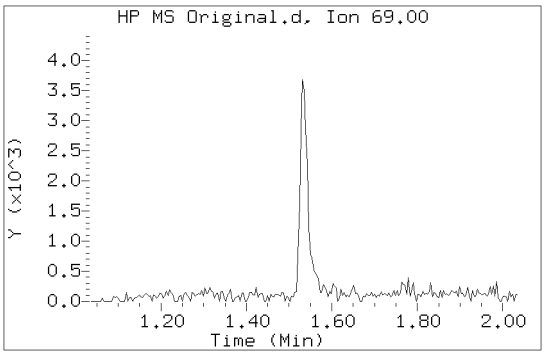
BEFORE
MASS
67
AREA
15880
HEIGHT
11454
20-Jun-2023
18:22
linh
pham



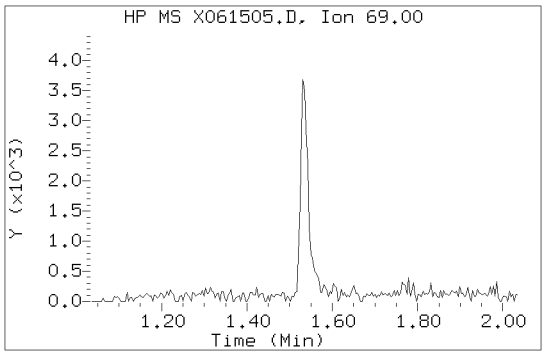
AFTER
MASS
67
AREA
15880
HEIGHT
11454
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
69
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



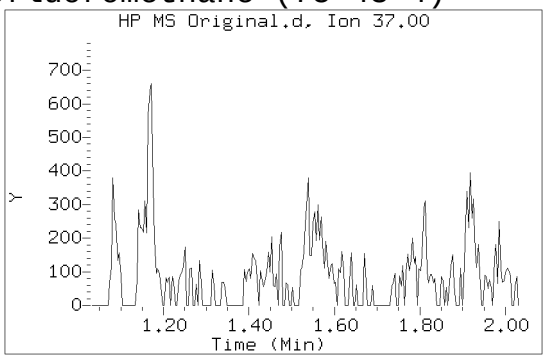
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Dichlorofluoromethane (75-43-4)

Reason Code:

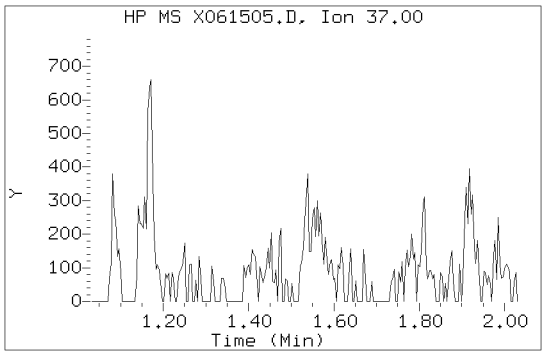
BEFORE

MASS
37
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
37
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

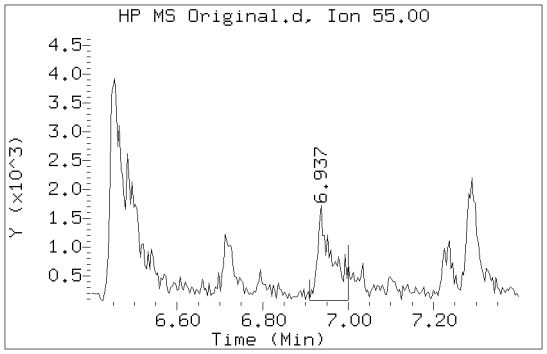


3-Methyl-1-butanol (123-51-3)

Reason Code:

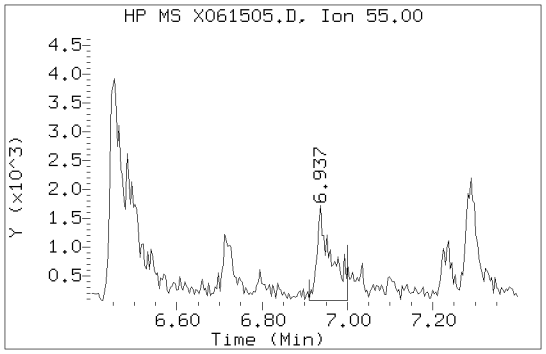
BEFORE

MASS
55
AREA
3850
HEIGHT
1643
20-Jun-2023
18:22
linh
pham



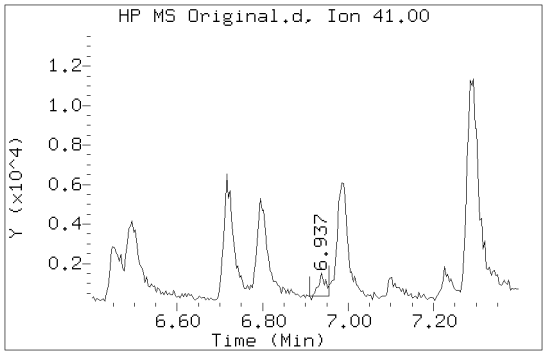
AFTER

MASS
55
AREA
3850
HEIGHT
1643
20-Jun-2023
18:22
linh
pham



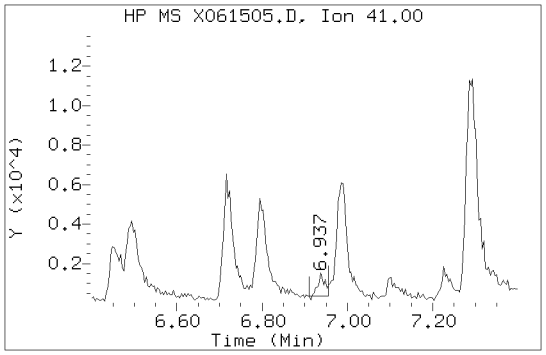
BEFORE

MASS
41
AREA
1377
HEIGHT
1194
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
1377
HEIGHT
1194
20-Jun-2023
18:22
linh
pham

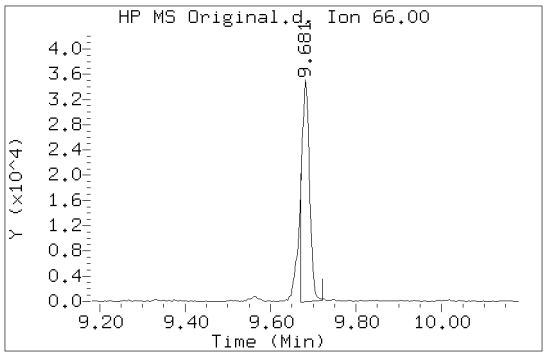


Dicyclopentadiene (77-73-6)

Reason Code:

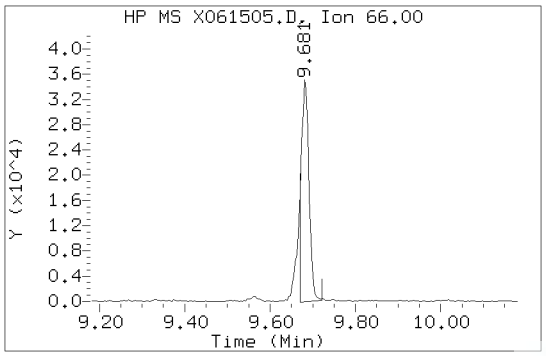
BEFORE

MASS
66
AREA
45923
HEIGHT
35155
20-Jun-2023
18:22
linh
pham



AFTER

MASS
66
AREA
45923
HEIGHT
35155
20-Jun-2023
18:22
linh
pham



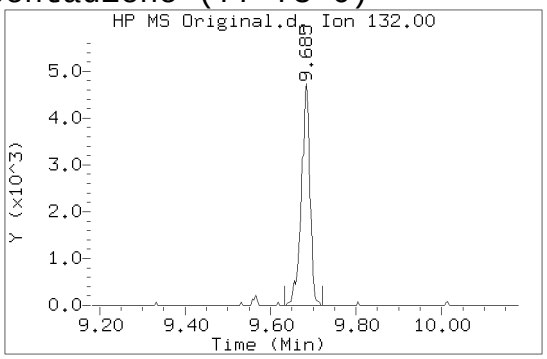
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Dicyclopentadiene (77-73-6)

Reason Code:

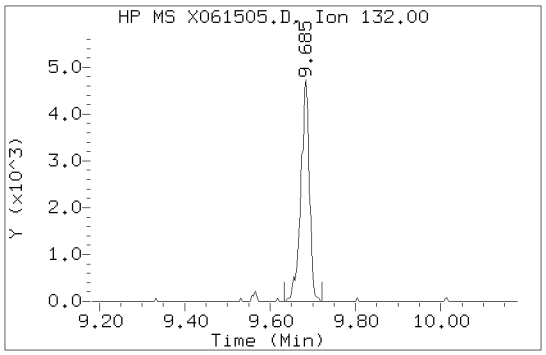
BEFORE

MASS
132
AREA
6793
HEIGHT
4734
20-Jun-2023
18:22
linh
pham



AFTER

MASS
132
AREA
6793
HEIGHT
4734
20-Jun-2023
18:22
linh
pham

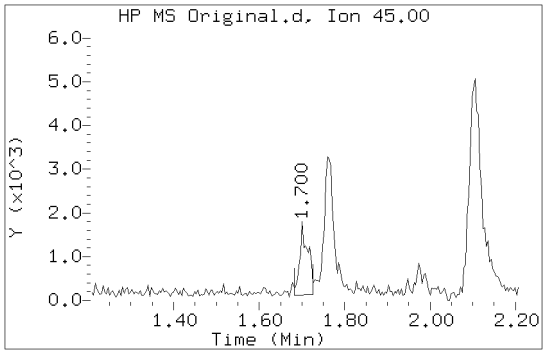


Ethanol (64-17-5)

Reason Code:

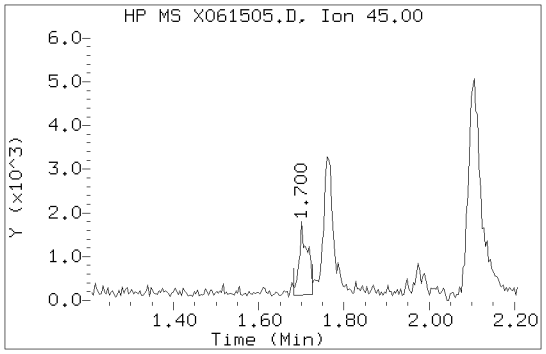
BEFORE

MASS
45
AREA
2336
HEIGHT
1678
20-Jun-2023
18:22
linh
pham



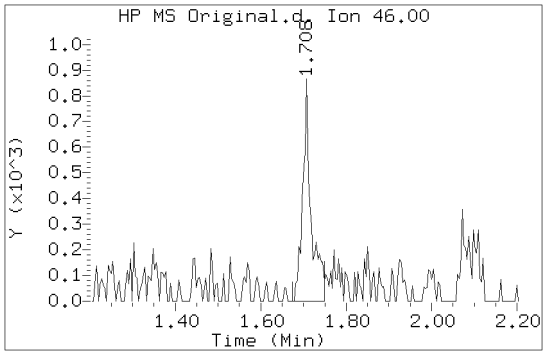
AFTER

MASS
45
AREA
2336
HEIGHT
1678
20-Jun-2023
18:22
linh
pham



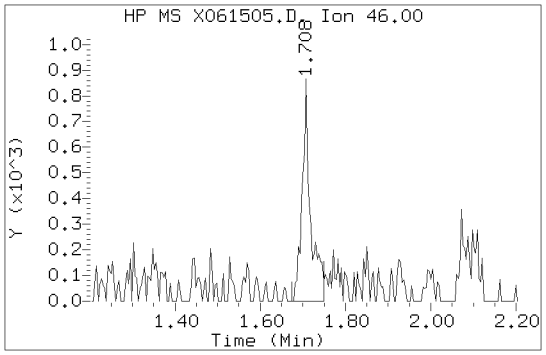
BEFORE

MASS
46
AREA
1210
HEIGHT
866
20-Jun-2023
18:22
linh
pham



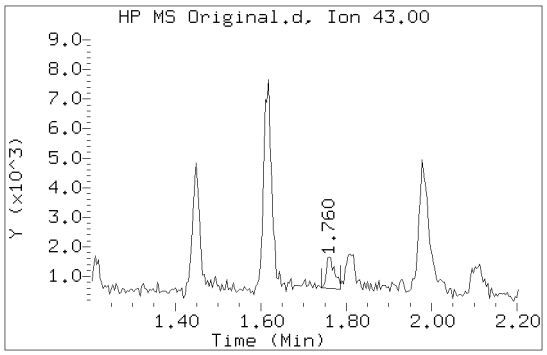
AFTER

MASS
46
AREA
1210
HEIGHT
866
20-Jun-2023
18:22
linh
pham



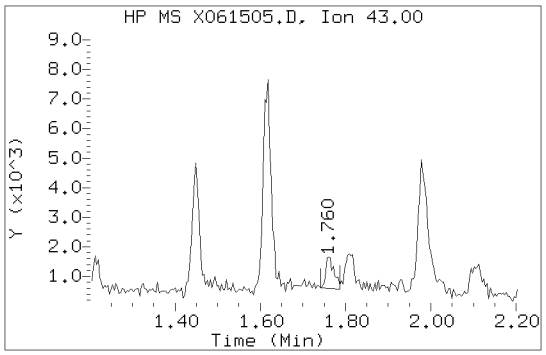
BEFORE

MASS
43
AREA
1441
HEIGHT
1055
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
1441
HEIGHT
1055
20-Jun-2023
18:22
linh
pham

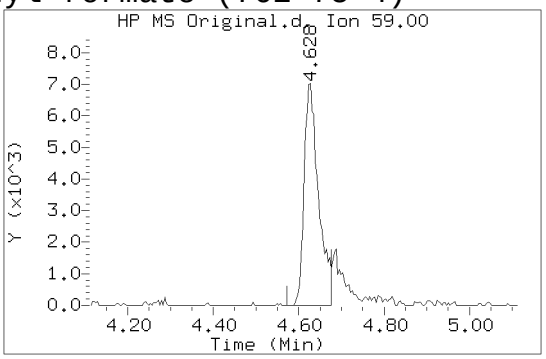


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

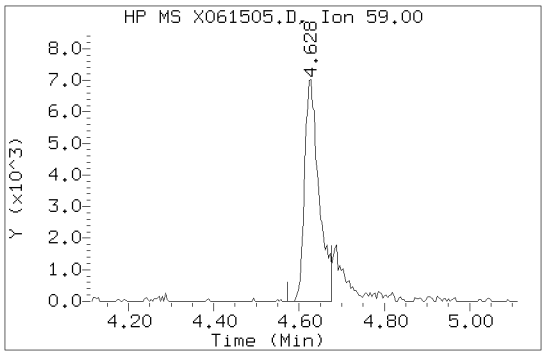
tert-Butyl formate (762-75-4)

Reason Code:

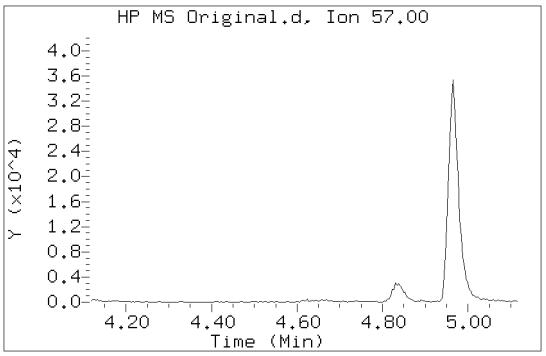
BEFORE
MASS
59
AREA
16716
HEIGHT
7019
20-Jun-2023
18:22
linh
pham



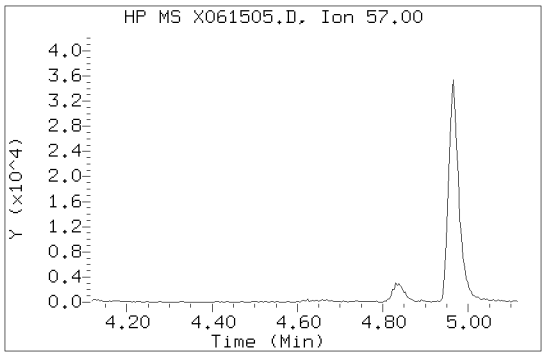
AFTER
MASS
59
AREA
16716
HEIGHT
7019
20-Jun-2023
18:22
linh
pham



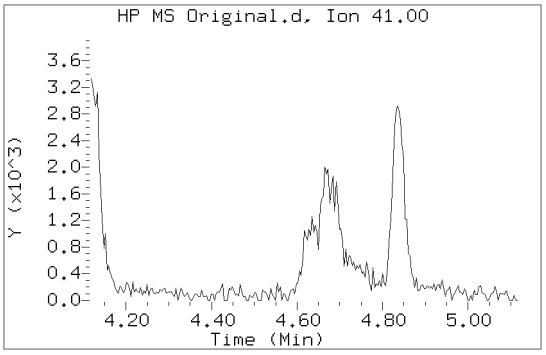
BEFORE
MASS
57
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



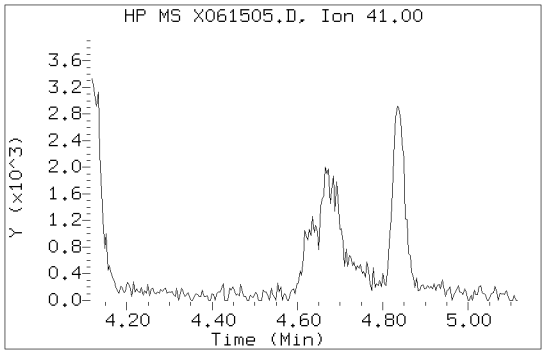
AFTER
MASS
57
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



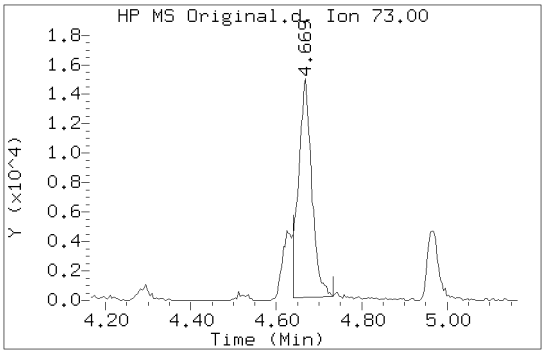
AFTER
MASS
41
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



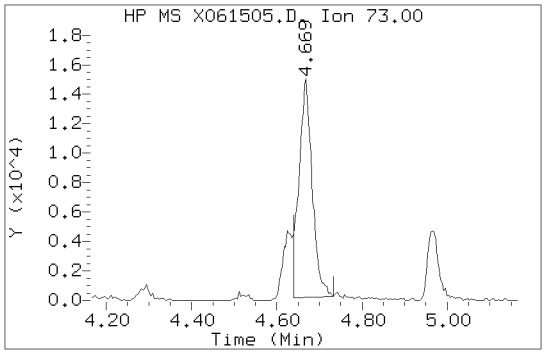
tert-Amyl methyl ether (974-05-08)

Reason Code:

BEFORE
MASS
73
AREA
32910
HEIGHT
14863
20-Jun-2023
18:22
linh
pham



AFTER
MASS
73
AREA
32910
HEIGHT
14863
20-Jun-2023
18:22
linh
pham



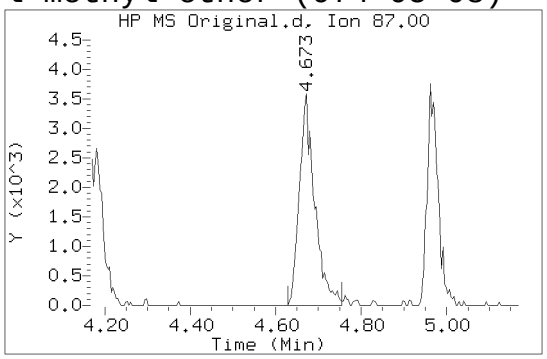
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

tert-Amyl methyl ether (974-05-08)

Reason Code:

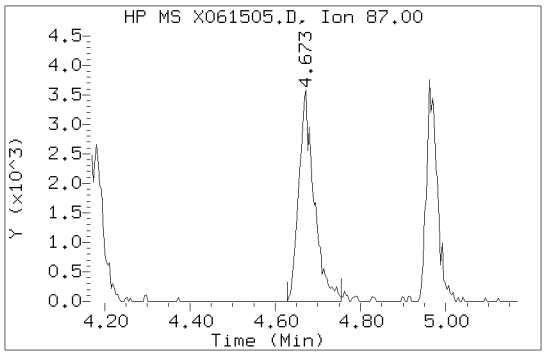
BEFORE

MASS
87
AREA
9052
HEIGHT
3583
20-Jun-2023
18:22
linh
pham



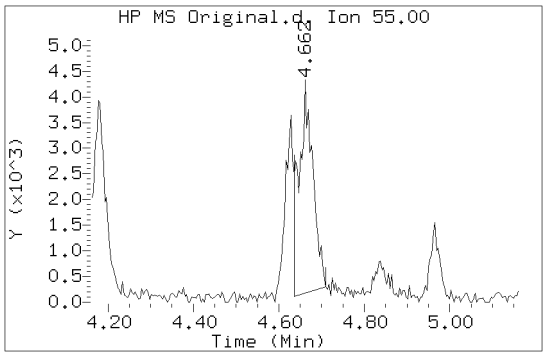
AFTER

MASS
87
AREA
9052
HEIGHT
3583
20-Jun-2023
18:22
linh
pham



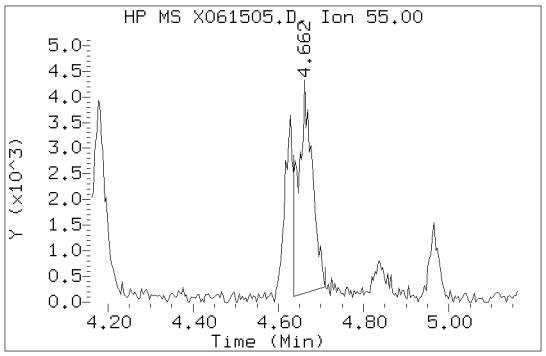
BEFORE

MASS
55
AREA
9699
HEIGHT
4151
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
9699
HEIGHT
4151
20-Jun-2023
18:22
linh
pham

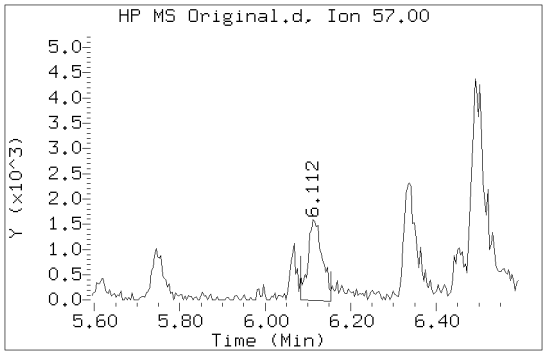


Epichlorohydrin (106-89-8)

Reason Code:

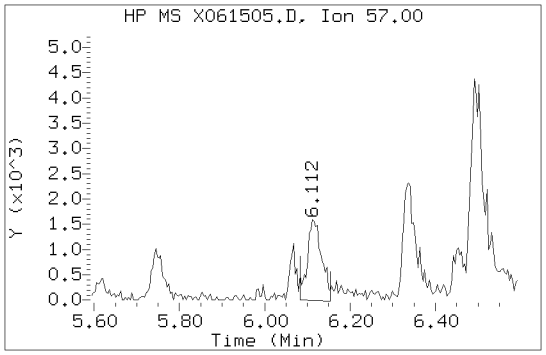
BEFORE

MASS
57
AREA
3820
HEIGHT
1601
20-Jun-2023
18:22
linh
pham



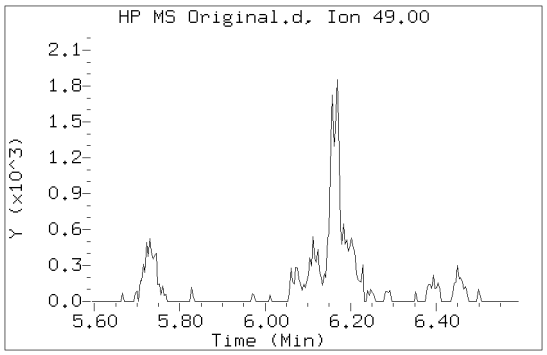
AFTER

MASS
57
AREA
3820
HEIGHT
1601
20-Jun-2023
18:22
linh
pham



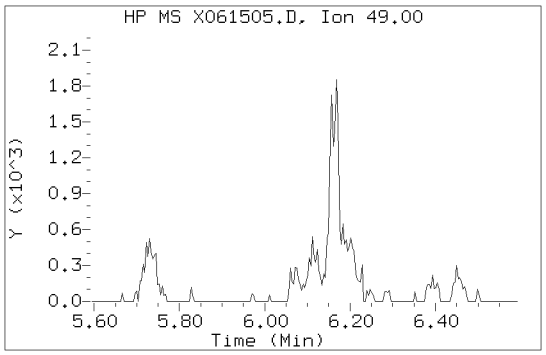
BEFORE

MASS
49
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
49
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



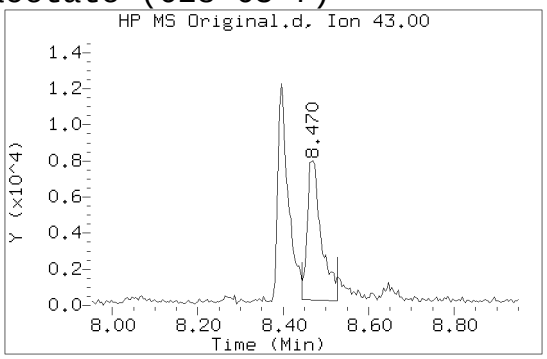
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

n-Amyl acetate (628-63-7)

Reason Code:

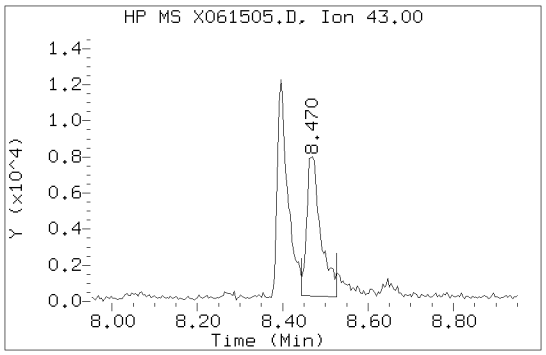
BEFORE

MASS
43
AREA
18078
HEIGHT
7749
20-Jun-2023
18:22
linh
pham



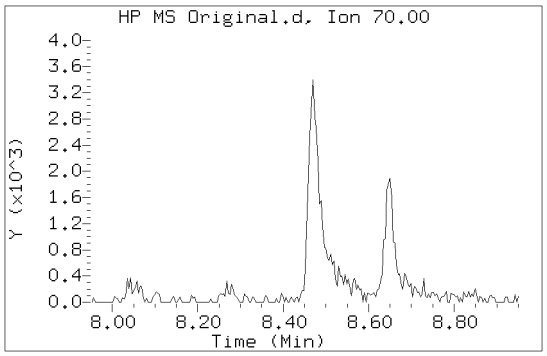
AFTER

MASS
43
AREA
18078
HEIGHT
7749
20-Jun-2023
18:22
linh
pham



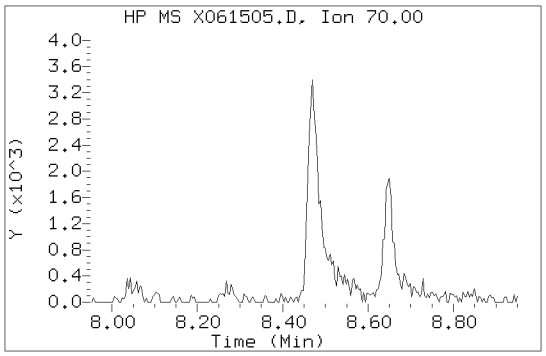
BEFORE

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



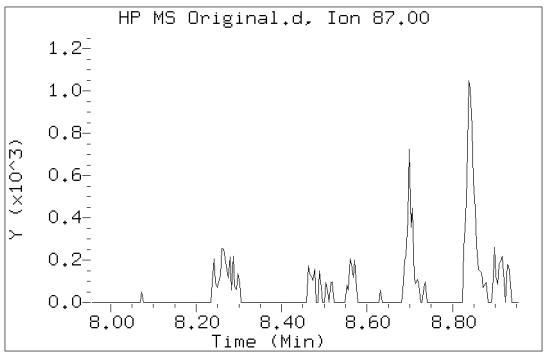
AFTER

MASS
70
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



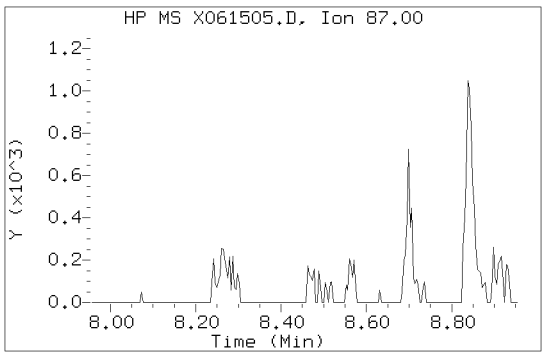
BEFORE

MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

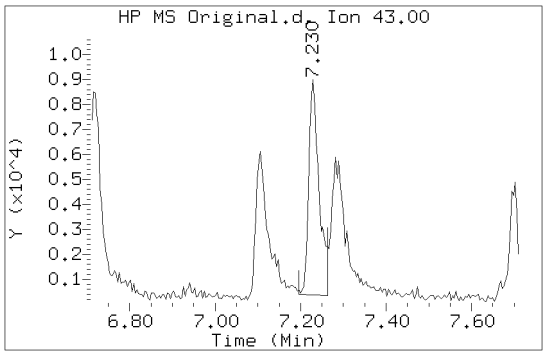


n-Butyl acetate (123-86-4)

Reason Code:

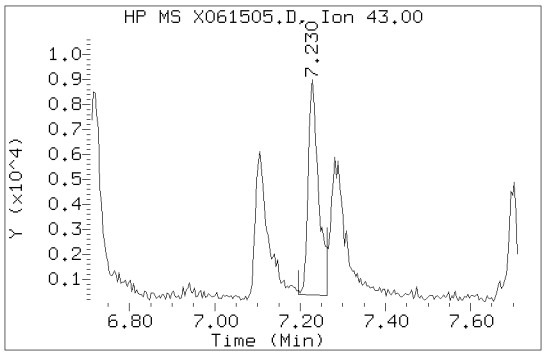
BEFORE

MASS
43
AREA
14580
HEIGHT
8610
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
14580
HEIGHT
8610
20-Jun-2023
18:22
linh
pham



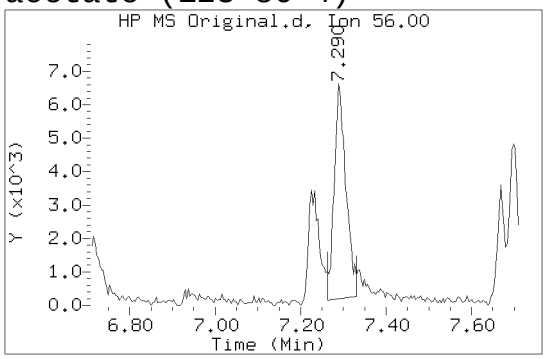
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

n-Butyl acetate (123-86-4)

Reason Code:

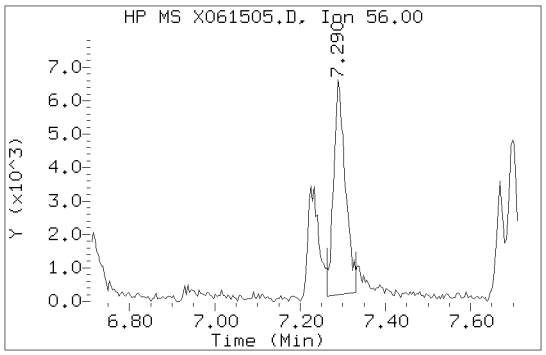
BEFORE

MASS
56
AREA
12380
HEIGHT
6432
20-Jun-2023
18:22
linh
pham



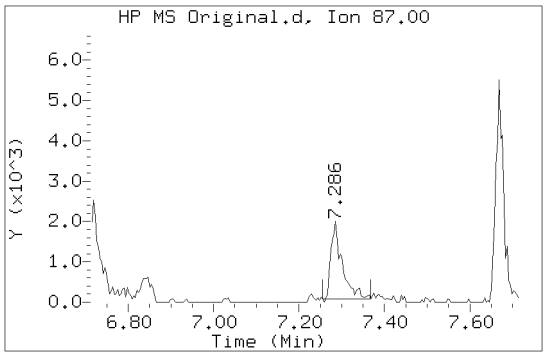
AFTER

MASS
56
AREA
12380
HEIGHT
6432
20-Jun-2023
18:22
linh
pham



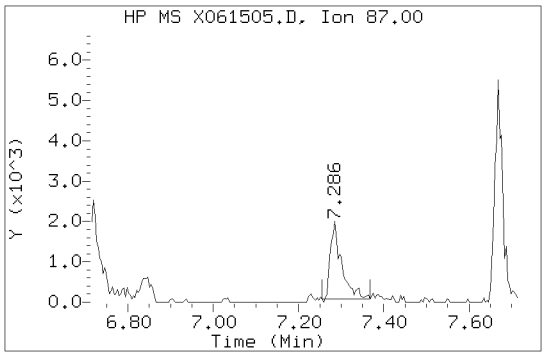
BEFORE

MASS
87
AREA
3534
HEIGHT
1937
20-Jun-2023
18:22
linh
pham



AFTER

MASS
87
AREA
3534
HEIGHT
1937
20-Jun-2023
18:22
linh
pham

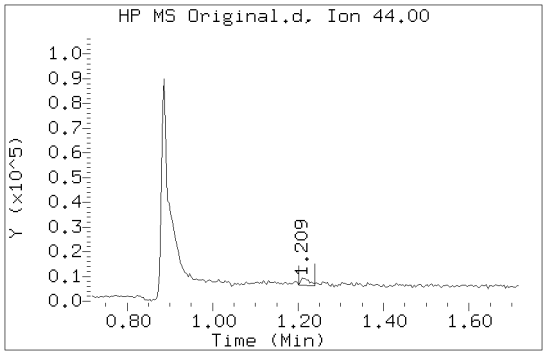


Acetaldehyde (75-07-0)

Reason Code:

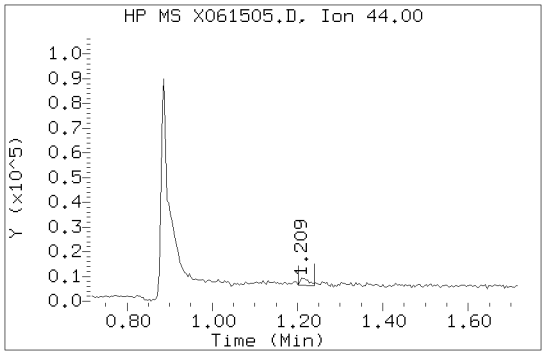
BEFORE

MASS
44
AREA
4310
HEIGHT
3066
20-Jun-2023
18:22
linh
pham



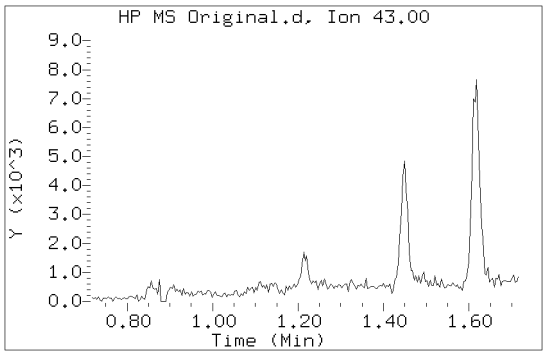
AFTER

MASS
44
AREA
4310
HEIGHT
3066
20-Jun-2023
18:22
linh
pham



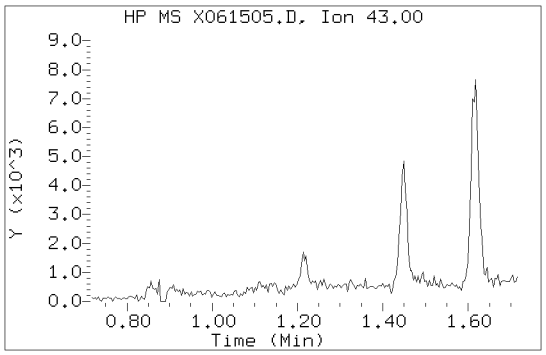
BEFORE

MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



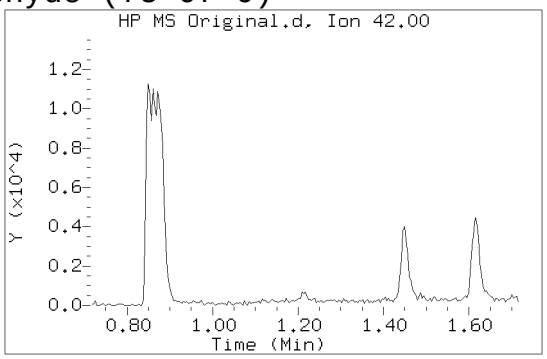
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

Acetaldehyde (75-07-0)

Reason Code:

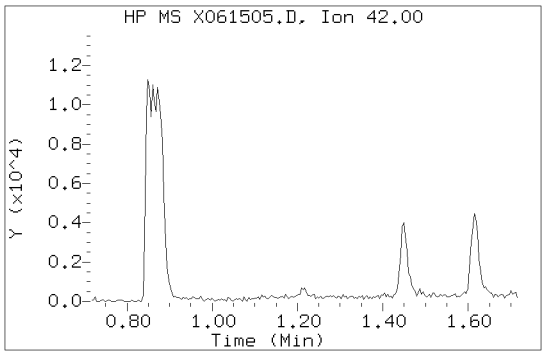
BEFORE

MASS
42
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

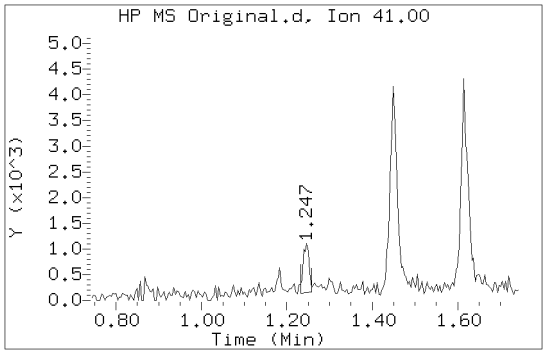


Isobutylene (115-11-7)

Reason Code:

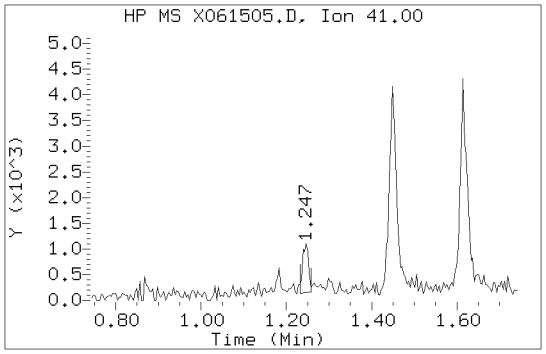
BEFORE

MASS
41
AREA
964
HEIGHT
953
20-Jun-2023
18:22
linh
pham



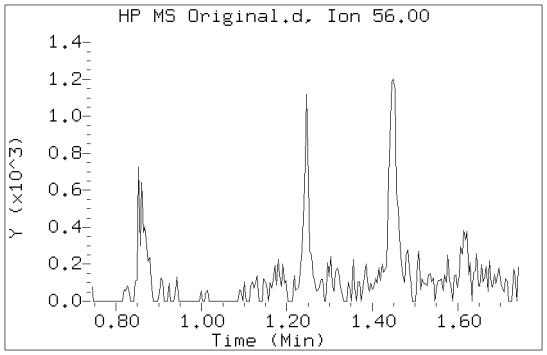
AFTER

MASS
41
AREA
964
HEIGHT
953
20-Jun-2023
18:22
linh
pham



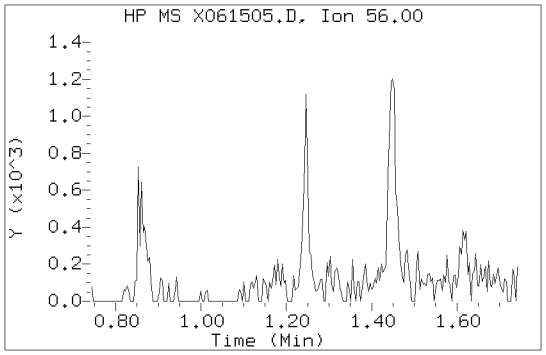
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



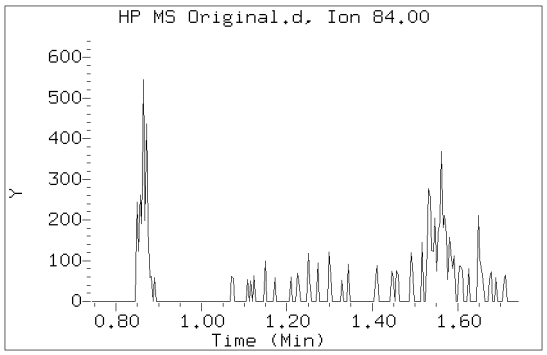
AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



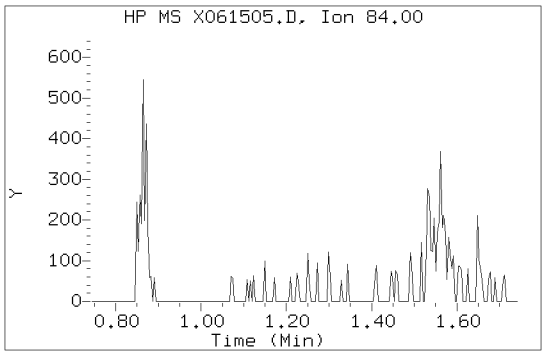
BEFORE

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



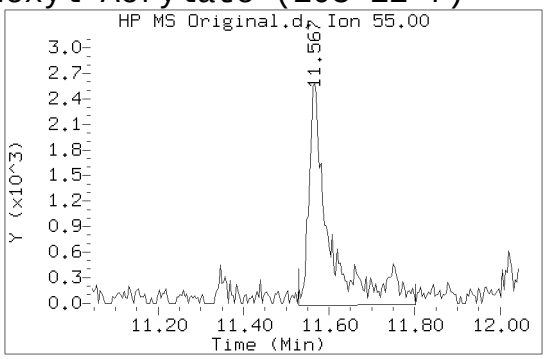
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061505.D
Inj Date : 15-JUN-2023 12:39
InstruID : voa6.i
LabSampID : VSTD002

2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

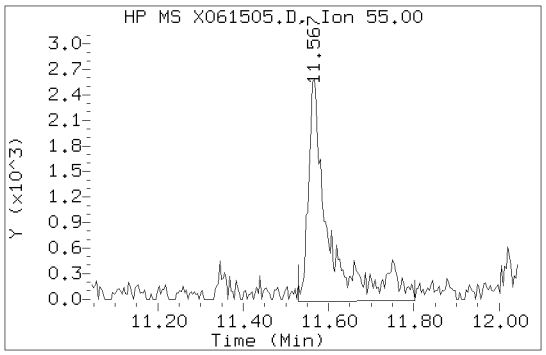
BEFORE

MASS
55
AREA
8837
HEIGHT
2604
20-Jun-2023
18:22
linh
pham



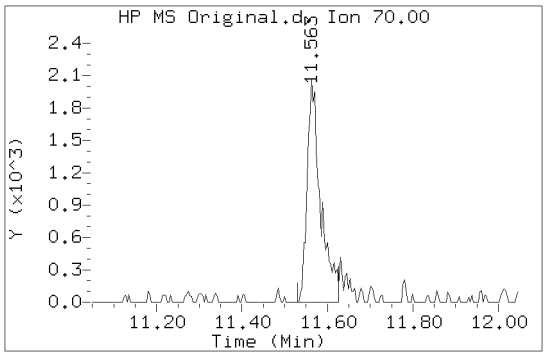
AFTER

MASS
55
AREA
8837
HEIGHT
2604
20-Jun-2023
18:22
linh
pham



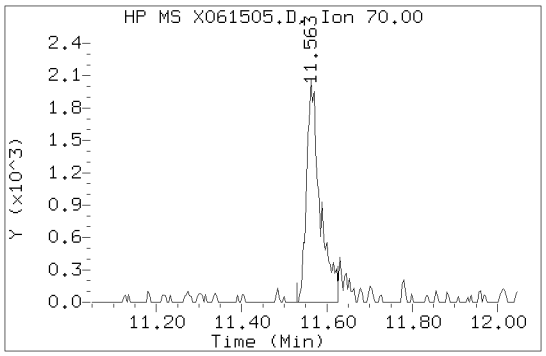
BEFORE

MASS
70
AREA
4532
HEIGHT
2060
20-Jun-2023
18:22
linh
pham



AFTER

MASS
70
AREA
4532
HEIGHT
2060
20-Jun-2023
18:22
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 15-JUN-2023 13:00
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:00 Cal File: X061506.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.177	4.181	(1.000)	488017	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	21019	5.00000	5.29
3	Chloromethane	50	1.081	1.081	(0.259)	25651	5.00000	5.89
4	Propionitrile	54	3.668	3.653	(0.878)	29713	50.0000	50.34(a)
5	Vinyl Chloride	62	1.145	1.149	(0.274)	23889	5.00000	4.66
6	Bromomethane	94	1.343	1.344	(0.322)	14528	5.00000	4.93(M)
7	Chloroethane	64	1.407	1.407	(0.337)	15374	5.00000	4.90
8	Trichlorofluoromethane	101	1.565	1.565	(0.375)	28710	5.00000	4.71
9	Acrolein	56	1.445	1.449	(0.346)	2991	10.0000	9.87(a)
10	Acetone	43	1.977	1.973	(0.473)	16276	10.0000	12.55
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	18352	5.00000	4.80
12	Isobutyl Alcohol	43	4.684	4.676	(1.121)	68348	100.000	107.41(a)
13	Acetonitrile	39	2.206	2.202	(0.528)	24760	50.0000	52.30(a)
14	Allyl Chloride	41	2.206	2.202	(0.528)	54361	5.00000	5.07(a)
15	Iodomethane	142	2.029	2.030	(0.486)	43988	10.0000	9.17
16	Acrylonitrile	53	2.554	2.536	(0.611)	15118	10.0000	9.75(M)
17	Methylene Chloride	84	2.307	2.307	(0.552)	29661	5.00000	5.49
18	Methyl tert-butyl ether	73	2.536	2.536	(0.607)	67305	5.00000	5.04
19	Carbon Disulfide	76	2.071	2.071	(0.496)	128049	10.0000	9.41
20	trans-1,2-Dichloroethene	96	2.536	2.532	(0.607)	21908	5.00000	4.79
21	Vinyl Acetate	43	3.008	2.997	(0.720)	127281	10.0000	10.43

22 1,1-Dichloroethane	63	2.925	2.922 (0.700)	39888	5.00000	4.84
23 Chloroprene	53	1.778	1.775 (0.426)	7954	5.00000	4.90(aM)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.608	3.578	(0.864)	13344	10.0000	8.30(M)
25	Methacrylonitrile	41	3.840	3.821	(0.919)	20054	5.00000	4.98(aH)
26	2,2-Dichloropropane	77	3.514	3.514	(0.841)	33630	5.00000	5.17
27	cis-1,2-Dichloroethene	96	3.529	3.525	(0.845)	25475	5.00000	4.83
28	Chloroform	83	3.908	3.904	(0.935)	43843	5.00000	4.94
29	Bromochloromethane	128	3.799	3.795	(0.909)	14035	5.00000	4.99
$ 30	Dibromofluoromethane	113	4.106	4.099	(0.983)	25267	5.00000	5.49
31	1,1,1-Trichloroethane	97	4.080	4.084	(0.977)	33298	5.00000	4.64
32	1,1-Dichloropropene	75	4.282	4.279	(0.863)	31057	5.00000	4.91
33	1,2-Dichloroethane	62	4.560	4.556	(0.918)	31372	5.00000	4.95
34	Carbon Tetrachloride	117	4.267	4.264	(0.860)	28746	5.00000	4.73
$ 35	1,2-Dichloroethane-d4	65	4.474	4.470	(1.071)	26822	5.00000	4.94
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	753771	50.0000	
37	Benzene	78	4.515	4.511	(0.909)	91696	5.00000	4.72
38	Trichloroethene	130	5.212	5.205	(1.050)	26143	5.00000	4.89(a)
39	Bromodichloromethane	83	5.729	5.722	(1.154)	32837	5.00000	4.78(a)
40	Methyl Methacrylate	41	5.617	5.606	(1.345)	18034	5.00000	4.77(a)
41	2-Chloroethylvinyl ether	63	6.059	6.048	(1.220)	18326	10.0000	9.87(a)
42	1,2-Dichloropropane	63	5.441	5.437	(1.096)	25417	5.00000	4.99(a)
43	2-Nitropropane	43	5.973	5.966	(1.430)	6797	5.00000	5.16(MH)
44	Dibromomethane	93	5.553	5.550	(1.119)	15838	5.00000	4.95(a)
45	4-Methyl-2-Pentanone	43	6.329	6.322	(0.825)	47063	10.0000	10.43
46	cis-1,3-Dichloropropene	75	6.160	6.153	(1.241)	41389	5.00000	4.89(a)
* 47	Chlorobenzene-d5	117	7.667	7.668	(1.000)	697950	50.0000	
$ 48	Toluene-d8	98	6.389	6.386	(0.833)	86700	5.00000	4.91(a)
49	Ethyl Methacrylate	69	6.712	6.708	(1.352)	28839	5.00000	5.33(a)
50	Toluene	91	6.449	6.445	(0.841)	96484	5.00000	4.70(a)
51	trans-1,3-Dichloropropene	75	6.689	6.678	(1.347)	33242	5.00000	4.69(a)
52	2-Hexanone	43	7.094	7.083	(0.925)	31781	10.0000	10.55
53	1,1,2-Trichloroethane	83	6.843	6.835	(0.892)	20225	5.00000	5.06
54	1,3-Dichloropropane	76	6.985	6.978	(0.911)	40289	5.00000	4.99(a)
55	Dibromochloromethane	129	7.176	7.173	(0.936)	26465	5.00000	4.67(a)
56	Tetrachloroethene	164	6.925	6.925	(0.903)	20894	5.00000	4.95(a)
57	1,2-Dibromoethane	107	7.263	7.259	(0.947)	25353	5.00000	4.96(a)
58	1-Chlorohexane	55	7.694	7.694	(1.550)	22997	5.00000	5.01
59	Chlorobenzene	112	7.694	7.690	(1.003)	68862	5.00000	4.91(a)
60	1,1,1,2-Tetrachloroethane	131	7.776	7.773	(1.014)	25167	5.00000	4.81(a)
61	Ethylbenzene	106	7.799	7.799	(1.017)	34698	5.00000	4.80(a)
62	m,p-Xylenes	106	7.907	7.900	(1.031)	89258	10.0000	10.02
63	o-Xylene	106	8.241	8.237	(1.075)	43406	5.00000	4.88(a)
64	Styrene	104	8.263	8.256	(1.078)	70501	5.00000	4.81(a)
66	Bromoform	173	8.413	8.410	(1.097)	18603	5.00000	4.71(a)
67	Isopropylbenzene	105	8.560	8.560	(1.116)	105918	5.00000	4.82(a)
68	1,1,2,2-Tetrachloroethane	83	8.841	8.837	(0.915)	34471	5.00000	5.14
$ 69	4-Bromofluorobenzene	95	8.691	8.687	(1.133)	37968	5.00000	5.09
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	381050	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	24647	5.00000	5.12
72	trans-1,4-Dichloro-2-butene	53	8.893	8.886	(1.160)	8239	5.00000	4.84(a)
73	n-Propylbenzene	91	8.912	8.908	(0.922)	122140	5.00000	4.87(a)
74	Bromobenzene	156	8.807	8.803	(0.912)	30648	5.00000	4.93(a)
75	1,3,5-Trimethylbenzene	105	9.069	9.066	(0.939)	88359	5.00000	4.80(a)
76	2-Chlorotoluene	91	8.976	8.972	(0.929)	80274	5.00000	5.04

77	4-Chlorotoluene	91	9.073	9.070 (0.939)	88105	5.00000	4.96(a)
78	tert-Butylbenzene	119	9.336	9.336 (0.966)	74954	5.00000	4.88(a)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D Page 3
Report Date: 20-Jun-2023 18:25

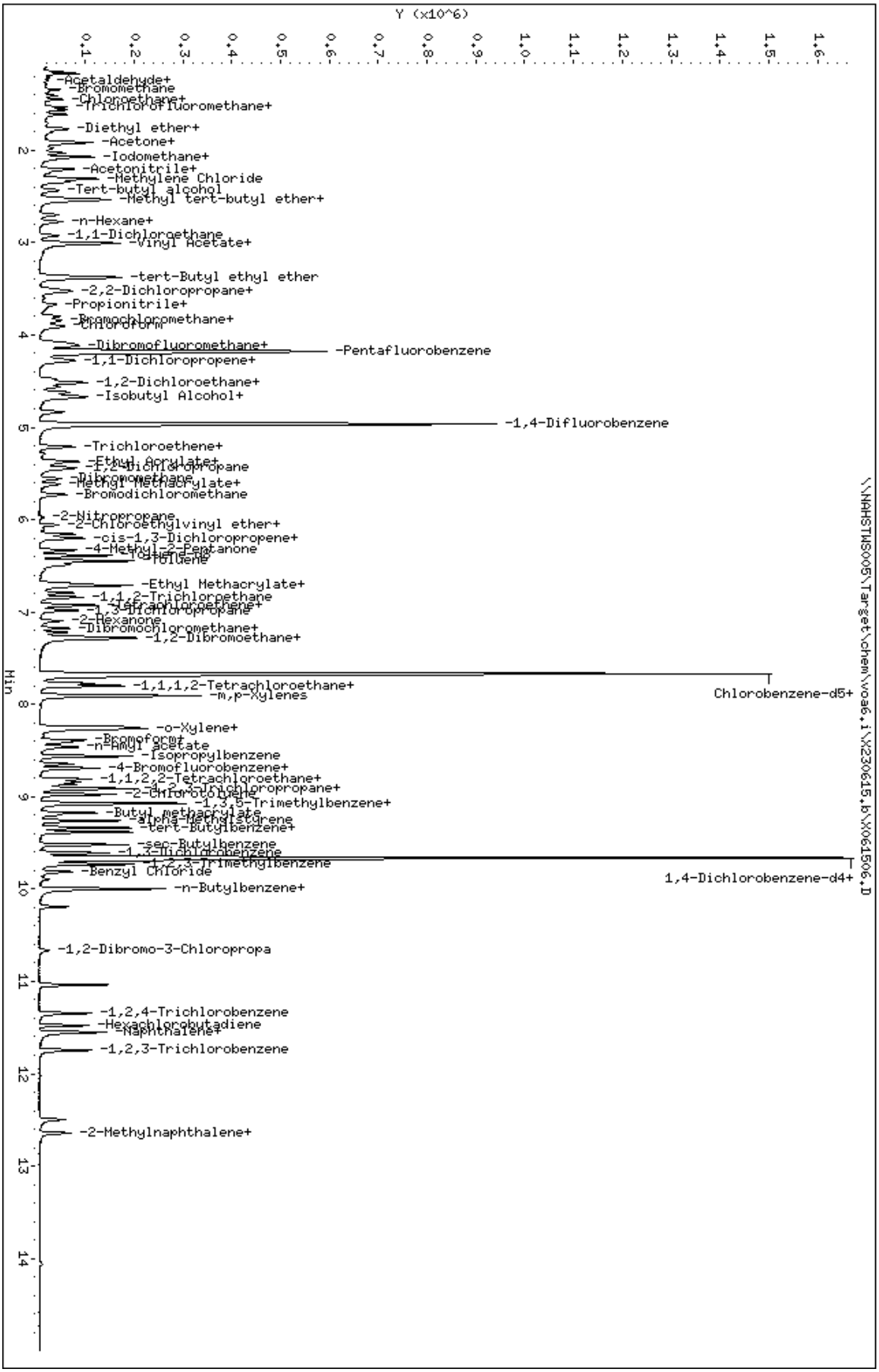
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
79	1,2,4-Trimethylbenzene	105	9.381	9.377	(0.971)	89491	5.00000	4.82(a)
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	104715	5.00000	4.84(a)
82	p-Isopropyltoluene	119	9.650	9.647	(0.999)	91749	5.00000	4.84(a)
83	1,3-Dichlorobenzene	146	9.605	9.602	(0.994)	53191	5.00000	4.81(a)
84	1,4-Dichlorobenzene	146	9.684	9.681	(1.002)	56357	5.00000	4.76(a)
86	Benzyl Chloride	91	9.812	9.808	(1.280)	46695	5.00000	4.05(a)
87	n-Butylbenzene	91	9.999	9.992	(1.035)	79292	5.00000	4.91(a)
88	1,2-Dichlorobenzene	146	9.995	9.992	(1.035)	53221	5.00000	4.85(a)
89	1,2-Dibromo-3-Chloropropane	155	10.663	10.655	(1.104)	5689	5.00000	5.43
90	1,2,4-Trichlorobenzene	180	11.345	11.334	(1.174)	35696	5.00000	4.67(a)
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	16766	5.00000	4.89(a)
92	Naphthalene	128	11.547	11.540	(1.195)	82000	5.00000	4.77(a)
93	1,2,3-Trichlorobenzene	180	11.746	11.739	(1.216)	33399	5.00000	4.75(a)
146	Methyl acetate	43	2.243	2.232	(0.537)	13585	5.00000	4.70(a)
138	Freon TF	101	1.917	1.917	(0.459)	18080	5.00000	5.43
141	Cyclohexane	56	4.121	4.121	(0.987)	29352	5.00000	4.71(aH)
142	Tetrahydrofuran	42	3.855	3.844	(0.923)	6773	10.0000	9.52
147	Methylcyclohexane	55	5.396	5.381	(1.087)	52494	5.00000	4.98(aM)
135	1,4-Dioxane	88	5.606	5.598	(1.342)	5975	100.000	101.02
132	n-Butanol	56	5.287	5.253	(1.266)	8163	100.000	124.96(aM)
131	Methyl Acrylate	55	3.716	3.690	(0.890)	16619	5.00000	4.20(a)
133	Ethyl Acrylate	55	5.396	5.381	(1.292)	39998	5.00000	5.82(M)
136	n-Hexane	57	2.775	2.776	(0.664)	23971	5.00000	5.42
139	Diethyl ether	59	1.760	1.760	(0.421)	15277	5.00000	4.99(a)
148	Tert-butyl alcohol	59	2.434	2.431	(0.583)	50993	100.000	101.75
149	Isopropyl alcohol	45	2.101	2.093	(0.503)	26563	100.000	96.02(T)
156	Diisopropyl ether	45	3.004	3.000	(0.719)	71238	5.00000	4.94(Ta)
160	2-Methylnaphthalene	142	12.642	12.634	(1.308)	35100	5.00000	4.66
166	1,2,3-Trimethylbenzene	105	9.733	9.729	(1.007)	90660	5.00000	5.00
167	Ethanol	45	1.711	1.707	(0.410)	5165	100.000	110.73
172	tert-Butyl formate	59	4.620	4.612	(1.106)	41840	10.0000	10.41
173	3,3-Dimethyl-1-butanol	57	7.289	7.285	(0.951)	59619	100.000	104.43
174	tert-Amyl methyl ether	73	4.669	4.665	(1.118)	78074	5.00000	4.98(a)
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	71669	5.00000	4.81(a)
176	tert-Amyl alcohol	59	4.620	4.612	(1.106)	41840	100.000	102.06
151	4-Methyl-2-pentanol	45	6.712	6.708	(1.352)	125924	100.000	105.05(M)
180	1-Methylnaphthalene	142	12.642	12.634	(1.308)	35100	5.00000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	18461	5.00000	4.56(a)
152	Amyl alcohol	42	6.918	6.899	(0.902)	10877	100.000	83.64(M)
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	33935	5.00000	4.83
159	Propylene oxide	43	1.805	1.805	(0.432)	4141	10.0000	9.57
161	3-Methyl-1-butanol	55	6.921	6.899	(0.903)	10033	100.000	107.44
162	Butyl acrylate	55	8.260	8.249	(1.077)	48821	5.00000	5.22
163	Butyl methacrylate	41	9.174	9.167	(0.950)	33077	5.00000	5.16
164	Dicyclopentadiene	66	9.680	9.681	(1.002)	112719	5.00000	5.28
182	Epichlorohydrin	57	6.104	6.093	(1.230)	8423	20.0000	18.68
M 94	1,2-Dichloroethylene (total)	96				47383	10.0000	(a)
130	Ethyl Acetate	43	3.668	3.657	(0.878)	25843	5.00000	5.19(T)
134	Cyclohexanone	55	8.646	8.642	(0.895)	24566	100.000	102.53(a)
185	Isoprene	39	1.771	1.775	(0.424)	5765	5.00000	4.34(a)
188	Isopropyl acetate	43	4.684	4.676	(0.943)	68348	5.00000	5.25
187	n-Amyl acetate	43	8.462	8.451	(1.104)	46339	5.00000	4.95(a)

189 n-Butyl acetate	43	7.221	7.210 (0.942)	38984	5.00000	5.21(H)
150 Allyl alcohol	57	2.775	2.772 (0.664)	23971	100.000	107.32

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
194 Acetaldehyde	44	1.216	1.216	(0.291)	6656	20.0000	22.91(M)
195 Methyl Amyl Ketone	43	8.387	8.380	(1.094)	52850	5.00000	5.14
200 Dimethyl Disulfide	94	6.198	6.194	(0.808)	50470	5.00000	4.87(a)
202 Isobutylene	41	1.242	1.242	(0.297)	2239	5.00000	4.79(aM)
205 2-Ethylhexyl Acrylate	55	11.551	11.544	(1.196)	25308	5.00000	4.76(aM)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Date : 15-JUN-2023 13:00
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D

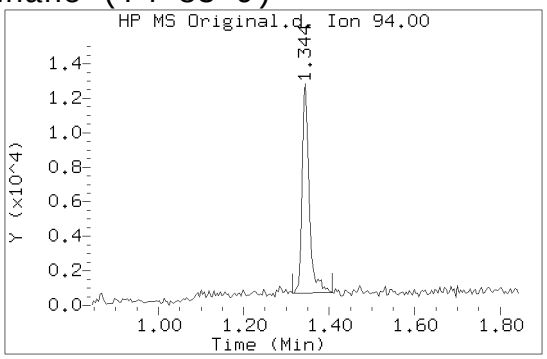
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

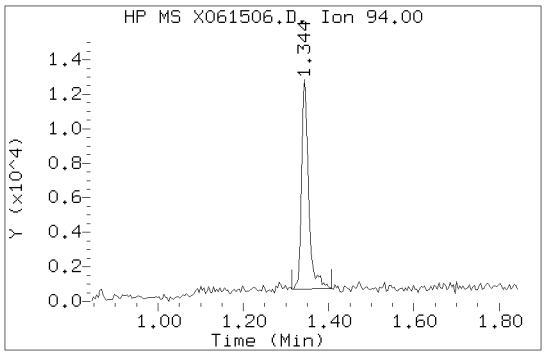
Bromomethane (74-83-9)

Reason Code:

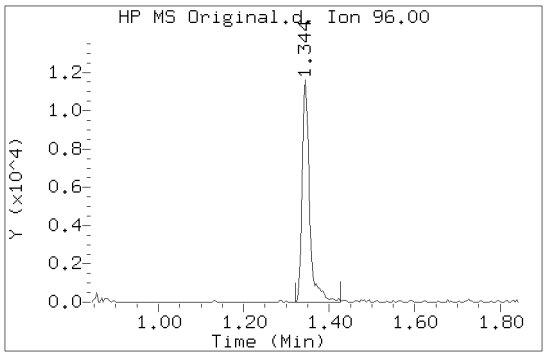
BEFORE
MASS
94
AREA
14528
HEIGHT
12133
20-Jun-2023
18:22
linh
pham



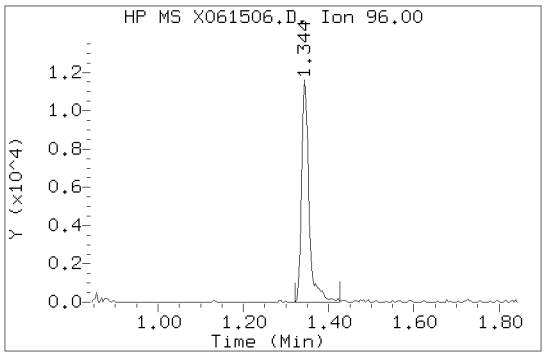
AFTER
MASS
94
AREA
14528
HEIGHT
12133
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
96
AREA
14677
HEIGHT
11611
20-Jun-2023
18:22
linh
pham



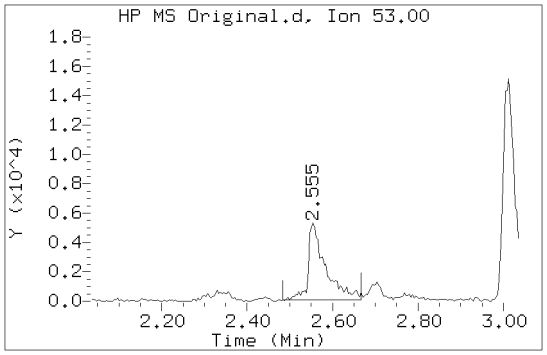
AFTER
MASS
96
AREA
14677
HEIGHT
11611
20-Jun-2023
18:22
linh
pham



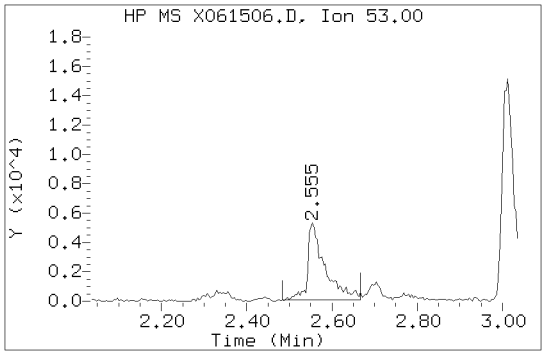
Acrylonitrile (107-13-1)

Reason Code:

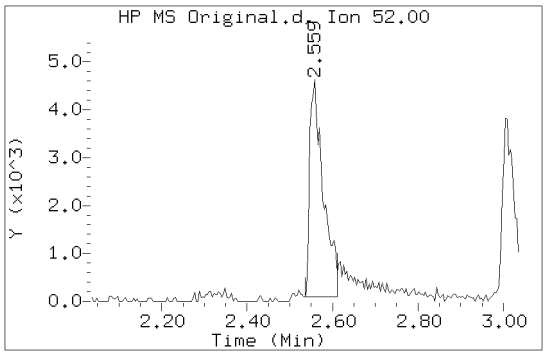
BEFORE
MASS
53
AREA
15118
HEIGHT
5292
20-Jun-2023
18:22
linh
pham



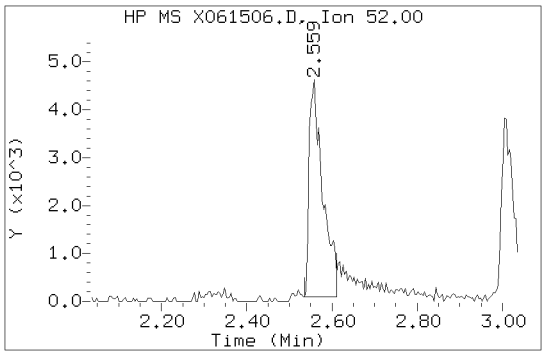
AFTER
MASS
53
AREA
15118
HEIGHT
5292
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
52
AREA
9980
HEIGHT
4535
20-Jun-2023
18:22
linh
pham



AFTER
MASS
52
AREA
9980
HEIGHT
4535
20-Jun-2023
18:22
linh
pham

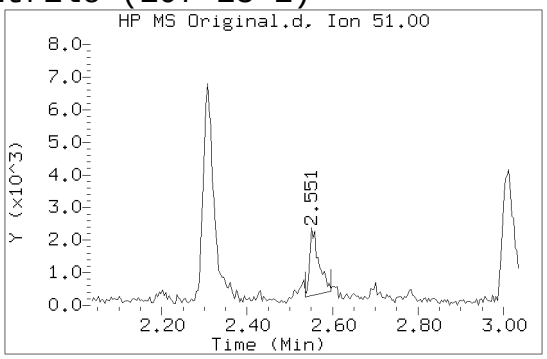


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

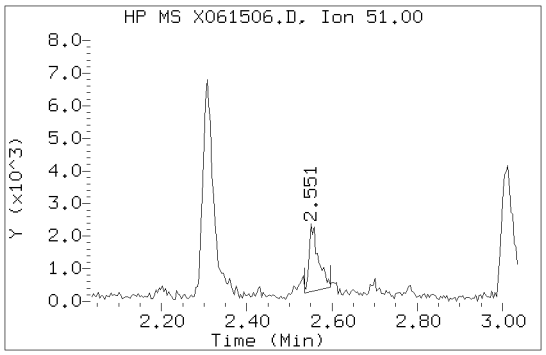
Acrylonitrile (107-13-1)

Reason Code:

BEFORE
MASS
51
AREA
3090
HEIGHT
2079
20-Jun-2023
18:22
linh
pham



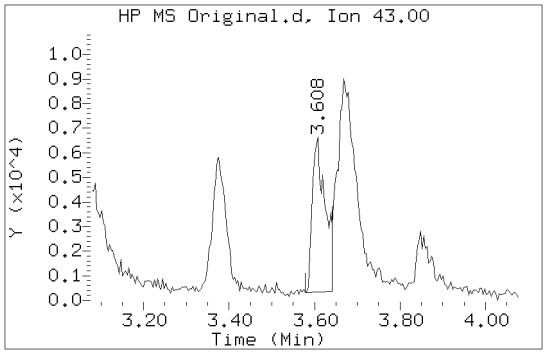
AFTER
MASS
51
AREA
3090
HEIGHT
2079
20-Jun-2023
18:22
linh
pham



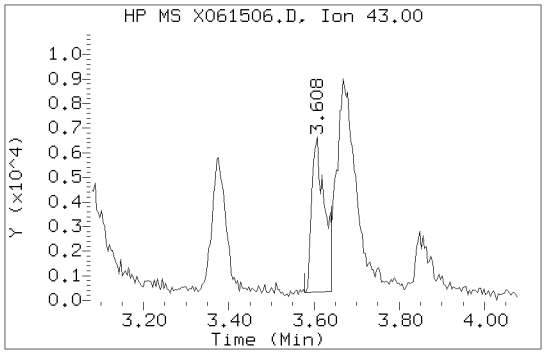
2-Butanone (78-93-3)

Reason Code:

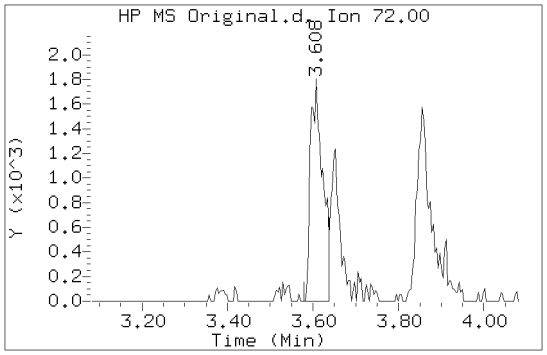
BEFORE
MASS
43
AREA
13344
HEIGHT
6305
20-Jun-2023
18:22
linh
pham



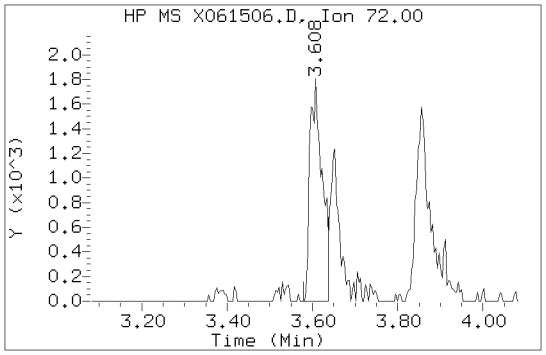
AFTER
MASS
43
AREA
13344
HEIGHT
6305
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
72
AREA
3589
HEIGHT
1804
20-Jun-2023
18:22
linh
pham



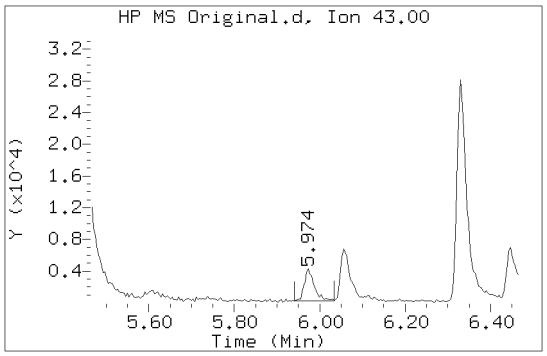
AFTER
MASS
72
AREA
3589
HEIGHT
1804
20-Jun-2023
18:22
linh
pham



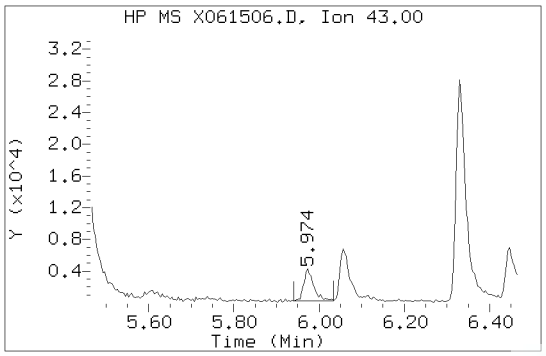
2-Nitropropane (79-46-9)

Reason Code:

BEFORE
MASS
43
AREA
6797
HEIGHT
4093
20-Jun-2023
18:22
linh
pham



AFTER
MASS
43
AREA
6797
HEIGHT
4093
20-Jun-2023
18:22
linh
pham



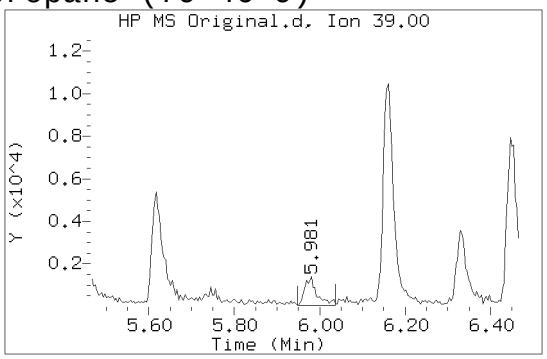
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

2-Nitropropane (79-46-9)

Reason Code:

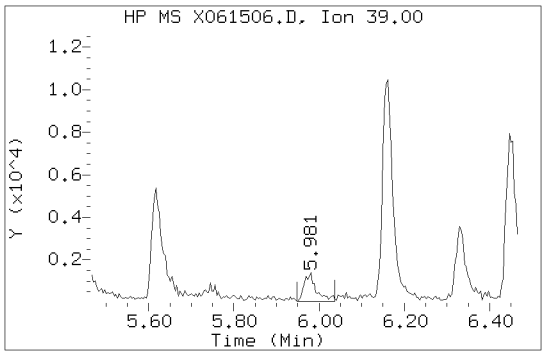
BEFORE

MASS
39
AREA
2672
HEIGHT
1366
20-Jun-2023
18:22
linh
pham



AFTER

MASS
39
AREA
2672
HEIGHT
1366
20-Jun-2023
18:22
linh
pham

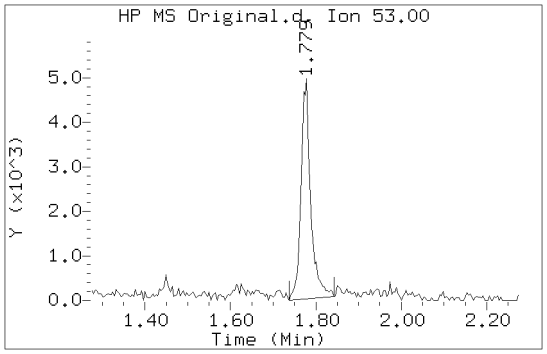


Chloroprene (126-99-8)

Reason Code:

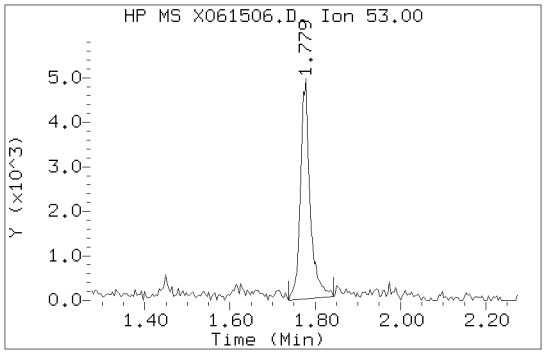
BEFORE

MASS
53
AREA
7954
HEIGHT
4945
20-Jun-2023
18:22
linh
pham



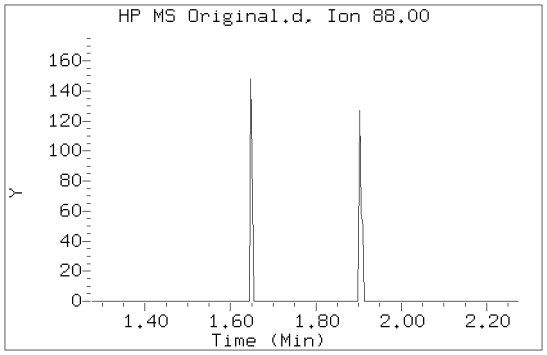
AFTER

MASS
53
AREA
7954
HEIGHT
4945
20-Jun-2023
18:22
linh
pham



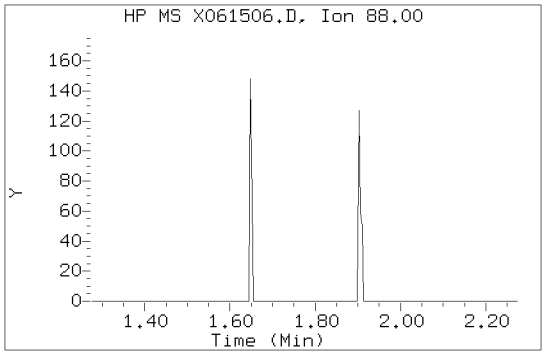
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

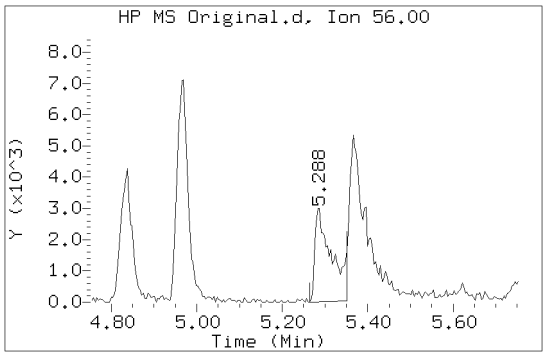


n-Butanol (71-36-3)

Reason Code:

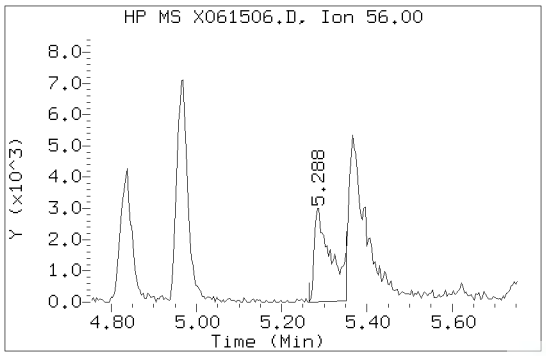
BEFORE

MASS
56
AREA
8163
HEIGHT
2995
20-Jun-2023
18:22
linh
pham



AFTER

MASS
56
AREA
8163
HEIGHT
2995
20-Jun-2023
18:22
linh
pham



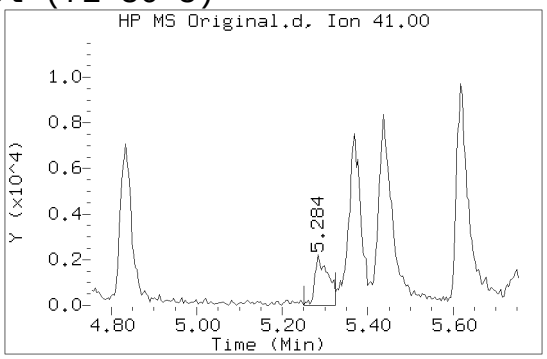
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

n-Butanol (71-36-3)

Reason Code:

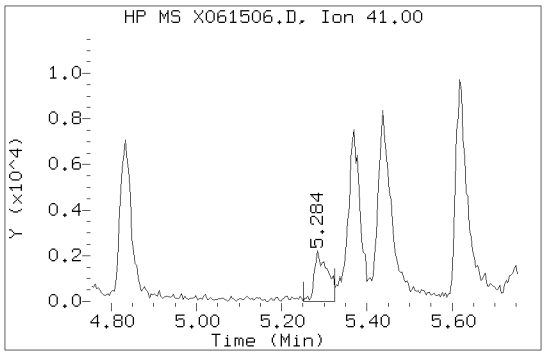
BEFORE

MASS
41
AREA
4755
HEIGHT
2223
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
4755
HEIGHT
2223
20-Jun-2023
18:22
linh
pham

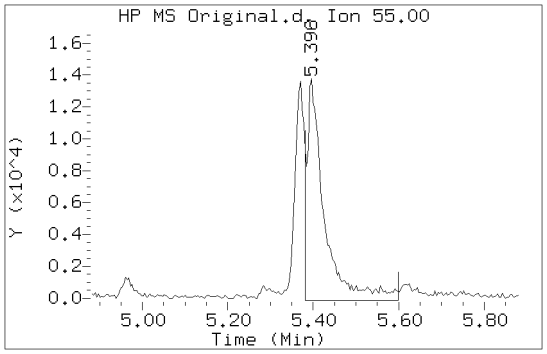


Ethyl Acrylate (140-88-5)

Reason Code:

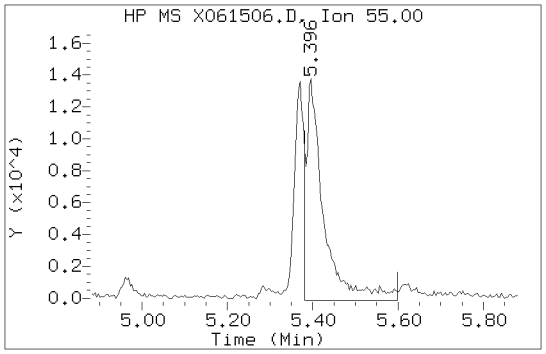
BEFORE

MASS
55
AREA
39998
HEIGHT
13904
20-Jun-2023
18:22
linh
pham



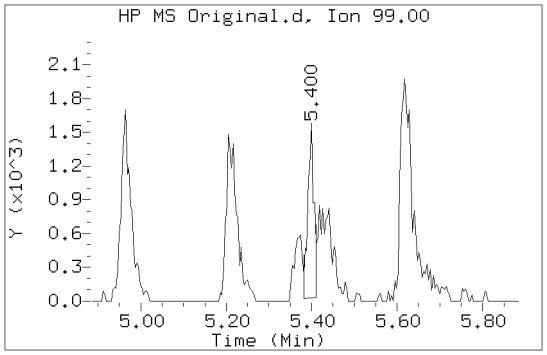
AFTER

MASS
55
AREA
39998
HEIGHT
13904
20-Jun-2023
18:22
linh
pham



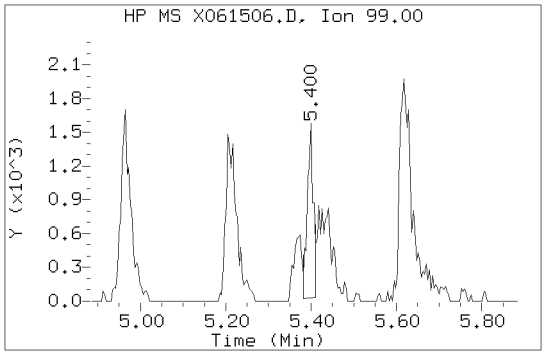
BEFORE

MASS
99
AREA
1584
HEIGHT
1553
20-Jun-2023
18:22
linh
pham



AFTER

MASS
99
AREA
1584
HEIGHT
1553
20-Jun-2023
18:22
linh
pham

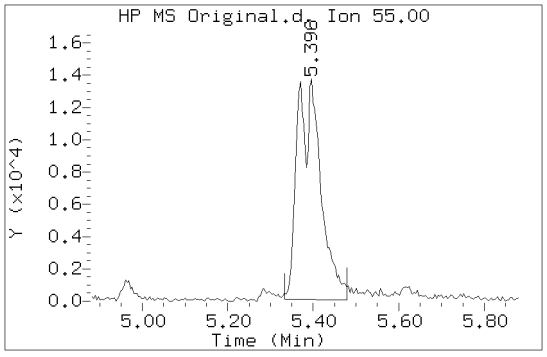


Methylcyclohexane (108-87-2)

Reason Code:

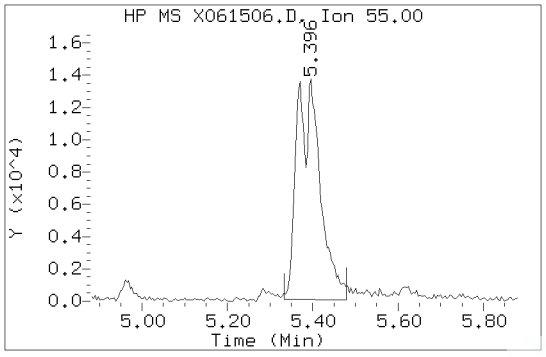
BEFORE

MASS
55
AREA
52494
HEIGHT
13657
20-Jun-2023
18:22
linh
pham



AFTER

MASS
55
AREA
52494
HEIGHT
13657
20-Jun-2023
18:22
linh
pham



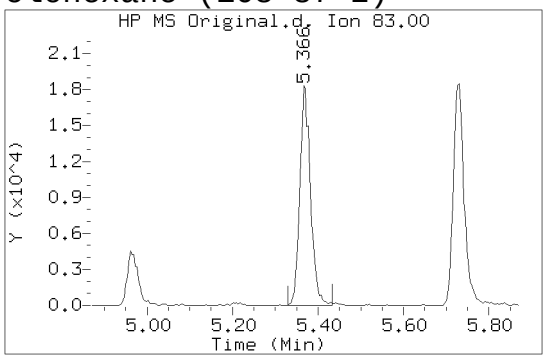
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

Methylcyclohexane (108-87-2)

Reason Code:

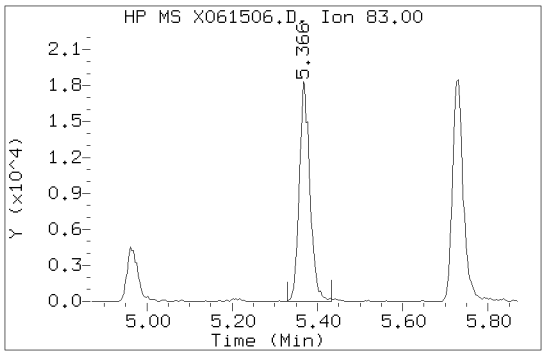
BEFORE

MASS
83
AREA
32433
HEIGHT
18360
20-Jun-2023
18:22
linh
pham



AFTER

MASS
83
AREA
32433
HEIGHT
18360
20-Jun-2023
18:22
linh
pham

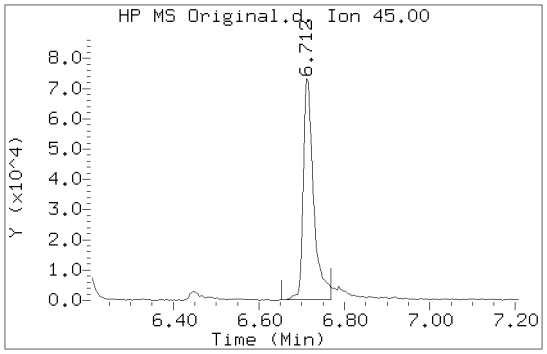


4-Methyl-2-pentanol (108-11-2)

Reason Code:

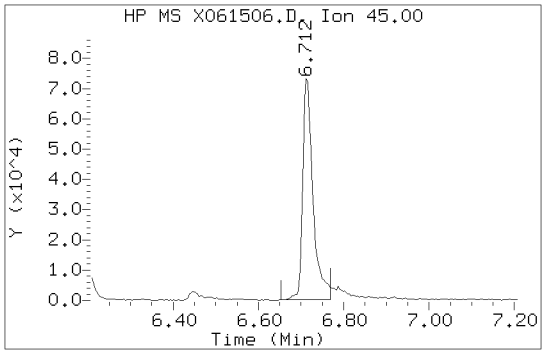
BEFORE

MASS
45
AREA
125924
HEIGHT
73043
20-Jun-2023
18:22
linh
pham



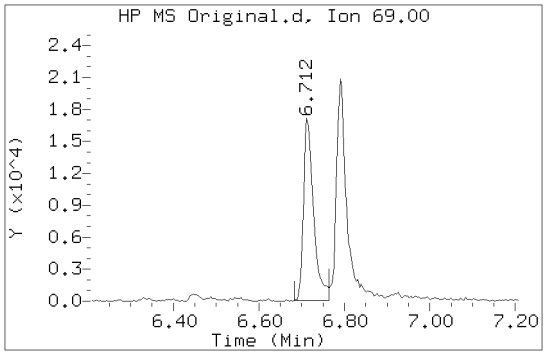
AFTER

MASS
45
AREA
125924
HEIGHT
73043
20-Jun-2023
18:22
linh
pham



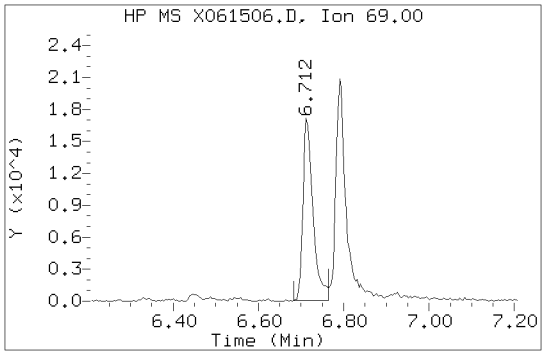
BEFORE

MASS
69
AREA
28757
HEIGHT
17156
20-Jun-2023
18:22
linh
pham



AFTER

MASS
69
AREA
28757
HEIGHT
17156
20-Jun-2023
18:22
linh
pham

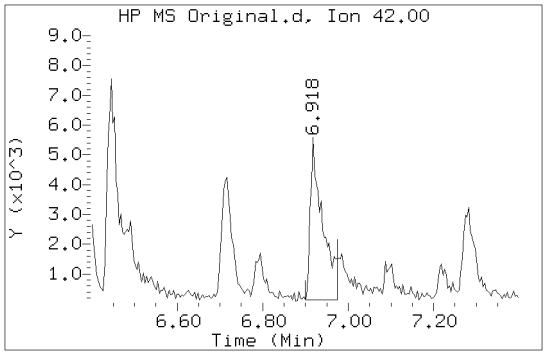


Amyl alcohol (71-41-0)

Reason Code:

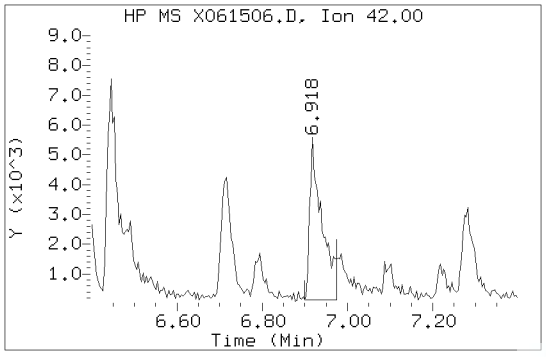
BEFORE

MASS
42
AREA
10877
HEIGHT
5451
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
10877
HEIGHT
5451
20-Jun-2023
18:22
linh
pham

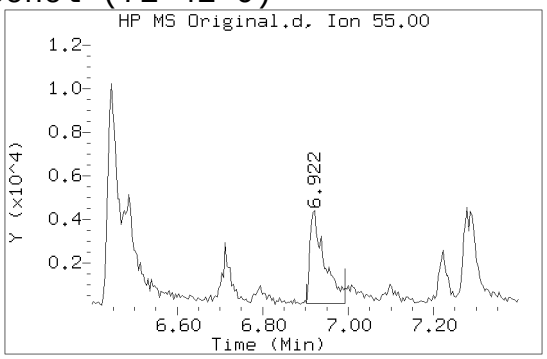


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

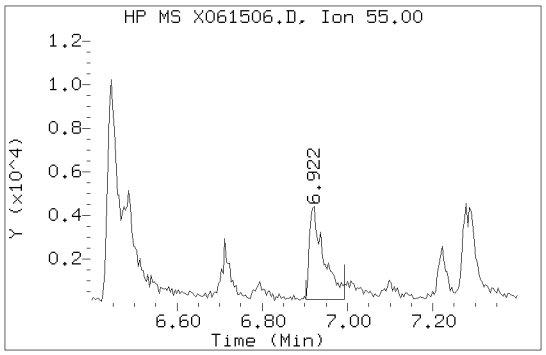
Amyl alcohol (71-41-0)

Reason Code:

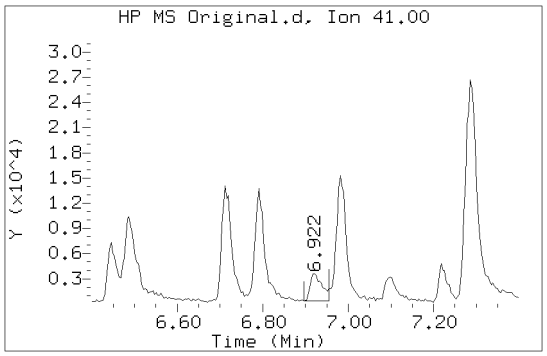
BEFORE
MASS
55
AREA
10033
HEIGHT
4262
20-Jun-2023
18:22
linh
pham



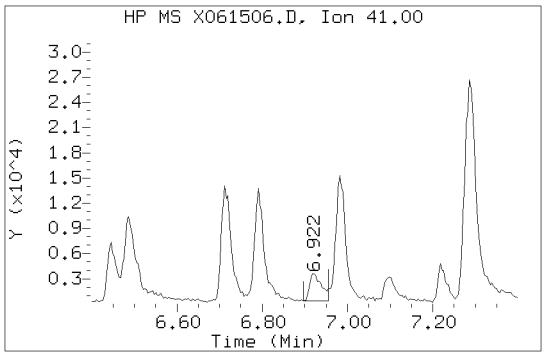
AFTER
MASS
55
AREA
10033
HEIGHT
4262
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
41
AREA
6570
HEIGHT
3230
20-Jun-2023
18:22
linh
pham



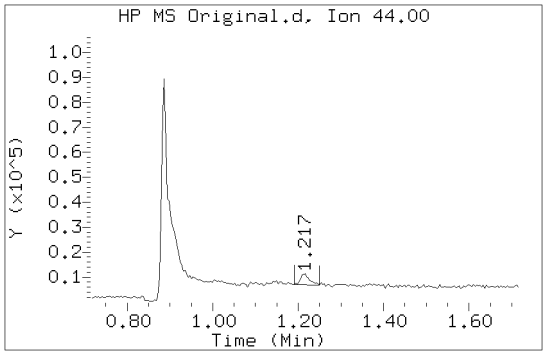
AFTER
MASS
41
AREA
6570
HEIGHT
3230
20-Jun-2023
18:22
linh
pham



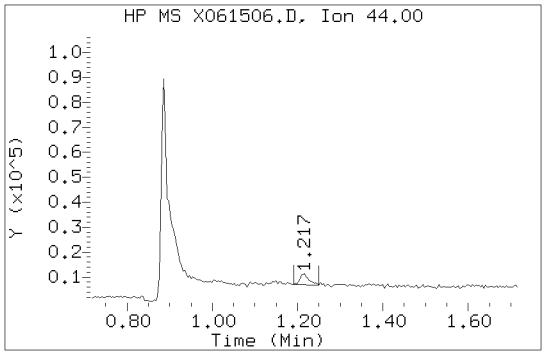
Acetaldehyde (75-07-0)

Reason Code:

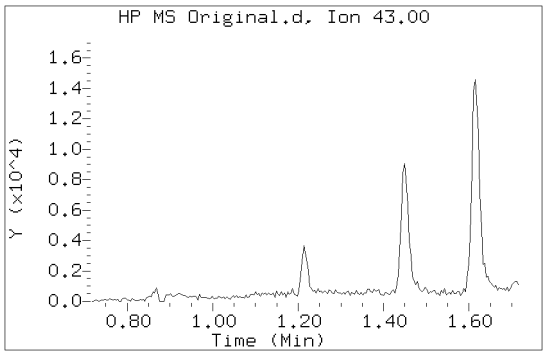
BEFORE
MASS
44
AREA
6656
HEIGHT
4540
20-Jun-2023
18:22
linh
pham



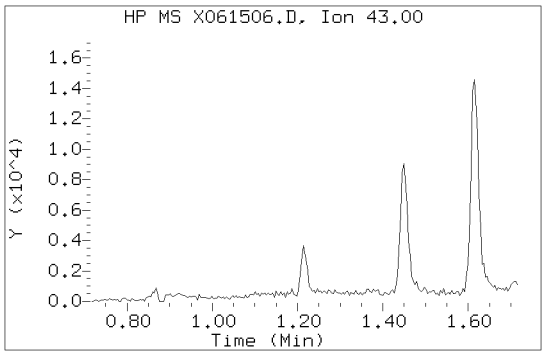
AFTER
MASS
44
AREA
6656
HEIGHT
4540
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



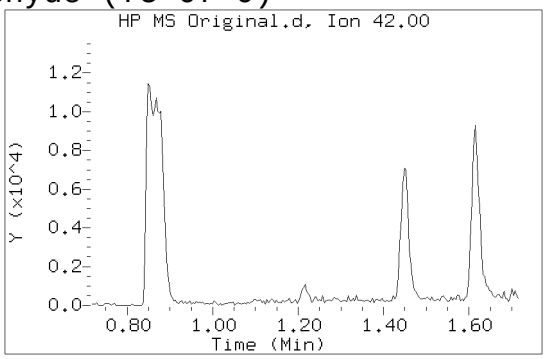
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

Acetaldehyde (75-07-0)

Reason Code:

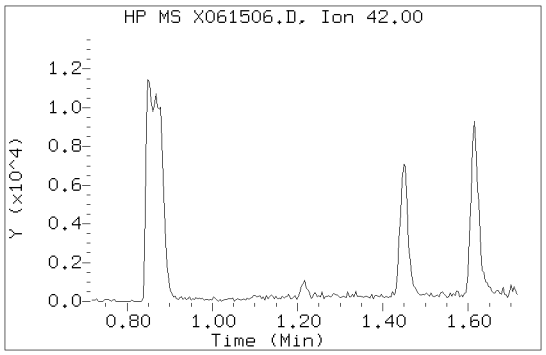
BEFORE

MASS
42
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

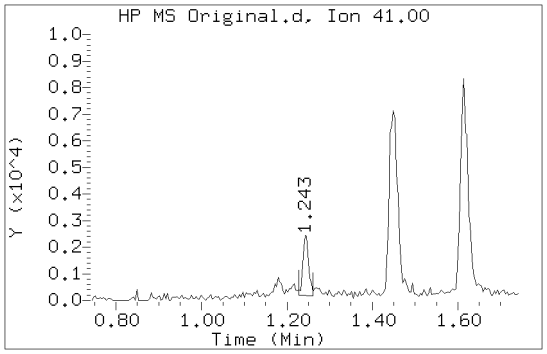


Isobutylene (115-11-7)

Reason Code:

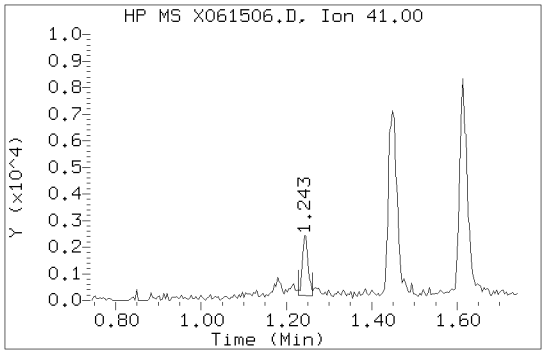
BEFORE

MASS
41
AREA
2239
HEIGHT
2245
20-Jun-2023
18:22
linh
pham



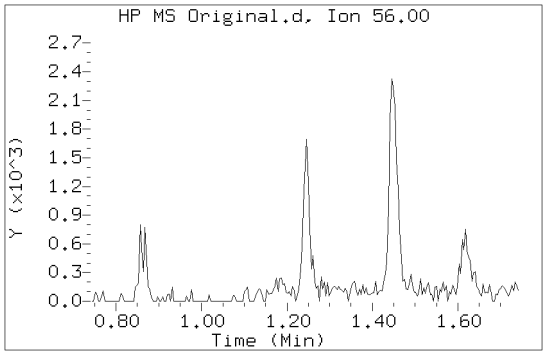
AFTER

MASS
41
AREA
2239
HEIGHT
2245
20-Jun-2023
18:22
linh
pham



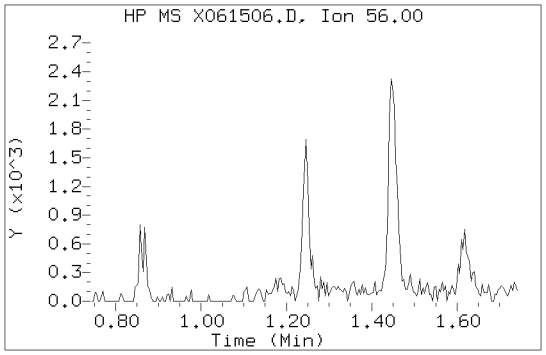
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



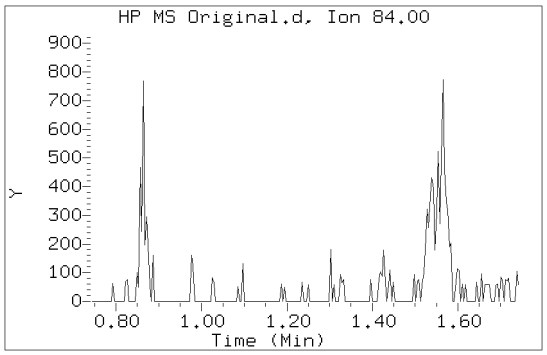
AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



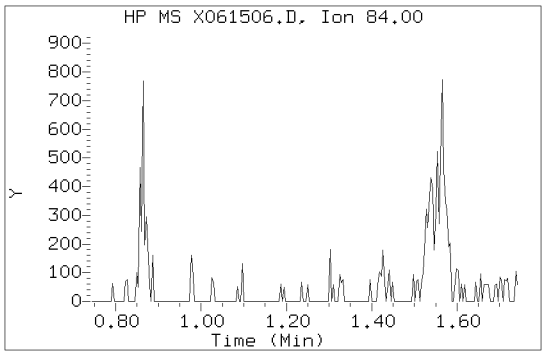
BEFORE

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



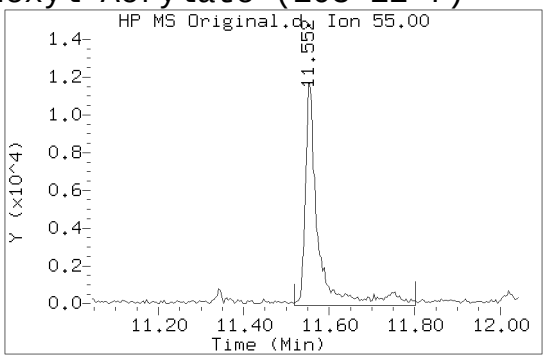
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061506.D
Inj Date : 15-JUN-2023 13:00
InstruID : voa6.i
LabSampID : VSTD005

2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

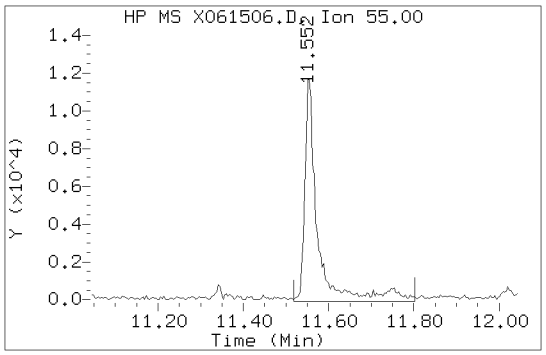
BEFORE

MASS
55
AREA
25308
HEIGHT
11739
20-Jun-2023
18:22
linh
pham



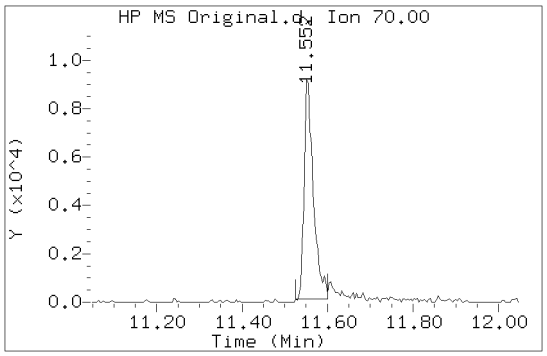
AFTER

MASS
55
AREA
25308
HEIGHT
11739
20-Jun-2023
18:22
linh
pham



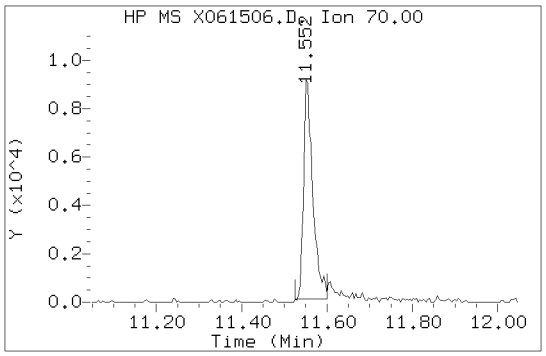
BEFORE

MASS
70
AREA
13835
HEIGHT
9050
20-Jun-2023
18:22
linh
pham



AFTER

MASS
70
AREA
13835
HEIGHT
9050
20-Jun-2023
18:22
linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061507.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 15-JUN-2023 13:21
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:21 Cal File: X061507.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.178	4.181	(1.000)	489657	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	86585	20.0000	20.72
3	Chloromethane	50	1.081	1.081	(0.259)	97329	20.0000	19.44
4	Propionitrile	54	3.653	3.653	(0.874)	124537	200.000	210.30(a)
5	Vinyl Chloride	62	1.145	1.149	(0.274)	99862	20.0000	19.41
6	Bromomethane	94	1.344	1.344	(0.322)	54855	20.0000	18.58
7	Chloroethane	64	1.407	1.407	(0.337)	62269	20.0000	19.80
8	Trichlorofluoromethane	101	1.565	1.565	(0.375)	117479	20.0000	19.22
9	Acrolein	56	1.445	1.449	(0.346)	11716	40.0000	38.55
10	Acetone	43	1.977	1.973	(0.473)	54363	40.0000	42.42
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	72051	20.0000	18.79
12	Isobutyl Alcohol	43	4.676	4.676	(1.119)	270352	400.000	423.44(a)
13	Acetonitrile	39	2.202	2.202	(0.527)	94507	200.000	198.98(a)
14	Allyl Chloride	41	2.202	2.202	(0.527)	212180	20.0000	19.75(a)
15	Iodomethane	142	2.030	2.030	(0.486)	223261	40.0000	36.88
16	Acrylonitrile	53	2.539	2.536	(0.608)	63444	40.0000	40.81
17	Methylene Chloride	84	2.303	2.307	(0.551)	103912	20.0000	19.18
18	Methyl tert-butyl ether	73	2.536	2.536	(0.607)	262034	20.0000	19.58
19	Carbon Disulfide	76	2.071	2.071	(0.496)	517323	40.0000	37.89
20	trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	87737	20.0000	19.12
21	Vinyl Acetate	43	3.000	2.997	(0.718)	534964	40.0000	43.69

22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	161028	20.0000	19.48
23 Chloroprene	53	1.775	1.775 (0.425)	30284	20.0000	18.60(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.585	3.578	(0.858)	61551	40.0000	38.19
25	Methacrylonitrile	41	3.829	3.821	(0.917)	80752	20.0000	19.98(aH)
26	2,2-Dichloropropane	77	3.510	3.514	(0.840)	134641	20.0000	20.64
27	cis-1,2-Dichloroethene	96	3.529	3.525	(0.845)	101910	20.0000	19.26
28	Chloroform	83	3.908	3.904	(0.935)	168304	20.0000	18.92
29	Bromochloromethane	128	3.795	3.795	(0.908)	53335	20.0000	18.92
$ 30	Dibromofluoromethane	113	4.099	4.099	(0.981)	90715	20.0000	20.54
31	1,1,1-Trichloroethane	97	4.084	4.084	(0.978)	137926	20.0000	19.18
32	1,1-Dichloropropene	75	4.282	4.279	(0.863)	120835	20.0000	19.11
33	1,2-Dichloroethane	62	4.556	4.556	(0.918)	124099	20.0000	19.58
34	Carbon Tetrachloride	117	4.264	4.264	(0.859)	114389	20.0000	18.81
$ 35	1,2-Dichloroethane-d4	65	4.474	4.470	(1.071)	99379	20.0000	20.55
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	754600	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	373170	20.0000	19.22
38	Trichloroethene	130	5.208	5.205	(1.049)	103081	20.0000	19.26
39	Bromodichloromethane	83	5.726	5.722	(1.153)	130164	20.0000	18.95
40	Methyl Methacrylate	41	5.606	5.606	(1.342)	77299	20.0000	20.39(a)
41	2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	79598	40.0000	42.84
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	100950	20.0000	19.81
43	2-Nitropropane	43	5.969	5.966	(1.429)	26346	20.0000	19.96(H)
44	Dibromomethane	93	5.550	5.550	(1.118)	63997	20.0000	20.00
45	4-Methyl-2-Pentanone	43	6.325	6.322	(0.825)	193266	40.0000	42.28
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	164762	20.0000	19.46
* 47	Chlorobenzene-d5	117	7.667	7.668	(1.000)	707583	50.0000	
$ 48	Toluene-d8	98	6.385	6.386	(0.833)	349010	20.0000	19.50
49	Ethyl Methacrylate	69	6.708	6.708	(1.351)	110734	20.0000	20.47(a)
50	Toluene	91	6.445	6.445	(0.841)	400928	20.0000	19.30
51	trans-1,3-Dichloropropene	75	6.682	6.678	(1.346)	140752	20.0000	19.87
52	2-Hexanone	43	7.086	7.083	(0.924)	134211	40.0000	43.95
53	1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	78488	20.0000	19.39
54	1,3-Dichloropropane	76	6.981	6.978	(0.911)	163359	20.0000	19.96
55	Dibromochloromethane	129	7.173	7.173	(0.935)	111592	20.0000	19.45
56	Tetrachloroethene	164	6.925	6.925	(0.903)	80991	20.0000	18.95
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	100177	20.0000	19.36
58	1-Chlorohexane	55	7.694	7.694	(1.550)	89942	20.0000	19.59
59	Chlorobenzene	112	7.694	7.690	(1.003)	272588	20.0000	19.17
60	1,1,1,2-Tetrachloroethane	131	7.772	7.773	(1.014)	101037	20.0000	19.06
61	Ethylbenzene	106	7.799	7.799	(1.017)	138944	20.0000	18.97
62	m,p-Xylenes	106	7.904	7.900	(1.031)	349440	40.0000	38.69
63	o-Xylene	106	8.241	8.237	(1.075)	172627	20.0000	19.15
64	Styrene	104	8.260	8.256	(1.077)	290351	20.0000	19.56
66	Bromoform	173	8.410	8.410	(1.097)	77639	20.0000	19.41
67	Isopropylbenzene	105	8.560	8.560	(1.116)	418865	20.0000	18.80
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	134456	20.0000	19.65
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	139706	20.0000	19.90
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	389124	50.0000	
71	1,2,3-Trichloropropane	75	8.860	8.863	(0.917)	108010	20.0000	22.01
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	35313	20.0000	20.50(a)
73	n-Propylbenzene	91	8.912	8.908	(0.922)	504305	20.0000	19.69
74	Bromobenzene	156	8.803	8.803	(0.911)	122207	20.0000	19.26
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	365012	20.0000	19.42
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	315569	20.0000	19.40

77	4-Chlorotoluene	91	9.069	9.070 (0.939)	357516	20.0000	19.71
78	tert-Butylbenzene	119	9.332	9.336 (0.966)	303752	20.0000	19.40

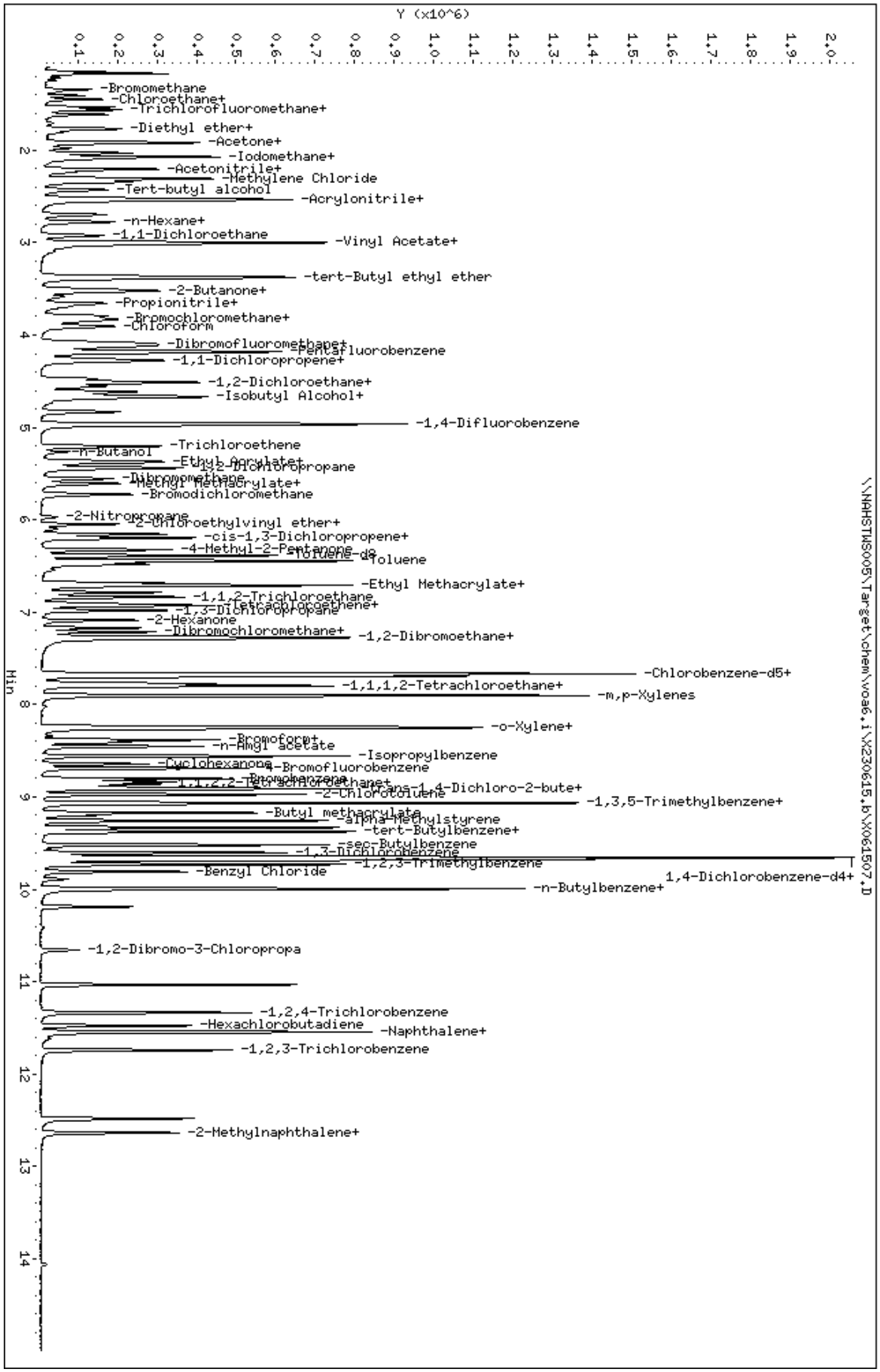
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	371444	20.0000	19.59
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	419674	20.0000	19.00
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	375150	20.0000	19.40
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	218959	20.0000	19.38
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	232551	20.0000	19.23
86	Benzyl Chloride	91	9.808	9.808	(1.279)	224211	20.0000	19.18
87	n-Butylbenzene	91	9.995	9.992	(1.035)	329929	20.0000	20.04
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	219152	20.0000	19.55
89	1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	22086	20.0000	19.93
90	1,2,4-Trichlorobenzene	180	11.337	11.334	(1.173)	155839	20.0000	19.99
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	63742	20.0000	18.21
92	Naphthalene	128	11.544	11.540	(1.195)	366963	20.0000	20.91
93	1,2,3-Trichlorobenzene	180	11.742	11.739	(1.215)	143690	20.0000	20.03
146	Methyl acetate	43	2.236	2.232	(0.535)	60459	20.0000	20.86
138	Freon TF	101	1.917	1.917	(0.459)	69934	20.0000	20.78
141	Cyclohexane	56	4.121	4.121	(0.987)	118290	20.0000	18.95
142	Tetrahydrofuran	42	3.848	3.844	(0.921)	30075	40.0000	42.14
147	Methylcyclohexane	55	5.381	5.381	(1.084)	202443	20.0000	19.19(M)
135	1,4-Dioxane	88	5.598	5.598	(1.340)	23581	400.000	397.38
132	n-Butanol	56	5.261	5.253	(1.259)	42441	400.000	375.27(a)
131	Methyl Acrylate	55	3.694	3.690	(0.884)	81771	20.0000	20.61
133	Ethyl Acrylate	55	5.381	5.381	(1.288)	144388	20.0000	14.83(M)
136	n-Hexane	57	2.772	2.776	(0.664)	95375	20.0000	21.84
139	Diethyl ether	59	1.760	1.760	(0.421)	60650	20.0000	19.77
148	Tert-butyl alcohol	59	2.431	2.431	(0.582)	196347	400.000	390.48
149	Isopropyl alcohol	45	2.097	2.093	(0.502)	106653	400.000	384.27
156	Diisopropyl ether	45	3.000	3.000	(0.718)	281797	20.0000	19.51
160	2-Methylnaphthalene	142	12.638	12.634	(1.308)	157545	20.0000	20.51
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	360447	20.0000	19.48
167	Ethanol	45	1.707	1.707	(0.409)	18569	400.000	396.76
172	tert-Butyl formate	59	4.616	4.612	(1.105)	159552	40.0000	39.56
173	3,3-Dimethyl-1-butanol	57	7.285	7.285	(0.950)	229127	400.000	395.91
174	tert-Amyl methyl ether	73	4.665	4.665	(1.117)	299445	20.0000	19.06
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.809)	286959	20.0000	19.19
176	tert-Amyl alcohol	59	4.616	4.612	(1.105)	159552	400.000	387.92
151	4-Methyl-2-pentanol	45	6.708	6.708	(1.351)	449919	400.000	374.94
180	1-Methylnaphthalene	142	12.638	12.634	(1.308)	157545	20.0000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.280)	79048	20.0000	19.48
152	Amyl alcohol	42	6.903	6.899	(0.900)	53030	400.000	402.24
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	130577	20.0000	18.55
159	Propylene oxide	43	1.805	1.805	(0.432)	16191	40.0000	37.29
161	3-Methyl-1-butanol	55	6.903	6.899	(0.900)	52635	400.000	408.16
162	Butyl acrylate	55	8.252	8.249	(1.076)	203667	20.0000	19.81
163	Butyl methacrylate	41	9.171	9.167	(0.949)	139381	20.0000	21.29
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	418286	20.0000	19.21
182	Epichlorohydrin	57	6.097	6.093	(1.228)	35522	80.0000	78.69
M 94	1,2-Dichloroethylene (total)	96				189647	40.0000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	183918	20.0000	19.97
130	Ethyl Acetate	43	3.656	3.657	(0.875)	104842	20.0000	21.00
134	Cyclohexanone	55	8.642	8.642	(0.894)	91911	400.000	410.27(a)
185	Isoprene	39	1.771	1.775	(0.424)	22566	20.0000	16.93
188	Isopropyl acetate	43	4.676	4.676	(0.942)	270352	20.0000	20.74

187 n-Amyl acetate	43	8.451	8.451 (1.102)	194165	20.0000	20.49
189 n-Butyl acetate	43	7.214	7.210 (0.941)	161428	20.0000	21.30(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.664)	95375	400.000	436.24
194 Acetaldehyde	44	1.216	1.216	(0.291)	20285	80.0000	76.62(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	220297	20.0000	21.14
200 Dimethyl Disulfide	94	6.198	6.194	(0.808)	203599	20.0000	19.40
202 Isobutylene	41	1.242	1.242	(0.297)	8262	20.0000	17.64(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.544	(1.195)	120798	20.0000	17.62(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061507.D
Date : 15-JUN-2023 13:21
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

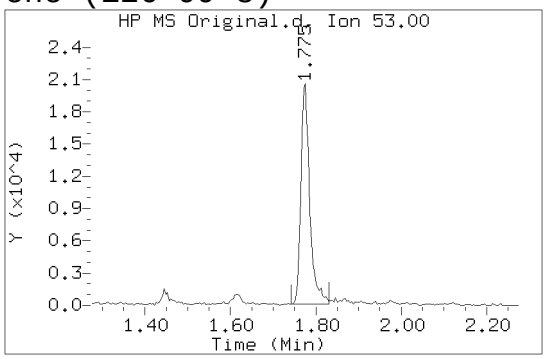
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061507.D
Inj Date : 15-JUN-2023 13:21
InstruID : voa6.i
LabSampID : VSTD020

Chloroprene (126-99-8)

Reason Code:

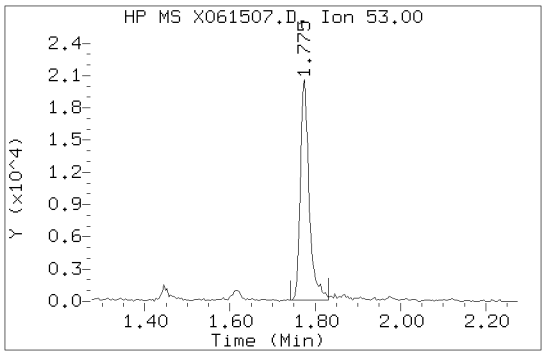
BEFORE

MASS
53
AREA
30284
HEIGHT
20488
20-Jun-2023
18:22
linh
pham



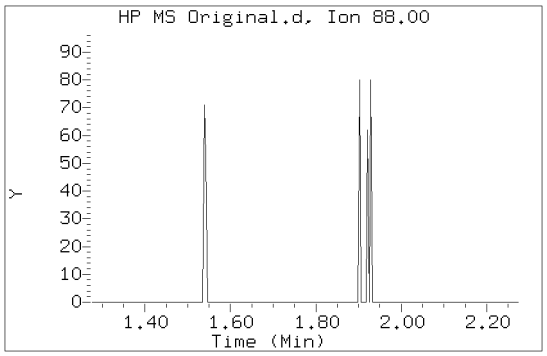
AFTER

MASS
53
AREA
30284
HEIGHT
20488
20-Jun-2023
18:22
linh
pham



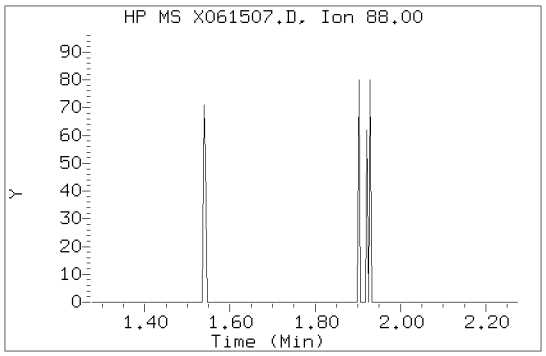
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

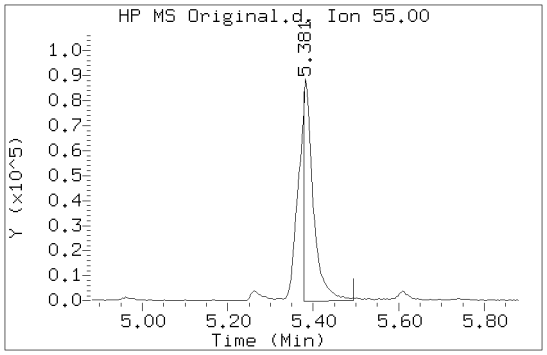


Ethyl Acrylate (140-88-5)

Reason Code:

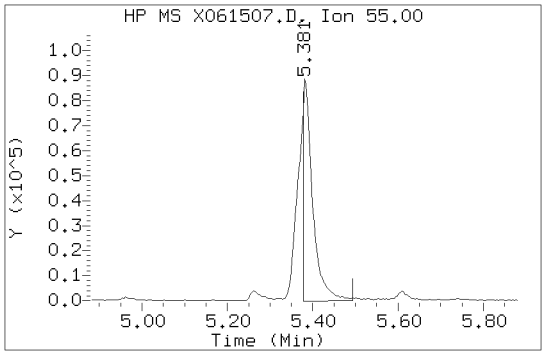
BEFORE

MASS
55
AREA
144388
HEIGHT
88832
20-Jun-2023
18:22
linh
pham



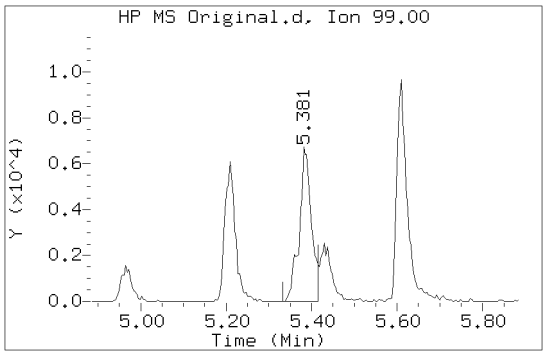
AFTER

MASS
55
AREA
144388
HEIGHT
88832
20-Jun-2023
18:22
linh
pham



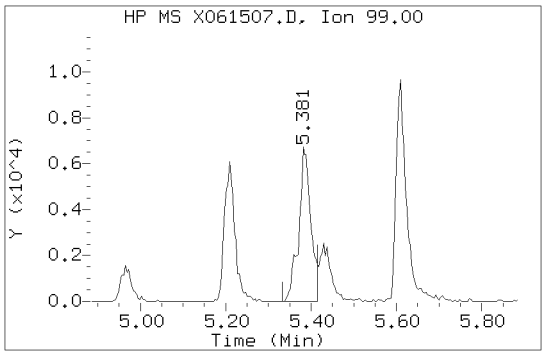
BEFORE

MASS
99
AREA
13480
HEIGHT
6732
20-Jun-2023
18:22
linh
pham



AFTER

MASS
99
AREA
13480
HEIGHT
6732
20-Jun-2023
18:22
linh
pham

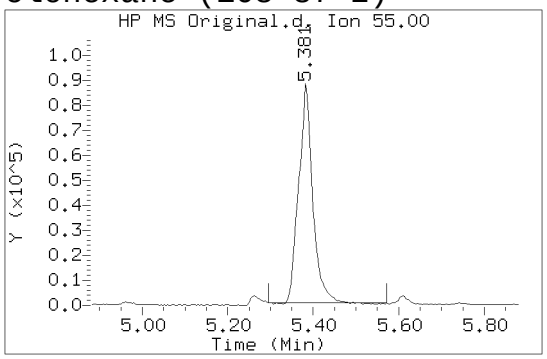


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061507.D
Inj Date : 15-JUN-2023 13:21
InstruID : voa6.i
LabSampID : VSTD020

Methylcyclohexane (108-87-2)

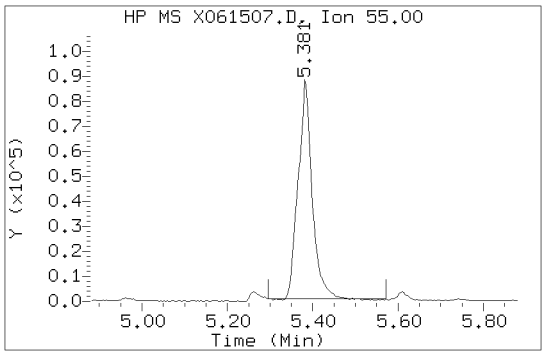
BEFORE

MASS
55
AREA
202443
HEIGHT
87724
20-Jun-2023
18:22
linh
pham



AFTER

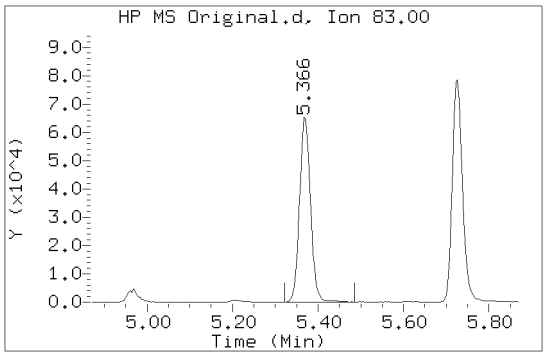
MASS
55
AREA
202443
HEIGHT
87724
20-Jun-2023
18:22
linh
pham



Reason Code:

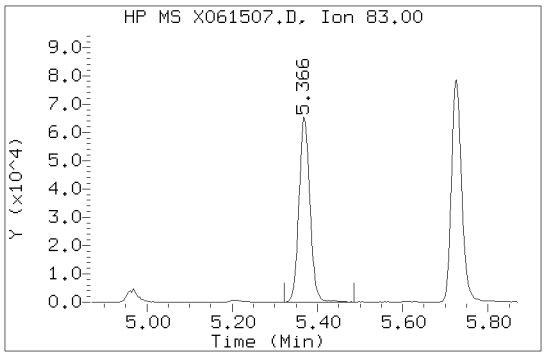
BEFORE

MASS
83
AREA
119540
HEIGHT
65304
20-Jun-2023
18:22
linh
pham



AFTER

MASS
83
AREA
119540
HEIGHT
65304
20-Jun-2023
18:22
linh
pham

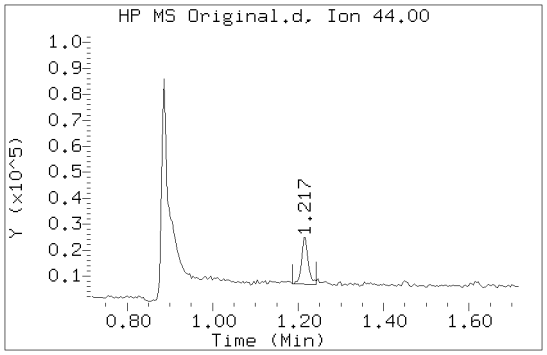


Reason Code:

Acetaldehyde (75-07-0)

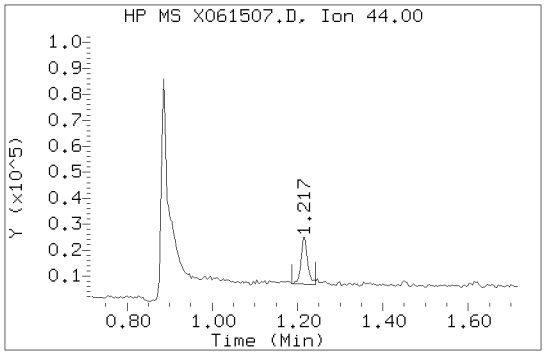
BEFORE

MASS
44
AREA
20285
HEIGHT
18034
20-Jun-2023
18:22
linh
pham



AFTER

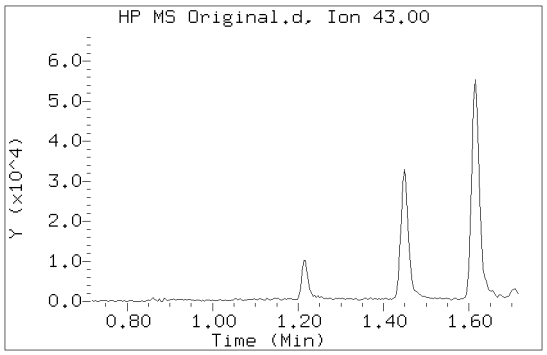
MASS
44
AREA
20285
HEIGHT
18034
20-Jun-2023
18:22
linh
pham



Reason Code:

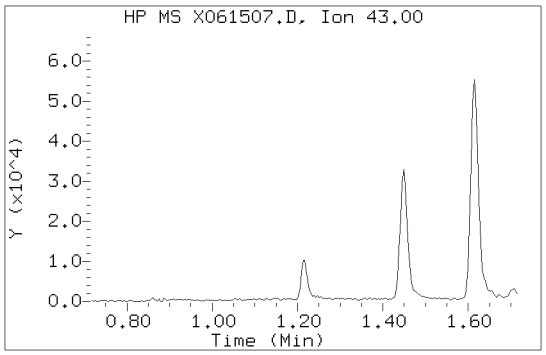
BEFORE

MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham

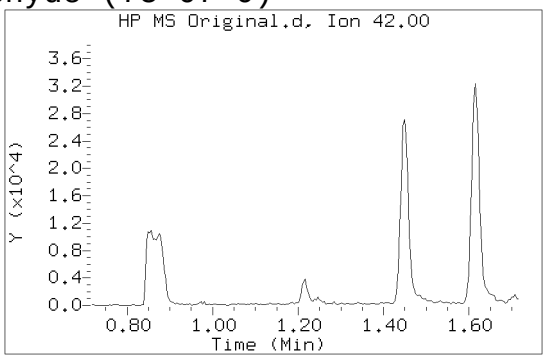


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061507.D
Inj Date : 15-JUN-2023 13:21
InstruID : voa6.i
LabSampID : VSTD020

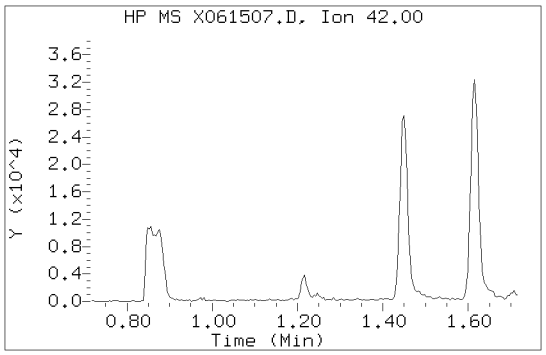
Acetaldehyde (75-07-0)

Reason Code:

BEFORE
MASS
42
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



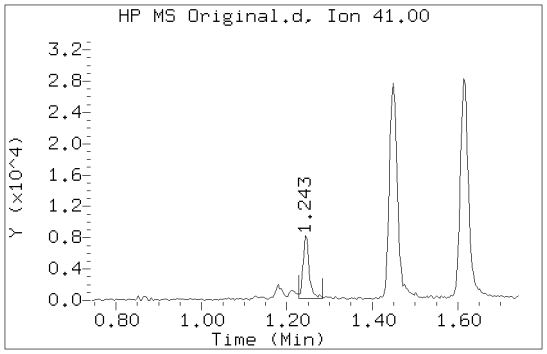
AFTER
MASS
42
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



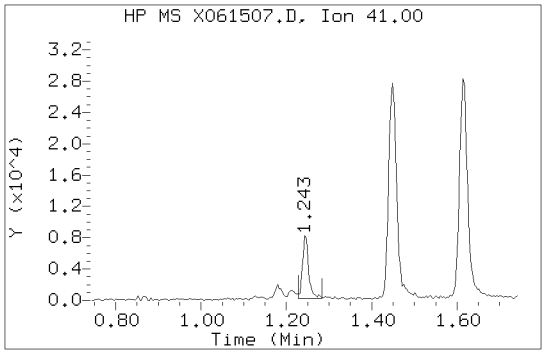
Isobutylene (115-11-7)

Reason Code:

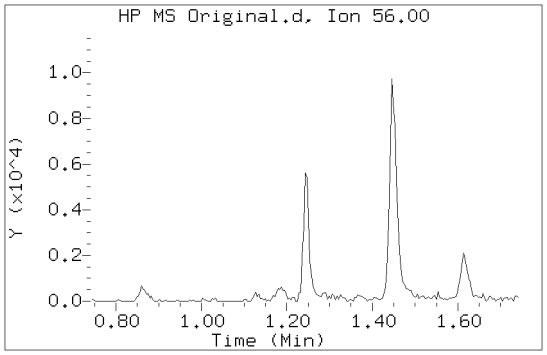
BEFORE
MASS
41
AREA
8262
HEIGHT
8044
20-Jun-2023
18:22
linh
pham



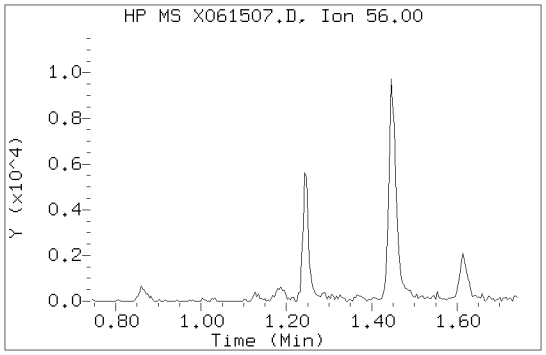
AFTER
MASS
41
AREA
8262
HEIGHT
8044
20-Jun-2023
18:22
linh
pham



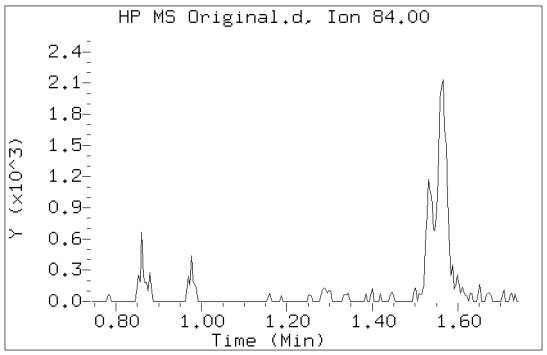
BEFORE
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



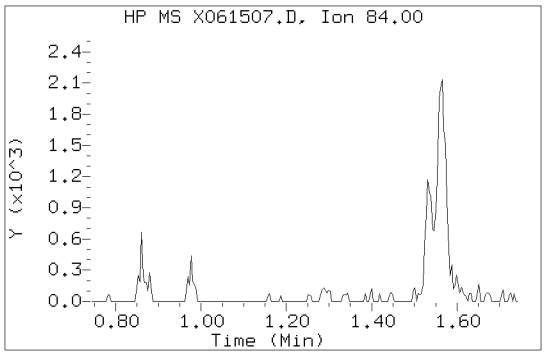
AFTER
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



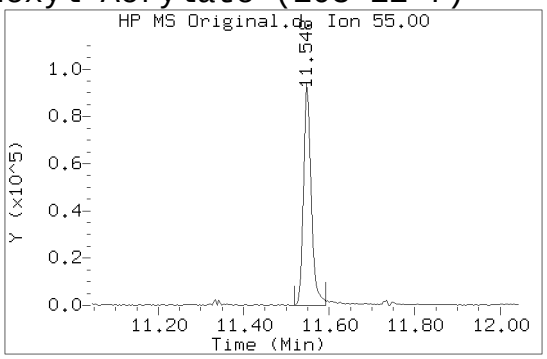
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061507.D
Inj Date : 15-JUN-2023 13:21
InstruID : voa6.i
LabSampID : VSTD020

2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

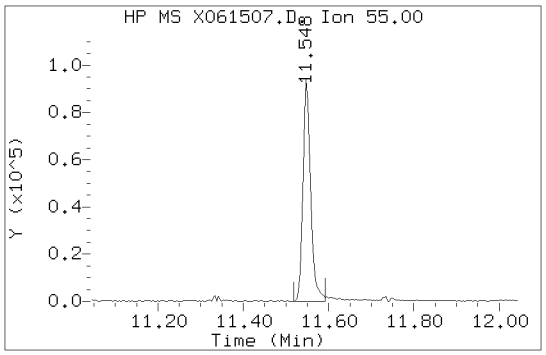
BEFORE

MASS
55
AREA
120798
HEIGHT
93780
20-Jun-2023
18:22
linh
pham



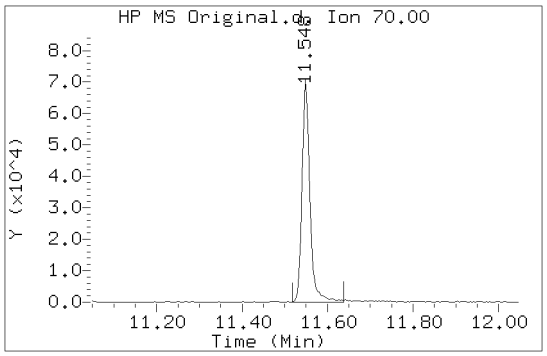
AFTER

MASS
55
AREA
120798
HEIGHT
93780
20-Jun-2023
18:22
linh
pham



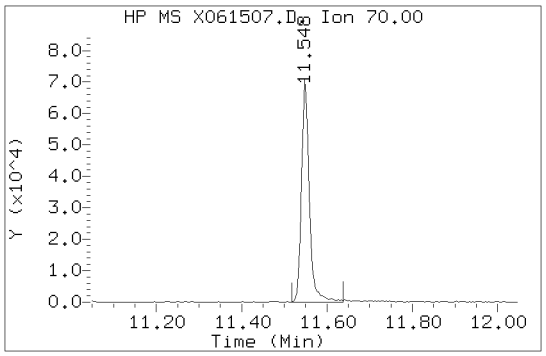
BEFORE

MASS
70
AREA
93365
HEIGHT
70614
20-Jun-2023
18:22
linh
pham



AFTER

MASS
70
AREA
93365
HEIGHT
70614
20-Jun-2023
18:22
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061508.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061508.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 15-JUN-2023 13:42
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	492816	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	197396	50.0000	46.53
3	Chloromethane	50	1.081	1.081	(0.259)	241131	50.0000	46.36
4	Propionitrile	54	3.653	3.653	(0.874)	304381	500.000	510.70
5	Vinyl Chloride	62	1.145	1.149	(0.274)	240339	50.0000	46.43
6	Bromomethane	94	1.344	1.344	(0.321)	137932	50.0000	46.42
7	Chloroethane	64	1.407	1.407	(0.337)	149942	50.0000	47.39
8	Trichlorofluoromethane	101	1.565	1.565	(0.374)	272748	50.0000	44.34
9	Acrolein	56	1.449	1.449	(0.347)	27543	100.000	90.06
10	Acetone	43	1.977	1.973	(0.473)	120180	100.000	93.50
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	175031	50.0000	45.36
12	Isobutyl Alcohol	43	4.672	4.676	(1.117)	634764	1000.00	987.83
13	Acetonitrile	39	2.202	2.202	(0.527)	239543	500.000	501.13
14	Allyl Chloride	41	2.202	2.202	(0.527)	536037	50.0000	49.59
15	Iodomethane	142	2.030	2.030	(0.485)	622671	100.000	97.37
16	Acrylonitrile	53	2.536	2.536	(0.606)	151533	100.000	96.86
17	Methylene Chloride	84	2.307	2.307	(0.552)	248535	50.0000	45.60
18	Methyl tert-butyl ether	73	2.536	2.536	(0.606)	648118	50.0000	48.12
19	Carbon Disulfide	76	2.071	2.071	(0.495)	1253720	100.000	91.25
20	trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	213845	50.0000	46.31
21	Vinyl Acetate	43	2.997	2.997	(0.717)	1287138	100.000	104.45

22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	390252	50.0000	46.92
23 Chloroprene	53	1.775	1.775 (0.425)	73527	50.0000	44.88(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.574	3.578	(0.855)	166054	100.000	102.38
25	Methacrylonitrile	41	3.821	3.821	(0.914)	202059	50.0000	49.69(aH)
26	2,2-Dichloropropane	77	3.510	3.514	(0.840)	313511	50.0000	47.76
27	cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	251495	50.0000	47.23
28	Chloroform	83	3.904	3.904	(0.934)	411769	50.0000	45.99
29	Bromochloromethane	128	3.795	3.795	(0.908)	132725	50.0000	46.78
$ 30	Dibromofluoromethane	113	4.095	4.099	(0.979)	209535	50.0000	47.59
31	1,1,1-Trichloroethane	97	4.084	4.084	(0.977)	324614	50.0000	44.86
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	288880	50.0000	45.69
33	1,2-Dichloroethane	62	4.556	4.556	(0.918)	306752	50.0000	48.42
34	Carbon Tetrachloride	117	4.264	4.264	(0.859)	268670	50.0000	44.19
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	238148	50.0000	50.13
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	754448	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	918710	50.0000	47.34
38	Trichloroethene	130	5.205	5.205	(1.048)	248720	50.0000	46.48
39	Bromodichloromethane	83	5.726	5.722	(1.153)	322289	50.0000	46.94
40	Methyl Methacrylate	41	5.602	5.606	(1.340)	191236	50.0000	50.12
41	2-Chloroethylvinyl ether	63	6.044	6.048	(1.217)	193001	100.000	103.89
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	247937	50.0000	48.67
43	2-Nitropropane	43	5.966	5.966	(1.427)	65936	50.0000	49.64(H)
44	Dibromomethane	93	5.553	5.550	(1.119)	153422	50.0000	47.97
45	4-Methyl-2-Pentanone	43	6.322	6.322	(0.824)	451055	100.000	99.73
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	414700	50.0000	48.99
* 47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	700134	50.0000	
$ 48	Toluene-d8	98	6.386	6.386	(0.833)	793009	50.0000	44.80
49	Ethyl Methacrylate	69	6.708	6.708	(1.351)	235499	50.0000	43.54
50	Toluene	91	6.446	6.445	(0.841)	985523	50.0000	47.94
51	trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	351970	50.0000	49.70
52	2-Hexanone	43	7.087	7.083	(0.924)	307641	100.000	101.83
53	1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	191485	50.0000	47.81
54	1,3-Dichloropropane	76	6.978	6.978	(0.910)	394668	50.0000	48.74
55	Dibromochloromethane	129	7.173	7.173	(0.935)	276136	50.0000	48.65
56	Tetrachloroethene	164	6.925	6.925	(0.903)	188588	50.0000	44.61
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	242321	50.0000	47.34
58	1-Chlorohexane	55	7.694	7.694	(1.550)	204135	50.0000	44.49
59	Chlorobenzene	112	7.690	7.690	(1.003)	670262	50.0000	47.65
60	1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	247525	50.0000	47.19
61	Ethylbenzene	106	7.799	7.799	(1.017)	337944	50.0000	46.63
62	m,p-Xylenes	106	7.900	7.900	(1.030)	865023	100.000	96.80
63	o-Xylene	106	8.237	8.237	(1.074)	421695	50.0000	47.29
64	Styrene	104	8.256	8.256	(1.077)	726936	50.0000	49.49
66	Bromoform	173	8.406	8.410	(1.096)	193324	50.0000	48.86
67	Isopropylbenzene	105	8.560	8.560	(1.116)	1020952	50.0000	46.32
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	322973	50.0000	45.91
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	332999	50.0000	48.70
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	400046	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	233477	50.0000	46.28(M)
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	85424	50.0000	50.12
73	n-Propylbenzene	91	8.908	8.908	(0.922)	1227225	50.0000	46.61
74	Bromobenzene	156	8.803	8.803	(0.911)	307004	50.0000	47.08
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	897093	50.0000	46.44
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	765612	50.0000	45.79

77	4-Chlorotoluene	91	9.070	9.070 (0.939)	883550	50.0000	47.38
78	tert-Butylbenzene	119	9.332	9.336 (0.966)	729912	50.0000	45.35

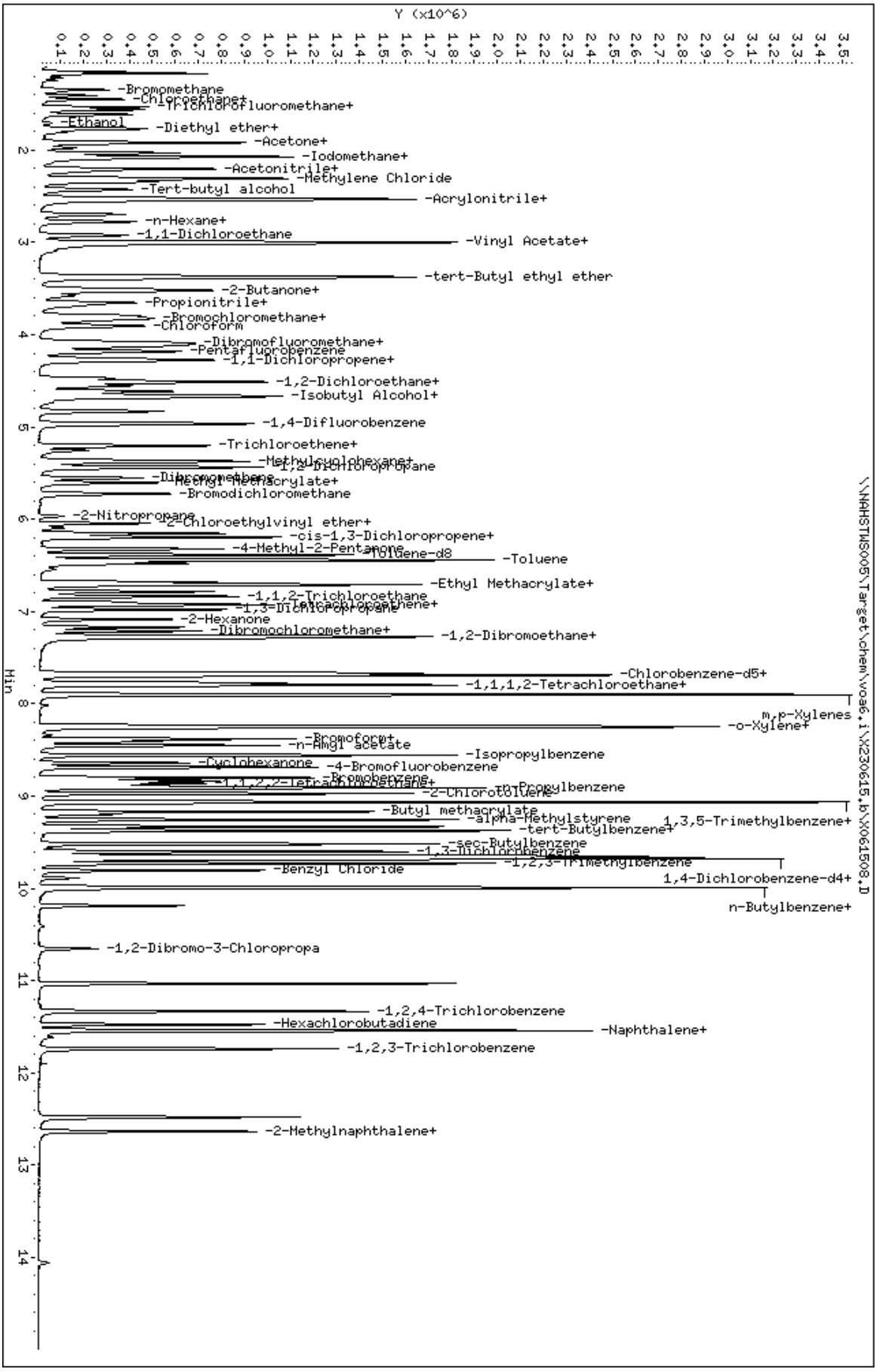
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	919002	50.0000	47.15	
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	1013804	50.0000	44.66	
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	914630	50.0000	46.02	
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	550233	50.0000	47.39	
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	582612	50.0000	46.88	
86	Benzyl Chloride	91	9.804	9.808	(1.279)	583705	50.0000	50.47	
87	n-Butylbenzene	91	9.992	9.992	(1.034)	814070	50.0000	48.10	
88	1,2-Dichlorobenzene	146	9.988	9.992	(1.034)	553758	50.0000	48.07	
89	1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	57289	50.0000	49.90	
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	403454	50.0000	50.34	
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	160721	50.0000	44.68	
92	Naphthalene	128	11.540	11.540	(1.194)	921832	50.0000	51.10	
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	365678	50.0000	49.59	
146	Methyl acetate	43	2.232	2.232	(0.534)	148083	50.0000	50.76	
138	Freon TF	101	1.917	1.917	(0.459)	158688	50.0000	46.35	
141	Cyclohexane	56	4.118	4.121	(0.985)	274803	50.0000	43.74	
142	Tetrahydrofuran	42	3.844	3.844	(0.919)	72495	100.000	100.93	
147	Methylcyclohexane	55	5.377	5.381	(1.083)	533003	50.0000	50.54	
135	1,4-Dioxane	88	5.598	5.598	(1.339)	56523	1000.00	946.41	
132	n-Butanol	56	5.253	5.253	(1.256)	116028	1000.00	907.61	
131	Methyl Acrylate	55	3.690	3.690	(0.883)	211890	50.0000	53.08	
133	Ethyl Acrylate	55	5.377	5.381	(1.286)	533003	50.0000	48.09	
136	n-Hexane	57	2.776	2.776	(0.664)	208750	50.0000	46.44	
139	Diethyl ether	59	1.760	1.760	(0.421)	148690	50.0000	48.15	
148	Tert-butyl alcohol	59	2.431	2.431	(0.581)	465312	1000.00	919.46	
149	Isopropyl alcohol	45	2.093	2.093	(0.501)	254962	1000.00	912.73	
156	Diisopropyl ether	45	3.001	3.000	(0.718)	713579	50.0000	49.09	
160	2-Methylnaphthalene	142	12.635	12.634	(1.308)	394789	50.0000	50.00	
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	940766	50.0000	49.47	
167	Ethanol	45	1.704	1.707	(0.407)	42212	1000.00	896.16	
172	tert-Butyl formate	59	4.616	4.612	(1.104)	374840	100.000	92.35	
173	3,3-Dimethyl-1-butanol	57	7.285	7.285	(0.950)	494306	1000.00	863.21	
174	tert-Amyl methyl ether	73	4.665	4.665	(1.116)	751714	50.0000	47.55	
175	tert-Butyl ethyl ether	59	3.375	3.379	(0.807)	719611	50.0000	47.83	
176	tert-Amyl alcohol	59	4.616	4.612	(1.104)	374840	1000.00	905.51	
151	4-Methyl-2-pentanol	45	6.708	6.708	(1.351)	1032494	1000.00	860.61	
180	1-Methylnaphthalene	142	12.635	12.634	(1.308)	394789	50.0000		(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	188849	50.0000	46.24	
152	Amyl alcohol	42	6.899	6.899	(0.900)	133001	1000.00	1019.57	
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	334814	50.0000	47.27	
159	Propylene oxide	43	1.805	1.805	(0.432)	36073	100.000	82.56	
161	3-Methyl-1-butanol	55	6.899	6.899	(0.900)	125842	1000.00	936.08	
162	Butyl acrylate	55	8.249	8.249	(1.076)	512904	50.0000	49.57	
163	Butyl methacrylate	41	9.167	9.167	(0.949)	352536	50.0000	52.39	
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	1059682	50.0000	47.36	
182	Epichlorohydrin	57	6.093	6.093	(1.227)	80467	200.000	178.30	
M 94	1,2-Dichloroethylene (total)	96				465340	100.000		(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	459940	50.0000	48.60	
130	Ethyl Acetate	43	3.657	3.657	(0.875)	241252	50.0000	48.02	
134	Cyclohexanone	55	8.638	8.642	(0.894)	225144	1000.00	995.53	
185	Isoprene	39	1.775	1.775	(0.425)	54933	50.0000	40.95	
188	Isopropyl acetate	43	4.672	4.676	(0.941)	638971	50.0000	49.04	

187 n-Amyl acetate	43	8.451	8.451 (1.102)	446148	50.0000	47.58
189 n-Butyl acetate	43	7.210	7.210 (0.940)	384979	50.0000	51.34(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.776	2.772	(0.664)	208750	1000.00	928.85
194 Acetaldehyde	44	1.216	1.216	(0.291)	50952	200.000	196.39(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	518535	50.0000	50.29
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	533595	50.0000	51.39
202 Isobutylene	41	1.242	1.242	(0.297)	22667	50.0000	48.10(M)
205 2-Ethylhexyl Acrylate	55	11.544	11.544	(1.195)	360378	50.0000	48.72(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061508.D
Date : 15-JUN-2023 13:42
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

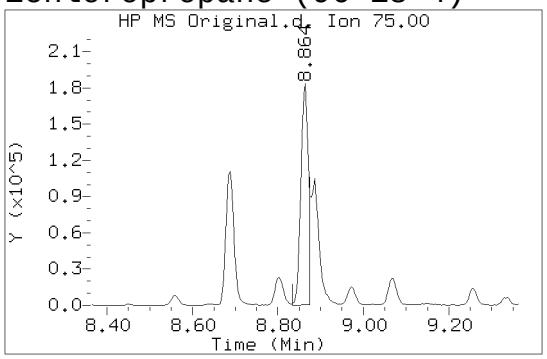
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061508.D
Inj Date : 15-JUN-2023 13:42
InstruID : voa6.i
LabSampID : VSTD050

1,2,3-Trichloropropane (96-18-4)

Reason Code:

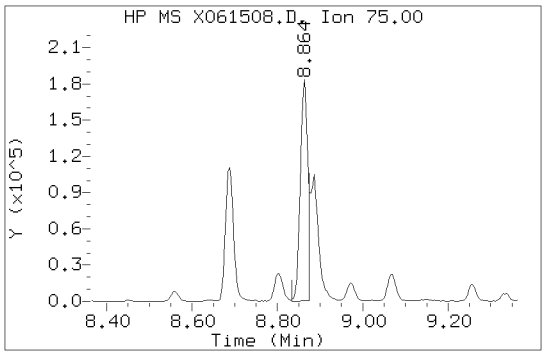
BEFORE

MASS
75
AREA
233477
HEIGHT
183221
20-Jun-2023
18:22
linh
pham



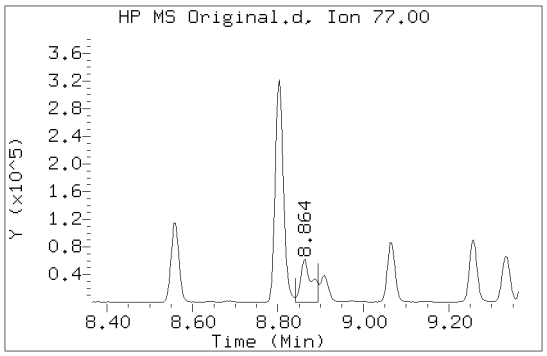
AFTER

MASS
75
AREA
233477
HEIGHT
183221
20-Jun-2023
18:22
linh
pham



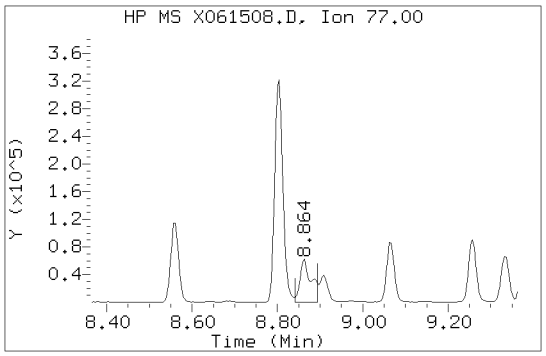
BEFORE

MASS
77
AREA
114341
HEIGHT
62146
20-Jun-2023
18:22
linh
pham



AFTER

MASS
77
AREA
114341
HEIGHT
62146
20-Jun-2023
18:22
linh
pham

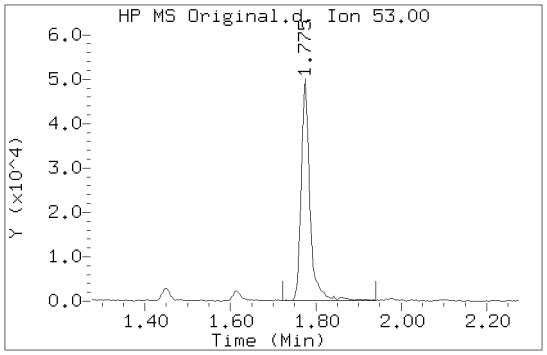


Chloroprene (126-99-8)

Reason Code:

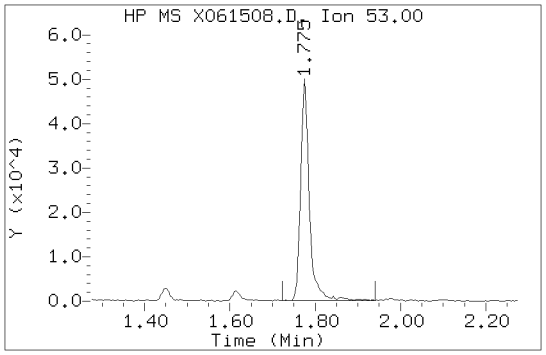
BEFORE

MASS
53
AREA
73527
HEIGHT
49979
20-Jun-2023
18:22
linh
pham



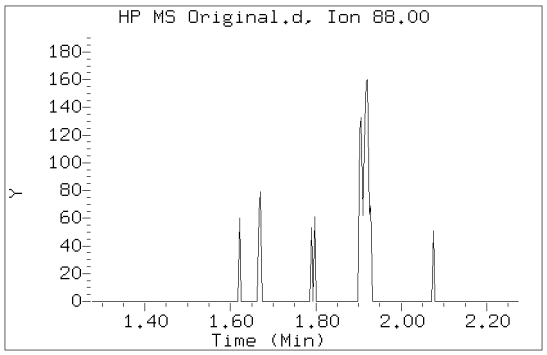
AFTER

MASS
53
AREA
73527
HEIGHT
49979
20-Jun-2023
18:22
linh
pham



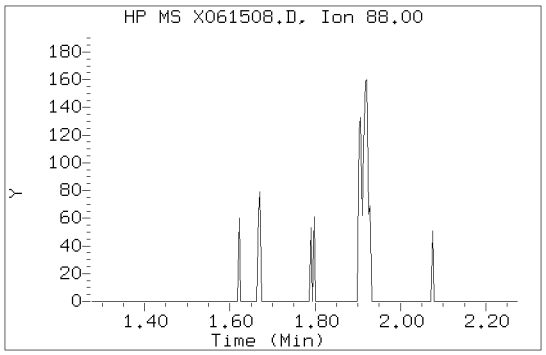
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



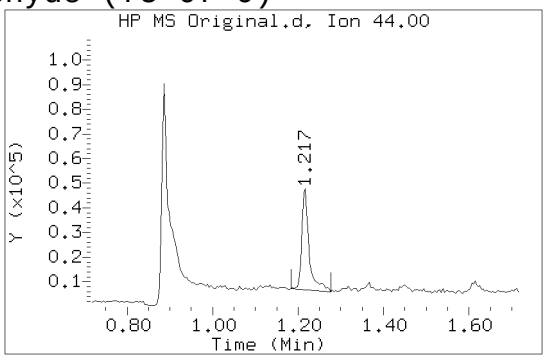
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061508.D
Inj Date : 15-JUN-2023 13:42
InstruID : voa6.i
LabSampID : VSTD050

Acetaldehyde (75-07-0)

Reason Code:

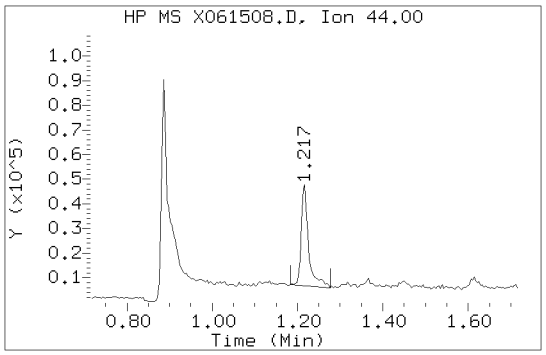
BEFORE

MASS
44
AREA
50952
HEIGHT
41173
20-Jun-2023
18:22
linh
pham



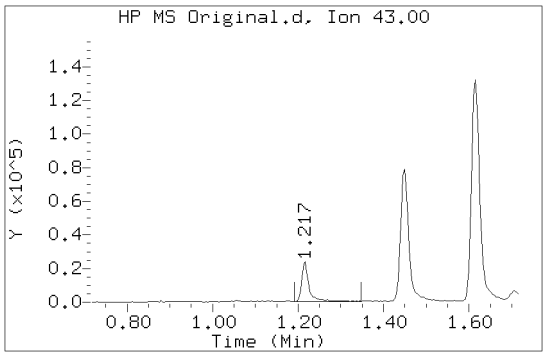
AFTER

MASS
44
AREA
50952
HEIGHT
41173
20-Jun-2023
18:22
linh
pham



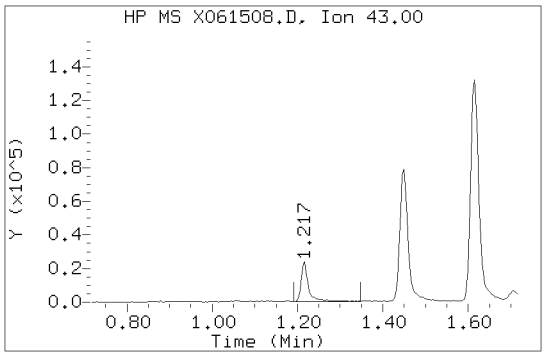
BEFORE

MASS
43
AREA
29360
HEIGHT
23787
20-Jun-2023
18:22
linh
pham



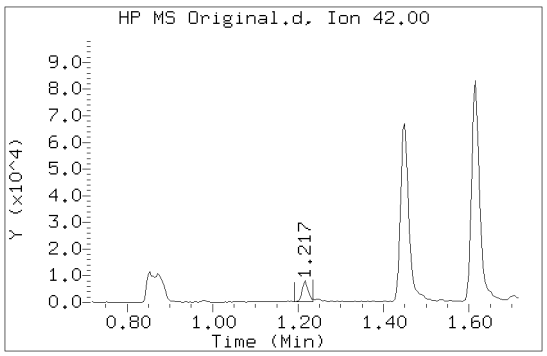
AFTER

MASS
43
AREA
29360
HEIGHT
23787
20-Jun-2023
18:22
linh
pham



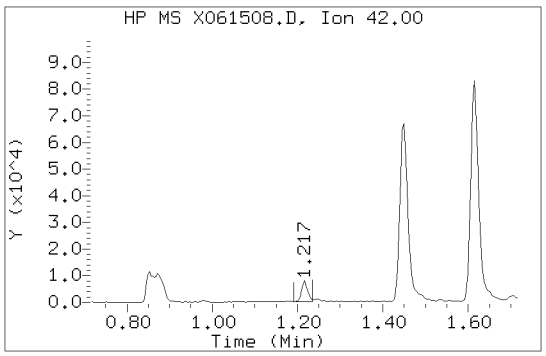
BEFORE

MASS
42
AREA
7889
HEIGHT
7943
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
7889
HEIGHT
7943
20-Jun-2023
18:22
linh
pham

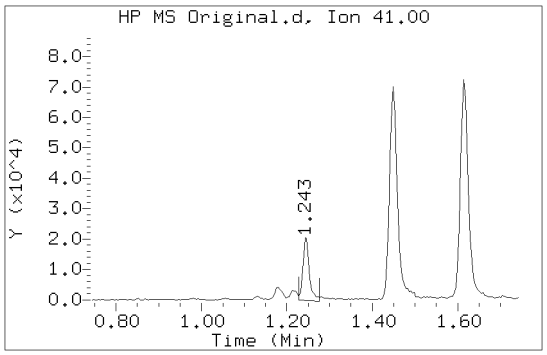


Isobutylene (115-11-7)

Reason Code:

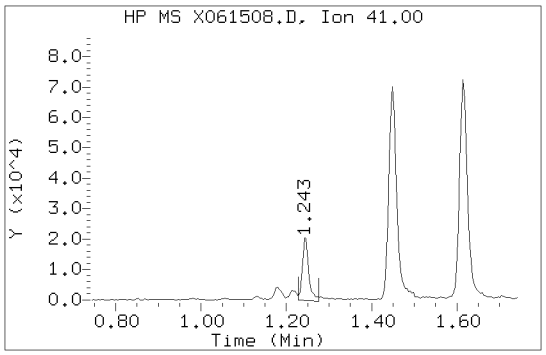
BEFORE

MASS
41
AREA
22667
HEIGHT
20608
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
22667
HEIGHT
20608
20-Jun-2023
18:22
linh
pham

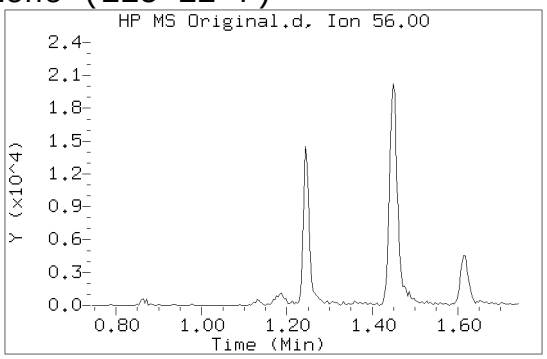


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061508.D
Inj Date : 15-JUN-2023 13:42
InstruID : voa6.i
LabSampID : VSTD050

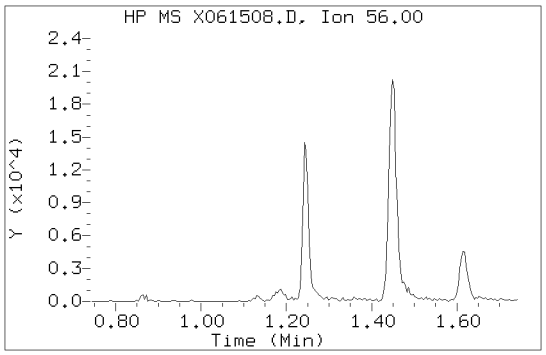
Isobutylene (115-11-7)

Reason Code:

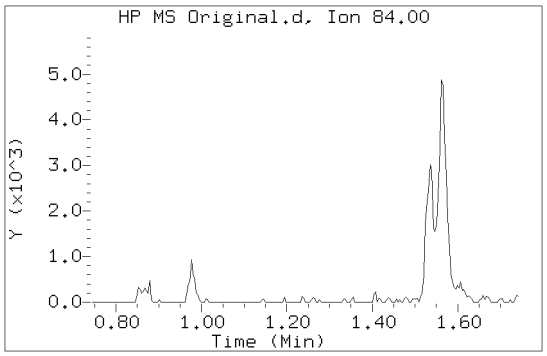
BEFORE
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



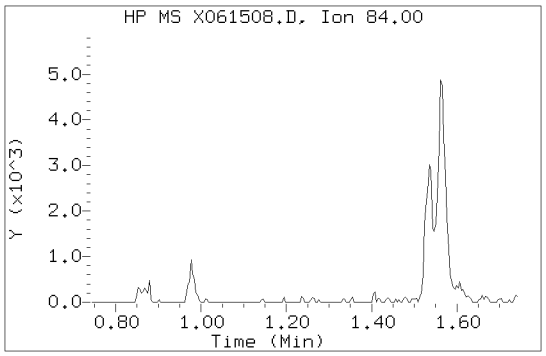
AFTER
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



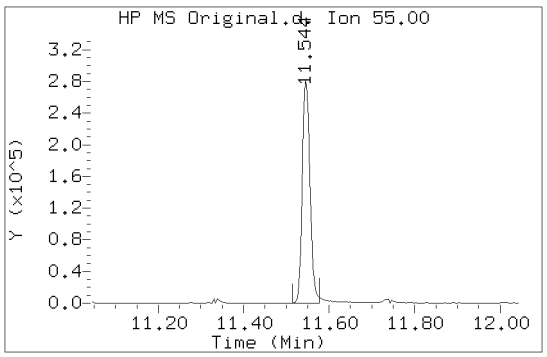
AFTER
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



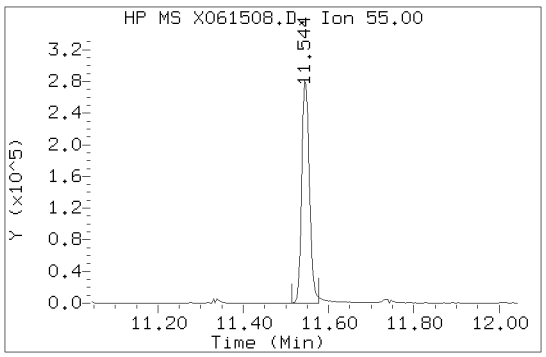
2-Ethylhexyl Acrylate (103-11-7)

Reason Code:

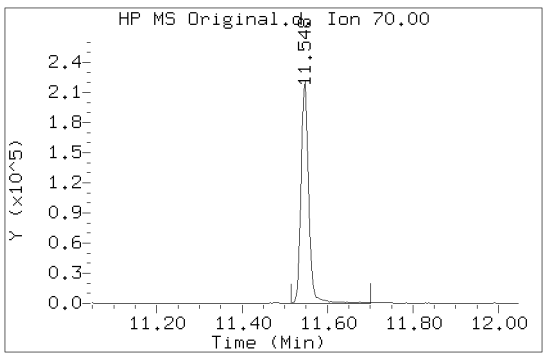
BEFORE
MASS
55
AREA
360378
HEIGHT
280454
20-Jun-2023
18:22
linh
pham



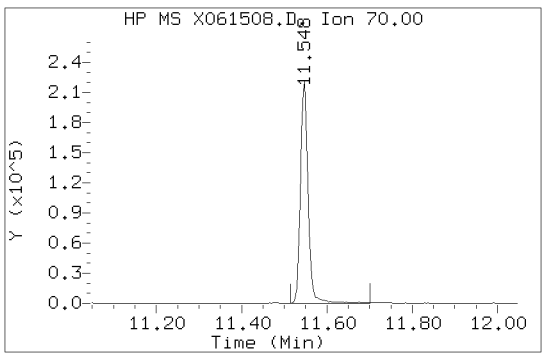
AFTER
MASS
55
AREA
360378
HEIGHT
280454
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
70
AREA
285048
HEIGHT
220660
20-Jun-2023
18:22
linh
pham



AFTER
MASS
70
AREA
285048
HEIGHT
220660
20-Jun-2023
18:22
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061509.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061509.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 15-JUN-2023 14:03
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 14:03 Cal File: X061509.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	495501	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	431897	100.000	100.87
3	Chloromethane	50	1.081	1.081	(0.259)	524590	100.000	99.12
4	Propionitrile	54	3.649	3.653	(0.873)	599655	1000.00	1000.67
5	Vinyl Chloride	62	1.149	1.149	(0.275)	501013	100.000	96.27
6	Bromomethane	94	1.344	1.344	(0.321)	288326	100.000	96.52
7	Chloroethane	64	1.407	1.407	(0.337)	306060	100.000	96.21
8	Trichlorofluoromethane	101	1.561	1.565	(0.373)	598877	100.000	96.84
9	Acrolein	56	1.449	1.449	(0.347)	62591	200.000	203.57
10	Acetone	43	1.973	1.973	(0.472)	254517	200.000	197.25
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	364522	100.000	93.96
12	Isobutyl Alcohol	43	4.672	4.676	(1.117)	1268000	2000.00	1962.59
13	Acetonitrile	39	2.198	2.202	(0.526)	484091	1000.00	1007.25
14	Allyl Chloride	41	2.198	2.202	(0.526)	1079064	100.000	99.30
15	Iodomethane	142	2.030	2.030	(0.485)	1361652	200.000	206.18
16	Acrylonitrile	53	2.536	2.536	(0.606)	316304	200.000	201.10
17	Methylene Chloride	84	2.303	2.307	(0.551)	490960	100.000	89.59
18	Methyl tert-butyl ether	73	2.536	2.536	(0.606)	1281775	100.000	94.66
19	Carbon Disulfide	76	2.071	2.071	(0.495)	2629763	200.000	190.38
20	trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	439343	100.000	94.64
21	Vinyl Acetate	43	2.997	2.997	(0.717)	2457055	200.000	198.31

22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	801750	100.000	95.87
23 Chloroprene	53	1.771	1.775 (0.424)	161195	100.000	97.87(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.574	3.578	(0.855)	351579	200.000	215.60
25	Methacrylonitrile	41	3.818	3.821	(0.913)	394582	100.000	96.51(aH)
26	2,2-Dichloropropane	77	3.507	3.514	(0.839)	661036	100.000	100.17
27	cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	508020	100.000	94.90
28	Chloroform	83	3.904	3.904	(0.934)	818333	100.000	90.92
29	Bromochloromethane	128	3.792	3.795	(0.907)	265719	100.000	93.15
$ 30	Dibromofluoromethane	113	4.095	4.099	(0.979)	449558	100.000	101.94
31	1,1,1-Trichloroethane	97	4.080	4.084	(0.976)	691238	100.000	95.02
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	621302	100.000	97.62
33	1,2-Dichloroethane	62	4.552	4.556	(0.917)	619081	100.000	97.07
34	Carbon Tetrachloride	117	4.264	4.264	(0.859)	590757	100.000	96.51
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	480296	100.000	101.41
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	759537	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	1903903	100.000	97.44
38	Trichloroethene	130	5.205	5.205	(1.048)	527345	100.000	97.89
39	Bromodichloromethane	83	5.722	5.722	(1.153)	657597	100.000	95.15
40	Methyl Methacrylate	41	5.602	5.606	(1.340)	386280	100.000	100.70
41	2-Chloroethylvinyl ether	63	6.044	6.048	(1.217)	379788	200.000	203.08
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	505068	100.000	98.48
43	2-Nitropropane	43	5.966	5.966	(1.427)	130452	100.000	97.68(H)
44	Dibromomethane	93	5.550	5.550	(1.118)	306749	100.000	95.28
45	4-Methyl-2-Pentanone	43	6.322	6.322	(0.824)	894293	200.000	193.09
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	851192	100.000	99.89
* 47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	716953	50.0000	
$ 48	Toluene-d8	98	6.386	6.386	(0.833)	1762374	100.000	97.22
49	Ethyl Methacrylate	69	6.708	6.708	(1.351)	479521	100.000	88.08
50	Toluene	91	6.446	6.445	(0.841)	2049854	100.000	97.39
51	trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	708794	100.000	99.41
52	2-Hexanone	43	7.083	7.083	(0.924)	616657	200.000	199.33
53	1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	386891	100.000	94.35
54	1,3-Dichloropropane	76	6.978	6.978	(0.910)	798132	100.000	96.26
55	Dibromochloromethane	129	7.173	7.173	(0.935)	568303	100.000	97.79
56	Tetrachloroethene	164	6.925	6.925	(0.903)	417138	100.000	96.37
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	492910	100.000	94.04
58	1-Chlorohexane	55	7.694	7.694	(1.550)	447382	100.000	96.85
59	Chlorobenzene	112	7.690	7.690	(1.003)	1379283	100.000	95.77
60	1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	518754	100.000	96.59
61	Ethylbenzene	106	7.795	7.799	(1.017)	716254	100.000	96.52
62	m,p-Xylenes	106	7.900	7.900	(1.030)	1808556	200.000	197.64
63	o-Xylene	106	8.237	8.237	(1.074)	881676	100.000	96.56
64	Styrene	104	8.256	8.256	(1.077)	1495586	100.000	99.44
66	Bromoform	173	8.406	8.410	(1.096)	398754	100.000	98.42
67	Isopropylbenzene	105	8.560	8.560	(1.116)	2193383	100.000	97.18
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	652900	100.000	89.45
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	703849	100.000	101.09
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	415088	50.0000	
71	1,2,3-Trichloropropane	75	8.860	8.863	(0.917)	479418	100.000	91.60
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	178104	100.000	102.06
73	n-Propylbenzene	91	8.908	8.908	(0.922)	2636189	100.000	96.51
74	Bromobenzene	156	8.803	8.803	(0.911)	639671	100.000	94.55
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	1937766	100.000	96.68
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	1592392	100.000	91.80

77 4-Chlorotoluene	91	9.066	9.070 (0.938)	1851947	100.000	95.71
78 tert-Butylbenzene	119	9.332	9.336 (0.966)	1602812	100.000	95.98

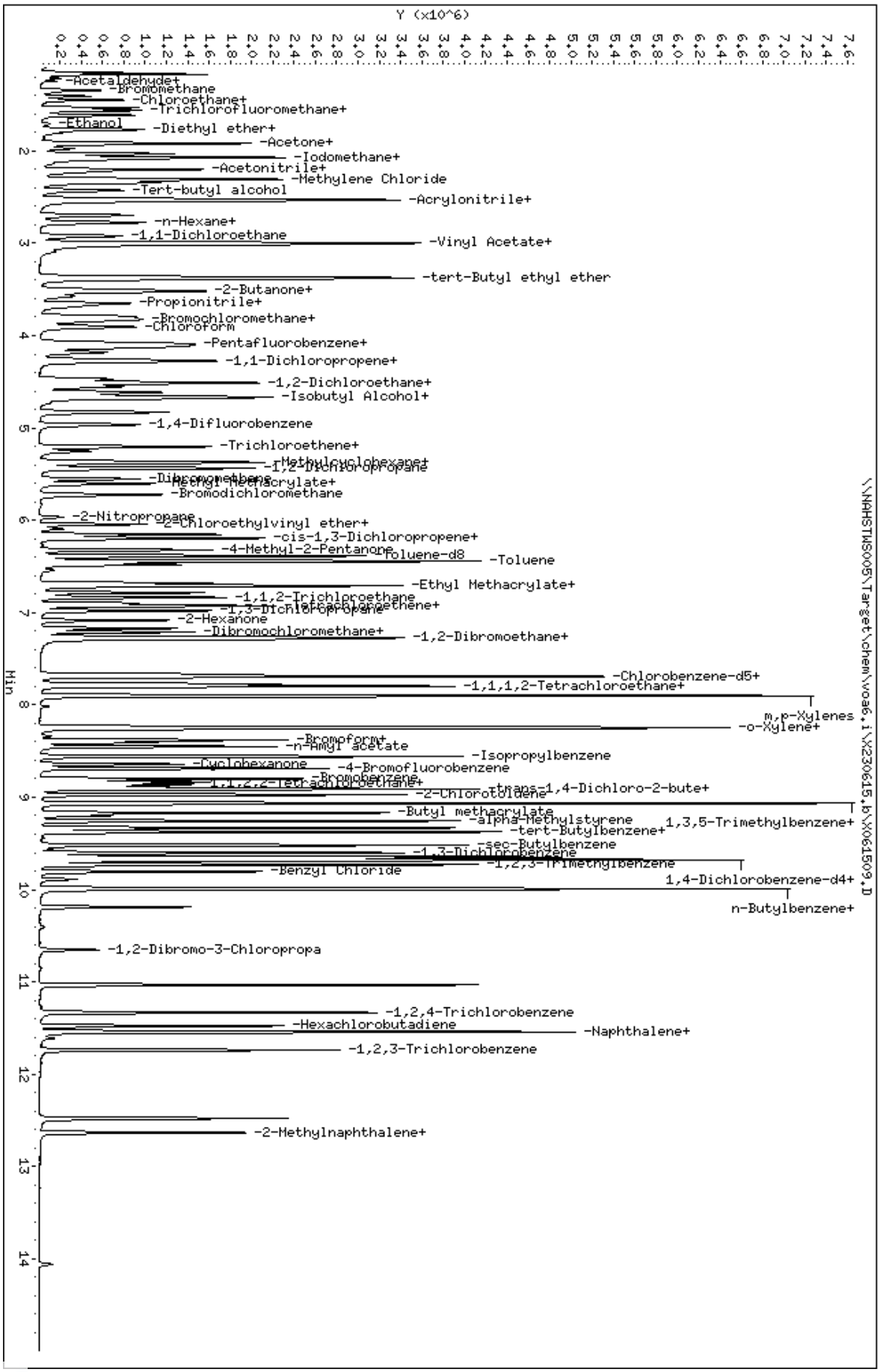
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	1952643	100.000	96.56
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	2290981	100.000	97.28
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	2068710	100.000	100.33
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	1179035	100.000	97.87
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	1231486	100.000	95.50
86	Benzyl Chloride	91	9.804	9.808	(1.279)	1261181	100.000	106.49
87	n-Butylbenzene	91	9.992	9.992	(1.034)	1840344	100.000	104.79
88	1,2-Dichlorobenzene	146	9.988	9.992	(1.034)	1168783	100.000	97.78
89	1,2-Dibromo-3-Chloropropane	155	10.652	10.655	(1.102)	117282	100.000	98.20
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	872938	100.000	104.98
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	384079	100.000	102.91
92	Naphthalene	128	11.536	11.540	(1.194)	1926226	100.000	102.91
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	783021	100.000	102.34
146	Methyl acetate	43	2.232	2.232	(0.534)	289526	100.000	98.71
138	Freon TF	101	1.917	1.917	(0.459)	355059	100.000	100.76
141	Cyclohexane	56	4.121	4.121	(0.986)	620885	100.000	98.29
142	Tetrahydrofuran	42	3.840	3.844	(0.918)	142469	200.000	197.28
147	Methylcyclohexane	55	5.377	5.381	(1.083)	1125305	100.000	106.00(A)
135	1,4-Dioxane	88	5.598	5.598	(1.339)	120015	2000.00	1998.62
132	n-Butanol	56	5.250	5.253	(1.255)	246332	2000.00	1844.09
131	Methyl Acrylate	55	3.687	3.690	(0.882)	416983	100.000	103.90(M)
133	Ethyl Acrylate	55	5.377	5.381	(1.286)	1125305	100.000	98.39
136	n-Hexane	57	2.772	2.776	(0.663)	496122	100.000	102.05
139	Diethyl ether	59	1.760	1.760	(0.421)	299105	100.000	96.35
148	Tert-butyl alcohol	59	2.427	2.431	(0.580)	915279	2000.00	1798.80
149	Isopropyl alcohol	45	2.097	2.093	(0.502)	521733	2000.00	1857.62
156	Diisopropyl ether	45	3.001	3.000	(0.718)	1426018	100.000	97.58
160	2-Methylnaphthalene	142	12.635	12.634	(1.308)	820577	100.000	100.15
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	1981777	100.000	100.44
167	Ethanol	45	1.707	1.707	(0.408)	84145	2000.00	1776.72
172	tert-Butyl formate	59	4.616	4.612	(1.104)	756526	200.000	185.39
173	3,3-Dimethyl-1-butanol	57	7.285	7.285	(0.950)	1023974	2000.00	1746.23
174	tert-Amyl methyl ether	73	4.665	4.665	(1.116)	1510011	100.000	95.00
175	tert-Butyl ethyl ether	59	3.375	3.379	(0.807)	1438799	100.000	95.12
176	tert-Amyl alcohol	59	4.616	4.612	(1.104)	756526	2000.00	1817.65
151	4-Methyl-2-pentanol	45	6.708	6.708	(1.351)	2081892	2000.00	1723.68
180	1-Methylnaphthalene	142	12.635	12.634	(1.308)	820577	100.000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	405380	100.000	98.72
152	Amyl alcohol	42	6.899	6.899	(0.900)	278205	2000.00	2082.66
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	693033	100.000	97.31
159	Propylene oxide	43	1.808	1.805	(0.433)	69625	200.000	158.49
161	3-Methyl-1-butanol	55	6.899	6.899	(0.900)	266062	2000.00	1894.99
162	Butyl acrylate	55	8.249	8.249	(1.076)	1042036	100.000	97.81
163	Butyl methacrylate	41	9.167	9.167	(0.949)	680469	100.000	97.46
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	2180940	100.000	93.94
182	Epichlorohydrin	57	6.093	6.093	(1.227)	164288	400.000	361.60
M 94	1,2-Dichloroethylene (total)	96				947363	200.000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	980440	100.000	99.84
130	Ethyl Acetate	43	3.653	3.657	(0.874)	454946	100.000	90.07
134	Cyclohexanone	55	8.642	8.642	(0.894)	470281	2000.00	2017.28
185	Isoprene	39	1.771	1.775	(0.424)	117560	100.000	87.18
188	Isopropyl acetate	43	4.672	4.676	(0.941)	1268530	100.000	96.70

187 n-Amyl acetate	43	8.451	8.451 (1.102)	916897	100.000	95.49
189 n-Butyl acetate	43	7.210	7.210 (0.940)	766562	100.000	99.82(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.663)	496122	2000.00	2041.64
194 Acetaldehyde	44	1.216	1.216	(0.291)	103450	400.000	400.10(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	1079051	100.000	102.21
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	1080422	100.000	101.61
202 Isobutylene	41	1.242	1.242	(0.297)	44663	100.000	94.27(M)
205 2-Ethylhexyl Acrylate	55	11.544	11.544	(1.195)	790630	100.000	101.60

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061509.D
Date : 15-JUN-2023 14:03
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

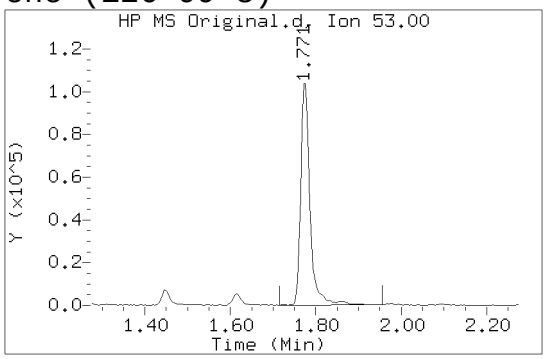
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061509.D
Inj Date : 15-JUN-2023 14:03
InstruID : voa6.i
LabSampID : VSTD100

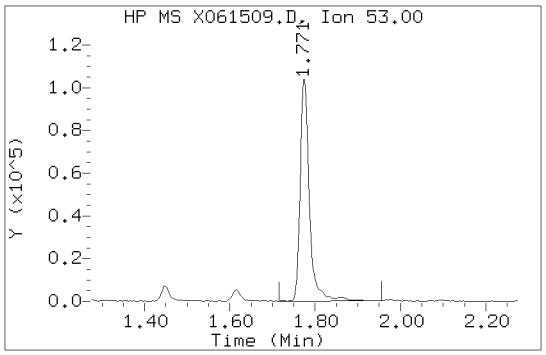
Chloroprene (126-99-8)

Reason Code:

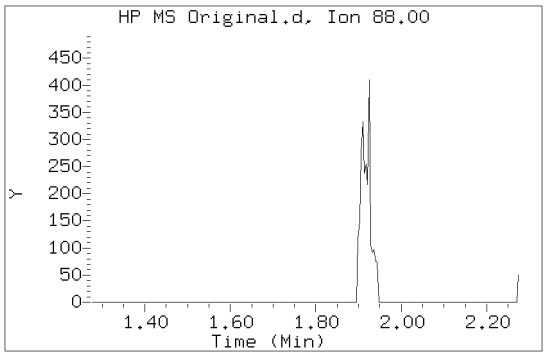
BEFORE
MASS
53
AREA
161195
HEIGHT
103598
20-Jun-2023
18:22
linh
pham



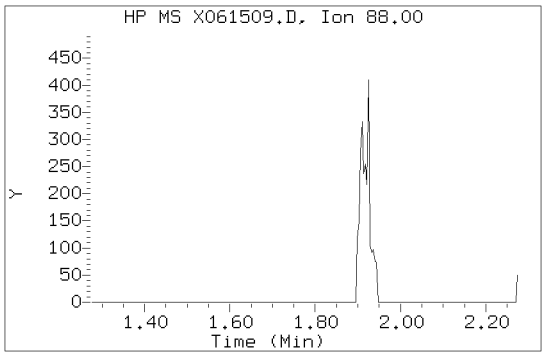
AFTER
MASS
53
AREA
161195
HEIGHT
103598
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



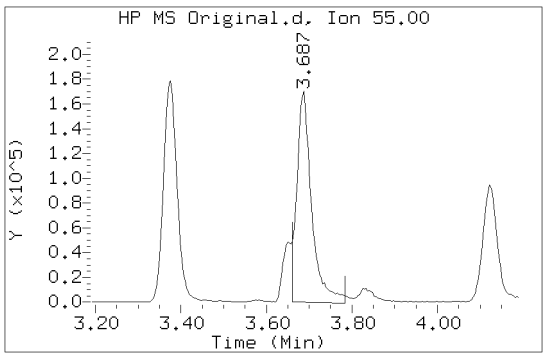
AFTER
MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



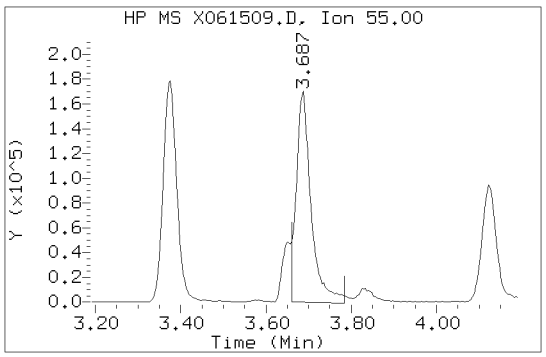
Methyl Acrylate (96-33-3)

Reason Code:

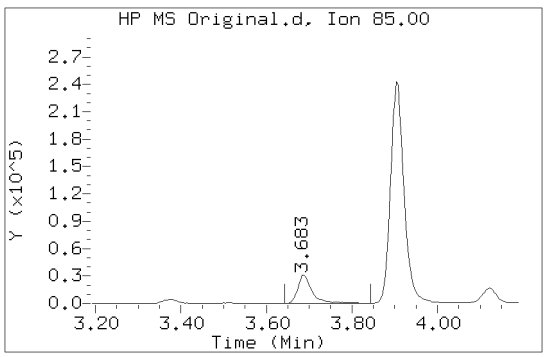
BEFORE
MASS
55
AREA
416983
HEIGHT
170556
20-Jun-2023
18:22
linh
pham



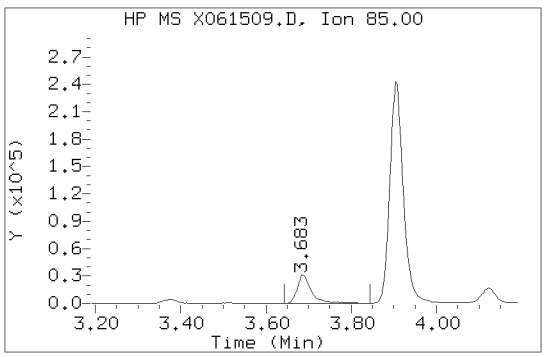
AFTER
MASS
55
AREA
416983
HEIGHT
170556
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
85
AREA
73079
HEIGHT
31216
20-Jun-2023
18:22
linh
pham



AFTER
MASS
85
AREA
73079
HEIGHT
31216
20-Jun-2023
18:22
linh
pham

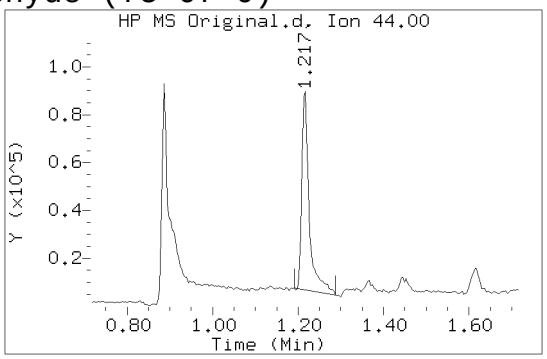


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061509.D
Inj Date : 15-JUN-2023 14:03
InstruID : voa6.i
LabSampID : VSTD100

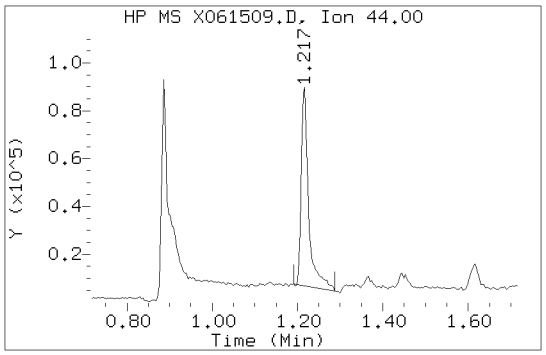
Acetaldehyde (75-07-0)

Reason Code:

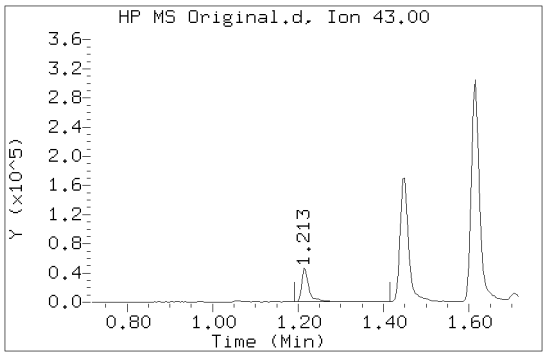
BEFORE
MASS
44
AREA
103450
HEIGHT
83042
20-Jun-2023
18:22
linh
pham



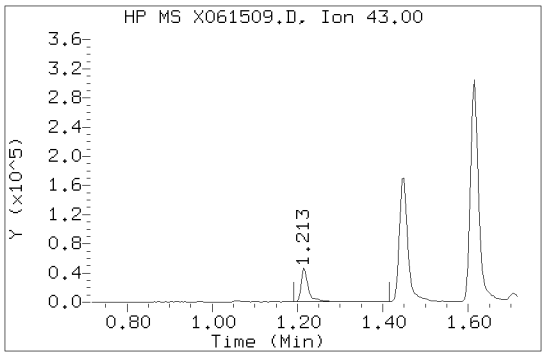
AFTER
MASS
44
AREA
103450
HEIGHT
83042
20-Jun-2023
18:22
linh
pham



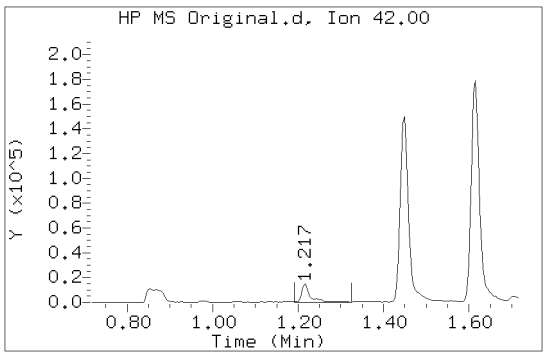
BEFORE
MASS
43
AREA
54821
HEIGHT
45877
20-Jun-2023
18:22
linh
pham



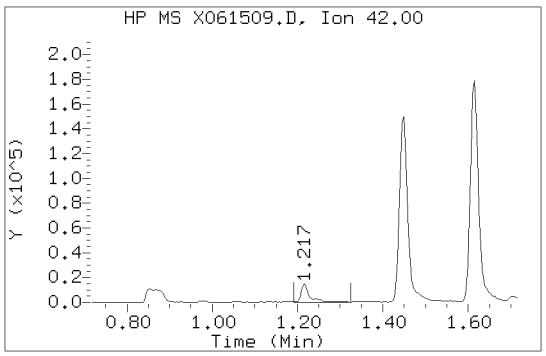
AFTER
MASS
43
AREA
54821
HEIGHT
45877
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
42
AREA
19996
HEIGHT
14623
20-Jun-2023
18:22
linh
pham



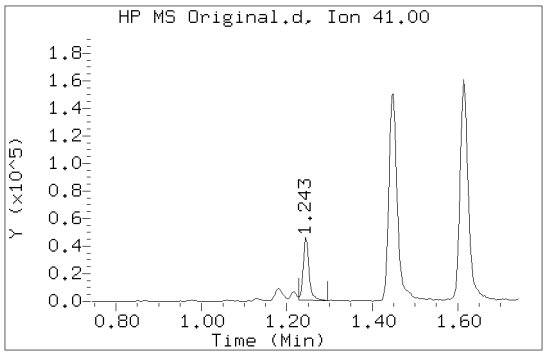
AFTER
MASS
42
AREA
19996
HEIGHT
14623
20-Jun-2023
18:22
linh
pham



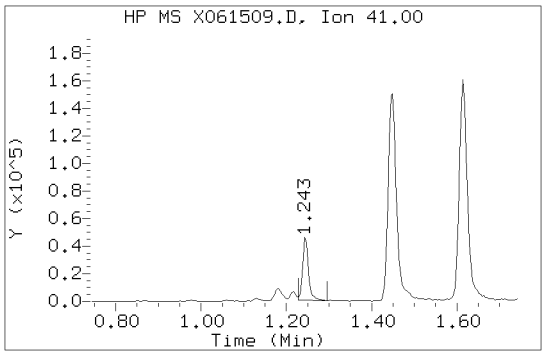
Isobutylene (115-11-7)

Reason Code:

BEFORE
MASS
41
AREA
44663
HEIGHT
45695
20-Jun-2023
18:22
linh
pham



AFTER
MASS
41
AREA
44663
HEIGHT
45695
20-Jun-2023
18:22
linh
pham



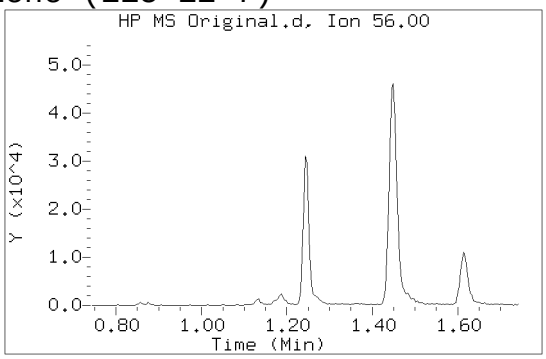
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061509.D
Inj Date : 15-JUN-2023 14:03
InstruID : voa6.i
LabSampID : VSTD100

Isobutylene (115-11-7)

Reason Code:

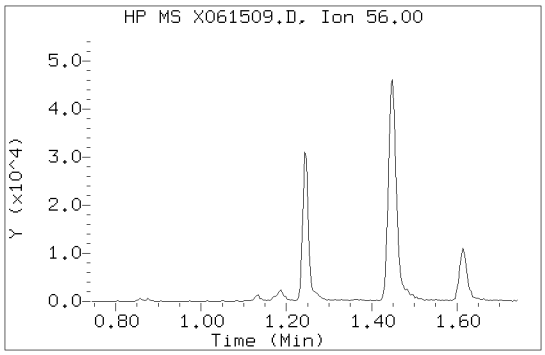
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



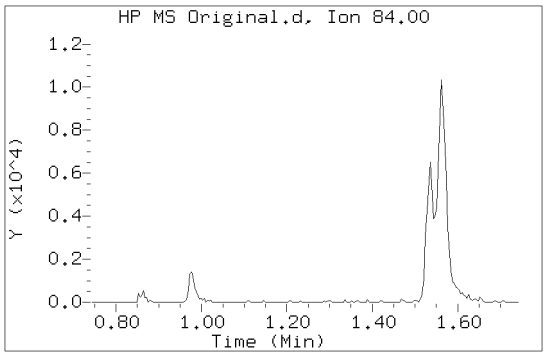
AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



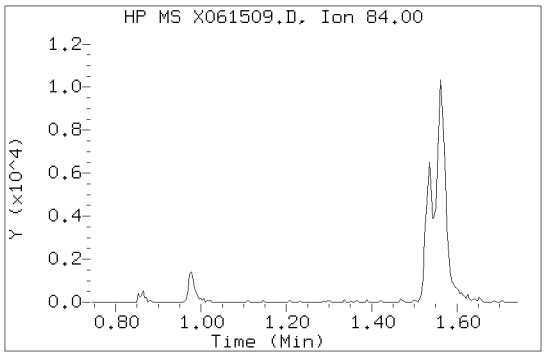
BEFORE

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061510.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061510.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 15-JUN-2023 14:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 14:24 Cal File: X061510.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	496372	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	640204	150.000	149.11
3	Chloromethane	50	1.081	1.081	(0.259)	786709	150.000	147.87
4	Propionitrile	54	3.649	3.653	(0.873)	930050	1500.00	1549.29
5	Vinyl Chloride	62	1.145	1.149	(0.274)	746276	150.000	143.15
6	Bromomethane	94	1.336	1.344	(0.320)	433384	150.000	144.83
7	Chloroethane	64	1.404	1.407	(0.336)	453938	150.000	142.45
8	Trichlorofluoromethane	101	1.561	1.565	(0.373)	900602	150.000	145.38
9	Acrolein	56	1.445	1.449	(0.346)	97655	300.000	317.05
10	Acetone	43	1.973	1.973	(0.472)	376478	300.000	291.39
11	1,1-Dichloroethene	96	1.913	1.917	(0.458)	543055	150.000	139.74
12	Isobutyl Alcohol	43	4.672	4.676	(1.117)	1920074	3000.00	2966.65
13	Acetonitrile	39	2.198	2.202	(0.526)	746339	1500.00	1550.19
14	Allyl Chloride	41	2.198	2.202	(0.526)	1653414	150.000	151.89
15	Iodomethane	142	2.030	2.030	(0.485)	1987305	300.000	295.77
16	Acrylonitrile	53	2.532	2.536	(0.606)	489629	300.000	310.76
17	Methylene Chloride	84	2.303	2.307	(0.551)	728727	150.000	132.75
18	Methyl tert-butyl ether	73	2.536	2.536	(0.606)	1979321	150.000	145.93
19	Carbon Disulfide	76	2.071	2.071	(0.495)	4109640	300.000	296.99
20	trans-1,2-Dichloroethene	96	2.528	2.532	(0.605)	664057	150.000	142.80
21	Vinyl Acetate	43	2.997	2.997	(0.717)	3702324	300.000	298.30

22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	1188336	150.000	141.85
23 Chloroprene	53	1.771	1.775 (0.424)	235576	150.000	142.78

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.574	3.578	(0.855)	535272	300.000	327.67
25	Methacrylonitrile	41	3.818	3.821	(0.913)	606858	150.000	148.17(aH)
26	2,2-Dichloropropane	77	3.507	3.514	(0.839)	998442	150.000	151.04
27	cis-1,2-Dichloroethene	96	3.522	3.525	(0.842)	764228	150.000	142.51
28	Chloroform	83	3.904	3.904	(0.934)	1226489	150.000	136.03
29	Bromochloromethane	128	3.791	3.795	(0.907)	402633	150.000	140.90
$ 30	Dibromofluoromethane	113	4.095	4.099	(0.979)	670515	150.000	151.95
31	1,1,1-Trichloroethane	97	4.080	4.084	(0.976)	1052921	150.000	144.48
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	948327	150.000	149.27
33	1,2-Dichloroethane	62	4.552	4.556	(0.917)	933139	150.000	146.58
34	Carbon Tetrachloride	117	4.264	4.264	(0.859)	907027	150.000	148.45
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	717187	150.000	151.59
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	758148	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	2855100	150.000	146.40
38	Trichloroethene	130	5.205	5.205	(1.048)	801968	150.000	149.14
39	Bromodichloromethane	83	5.722	5.722	(1.153)	985431	150.000	142.84
40	Methyl Methacrylate	41	5.602	5.606	(1.340)	588875	150.000	153.24
41	2-Chloroethylvinyl ether	63	6.044	6.048	(1.217)	573937	300.000	307.45
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	749457	150.000	146.41
43	2-Nitropropane	43	5.966	5.966	(1.427)	204861	150.000	153.12(H)
44	Dibromomethane	93	5.550	5.550	(1.118)	460730	150.000	143.38
45	4-Methyl-2-Pentanone	43	6.322	6.322	(0.824)	1336051	300.000	286.37
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1279171	150.000	150.39
* 47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	722233	50.0000	
$ 48	Toluene-d8	98	6.386	6.386	(0.833)	2595498	150.000	142.14
49	Ethyl Methacrylate	69	6.712	6.708	(1.352)	784584	150.000	144.38
50	Toluene	91	6.446	6.445	(0.841)	3078749	150.000	145.20
51	trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	1082340	150.000	152.08
52	2-Hexanone	43	7.083	7.083	(0.924)	932009	300.000	299.06
53	1,1,2-Trichloroethane	83	6.839	6.835	(0.892)	582084	150.000	140.91
54	1,3-Dichloropropane	76	6.978	6.978	(0.910)	1189873	150.000	142.46
55	Dibromochloromethane	129	7.173	7.173	(0.935)	863836	150.000	147.55
56	Tetrachloroethene	164	6.925	6.925	(0.903)	652660	150.000	149.68
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	750201	150.000	142.08
58	1-Chlorohexane	55	7.694	7.694	(1.550)	693641	150.000	150.44
59	Chlorobenzene	112	7.690	7.690	(1.003)	2097306	150.000	144.56
60	1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	788685	150.000	145.78
61	Ethylbenzene	106	7.799	7.799	(1.017)	1108469	150.000	148.29
62	m,p-Xylenes	106	7.904	7.900	(1.031)	2779898	300.000	301.57
63	o-Xylene	106	8.237	8.237	(1.074)	1341283	150.000	145.82
64	Styrene	104	8.256	8.256	(1.077)	2293595	150.000	151.38
66	Bromoform	173	8.406	8.410	(1.096)	616100	150.000	150.96
67	Isopropylbenzene	105	8.560	8.560	(1.116)	3423955	150.000	150.60
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	999723	150.000	133.32
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	1057321	150.000	151.02
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	426427	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	728412	150.000	135.47(M)
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	276176	150.000	157.10
73	n-Propylbenzene	91	8.912	8.908	(0.922)	4145728	150.000	147.73
74	Bromobenzene	156	8.803	8.803	(0.911)	998637	150.000	143.68
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	3021206	150.000	146.72
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	2465333	150.000	138.34

77	4-Chlorotoluene	91	9.066	9.070 (0.938)	2873857	150.000	144.58
78	tert-Butylbenzene	119	9.336	9.336 (0.966)	2516939	150.000	146.72

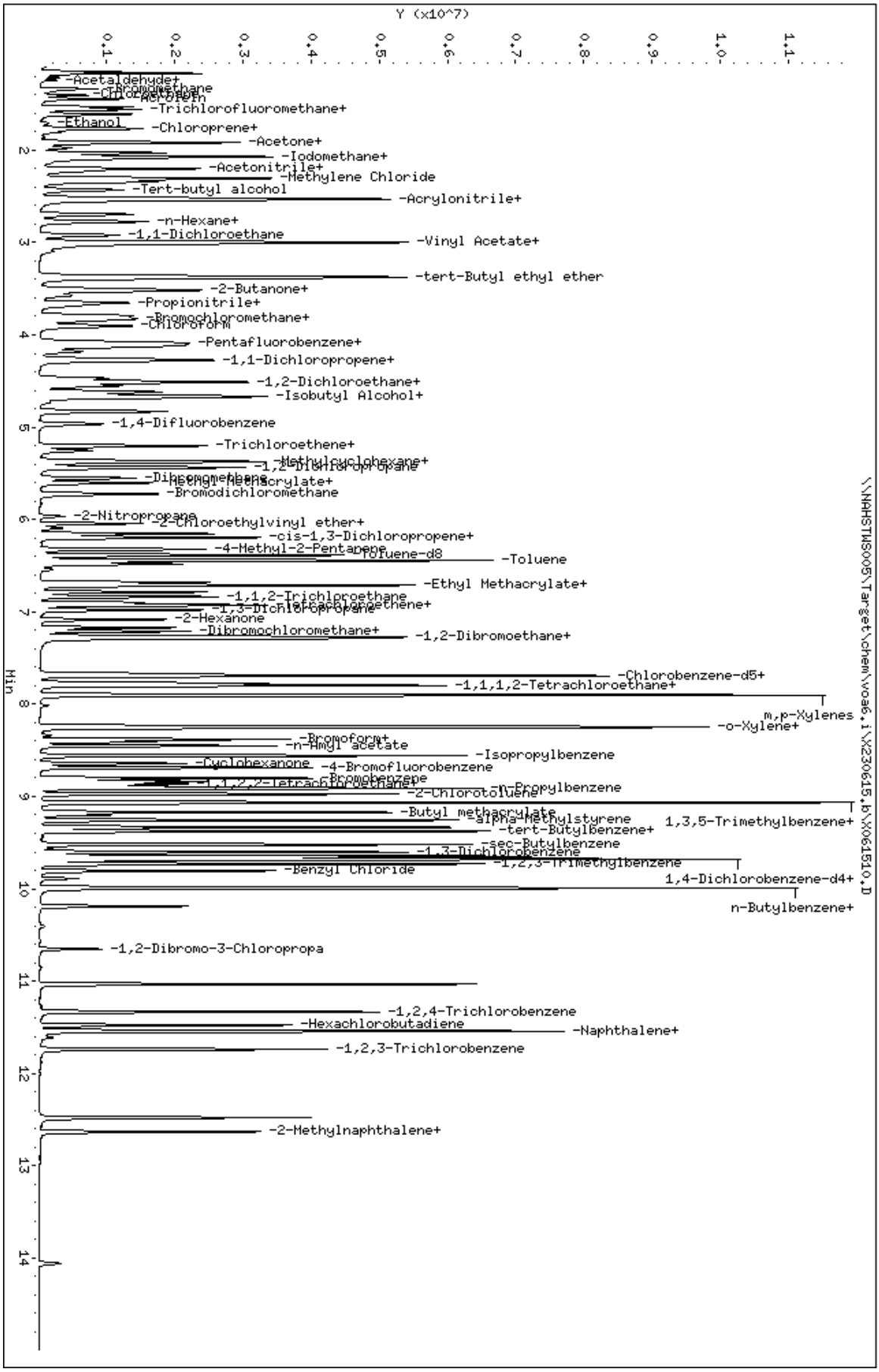
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	3046806	150.000	146.66
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	3637698	150.000	150.35
82	p-Isopropyltoluene	119	9.647	9.647	(0.998)	3234520	150.000	152.70
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	1838273	150.000	148.54
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	1883662	150.000	142.20
86	Benzyl Chloride	91	9.804	9.808	(1.279)	1986937	150.000	166.55
87	n-Butylbenzene	91	9.992	9.992	(1.034)	2886932	150.000	160.02
88	1,2-Dichlorobenzene	146	9.988	9.992	(1.034)	1800734	150.000	146.65
89	1,2-Dibromo-3-Chloropropane	155	10.651	10.655	(1.102)	182534	150.000	148.64
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	1349005	150.000	157.93
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	614842	150.000	160.36
92	Naphthalene	128	11.536	11.540	(1.194)	2944619	150.000	153.13
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	1213404	150.000	154.38
146	Methyl acetate	43	2.232	2.232	(0.534)	443517	150.000	150.95
138	Freon TF	101	1.917	1.917	(0.459)	548562	150.000	151.80
141	Cyclohexane	56	4.121	4.121	(0.986)	967778	150.000	152.95
142	Tetrahydrofuran	42	3.840	3.844	(0.918)	215293	300.000	297.61
147	Methylcyclohexane	55	5.377	5.381	(1.083)	1751972	150.000	165.34(A)
135	1,4-Dioxane	88	5.598	5.598	(1.339)	184006	3000.00	3058.89
132	n-Butanol	56	5.253	5.253	(1.256)	401679	3000.00	2960.90
131	Methyl Acrylate	55	3.683	3.690	(0.881)	649317	150.000	161.51(M)
133	Ethyl Acrylate	55	5.377	5.381	(1.286)	1751972	150.000	151.60
136	n-Hexane	57	2.772	2.776	(0.663)	791040	150.000	149.41
139	Diethyl ether	59	1.760	1.760	(0.421)	458570	150.000	147.46
148	Tert-butyl alcohol	59	2.431	2.431	(0.581)	1427844	3000.00	2801.23
149	Isopropyl alcohol	45	2.097	2.093	(0.502)	816586	3000.00	2902.35
156	Diisopropyl ether	45	3.001	3.000	(0.718)	2160748	150.000	147.59
160	2-Methylnaphthalene	142	12.631	12.634	(1.307)	1352043	150.000	160.64
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	3057315	150.000	150.83
167	Ethanol	45	1.707	1.707	(0.408)	127474	3000.00	2686.89
172	tert-Butyl formate	59	4.620	4.612	(1.105)	1196724	300.000	292.75(A)
173	3,3-Dimethyl-1-butanol	57	7.289	7.285	(0.951)	1664675	3000.00	2818.10
174	tert-Amyl methyl ether	73	4.665	4.665	(1.116)	2367965	150.000	148.72
175	tert-Butyl ethyl ether	59	3.375	3.379	(0.807)	2214645	150.000	146.16
176	tert-Amyl alcohol	59	4.620	4.612	(1.105)	1196724	3000.00	2870.24
151	4-Methyl-2-pentanol	45	6.712	6.708	(1.352)	3406170	3000.00	2825.27
180	1-Methylnaphthalene	142	12.631	12.634	(1.307)	1352043	150.000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	610268	150.000	148.35
152	Amyl alcohol	42	6.899	6.899	(0.900)	451743	3000.00	3357.05
158	Dichlorofluoromethane	67	1.531	1.535	(0.366)	1052332	150.000	147.51
159	Propylene oxide	43	1.805	1.805	(0.432)	101677	300.000	231.04
161	3-Methyl-1-butanol	55	6.899	6.899	(0.900)	427718	3000.00	3002.99
162	Butyl acrylate	55	8.249	8.249	(1.076)	1639896	150.000	152.49
163	Butyl methacrylate	41	9.171	9.167	(0.949)	1058796	150.000	147.62
164	Dicyclopentadiene	66	9.684	9.681	(1.002)	3392615	150.000	142.24
182	Epichlorohydrin	57	6.093	6.093	(1.227)	252651	600.000	557.11
M 94	1,2-Dichloroethylene (total)	96				1428285	300.000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	1536179	150.000	152.28
130	Ethyl Acetate	43	3.653	3.657	(0.874)	677648	150.000	133.92
134	Cyclohexanone	55	8.642	8.642	(0.894)	717000	3000.00	3000.09
185	Isoprene	39	1.771	1.775	(0.424)	170486	150.000	126.20
188	Isopropyl acetate	43	4.672	4.676	(0.941)	1922342	150.000	146.82

187 n-Amyl acetate	43	8.451	8.451 (1.102)	1418221	150.000	146.63
189 n-Butyl acetate	43	7.210	7.210 (0.940)	1191202	150.000	153.99(H)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.663)	791040	3000.00	2988.03
194 Acetaldehyde	44	1.212	1.216	(0.290)	152553	600.000	590.61(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	1678861	150.000	157.86
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	1681271	150.000	156.96
202 Isobutylene	41	1.242	1.242	(0.297)	75658	150.000	159.41(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.544	(1.195)	1215186	150.000	151.37

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\x230615.b\X061510.D
Date : 15-JUN-2023 14:24
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

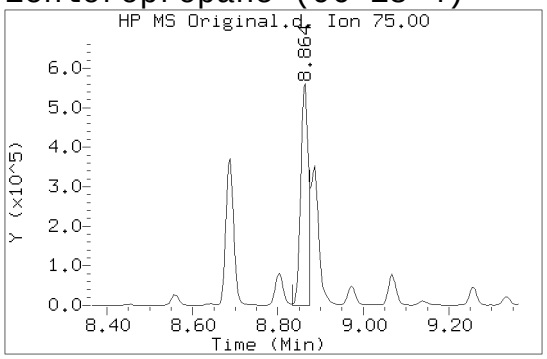
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061510.D
Inj Date : 15-JUN-2023 14:24
InstruID : voa6.i
LabSampID : VSTD150

1,2,3-Trichloropropane (96-18-4)

Reason Code:

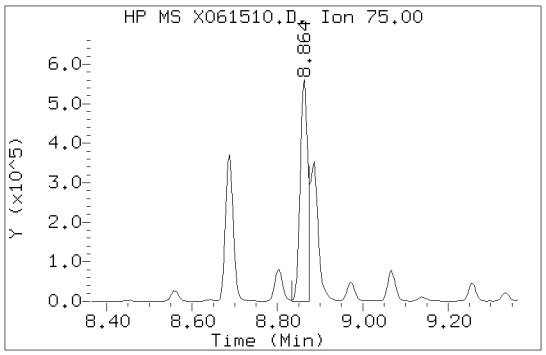
BEFORE

MASS
75
AREA
728412
HEIGHT
560200
20-Jun-2023
18:22
linh
pham



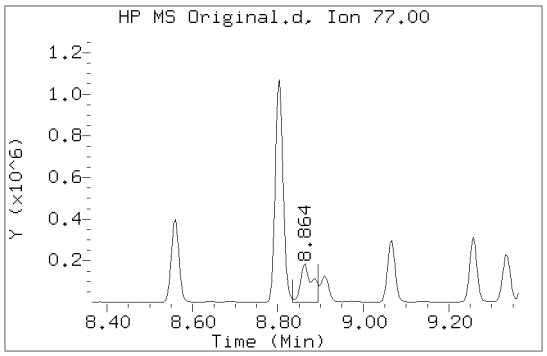
AFTER

MASS
75
AREA
728412
HEIGHT
560200
20-Jun-2023
18:22
linh
pham



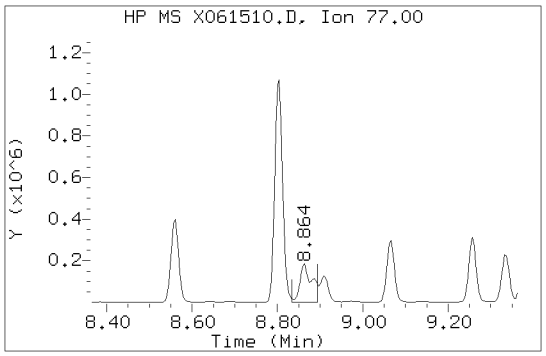
BEFORE

MASS
77
AREA
363366
HEIGHT
186123
20-Jun-2023
18:22
linh
pham



AFTER

MASS
77
AREA
363366
HEIGHT
186123
20-Jun-2023
18:22
linh
pham

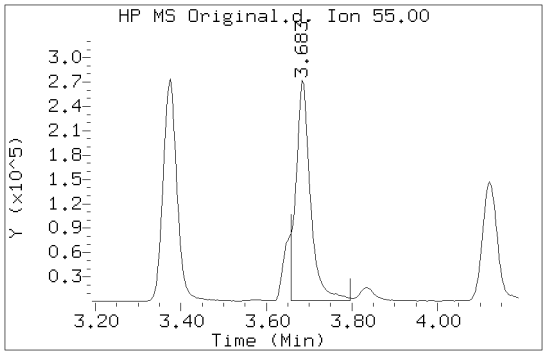


Methyl Acrylate (96-33-3)

Reason Code:

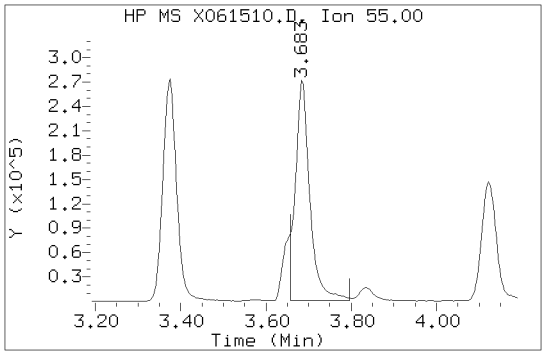
BEFORE

MASS
55
AREA
649317
HEIGHT
271597
20-Jun-2023
18:22
linh
pham



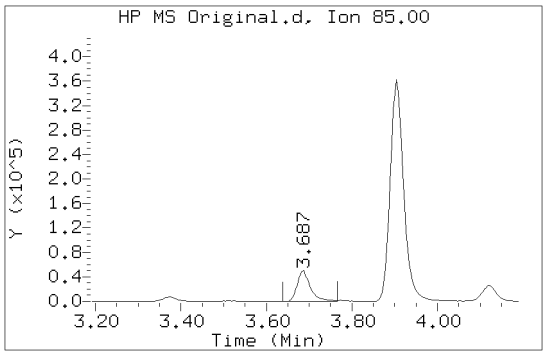
AFTER

MASS
55
AREA
649317
HEIGHT
271597
20-Jun-2023
18:22
linh
pham



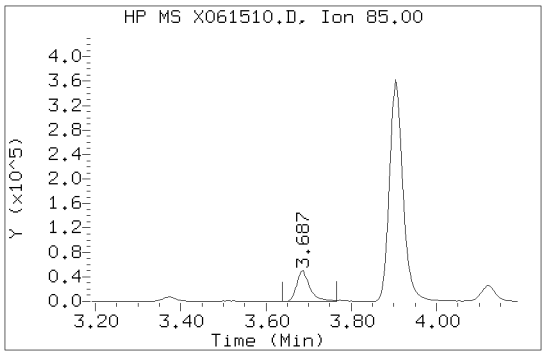
BEFORE

MASS
85
AREA
108499
HEIGHT
49824
20-Jun-2023
18:22
linh
pham



AFTER

MASS
85
AREA
108499
HEIGHT
49824
20-Jun-2023
18:22
linh
pham



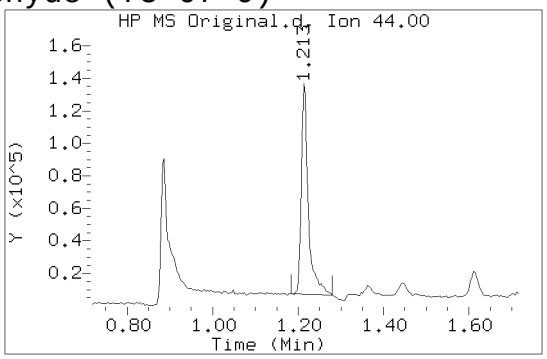
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061510.D
Inj Date : 15-JUN-2023 14:24
InstruID : voa6.i
LabSampID : VSTD150

Acetaldehyde (75-07-0)

Reason Code:

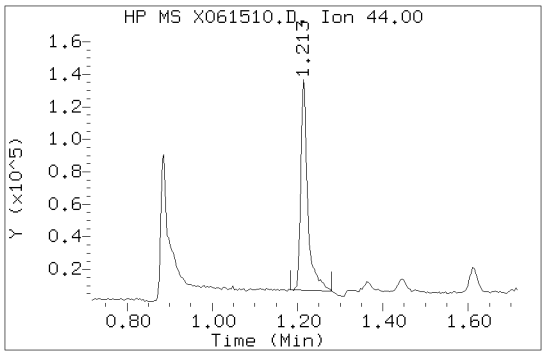
BEFORE

MASS
44
AREA
152553
HEIGHT
129505
20-Jun-2023
18:22
linh
pham



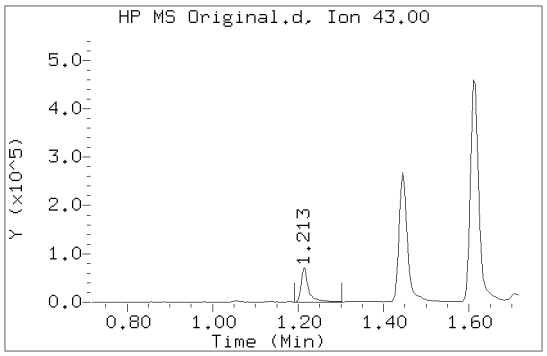
AFTER

MASS
44
AREA
152553
HEIGHT
129505
20-Jun-2023
18:22
linh
pham



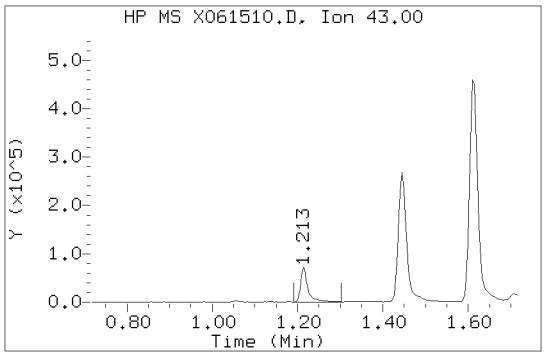
BEFORE

MASS
43
AREA
86005
HEIGHT
71195
20-Jun-2023
18:22
linh
pham



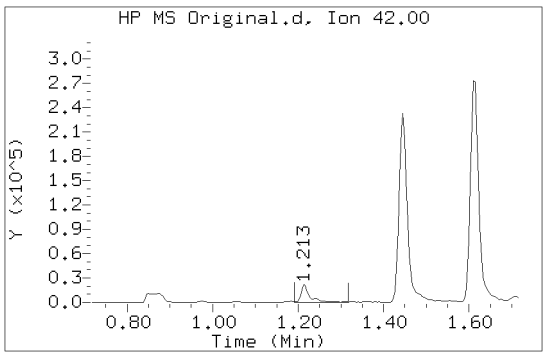
AFTER

MASS
43
AREA
86005
HEIGHT
71195
20-Jun-2023
18:22
linh
pham



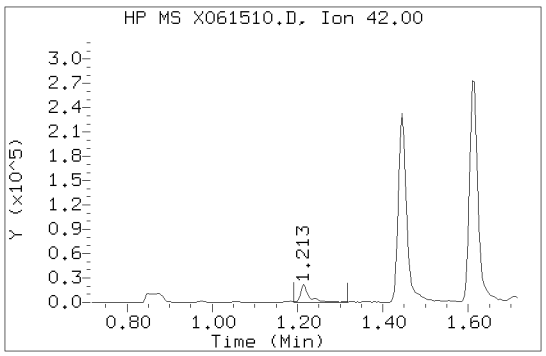
BEFORE

MASS
42
AREA
29553
HEIGHT
22236
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
29553
HEIGHT
22236
20-Jun-2023
18:22
linh
pham

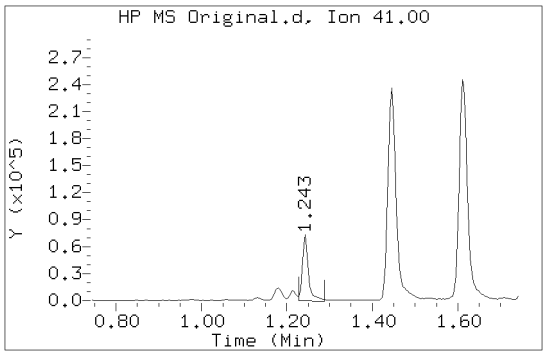


Isobutylene (115-11-7)

Reason Code:

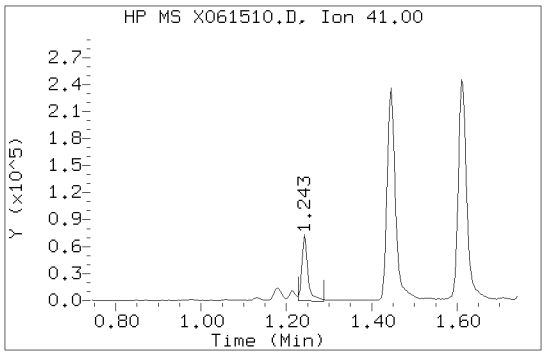
BEFORE

MASS
41
AREA
75658
HEIGHT
73761
20-Jun-2023
18:22
linh
pham



AFTER

MASS
41
AREA
75658
HEIGHT
73761
20-Jun-2023
18:22
linh
pham

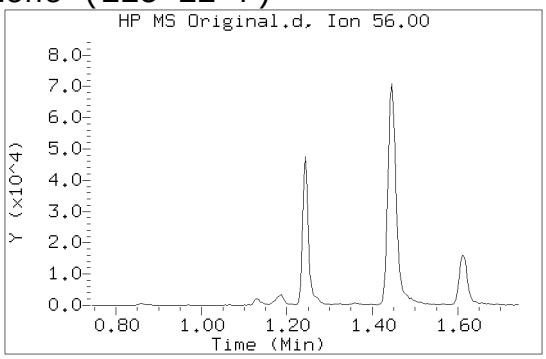


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061510.D
Inj Date : 15-JUN-2023 14:24
InstruID : voa6.i
LabSampID : VSTD150

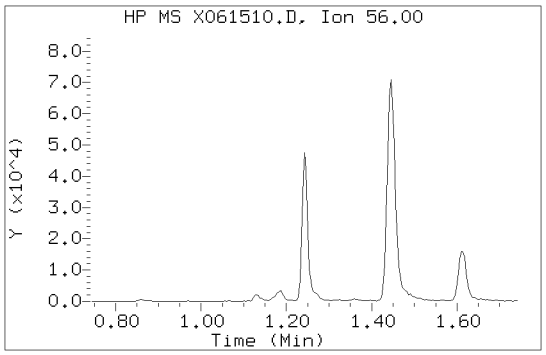
Isobutylene (115-11-7)

Reason Code:

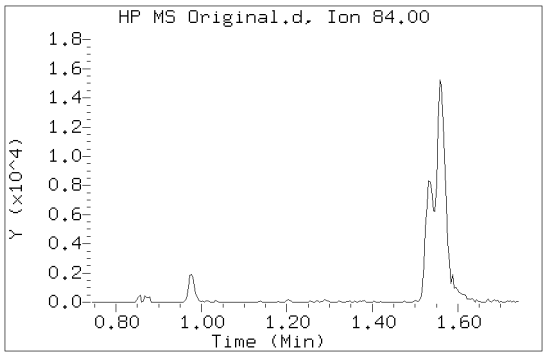
BEFORE
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



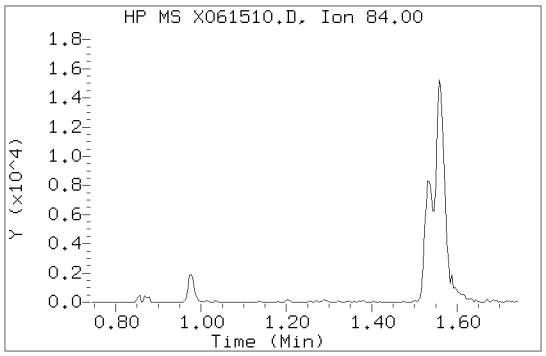
AFTER
MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



BEFORE
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER
MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061511.D Page 1
Report Date: 20-Jun-2023 18:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061511.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 15-JUN-2023 14:45
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 14:45 Cal File: X061511.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	500734	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	870731	200.000	200.92(A)
3	Chloromethane	50	1.081	1.081	(0.259)	1090387	200.000	202.79(A)
4	Propionitrile	54	3.653	3.653	(0.874)	1249104	2000.00	2062.65(A)
5	Vinyl Chloride	62	1.145	1.149	(0.274)	1008184	200.000	191.71
6	Bromomethane	94	1.336	1.344	(0.320)	562025	200.000	186.18
7	Chloroethane	64	1.404	1.407	(0.336)	596342	200.000	185.51
8	Trichlorofluoromethane	101	1.561	1.565	(0.373)	1219530	200.000	195.14
9	Acrolein	56	1.445	1.449	(0.346)	130253	400.000	419.20(A)
10	Acetone	43	1.973	1.973	(0.472)	532376	400.000	408.57(A)
11	1,1-Dichloroethene	96	1.913	1.917	(0.458)	735339	200.000	187.57
12	Isobutyl Alcohol	43	4.676	4.676	(1.118)	2609313	4000.00	3996.46
13	Acetonitrile	39	2.198	2.202	(0.526)	973976	2000.00	2005.38(A)
14	Allyl Chloride	41	2.198	2.202	(0.526)	2178817	200.000	198.41
15	Iodomethane	142	2.030	2.030	(0.485)	2762966	400.000	400.85(A)
16	Acrylonitrile	53	2.532	2.536	(0.606)	656730	400.000	413.18(A)
17	Methylene Chloride	84	2.303	2.307	(0.551)	965975	200.000	174.44
18	Methyl tert-butyl ether	73	2.536	2.536	(0.606)	2607425	200.000	190.56
19	Carbon Disulfide	76	2.071	2.071	(0.495)	5590697	400.000	400.51(A)
20	trans-1,2-Dichloroethene	96	2.528	2.532	(0.605)	884359	200.000	188.52
21	Vinyl Acetate	43	2.997	2.997	(0.717)	4777086	400.000	381.54

22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	1592034	200.000	188.39
23 Chloroprene	53	1.771	1.775 (0.424)	322483	200.000	193.76

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.574	3.578	(0.855)	739267	400.000	448.61(A)
25	Methacrylonitrile	41	3.818	3.821	(0.913)	813003	200.000	196.77(aH)
26	2,2-Dichloropropane	77	3.510	3.514	(0.840)	1330788	200.000	199.57
27	cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	1026334	200.000	189.72
28	Chloroform	83	3.904	3.904	(0.934)	1629503	200.000	179.15
29	Bromochloromethane	128	3.791	3.795	(0.907)	536706	200.000	186.18
$ 30	Dibromofluoromethane	113	4.095	4.099	(0.979)	880893	200.000	198.00
31	1,1,1-Trichloroethane	97	4.080	4.084	(0.976)	1429867	200.000	194.50
32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	1285848	200.000	197.36
33	1,2-Dichloroethane	62	4.552	4.556	(0.917)	1210936	200.000	185.49
34	Carbon Tetrachloride	117	4.264	4.264	(0.859)	1238094	200.000	197.60
$ 35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	943547	200.000	197.96
* 36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	777502	50.0000	
37	Benzene	78	4.511	4.511	(0.909)	3860956	200.000	193.05
38	Trichloroethene	130	5.205	5.205	(1.048)	1100510	200.000	199.57
39	Bromodichloromethane	83	5.722	5.722	(1.153)	1329286	200.000	187.89
40	Methyl Methacrylate	41	5.602	5.606	(1.340)	793003	200.000	204.57(A)
41	2-Chloroethylvinyl ether	63	6.044	6.048	(1.217)	772540	400.000	403.55(A)
42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	1005868	200.000	191.61
43	2-Nitropropane	43	5.966	5.966	(1.427)	275555	200.000	204.17(AH)
44	Dibromomethane	93	5.550	5.550	(1.118)	616840	200.000	187.18
45	4-Methyl-2-Pentanone	43	6.326	6.322	(0.825)	1860837	400.000	388.95
46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	1727929	200.000	198.09
* 47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	740608	50.0000	
$ 48	Toluene-d8	98	6.386	6.386	(0.833)	3423635	200.000	182.84
49	Ethyl Methacrylate	69	6.715	6.708	(1.353)	1105405	200.000	198.35
50	Toluene	91	6.446	6.445	(0.841)	4158414	200.000	191.25
51	trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	1476151	200.000	202.26(A)
52	2-Hexanone	43	7.087	7.083	(0.924)	1310331	400.000	410.03(A)
53	1,1,2-Trichloroethane	83	6.839	6.835	(0.892)	783101	200.000	184.87
54	1,3-Dichloropropane	76	6.982	6.978	(0.911)	1618260	200.000	188.94
55	Dibromochloromethane	129	7.173	7.173	(0.935)	1177842	200.000	196.20
56	Tetrachloroethene	164	6.925	6.925	(0.903)	893575	200.000	199.85
57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	1022111	200.000	188.78
58	1-Chlorohexane	55	7.694	7.694	(1.550)	936346	200.000	198.03
59	Chlorobenzene	112	7.694	7.690	(1.003)	2846238	200.000	191.31
60	1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	1086600	200.000	195.87
61	Ethylbenzene	106	7.799	7.799	(1.017)	1500758	200.000	195.79
62	m,p-Xylenes	106	7.904	7.900	(1.031)	3779135	400.000	399.80
63	o-Xylene	106	8.241	8.237	(1.075)	1840180	200.000	195.10
64	Styrene	104	8.256	8.256	(1.077)	3122657	200.000	200.99(A)
66	Bromoform	173	8.406	8.410	(1.096)	854791	200.000	204.24(A)
67	Isopropylbenzene	105	8.560	8.560	(1.116)	4678011	200.000	200.65(A)
68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	1363444	200.000	178.47
$ 69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	1427380	200.000	198.99
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.658	(1.000)	434451	50.0000	
71	1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	991732	200.000	181.04
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	376547	200.000	208.89(A)
73	n-Propylbenzene	91	8.912	8.908	(0.922)	5621706	200.000	196.63
74	Bromobenzene	156	8.803	8.803	(0.911)	1365635	200.000	192.85
75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	4092223	200.000	195.07
76	2-Chlorotoluene	91	8.972	8.972	(0.929)	3338118	200.000	183.86

77	4-Chlorotoluene	91	9.070	9.070 (0.939)	3900026	200.000	192.58
78	tert-Butylbenzene	119	9.336	9.336 (0.966)	3451610	200.000	197.49

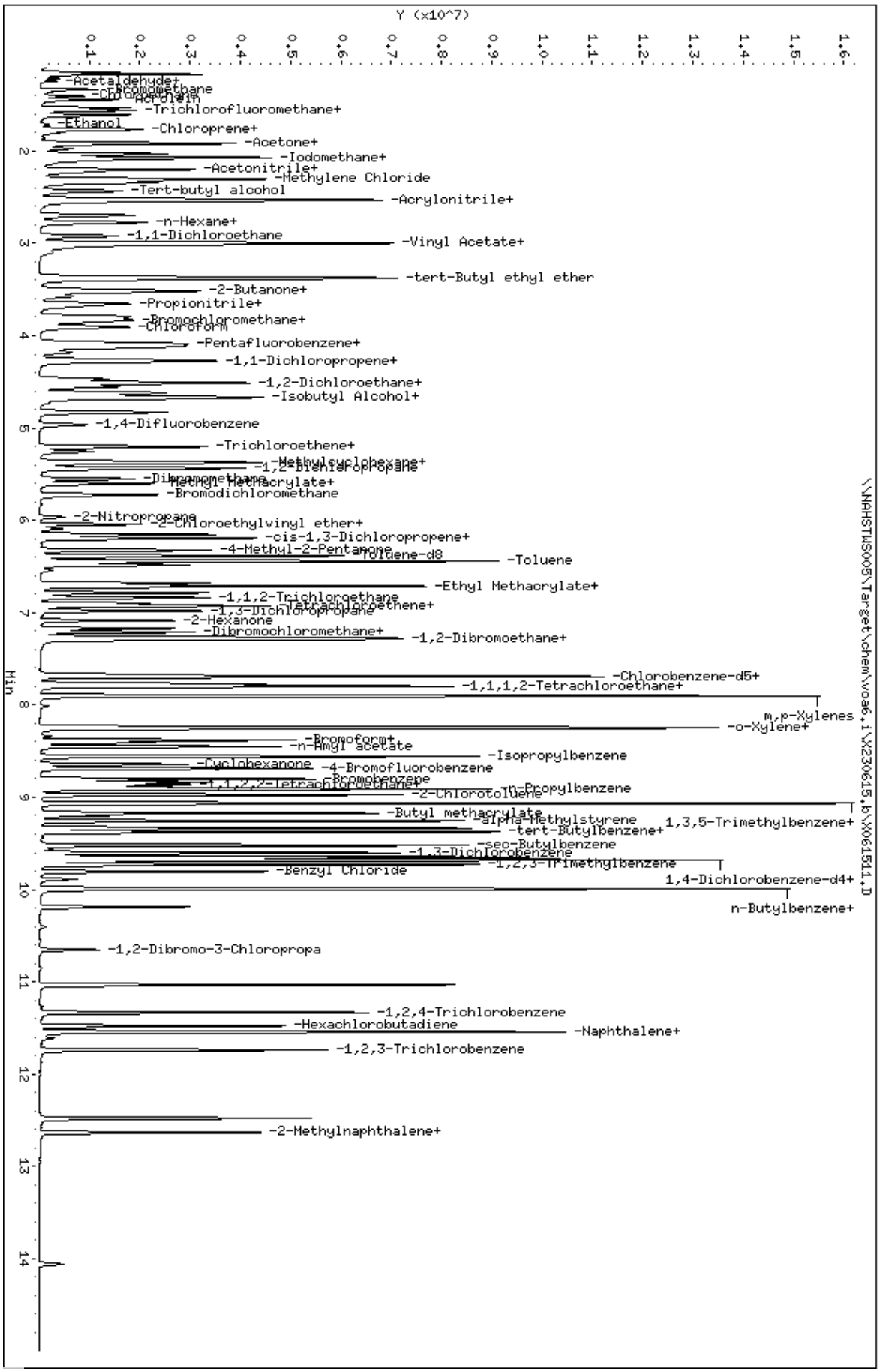
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	4101830	200.000	193.80
81	sec-Butylbenzene	105	9.519	9.519	(0.985)	4934096	200.000	200.17(A)
82	p-Isopropyltoluene	119	9.651	9.647	(0.999)	4354959	200.000	201.80(A)
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	2489876	200.000	197.48
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	2548117	200.000	188.81
86	Benzyl Chloride	91	9.804	9.808	(1.279)	2673170	200.000	218.52(A)
87	n-Butylbenzene	91	9.992	9.992	(1.034)	3887765	200.000	211.52(A)
88	1,2-Dichlorobenzene	146	9.988	9.992	(1.034)	2411595	200.000	192.77
89	1,2-Dibromo-3-Chloropropane	155	10.651	10.655	(1.102)	252682	200.000	201.87(A)
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	1825345	200.000	209.75(A)
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	844451	200.000	216.17(A)
92	Naphthalene	128	11.540	11.540	(1.194)	3981585	200.000	203.23(A)
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	1629136	200.000	203.44(A)
146	Methyl acetate	43	2.228	2.232	(0.533)	591833	200.000	199.68
138	Freon TF	101	1.917	1.917	(0.459)	742502	200.000	198.98
141	Cyclohexane	56	4.121	4.121	(0.986)	1339211	200.000	209.80(A)
142	Tetrahydrofuran	42	3.840	3.844	(0.918)	288575	400.000	395.43
147	Methylcyclohexane	55	5.377	5.381	(1.083)	2344010	200.000	215.71(A)
135	1,4-Dioxane	88	5.598	5.598	(1.339)	251392	4000.00	4142.70(A)
132	n-Butanol	56	5.253	5.253	(1.256)	566916	4000.00	4116.53(A)
131	Methyl Acrylate	55	3.683	3.690	(0.881)	844222	200.000	208.16(AM)
133	Ethyl Acrylate	55	5.377	5.381	(1.286)	2344010	200.000	200.29(A)
136	n-Hexane	57	2.772	2.776	(0.663)	1078975	200.000	185.23
139	Diethyl ether	59	1.760	1.760	(0.421)	599110	200.000	190.97
148	Tert-butyl alcohol	59	2.434	2.431	(0.582)	1985652	4000.00	3861.64
149	Isopropyl alcohol	45	2.101	2.093	(0.502)	1121361	4000.00	3950.87
156	Diisopropyl ether	45	3.001	3.000	(0.718)	2810226	200.000	190.29
160	2-Methylnaphthalene	142	12.635	12.634	(1.308)	1856948	200.000	216.55(A)
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	4027136	200.000	195.00
167	Ethanol	45	1.711	1.707	(0.409)	164628	4000.00	3439.79
172	tert-Butyl formate	59	4.620	4.612	(1.105)	1716317	400.000	416.20(A)
173	3,3-Dimethyl-1-butanol	57	7.289	7.285	(0.951)	2284760	4000.00	3771.87
174	tert-Amyl methyl ether	73	4.665	4.665	(1.116)	3031355	200.000	188.73
175	tert-Butyl ethyl ether	59	3.375	3.379	(0.807)	2921006	200.000	191.10
176	tert-Amyl alcohol	59	4.620	4.612	(1.105)	1716317	4000.00	4080.59(A)
151	4-Methyl-2-pentanol	45	6.715	6.708	(1.353)	4769923	4000.00	3857.96
180	1-Methylnaphthalene	142	12.635	12.634	(1.308)	1856948	200.000	(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	817942	200.000	197.11
152	Amyl alcohol	42	6.899	6.899	(0.900)	628432	4000.00	4554.22(A)
158	Dichlorofluoromethane	67	1.531	1.535	(0.366)	1380643	200.000	191.85
159	Propylene oxide	43	1.805	1.805	(0.432)	129706	400.000	292.17
161	3-Methyl-1-butanol	55	6.899	6.899	(0.900)	594725	4000.00	4059.34(A)
162	Butyl acrylate	55	8.249	8.249	(1.076)	2199388	200.000	199.27
163	Butyl methacrylate	41	9.171	9.167	(0.949)	1360235	200.000	186.15
164	Dicyclopentadiene	66	9.684	9.681	(1.002)	4448649	200.000	183.07
182	Epichlorohydrin	57	6.093	6.093	(1.227)	344824	800.000	741.43
M 94	1,2-Dichloroethylene (total)	96				1910693	400.000	(a)
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	2087733	200.000	203.13(A)
130	Ethyl Acetate	43	3.653	3.657	(0.874)	911790	200.000	178.63
134	Cyclohexanone	55	8.642	8.642	(0.894)	970775	4000.00	3991.19
185	Isoprene	39	1.771	1.775	(0.424)	228794	200.000	167.89
188	Isopropyl acetate	43	4.676	4.676	(0.942)	2610700	200.000	194.43

187 n-Amyl acetate	43	8.451	8.451 (1.102)	1947829	200.000	196.39
189 n-Butyl acetate	43	7.210	7.210 (0.940)	1653381	200.000	208.44(AH)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
150 Allyl alcohol	57	2.772	2.772	(0.663)	1078975	4000.00	3702.64
194 Acetaldehyde	44	1.212	1.216	(0.290)	210164	800.000	807.82(AM)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	2319422	200.000	212.69
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	2229099	200.000	202.95(A)
202 Isobutylene	41	1.242	1.242	(0.297)	87901	200.000	183.59(M)
205 2-Ethylhexyl Acrylate	55	11.547	11.544	(1.195)	1627894	200.000	198.64

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061511.D
Date : 15-JUN-2023 14:45
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

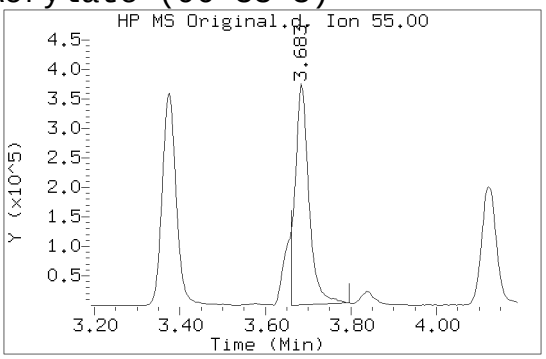
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061511.D
Inj Date : 15-JUN-2023 14:45
InstruID : voa6.i
LabSampID : VSTD200

Methyl Acrylate (96-33-3)

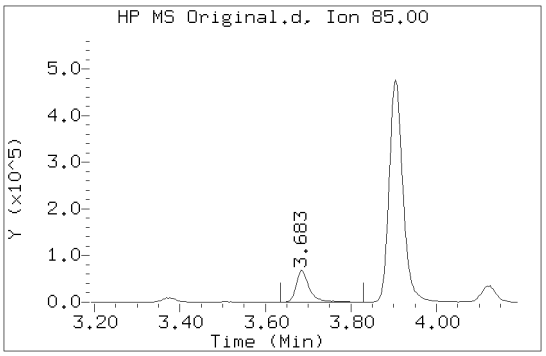
BEFORE

MASS
55
AREA
844222
HEIGHT
374659
20-Jun-2023
18:22
linh
pham



BEFORE

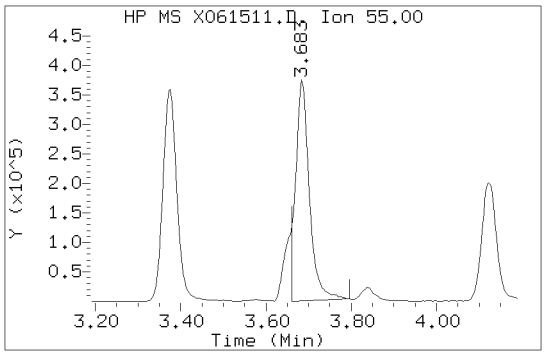
MASS
85
AREA
148250
HEIGHT
69392
20-Jun-2023
18:22
linh
pham



Reason Code:

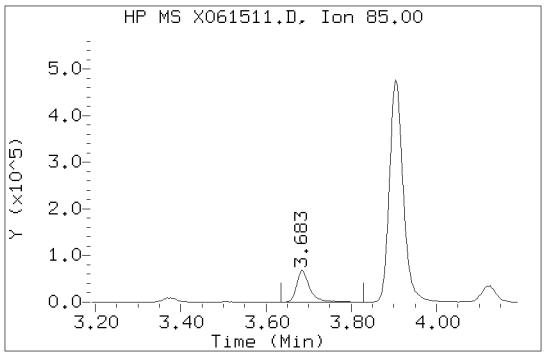
AFTER

MASS
55
AREA
844222
HEIGHT
374659
20-Jun-2023
18:24
linh
pham



AFTER

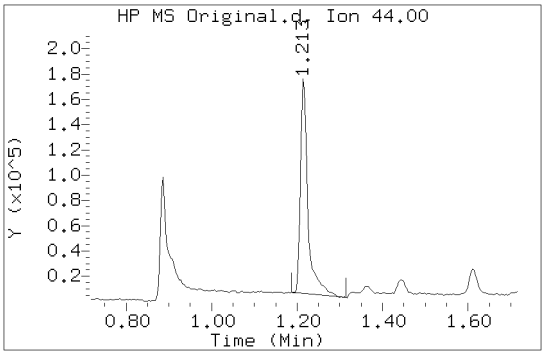
MASS
85
AREA
148250
HEIGHT
69392
20-Jun-2023
18:24
linh
pham



Acetaldehyde (75-07-0)

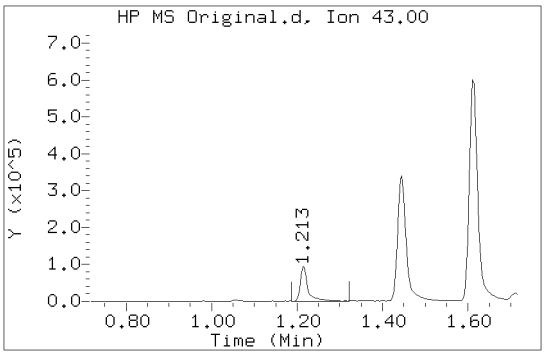
BEFORE

MASS
44
AREA
210164
HEIGHT
169581
20-Jun-2023
18:22
linh
pham



BEFORE

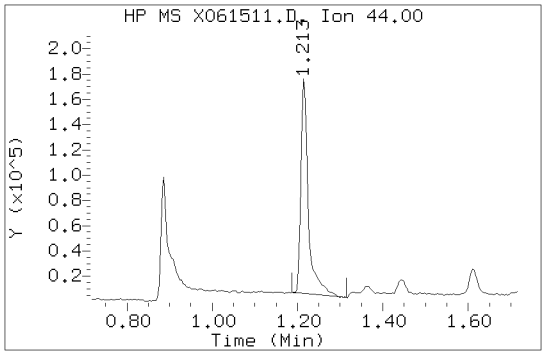
MASS
43
AREA
114148
HEIGHT
92538
20-Jun-2023
18:22
linh
pham



Reason Code:

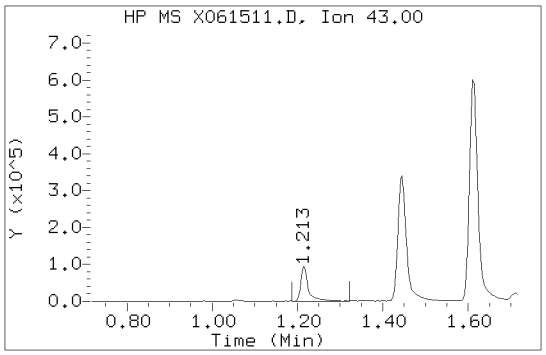
AFTER

MASS
44
AREA
210164
HEIGHT
169581
20-Jun-2023
18:24
linh
pham



AFTER

MASS
43
AREA
114148
HEIGHT
92538
20-Jun-2023
18:24
linh
pham



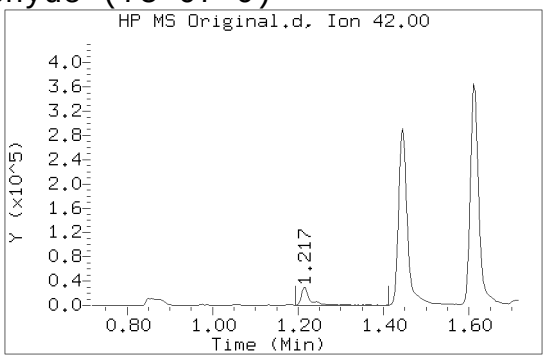
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061511.D
Inj Date : 15-JUN-2023 14:45
InstruID : voa6.i
LabSampID : VSTD200

Acetaldehyde (75-07-0)

Reason Code:

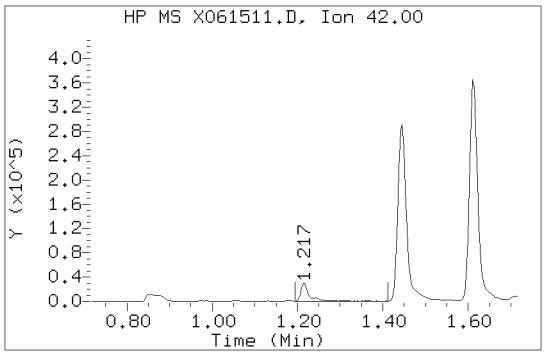
BEFORE

MASS
42
AREA
40554
HEIGHT
29817
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
40554
HEIGHT
29817
20-Jun-2023
18:24
linh
pham

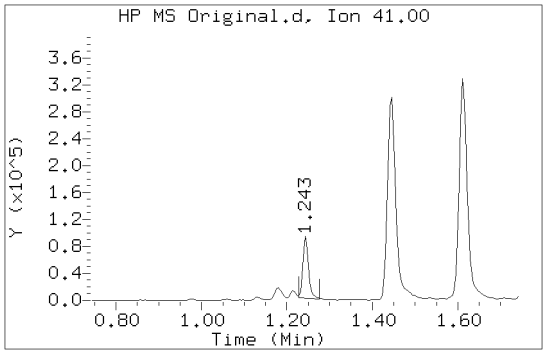


Isobutylene (115-11-7)

Reason Code:

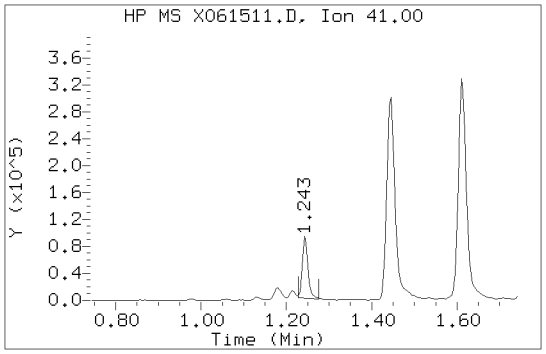
BEFORE

MASS
41
AREA
87901
HEIGHT
91886
20-Jun-2023
18:22
linh
pham



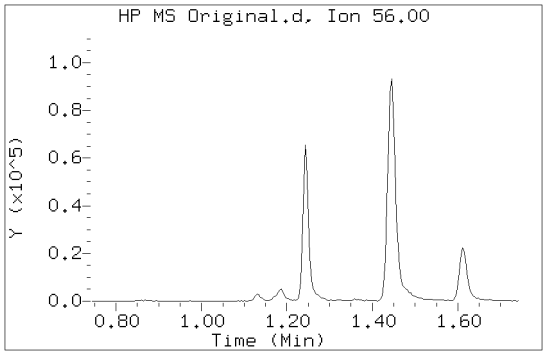
AFTER

MASS
41
AREA
87901
HEIGHT
91886
20-Jun-2023
18:24
linh
pham



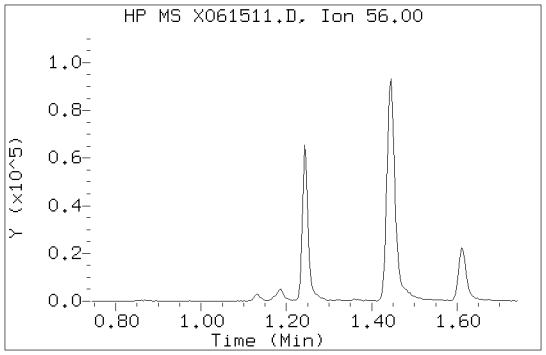
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



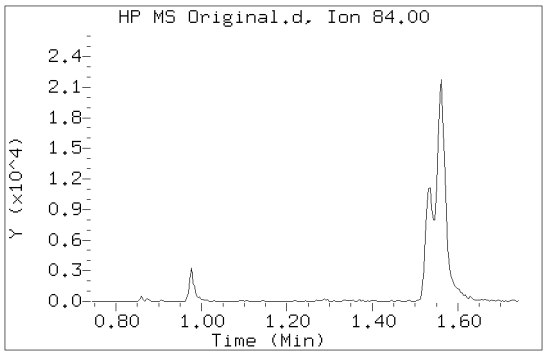
AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:24
linh
pham



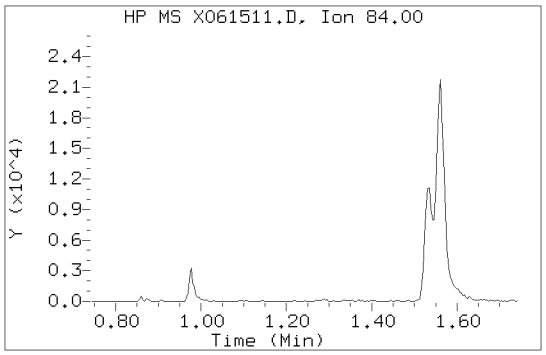
BEFORE

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:24
linh
pham



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061514.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 15-JUN-2023 15:47
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : V6;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\8260W.m
Meth Date : 20-Jun-2023 18:24 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 14:45 Cal File: X061511.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 00000_8260.sub
Target Version: 4.14

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.181	(1.000)	509722	50.0000	
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	214534	48.8826	48.88
3	Chloromethane	50	1.081	1.081	(0.259)	258398	47.9982	47.99
4	Propionitrile	54	3.649	3.653	(0.873)	307140	498.240	498.23
5	Vinyl Chloride	62	1.149	1.149	(0.275)	245673	45.8930	45.89
6	Bromomethane	94	1.344	1.344	(0.321)	144213	46.9322	46.93
7	Chloroethane	64	1.407	1.407	(0.337)	150976	46.1389	46.13
8	Trichlorofluoromethane	101	1.565	1.565	(0.374)	294811	46.3438	46.34
9	Acrolein	56	1.449	1.449	(0.347)	32873	103.933	103.93
10	Acetone	43	1.973	1.973	(0.472)	116365	87.5170	87.51
11	1,1-Dichloroethene	96	1.917	1.917	(0.459)	176439	44.2134	44.21
12	Isobutyl Alcohol	43	4.676	4.676	(1.118)	651365	980.049	980.04
13	Acetonitrile	39	2.202	2.202	(0.527)	244238	494.012	494.01
14	Allyl Chloride	41	2.202	2.202	(0.527)	549138	49.1255	49.12
15	Iodomethane	142	2.030	2.030	(0.485)	608491	92.1912	92.19
16	Acrylonitrile	53	2.536	2.536	(0.606)	152210	94.0753	94.07
17	Methylene Chloride	84	2.307	2.307	(0.552)	246468	43.7245	43.72
18	Methyl tert-butyl ether	73	2.536	2.536	(0.606)	659861	47.3759	47.37
19	Carbon Disulfide	76	2.071	2.071	(0.495)	1287120	90.5820	90.58
20	trans-1,2-Dichloroethene	96	2.532	2.532	(0.606)	215985	45.2311	45.23
21	Vinyl Acetate	43	2.997	2.997	(0.717)	1325257	103.982	103.98

22 1,1-Dichloroethane	63	2.922	2.922 (0.699)	397167	46.1701	46.17
23 Chloroprene	53	1.775	1.775 (0.424)	75864	44.7792	44.77(M)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061514.D Page 2
Report Date: 20-Jun-2023 18:32

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	24	2-Butanone	43	3.578	3.578	(0.856)	171772	102.399	102.39
	25	Methacrylonitrile	41	3.821	3.821	(0.914)	205167	48.7822	48.78(a)
	26	2,2-Dichloropropane	77	3.507	3.514	(0.839)	334289	49.2448	49.24
	27	cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	255198	46.3440	46.34
	28	Chloroform	83	3.904	3.904	(0.934)	410273	44.3120	44.31
	29	Bromochloromethane	128	3.791	3.795	(0.907)	131825	44.9251	44.92
$	30	Dibromofluoromethane	113	4.095	4.099	(0.979)	231563	50.8743	50.87
	31	1,1,1-Trichloroethane	97	4.084	4.084	(0.977)	336318	44.9425	44.94
	32	1,1-Dichloropropene	75	4.279	4.279	(0.862)	300244	46.8218	46.82
	33	1,2-Dichloroethane	62	4.556	4.556	(0.918)	315493	49.1002	49.10
	34	Carbon Tetrachloride	117	4.264	4.264	(0.859)	284726	46.1687	46.16
$	35	1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	245968	50.0578	50.05
*	36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	765274	50.0000	
	37	Benzene	78	4.511	4.511	(0.909)	926258	47.0543	47.05
	38	Trichloroethene	130	5.205	5.205	(1.048)	253674	46.7386	46.73
	39	Bromodichloromethane	83	5.726	5.722	(1.153)	323221	46.4181	46.41
	40	Methyl Methacrylate	41	5.606	5.606	(1.341)	195129	49.4504	49.45
	41	2-Chloroethylvinyl ether	63	6.044	6.048	(1.217)	193194	102.531	102.53
	42	1,2-Dichloropropane	63	5.433	5.437	(1.094)	250346	48.4517	48.45
	43	2-Nitropropane	43	5.966	5.966	(1.427)	66738	48.5782	48.57
	44	Dibromomethane	93	5.550	5.550	(1.118)	156421	48.2255	48.22
	45	4-Methyl-2-Pentanone	43	6.322	6.322	(0.824)	454515	97.9815	97.98
	46	cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	423471	49.3235	49.32
*	47	Chlorobenzene-d5	117	7.668	7.668	(1.000)	718105	50.0000	
$	48	Toluene-d8	98	6.385	6.386	(0.833)	882596	48.6137	48.61
	49	Ethyl Methacrylate	69	6.708	6.708	(1.351)	233775	42.6194	42.61
	50	Toluene	91	6.445	6.445	(0.841)	998880	47.3815	47.38
	51	trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	356578	49.6394	49.63
	52	2-Hexanone	43	7.083	7.083	(0.924)	305522	98.6011	98.60
	53	1,1,2-Trichloroethane	83	6.835	6.835	(0.891)	193376	47.0835	47.08
	54	1,3-Dichloropropane	76	6.978	6.978	(0.910)	402435	48.4613	48.46
	55	Dibromochloromethane	129	7.173	7.173	(0.935)	279460	48.0113	48.01
	56	Tetrachloroethene	164	6.925	6.925	(0.903)	197937	45.6581	45.65
	57	1,2-Dibromoethane	107	7.259	7.259	(0.947)	249128	47.4564	47.45
	58	1-Chlorohexane	55	7.694	7.694	(1.550)	211982	45.5501	45.55
	59	Chlorobenzene	112	7.690	7.690	(1.003)	674130	46.7334	46.73
	60	1,1,1,2-Tetrachloroethane	131	7.772	7.773	(1.014)	252112	46.8710	46.87
	61	Ethylbenzene	106	7.799	7.799	(1.017)	340331	45.7927	45.79
	62	m,p-Xylenes	106	7.900	7.900	(1.030)	872232	95.1686	95.16
	63	o-Xylene	106	8.241	8.237	(1.075)	422526	46.2011	46.20
	64	Styrene	104	8.256	8.256	(1.077)	731241	48.5426	48.54
	66	Bromoform	173	8.406	8.410	(1.096)	195942	48.2868	48.28
	67	Isopropylbenzene	105	8.560	8.560	(1.116)	1032573	45.6790	45.67
	68	1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	329570	46.2456	46.24
$	69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	354160	50.5205	50.52
*	70	1,4-Dichlorobenzene-d4	152	9.658	9.658	(1.000)	405289	50.0000	
	71	1,2,3-Trichloropropane	75	8.863	8.863	(0.918)	240888	47.1386	47.13
	72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	89627	51.2789	51.27
	73	n-Propylbenzene	91	8.908	8.908	(0.922)	1239999	46.4940	46.49
	74	Bromobenzene	156	8.803	8.803	(0.912)	315772	47.8031	47.80
	75	1,3,5-Trimethylbenzene	105	9.066	9.066	(0.939)	902621	46.1233	46.12
	76	2-Chlorotoluene	91	8.972	8.972	(0.929)	765561	45.2024	45.20

77	4-Chlorotoluene	91	9.070	9.070 (0.939)	883443	46.7644	46.76
78	tert-Butylbenzene	119	9.332	9.336 (0.966)	736998	45.2039	45.20

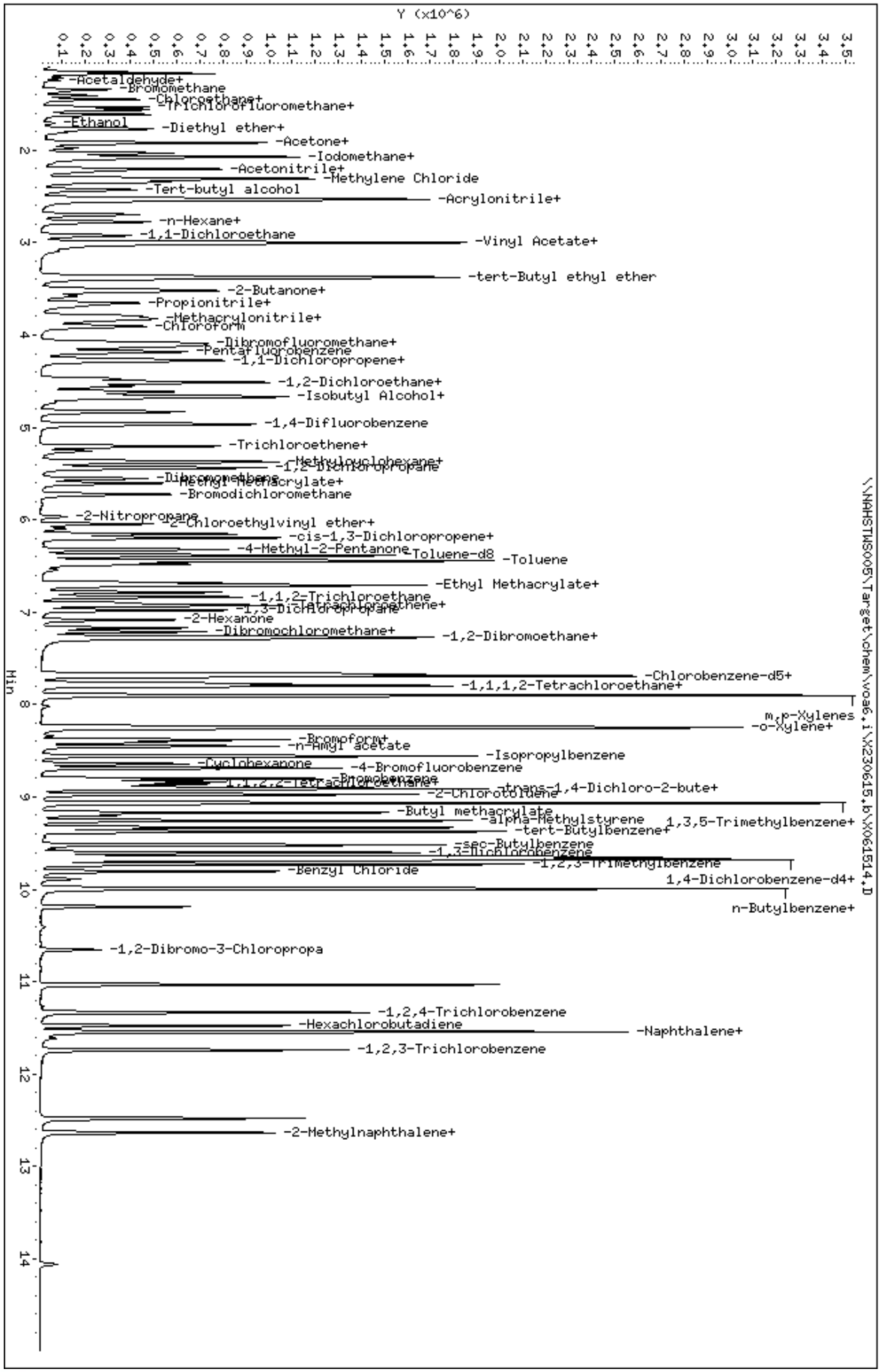
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	
79	1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	912898	46.2361	46.23	
81	sec-Butylbenzene	105	9.519	9.519	(0.986)	1040841	45.2652	45.26	
82	p-Isopropyltoluene	119	9.647	9.647	(0.999)	938869	46.6363	46.63	
83	1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	556559	47.3190	47.31	
84	1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	583574	46.3543	46.35	
86	Benzyl Chloride	91	9.804	9.808	(1.279)	626201	52.7942	52.79	
87	n-Butylbenzene	91	9.992	9.992	(1.035)	835815	48.7460	48.74	
88	1,2-Dichlorobenzene	146	9.992	9.992	(1.035)	552785	47.3667	47.36	
89	1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	58604	50.3869	50.38	
90	1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	410761	50.5971	50.59	
91	Hexachlorobutadiene	225	11.476	11.476	(1.188)	181092	49.6950	49.69	
92	Naphthalene	128	11.540	11.540	(1.195)	958210	52.4312	52.43	
93	1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	379747	50.8353	50.83	
146	Methyl acetate	43	2.232	2.232	(0.534)	146905	48.6925	48.69	
138	Freon TF	101	1.917	1.917	(0.459)	176578	49.7965	49.79	
141	Cyclohexane	56	4.121	4.121	(0.986)	304147	46.8095	46.80	
142	Tetrahydrofuran	42	3.844	3.844	(0.919)	72193	97.1828	97.18	
147	Methylcyclohexane	55	5.381	5.381	(1.084)	572402	53.5176	53.51	
135	1,4-Dioxane	88	5.598	5.598	(1.339)	60399	977.769	977.76	
132	n-Butanol	56	5.253	5.253	(1.256)	115761	877.798	877.79	
131	Methyl Acrylate	55	3.690	3.690	(0.883)	218984	53.0445	53.04	
133	Ethyl Acrylate	55	5.381	5.381	(1.287)	572402	49.8469	49.84	
136	n-Hexane	57	2.772	2.776	(0.663)	235619	50.4611	50.46	
139	Diethyl ether	59	1.760	1.760	(0.421)	149426	46.7925	46.79	
148	Tert-butyl alcohol	59	2.427	2.431	(0.580)	475653	908.726	908.72	
149	Isopropyl alcohol	45	2.093	2.093	(0.501)	262728	909.344	909.34	
156	Diisopropyl ether	45	3.000	3.000	(0.718)	720807	47.9480	47.94	
160	2-Methylnaphthalene	142	12.634	12.634	(1.308)	412966	51.6255	51.62	
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	962880	49.9814	49.98	
167	Ethanol	45	1.707	1.707	(0.408)	42882	880.193	880.19	
172	tert-Butyl formate	59	4.612	4.612	(1.103)	377999	90.0470	90.04	
173	3,3-Dimethyl-1-butanol	57	7.285	7.285	(0.950)	491431	836.719	836.71	
174	tert-Amyl methyl ether	73	4.665	4.665	(1.116)	767180	46.9237	46.92	
175	tert-Butyl ethyl ether	59	3.379	3.379	(0.808)	732420	47.0732	47.07	
176	tert-Amyl alcohol	59	4.612	4.612	(1.103)	377999	882.856	882.85	
151	4-Methyl-2-pentanol	45	6.708	6.708	(1.351)	1019666	837.894	837.89	
180	1-Methylnaphthalene	142	12.634	12.634	(1.308)	412966			(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	197461	46.7466	46.74	
152	Amyl alcohol	42	6.899	6.899	(0.900)	134777	1007.33	1007.33	
158	Dichlorofluoromethane	67	1.535	1.535	(0.367)	346552	47.3072	47.30	
159	Propylene oxide	43	1.805	1.805	(0.432)	34962	77.3664	77.36	
161	3-Methyl-1-butanol	55	6.899	6.899	(0.900)	128525	932.271	932.27	
162	Butyl acrylate	55	8.249	8.249	(1.076)	517977	48.8182	48.81	
163	Butyl methacrylate	41	9.167	9.167	(0.949)	356803	52.3425	52.34	
164	Dicyclopentadiene	66	9.681	9.681	(1.002)	1084753	47.8537	47.85	
182	Epichlorohydrin	57	6.093	6.093	(1.227)	86073	188.030	188.03	
M 94	1,2-Dichloroethylene (total)	96				471183	91.5752	91.57	
M 95	Xylenes (total)	106				1294758	141.370	141.36	
145	alpha-Methylstyrene	118	9.257	9.257	(0.958)	464373	48.4344	48.43	
130	Ethyl Acetate	43	3.653	3.657	(0.874)	232567	44.7604	44.76	
134	Cyclohexanone	55	8.642	8.642	(0.895)	220343	961.261	961.26	
185	Isoprene	39	1.775	1.775	(0.424)	56227	40.5342	40.53	

188 Isopropyl acetate	43	4.676	4.676 (0.942)	654077	49.4906	49.49
187 n-Amyl acetate	43	8.451	8.451 (1.102)	451123	46.9115	46.91

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
189 n-Butyl acetate	43	7.210	7.210	(0.940)	389990	50.7070	50.70
150 Allyl alcohol	57	2.772	2.772	(0.663)	235619	1009.19	1009.18
194 Acetaldehyde	44	1.216	1.216	(0.291)	49504	184.279	184.27(M)
195 Methyl Amyl Ketone	43	8.380	8.380	(1.093)	514505	48.6589	48.65
200 Dimethyl Disulfide	94	6.194	6.194	(0.808)	538113	50.5285	50.52
202 Isobutylene	41	1.242	1.242	(0.297)	21692	44.5092	44.50(M)
205 2-Ethylhexyl Acrylate	55	11.544	11.544	(1.195)	388849	51.8072	51.80

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\X230615,b\X061514.D
Date : 15-JUN-2023 15:47
Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

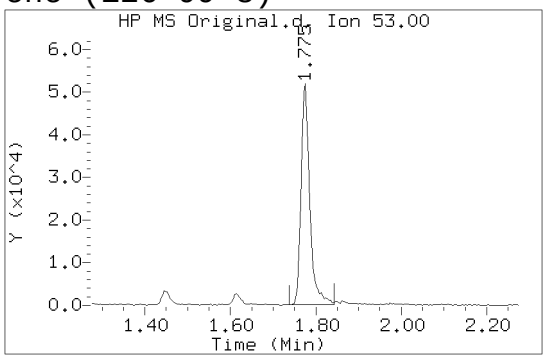
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061514.D
Inj Date : 15-JUN-2023 15:47
InstruID : voa6.i
LabSampID : ICV

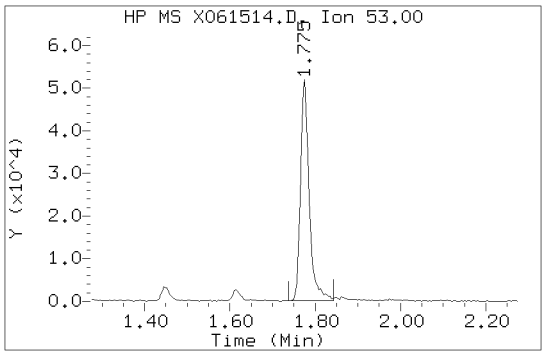
Chloroprene (126-99-8)

Reason Code:

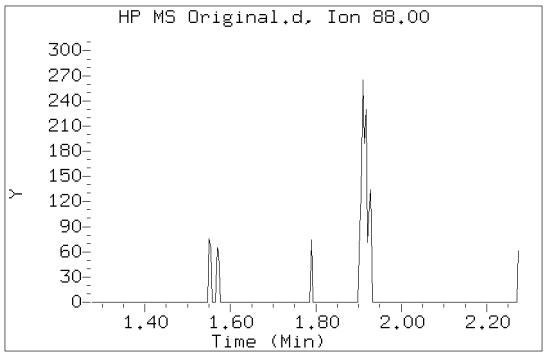
BEFORE
MASS
53
AREA
75864
HEIGHT
51890
20-Jun-2023
18:22
linh
pham



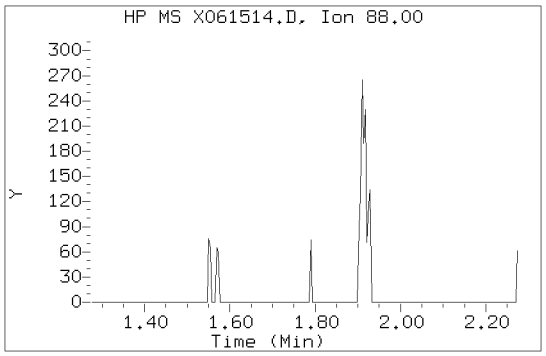
AFTER
MASS
53
AREA
75864
HEIGHT
51890
20-Jun-2023
18:25
linh
pham



BEFORE
MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



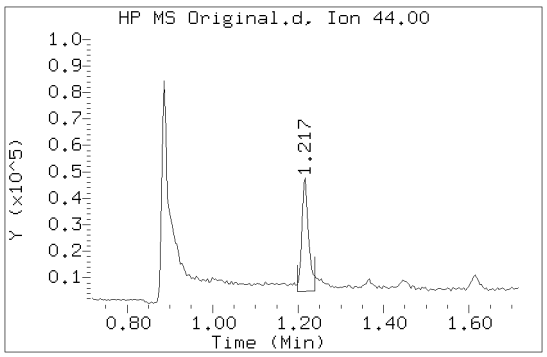
AFTER
MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
18:25
linh
pham



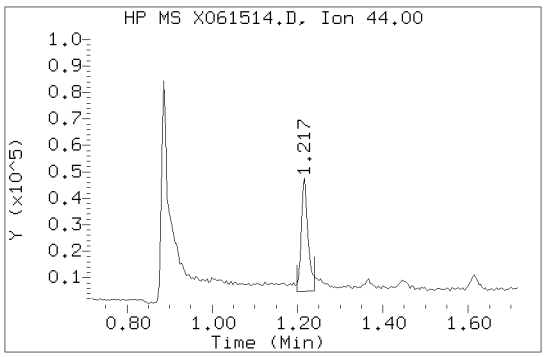
Acetaldehyde (75-07-0)

Reason Code:

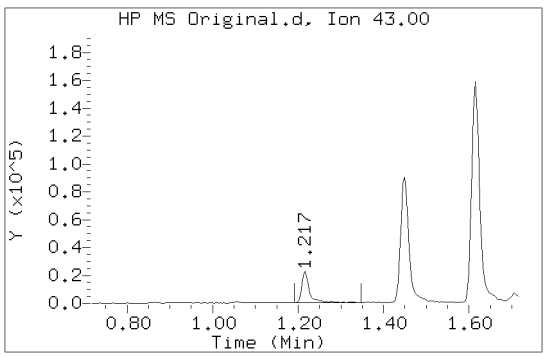
BEFORE
MASS
44
AREA
49504
HEIGHT
42879
20-Jun-2023
18:22
linh
pham



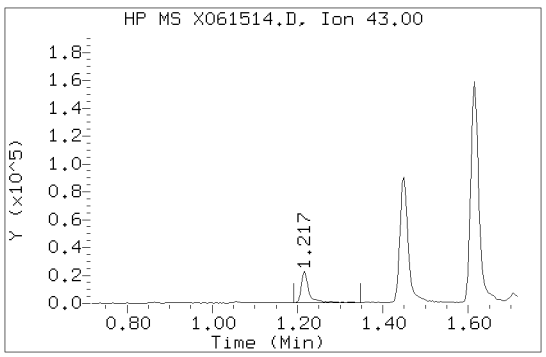
AFTER
MASS
44
AREA
49504
HEIGHT
42879
20-Jun-2023
18:25
linh
pham



BEFORE
MASS
43
AREA
28030
HEIGHT
22339
20-Jun-2023
18:22
linh
pham



AFTER
MASS
43
AREA
28030
HEIGHT
22339
20-Jun-2023
18:25
linh
pham



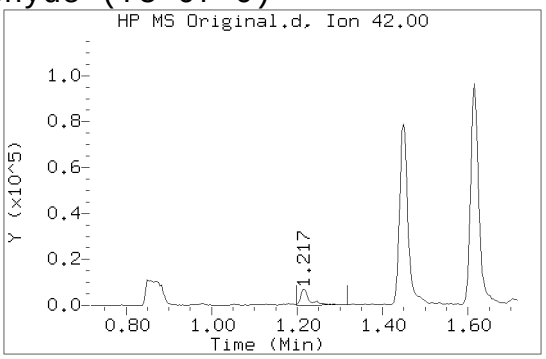
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230615.b\X061514.D
Inj Date : 15-JUN-2023 15:47
InstruID : voa6.i
LabSampID : ICV

Acetaldehyde (75-07-0)

Reason Code:

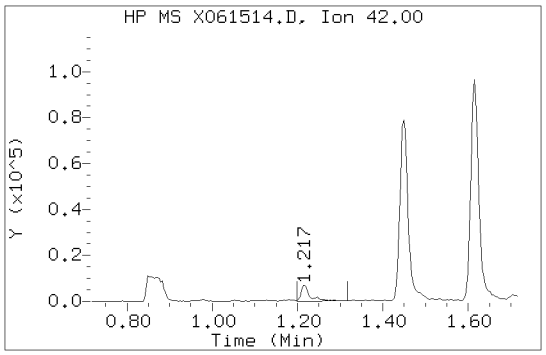
BEFORE

MASS
42
AREA
10362
HEIGHT
6976
20-Jun-2023
18:22
linh
pham



AFTER

MASS
42
AREA
10362
HEIGHT
6976
20-Jun-2023
18:25
linh
pham

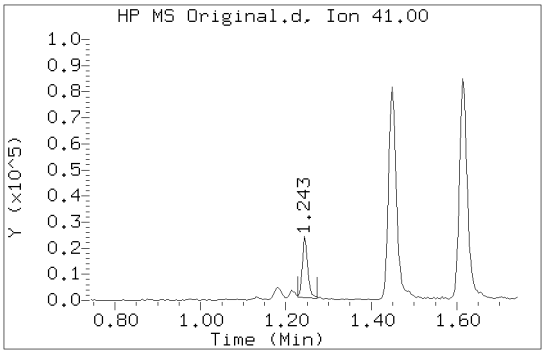


Isobutylene (115-11-7)

Reason Code:

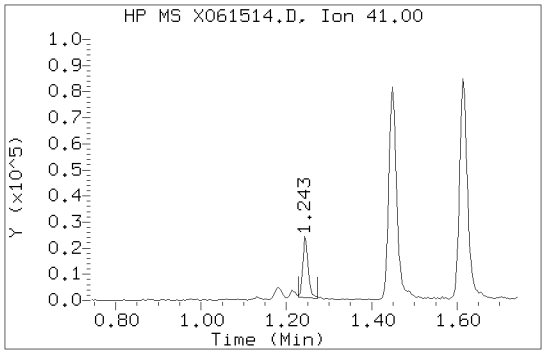
BEFORE

MASS
41
AREA
21692
HEIGHT
23575
20-Jun-2023
18:22
linh
pham



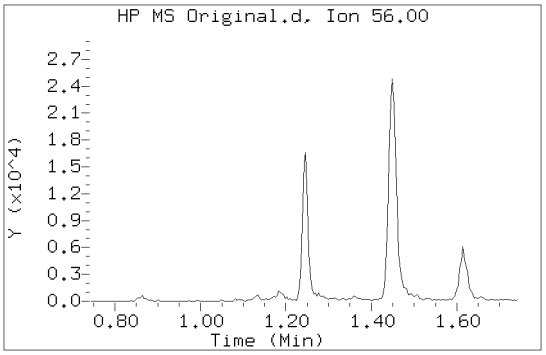
AFTER

MASS
41
AREA
21692
HEIGHT
23575
20-Jun-2023
18:25
linh
pham



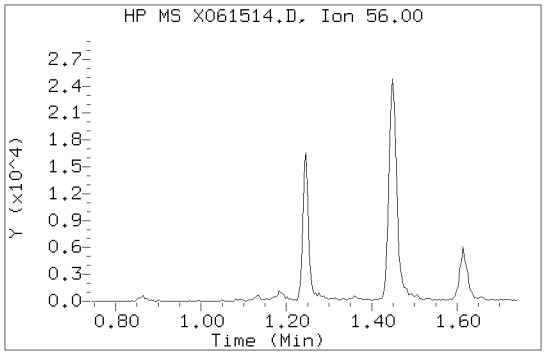
BEFORE

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



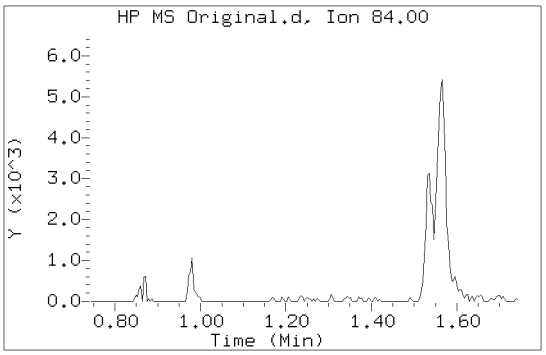
AFTER

MASS
56
AREA
0
HEIGHT
0
20-Jun-2023
18:25
linh
pham



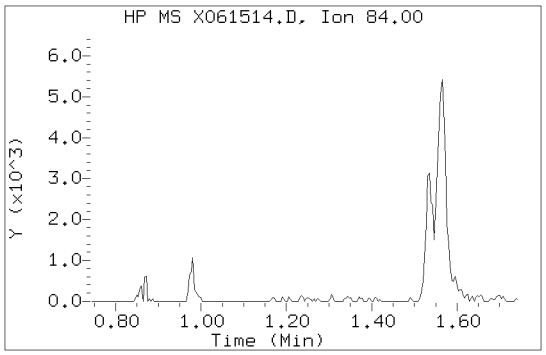
BEFORE

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:22
linh
pham



AFTER

MASS
84
AREA
0
HEIGHT
0
20-Jun-2023
18:25
linh
pham



01194604

right solutions.
right partner.

Raw Data VOA6 439205

Volatiles by EPA 8260

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

06/21/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061701.D Page 1
Report Date: 17-Jun-2023 12:01

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061701.D
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 17-JUN-2023 11:17
Operator : PC Inst ID: voa6.i
Smp Info : BFB;BFB;3;;BFB
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\bfb.m
Meth Date : 14-Mar-2023 15:45 Linh.Pham Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTW7051

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vf	1.000	Volumetric correction factor
Vi	2.000	Injection Volume
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/l)	TARGET RANGE	RATIO
RT	EXP RT	REL RT	MASS	RESPONSE				
1 bfb						CAS #: 460-00-4		
8.687	8.889	(0.000)	95	113384			0.00- 100.00	100.00
8.687	8.889	(0.000)	50	18112			15.00- 40.00	15.97
8.687	8.889	(0.000)	75	50784			30.00- 60.00	44.79
8.687	8.889	(0.000)	96	8138			5.00- 9.00	7.18
8.687	8.889	(0.000)	173	589			0.00- 2.00	0.63
8.687	8.889	(0.000)	174	92856			50.00- 0.00	81.90
8.687	8.889	(0.000)	175	6663			5.00- 9.00	7.18
8.687	8.889	(0.000)	176	88400			95.00- 101.00	95.20
8.687	8.889	(0.000)	177	6303			5.00- 9.00	7.13

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	15.97
75	30.00 - 60.00% of mass 95	44.79
96	5.00 - 9.00% of mass 95	7.18
173	Less than 2.00% of mass 174	0.52 (0.63)
174	Greater than 50.00% of mass 95	81.90
175	5.00 - 9.00% of mass 174	5.88 (7.18)
176	95.00 - 101.00% of mass 174	77.97 (95.20)
177	5.00 - 9.00% of mass 176	5.56 (7.13)

Data File: X061701.D
Spectrum: Scan 2159 (8.68)
Location of Maximum: 95.00
Number of points: 105

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1193	64.00	415	93.00	4702	133.90	57
37.10	4126	65.20	194	94.00	11319	134.80	121
38.10	3912	65.90	91	95.00	113384	136.00	76
39.10	2403	67.00	319	96.00	8138	136.70	232
40.00	1763	68.00	9717	96.90	359	139.00	84
41.00	1119	69.00	11057	98.00	1394	140.90	862
42.10	1846	70.00	1467	99.00	93	141.90	70
43.00	1047	71.10	426	103.10	105	143.00	942
44.00	1757	72.00	390	104.00	617	145.80	185
45.10	839	73.00	4274	104.90	398	147.90	277
47.00	1177	74.10	17384	106.00	457	148.90	134
47.90	550	75.00	50784	106.90	259	149.70	87
49.10	3357	76.00	4978	108.90	167	152.90	80
50.00	18112	77.00	692	109.90	81	154.90	330
51.10	6428	77.80	362	110.90	52	157.00	190
51.90	267	78.90	2376	112.80	89	159.00	180
53.10	202	79.90	617	115.00	182	172.20	259
53.90	230	81.00	2624	115.80	199	172.80	589
55.00	3075	81.90	427	116.90	458	173.90	92856
56.00	1647	83.10	576	118.10	464	174.90	6663
57.10	3484	85.00	158	118.80	346	175.90	88400
57.90	395	85.70	175	123.80	79	176.90	6303
58.80	52	86.10	271	126.70	202	178.00	120
60.00	799	87.00	5097	127.80	342	185.90	250
61.10	4776	88.00	4521	128.80	196		
62.00	4842	91.00	407	129.80	304		
63.00	2784	92.00	2933	130.90	246		

Data File: \\nahstws005\target\chem\voa6.i\x230617.b\x061701.d Page 1

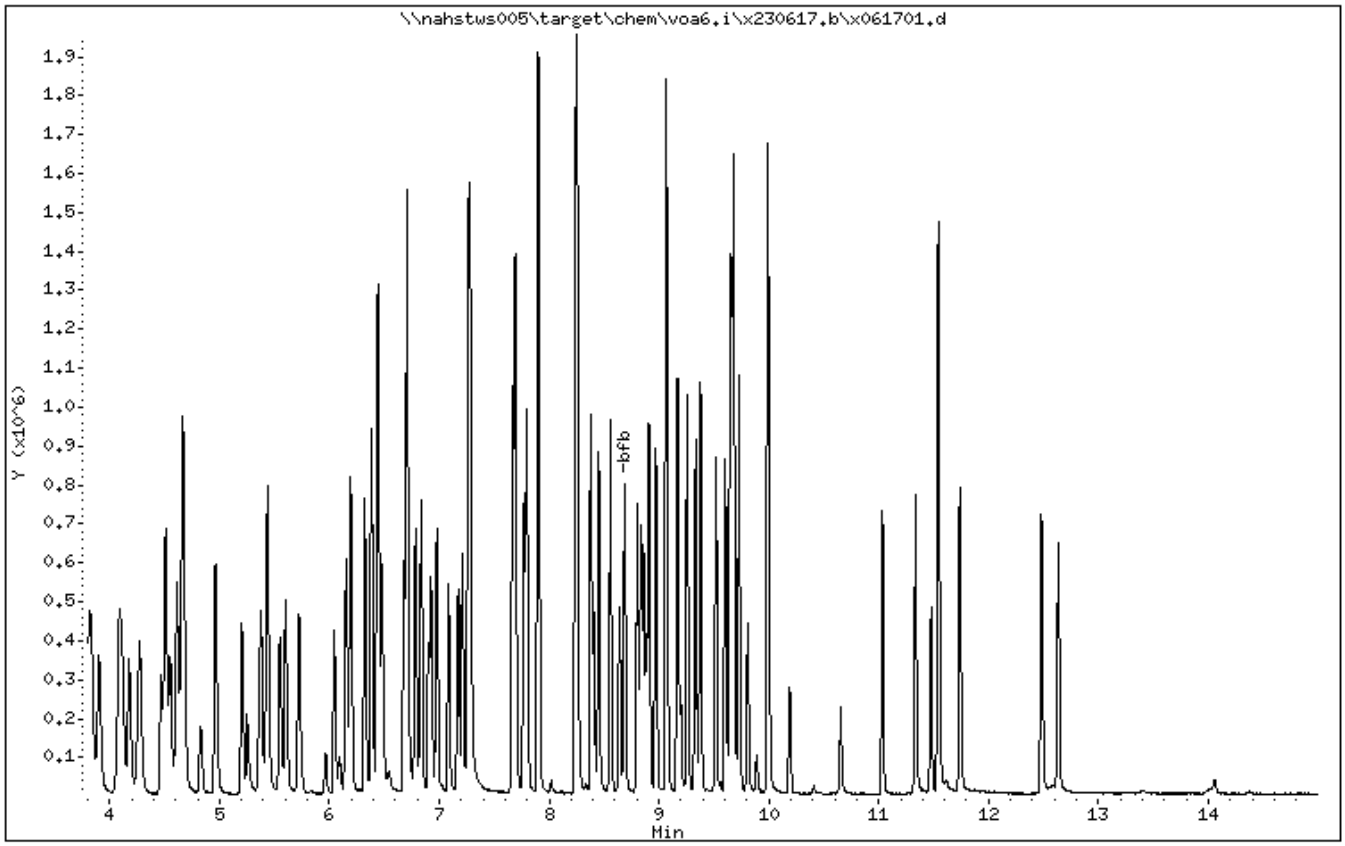
Date : 17-JUN-2023 11:17

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\x230617.b\x061701.d
Inj Date : 17-JUN-2023 11:17
InstruID : voa6.i
LabSampID : BFB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061703.D Page 1
Report Date: 21-Jun-2023 10:01

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061703.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 17-JUN-2023 11:58
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 21-Jun-2023 10:01 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.178	4.178	(1.000)	464761	50.0000	
135 1,4-Dioxane	88	5.595	5.595	(1.339)	60031	1000.00	1065.82
140 1,3-Butadiene	54	1.167	1.167	(0.280)	185284	50.0000	48.10
25 Methacrylonitrile	41	3.821	3.821	(0.915)	201373	50.0000	52.51
12 Isobutyl Alcohol	43	4.676	4.676	(1.119)	626781	1000.00	1034.29
13 Acetonitrile	39	2.198	2.198	(0.526)	226381	500.000	502.18
14 Allyl Chloride	41	2.202	2.202	(0.527)	508556	50.0000	49.89
4 Propionitrile	54	3.649	3.649	(0.873)	302833	500.000	538.77
72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	87036	50.0000	52.62
194 Acetaldehyde	44	1.216	1.216	(0.291)	49547	200.000	202.61(M)
23 Chloroprene	53	1.775	1.775	(0.425)	72682	50.0000	47.05(M)
130 Ethyl Acetate	43	3.653	3.653	(0.874)	234896	50.0000	49.58
40 Methyl Methacrylate	41	5.602	5.602	(1.341)	187136	50.0000	52.01
49 Ethyl Methacrylate	69	6.708	6.708	(1.351)	231687	50.0000	44.97
131 Methyl Acrylate	55	3.687	3.687	(0.882)	216357	50.0000	57.47
136 n-Hexane	57	2.772	2.772	(0.664)	237109	50.0000	55.37
156 Diisopropyl ether	45	3.001	3.001	(0.718)	674449	50.0000	49.20
166 1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	851430	50.0000	46.46
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	203461	50.0000	50.83
3 Chloromethane	50	1.081	1.081	(0.259)	238222	50.0000	48.51

5 Vinyl Chloride	62	1.145	1.145 (0.274)	232611	50.0000	47.65
6 Bromomethane	94	1.344	1.344 (0.322)	133971	50.0000	47.81

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061703.D Page 2
Report Date: 21-Jun-2023 10:01

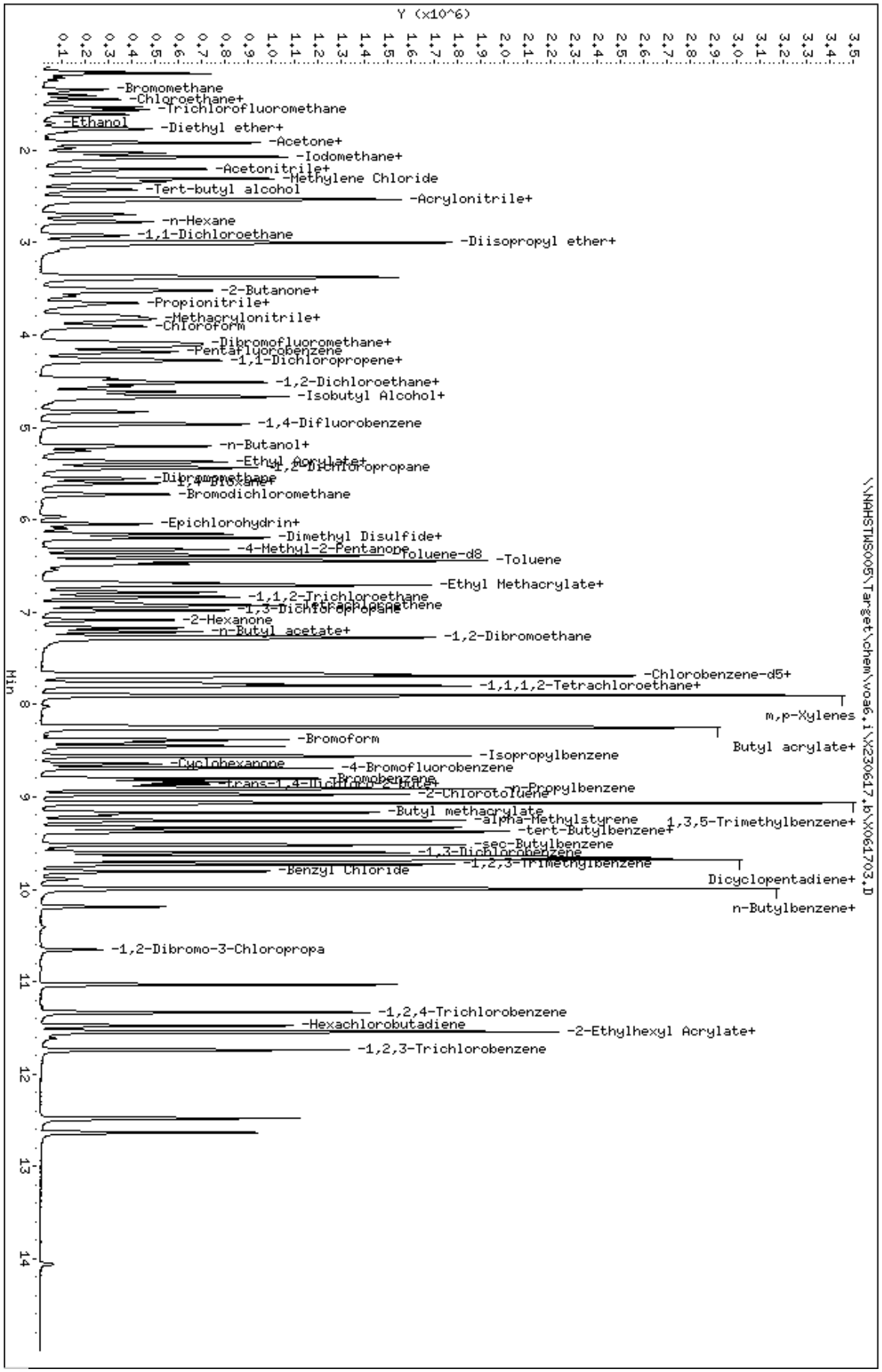
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	7 Chloroethane	64	1.407	1.407	(0.337)	150589	50.0000	50.47
	8 Trichlorofluoromethane	101	1.565	1.565	(0.375)	290450	50.0000	50.07
	9 Acrolein	56	1.449	1.449	(0.347)	25806	100.000	89.48
	10 Acetone	43	1.973	1.973	(0.472)	106509	100.000	87.85
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	169535	50.0000	46.59
	15 Iodomethane	142	2.030	2.030	(0.486)	556530	100.000	92.46
	16 Acrylonitrile	53	2.536	2.536	(0.607)	147443	100.000	99.94
	17 Methylene Chloride	84	2.307	2.307	(0.552)	235847	50.0000	45.88
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.607)	633759	50.0000	49.90
	19 Carbon Disulfide	76	2.071	2.071	(0.496)	1216538	100.000	93.89
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	207315	50.0000	47.61
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1280030	100.000	110.14
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	384699	50.0000	49.04
	24 2-Butanone	43	3.578	3.578	(0.856)	158601	100.000	103.69
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	325922	50.0000	52.65
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.844)	239733	50.0000	47.74
	28 Chloroform	83	3.908	3.908	(0.935)	398291	50.0000	47.17
	29 Bromochloromethane	128	3.795	3.795	(0.908)	127279	50.0000	47.57
$	30 Dibromofluoromethane	113	4.099	4.099	(0.981)	217119	50.0000	52.32
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.977)	330573	50.0000	48.44
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	295660	50.0000	49.08
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	310481	50.0000	51.44
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	279547	50.0000	48.26
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.070)	242319	50.0000	54.15
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	718789	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	889887	50.0000	48.13
	38 Trichloroethene	130	5.205	5.205	(1.048)	242589	50.0000	47.58
	39 Bromodichloromethane	83	5.722	5.722	(1.153)	315767	50.0000	48.28
	41 2-Chloroethylvinyl ether	63	6.044	6.044	(1.217)	185638	100.000	104.89
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	240932	50.0000	49.64
	44 Dibromomethane	93	5.550	5.550	(1.118)	151093	50.0000	49.59
	45 4-Methyl-2-Pentanone	43	6.322	6.322	(0.824)	450633	100.000	102.67
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	409799	50.0000	50.81
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	679450	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.833)	830445	50.0000	48.34
	50 Toluene	91	6.446	6.446	(0.841)	965878	50.0000	48.42
	51 trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	346897	50.0000	51.41
	52 2-Hexanone	43	7.087	7.087	(0.924)	301666	100.000	102.89
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	189838	50.0000	48.85
	54 1,3-Dichloropropane	76	6.978	6.978	(0.910)	393905	50.0000	50.13
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	271947	50.0000	49.37
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	192409	50.0000	46.90
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	246151	50.0000	49.55
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	218356	50.0000	49.95
	59 Chlorobenzene	112	7.690	7.690	(1.003)	655412	50.0000	48.02
	60 1,1,1,2-Tetrachloroethane	131	7.773	7.773	(1.014)	244322	50.0000	48.00
	61 Ethylbenzene	106	7.799	7.799	(1.017)	333110	50.0000	47.37
	62 m,p-Xylenes	106	7.900	7.900	(1.030)	854737	100.000	98.56
	63 o-Xylene	106	8.241	8.241	(1.075)	414845	50.0000	47.94
	64 Styrene	104	8.256	8.256	(1.077)	713133	50.0000	50.03
	66 Bromoform	173	8.406	8.406	(1.096)	190917	50.0000	49.72
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	1014690	50.0000	47.44

	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837 (0.915)	322003	50.0000	47.50
$	69 4-Bromofluorobenzene	95	8.687	8.687 (1.133)	340530	50.0000	51.34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	385495	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	233366	50.0000	48.01(M)
	73 n-Propylbenzene	91	8.908	8.908	(0.922)	1221754	50.0000	48.16
	74 Bromobenzene	156	8.803	8.803	(0.911)	300200	50.0000	47.77
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	890488	50.0000	47.83
	76 2-Chlorotoluene	91	8.972	8.972	(0.929)	749109	50.0000	46.50
	77 4-Chlorotoluene	91	9.066	9.066	(0.938)	871352	50.0000	48.49
	78 tert-Butylbenzene	119	9.332	9.332	(0.966)	728234	50.0000	46.95
	79 1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	900947	50.0000	47.97
	81 sec-Butylbenzene	105	9.519	9.519	(0.985)	1049132	50.0000	47.96
	82 p-Isopropyltoluene	119	9.647	9.647	(0.998)	927998	50.0000	48.46
	83 1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	533272	50.0000	47.66
	84 1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	562254	50.0000	46.95
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	843275	50.0000	51.70
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	537188	50.0000	48.39
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	56147	50.0000	50.75
	90 1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	392910	50.0000	50.88
	91 Hexachlorobutadiene	225	11.480	11.480	(1.188)	177873	50.0000	51.31
	92 Naphthalene	128	11.540	11.540	(1.194)	917991	50.0000	52.80
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	366518	50.0000	51.58
M	94 1,2-Dichloroethylene (total)	96				447048	100.000	(a)
	141 Cyclohexane	56	4.121	4.121	(0.987)	297119	50.0000	50.15
	138 Freon TF	101	1.917	1.917	(0.459)	172427	50.0000	53.25
	147 Methylcyclohexane	55	5.377	5.377	(1.083)	499944	50.0000	49.76
	146 Methyl Acetate	43	2.236	2.236	(0.535)	143944	50.0000	52.32
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.582)	466930	1000.00	978.35
	149 Isopropyl Alcohol	45	2.093	2.093	(0.501)	266084	1000.00	1010.05

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\X230617,b\X061703,D
Date : 17-JUN-2023 11:58
Client ID: CCV
Sample Info: CCV,CCV,2,,
Purge Volume: 5.0
Column phase: DB624

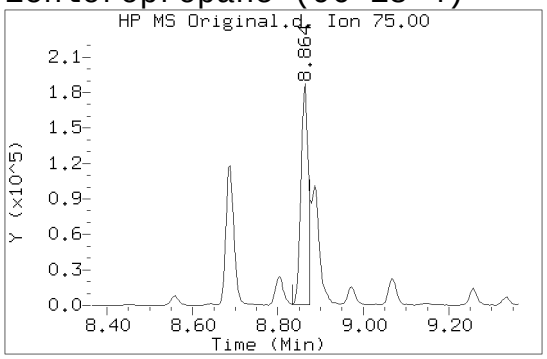
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061703.D
Inj Date : 17-JUN-2023 11:58
InstruID : voa6.i
LabSampID : CCV

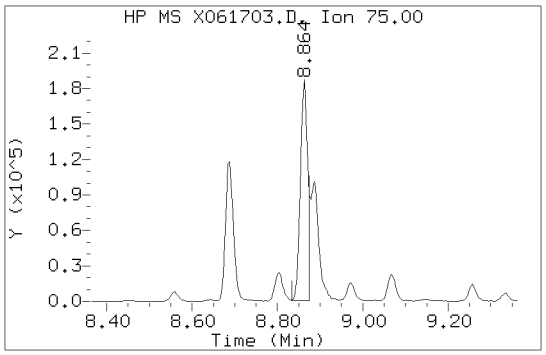
1,2,3-Trichloropropane (96-18-4)

Reason Code:

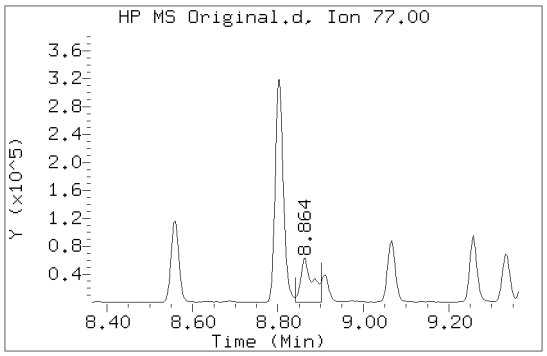
BEFORE
MASS
75
AREA
233366
HEIGHT
187180
19-Jun-2023
12:02



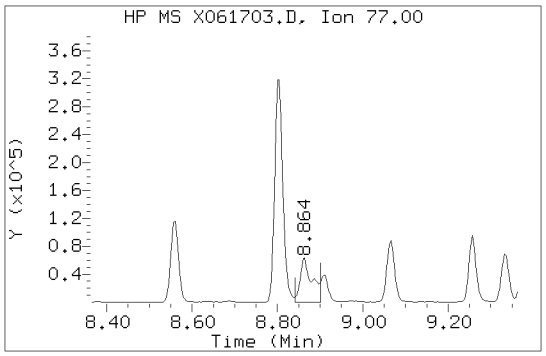
AFTER
MASS
75
AREA
233366
HEIGHT
187180
21-Jun-2023
10:01



BEFORE
MASS
77
AREA
127091
HEIGHT
63447
19-Jun-2023
12:02



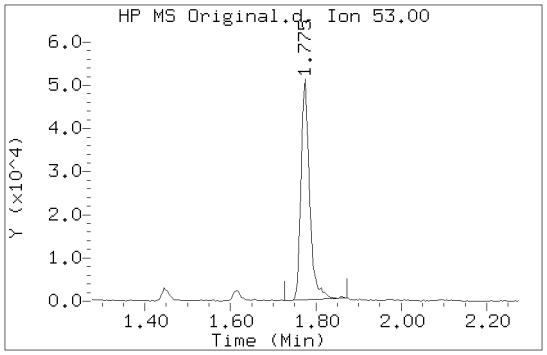
AFTER
MASS
77
AREA
127091
HEIGHT
63447
21-Jun-2023
10:01



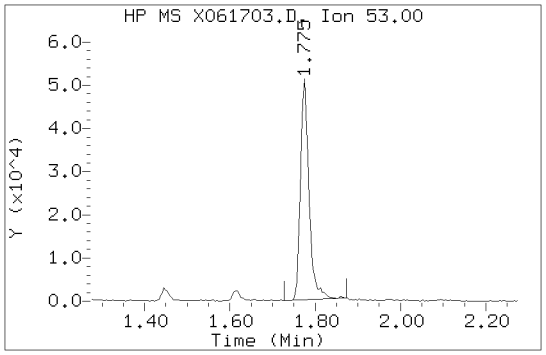
Chloroprene (126-99-8)

Reason Code:

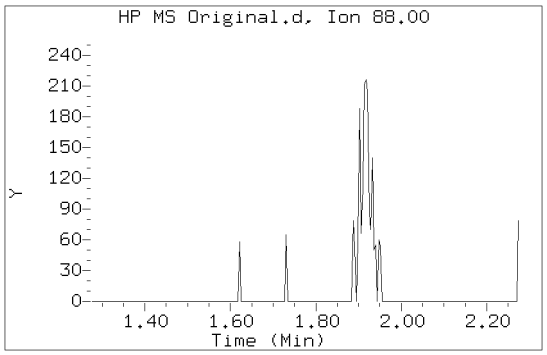
BEFORE
MASS
53
AREA
72682
HEIGHT
51120
19-Jun-2023
12:02



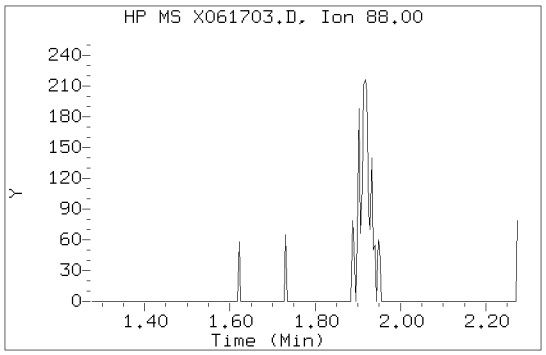
AFTER
MASS
53
AREA
72682
HEIGHT
51120
21-Jun-2023
10:01



BEFORE
MASS
88
AREA
0
HEIGHT
0
19-Jun-2023
12:02



AFTER
MASS
88
AREA
0
HEIGHT
0
21-Jun-2023
10:01

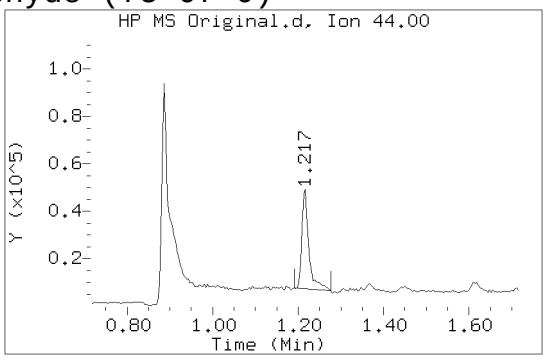


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061703.D
Inj Date : 17-JUN-2023 11:58
InstruID : voa6.i
LabSampID : CCV

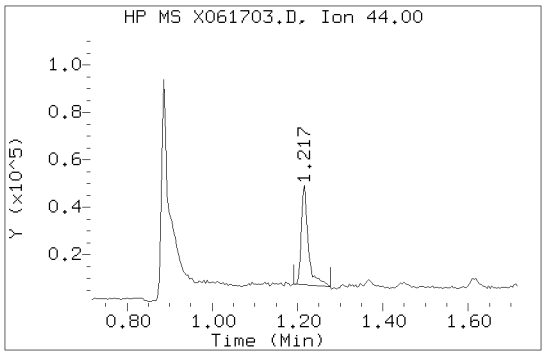
Acetaldehyde (75-07-0)

Reason Code:

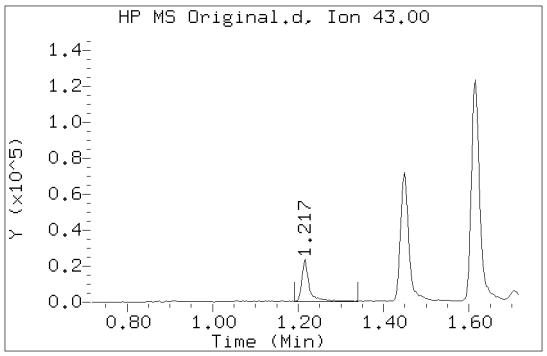
BEFORE
MASS
44
AREA
49547
HEIGHT
42008
19-Jun-2023
12:02



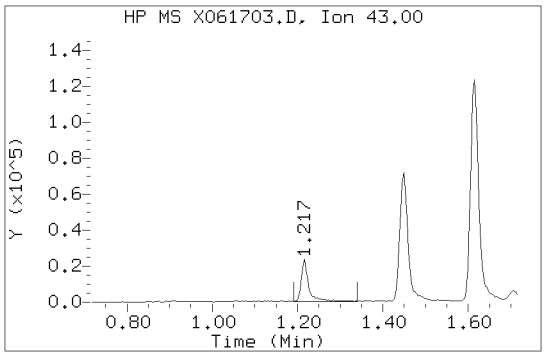
AFTER
MASS
44
AREA
49547
HEIGHT
42008
21-Jun-2023
10:01



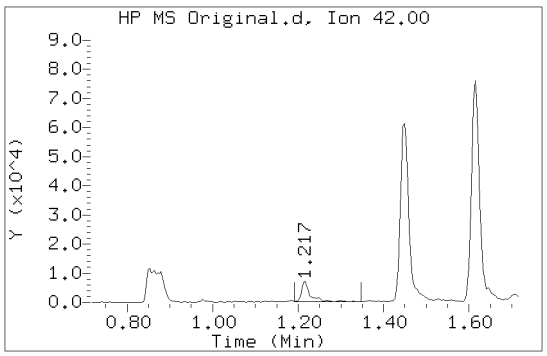
BEFORE
MASS
43
AREA
29143
HEIGHT
23418
19-Jun-2023
12:02



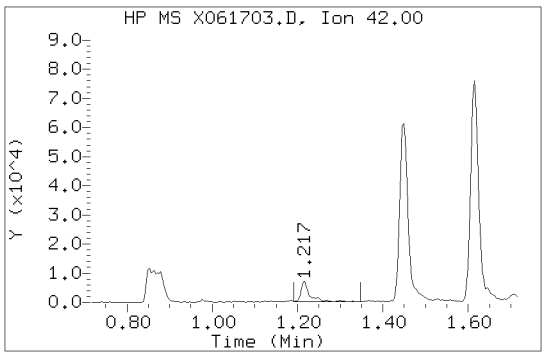
AFTER
MASS
43
AREA
29143
HEIGHT
23418
21-Jun-2023
10:01



BEFORE
MASS
42
AREA
10160
HEIGHT
7121
19-Jun-2023
12:02



AFTER
MASS
42
AREA
10160
HEIGHT
7121
21-Jun-2023
10:01



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061704.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061704.D
Lab Smp Id: CCB Client Smp ID: CCB
Inj Date : 17-JUN-2023 12:19
Operator : PC Inst ID: voa6.i
Smp Info : CCB;CCB;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	508212	50.0000	
$ 30 Dibromofluoromethane	113	4.102	4.099	(0.981)	224933	49.5556	49.55
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	251979	51.4571	51.45
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	740367	50.0000	
* 47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	643235	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.833)	873457	53.7102	53.71
$ 69 4-Bromofluorobenzene	95	8.691	8.687	(1.133)	296457	47.1763	47.17
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	312929	50.0000	

01194619

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061704.D

Date : 17-JUN-2023 12:19

Client ID: CCB

Instrument: voa6.i

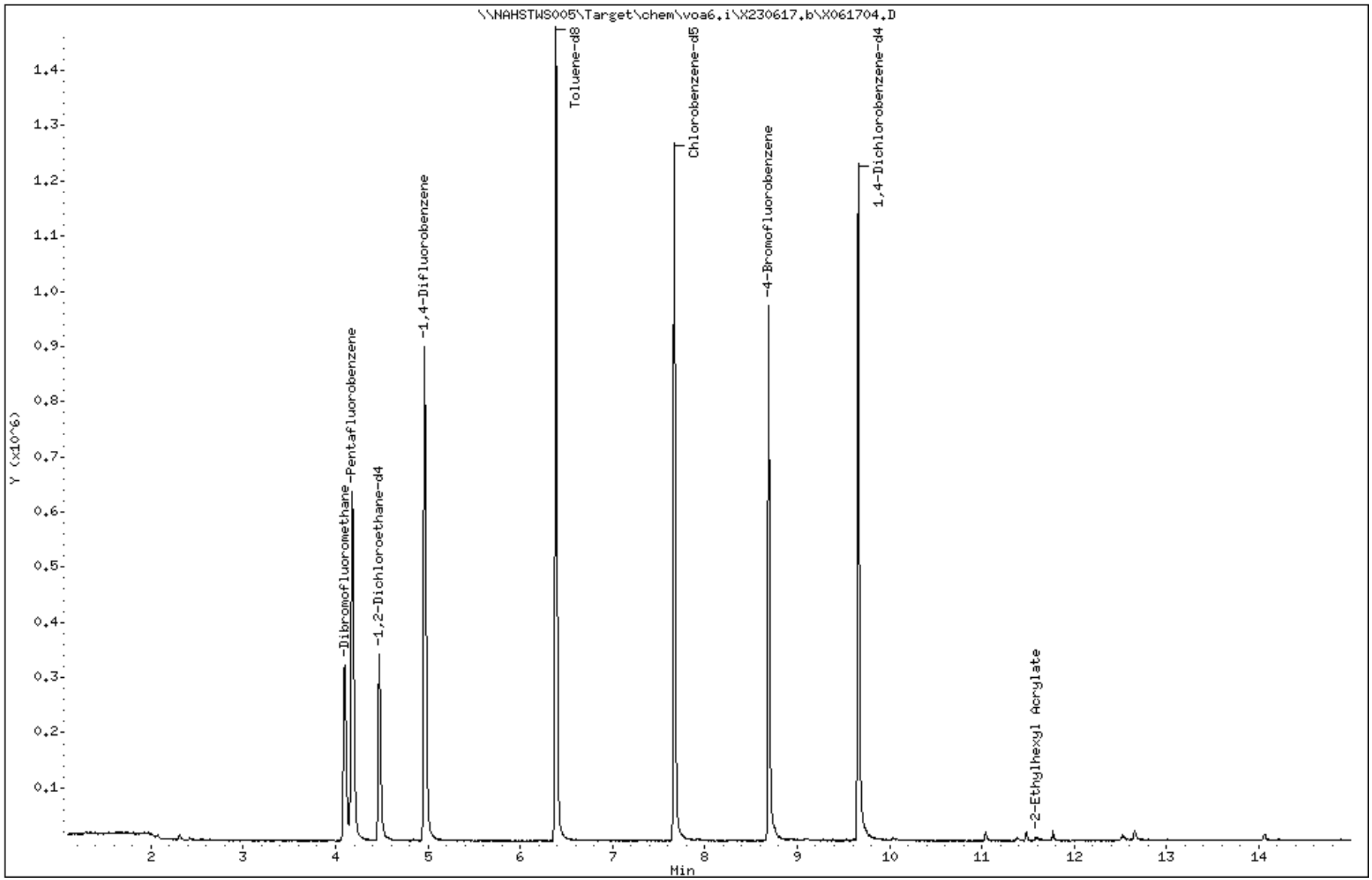
Sample Info: CCB;CCB;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061704.D
Inj Date : 17-JUN-2023 12:19
InstruID : voa6.i
LabSampID : CCB

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061705.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061705.D
Lab Smp Id: VLCSW-230617 Client Smp ID: VLCSW-230617
Inj Date : 17-JUN-2023 12:40
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-230617;VLCSW-230617;3;;LCS
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 4 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	467611	50.0000	
135 1,4-Dioxane	88	5.598	5.595	(1.339)	23081	407.296	407.29(a)
140 1,3-Butadiene	54	1.167	1.167	(0.279)	73231	18.8979	18.89
25 Methacrylonitrile	41	3.829	3.821	(0.916)	79725	20.6632	20.66
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	260040	426.493	426.49
13 Acetonitrile	39	2.202	2.198	(0.527)	97445	214.848	214.84
14 Allyl Chloride	41	2.202	2.202	(0.527)	210316	20.5091	20.50
4 Propionitrile	54	3.653	3.649	(0.874)	119398	211.129	211.12(a)
72 trans-1,4-Dichloro-2-butene	53	8.889	8.886	(1.159)	33160	19.9951	19.99
194 Acetaldehyde	44	1.216	1.216	(0.291)	16555	64.9855	64.98(M)
23 Chloroprene	53	1.775	1.775	(0.424)	29220	18.8005	18.80(M)
130 Ethyl Acetate	43	3.660	3.653	(0.875)	102020	21.4033	21.40
40 Methyl Methacrylate	41	5.606	5.602	(1.341)	76478	21.1268	21.12
49 Ethyl Methacrylate	69	6.708	6.708	(1.351)	99236	19.0391	19.03
131 Methyl Acrylate	55	3.698	3.687	(0.884)	80516	21.2598	21.25
136 n-Hexane	57	2.775	2.772	(0.664)	88097	21.1399	21.13
156 Diisopropyl ether	45	3.000	3.001	(0.718)	279675	20.2793	20.27
166 1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	361327	19.5881	19.58
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	79215	19.8731	19.87
3 Chloromethane	50	1.081	1.081	(0.259)	99872	20.8166	20.81

5 Vinyl Chloride	62	1.149	1.145 (0.275)	94897	19.3237	19.32
6 Bromomethane	94	1.343	1.344 (0.321)	57089	20.2520	20.25

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061705.D Page 2
Report Date: 20-Jun-2023 17:15

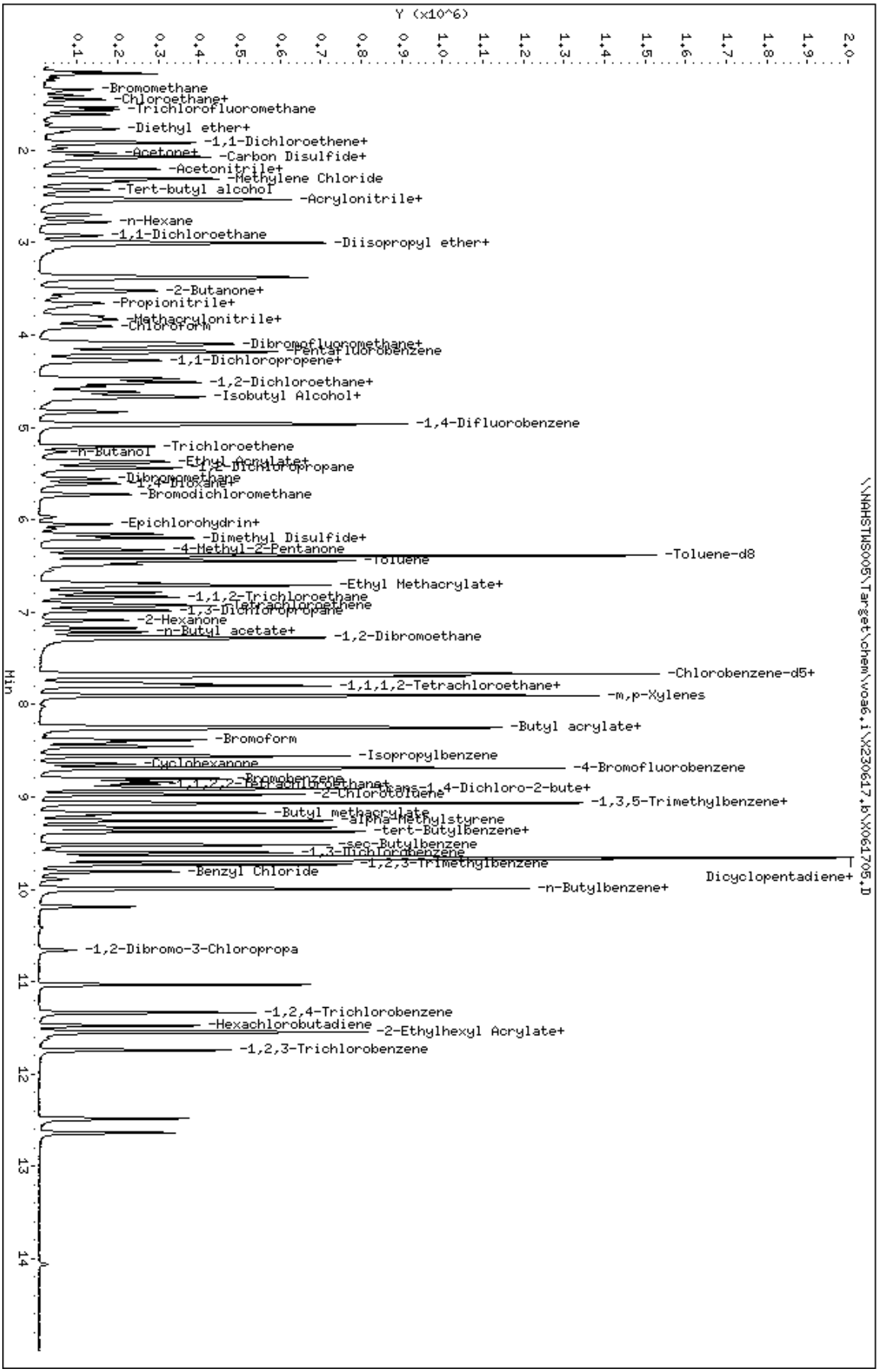
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	7 Chloroethane	64	1.407	1.407	(0.337)	62823	20.9280	20.92
	8 Trichlorofluoromethane	101	1.565	1.565	(0.374)	115016	19.7086	19.70
	9 Acrolein	56	1.448	1.449	(0.346)	12204	42.0597	42.05
	10 Acetone	43	1.977	1.973	(0.473)	45164	36.8694	36.86
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	69235	18.9118	18.91
	15 Iodomethane	142	2.029	2.030	(0.485)	179227	31.3955	31.39
	16 Acrylonitrile	53	2.539	2.536	(0.607)	54413	36.6593	36.65
	17 Methylene Chloride	84	2.307	2.307	(0.552)	99748	19.2893	19.28
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.606)	258456	20.2274	20.22
	19 Carbon Disulfide	76	2.071	2.071	(0.495)	488245	37.4549	37.45
	20 trans-1,2-Dichloroethene	96	2.532	2.528	(0.606)	82248	18.7753	18.77
	21 Vinyl Acetate	43	3.000	2.997	(0.718)	516060	44.1375	44.13
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	155287	19.6776	19.67
	24 2-Butanone	43	3.585	3.578	(0.857)	56151	36.4881	36.48
	26 2,2-Dichloropropane	77	3.510	3.507	(0.840)	130903	21.0174	21.01
	27 cis-1,2-Dichloroethene	96	3.529	3.525	(0.844)	97832	19.3663	19.36
	28 Chloroform	83	3.904	3.908	(0.934)	163680	19.2705	19.27
	29 Bromochloromethane	128	3.799	3.795	(0.909)	52642	19.5556	19.55
$	30 Dibromofluoromethane	113	4.099	4.099	(0.980)	227288	54.4563	54.45
	31 1,1,1-Trichloroethane	97	4.084	4.080	(0.977)	131438	19.1460	19.14
	32 1,1-Dichloropropene	75	4.282	4.279	(0.863)	117879	19.3454	19.34
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	123783	20.2732	20.27
	34 Carbon Tetrachloride	117	4.267	4.264	(0.860)	109842	18.7437	18.74
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	248678	55.2546	55.25(M)
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	727193	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	356380	19.0523	19.05
	38 Trichloroethene	130	5.205	5.205	(1.048)	97541	18.9127	18.91
	39 Bromodichloromethane	83	5.726	5.722	(1.153)	127130	19.2134	19.21
	41 2-Chloroethylvinyl ether	63	6.052	6.044	(1.219)	72330	40.3968	40.39
	42 1,2-Dichloropropane	63	5.437	5.433	(1.095)	97557	19.8698	19.86
	44 Dibromomethane	93	5.553	5.550	(1.119)	61227	19.8652	19.86
	45 4-Methyl-2-Pentanone	43	6.325	6.322	(0.825)	175271	39.8212	39.82
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	162301	19.8938	19.89
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	681365	50.0000	
$	48 Toluene-d8	98	6.385	6.386	(0.833)	868596	50.4223	50.42
	50 Toluene	91	6.445	6.446	(0.841)	392953	19.6447	19.64
	51 trans-1,3-Dichloropropene	75	6.682	6.678	(1.346)	136357	19.9764	19.97
	52 2-Hexanone	43	7.086	7.087	(0.924)	122902	41.8029	41.80
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	74729	19.1762	19.17
	54 1,3-Dichloropropane	76	6.981	6.978	(0.911)	154718	19.6358	19.63
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	106870	19.3503	19.35
	56 Tetrachloroethene	164	6.929	6.925	(0.904)	76479	18.5926	18.59
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	97063	19.4865	19.48
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	88618	20.0392	20.03
	59 Chlorobenzene	112	7.690	7.690	(1.003)	266583	19.4771	19.47
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.773	(1.014)	97572	19.1181	19.11
	61 Ethylbenzene	106	7.799	7.799	(1.017)	134537	19.0785	19.07
	62 m,p-Xylenes	106	7.904	7.900	(1.031)	345625	39.7443	39.74
	63 o-Xylene	106	8.241	8.241	(1.075)	167262	19.2755	19.27
	64 Styrene	104	8.260	8.256	(1.077)	284736	19.9211	19.92
	66 Bromoform	173	8.410	8.406	(1.097)	73104	18.9867	18.98
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	411495	19.1853	19.18

	68	1,1,2,2-Tetrachloroethane	83	8.837	8.837 (0.915)	128696	18.8601	18.86
$	69	4-Bromofluorobenzene	95	8.687	8.687 (1.133)	350852	52.7710	52.77

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	388069	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	98365	20.1029	20.10(M)
	73 n-Propylbenzene	91	8.908	8.908	(0.922)	497917	19.4979	19.49
	74 Bromobenzene	156	8.803	8.803	(0.911)	117926	18.6444	18.64
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	359558	19.1885	19.18
	76 2-Chlorotoluene	91	8.972	8.972	(0.929)	310151	19.1254	19.12
	77 4-Chlorotoluene	91	9.069	9.066	(0.939)	358304	19.8082	19.80
	78 tert-Butylbenzene	119	9.332	9.332	(0.966)	293094	18.7747	18.77
	79 1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	367109	19.4182	19.41
	81 sec-Butylbenzene	105	9.519	9.519	(0.985)	412820	18.7498	18.74
	82 p-Isopropyltoluene	119	9.647	9.647	(0.998)	368291	19.1058	19.10
	83 1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	213775	18.9818	18.98
	84 1,4-Dichlorobenzene	146	9.680	9.681	(1.002)	226842	18.8180	18.81
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	328692	20.0204	20.02
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	213762	19.1295	19.12
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	22111	20.0129	20.01
	90 1,2,4-Trichlorobenzene	180	11.337	11.334	(1.173)	149773	19.2675	19.26
	91 Hexachlorobutadiene	225	11.476	11.480	(1.188)	63827	18.2925	18.29
	92 Naphthalene	128	11.544	11.540	(1.195)	345699	19.7553	19.75
	93 1,2,3-Trichlorobenzene	180	11.742	11.739	(1.215)	142441	19.9142	19.91
M	94 1,2-Dichloroethylene (total)	96				180080	38.1416	38.14
M	95 Xylenes (total)	106				512887	59.0198	59.01
	141 Cyclohexane	56	4.121	4.121	(0.986)	119720	20.0847	20.08
	138 Freon TF	101	1.917	1.917	(0.459)	65288	20.3183	20.31
	147 Methylcyclohexane	55	5.381	5.377	(1.084)	207546	20.4210	20.42
	146 Methyl Acetate	43	2.236	2.236	(0.535)	55561	20.0745	20.07
	148 Tert-Butyl alcohol	59	2.427	2.431	(0.580)	194597	405.254	405.25
	149 Isopropyl Alcohol	45	2.097	2.093	(0.502)	108246	408.397	408.39

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\X230617,b\X061705,D
Date : 17-JUN-2023 12:40
Client ID: VLCSW-230617
Sample Info: VLCSW-230617;VLCSW-230617;3;;LCS
Purge Volume: 5.0
Column phase: DB624

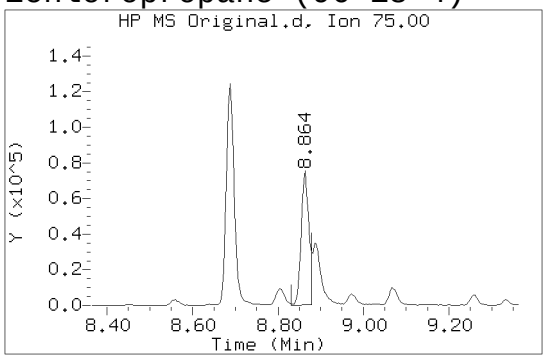
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061705.D
Inj Date : 17-JUN-2023 12:40
InstruID : voa6.i
LabSampID : VLCSW-230617

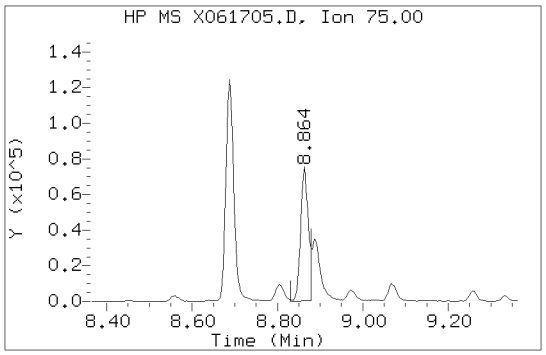
1,2,3-Trichloropropane (96-18-4)

Reason Code:

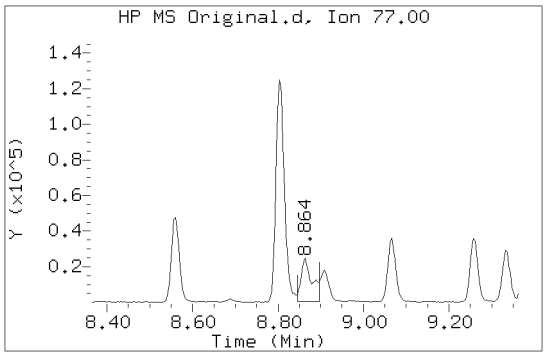
BEFORE
MASS
75
AREA
98365
HEIGHT
75326
19-Jun-2023
12:25



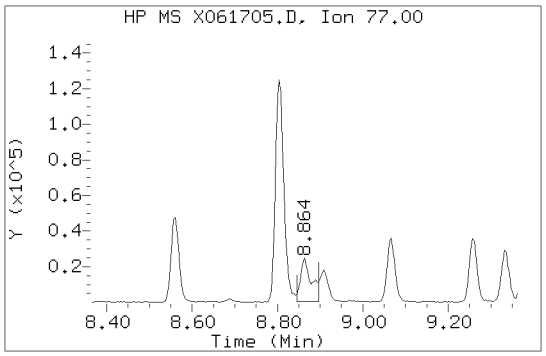
AFTER
MASS
75
AREA
98365
HEIGHT
75326
20-Jun-2023
17:14



BEFORE
MASS
77
AREA
46043
HEIGHT
24735
19-Jun-2023
12:25



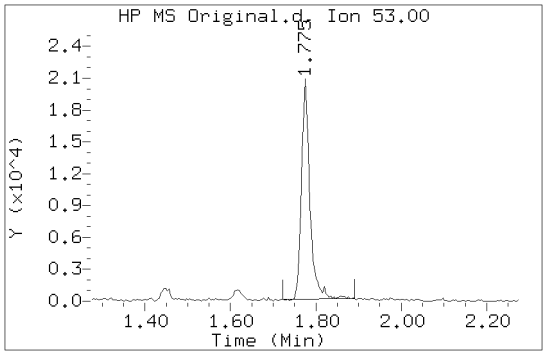
AFTER
MASS
77
AREA
46043
HEIGHT
24735
20-Jun-2023
17:14



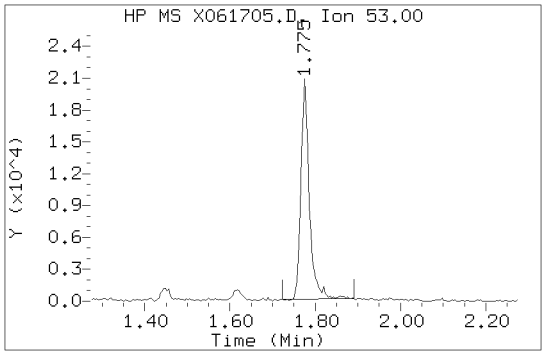
Chloroprene (126-99-8)

Reason Code:

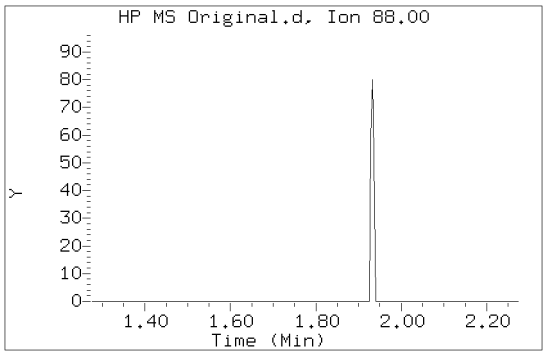
BEFORE
MASS
53
AREA
29220
HEIGHT
20734
19-Jun-2023
12:25



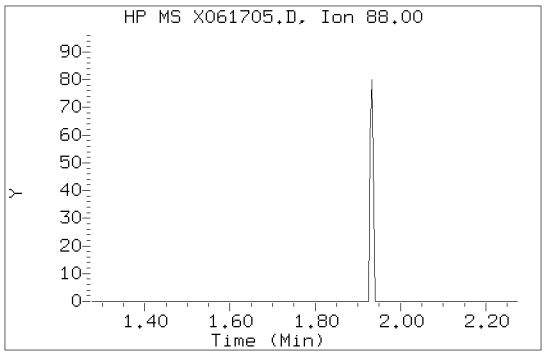
AFTER
MASS
53
AREA
29220
HEIGHT
20734
20-Jun-2023
17:14



BEFORE
MASS
88
AREA
0
HEIGHT
0
19-Jun-2023
12:25



AFTER
MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
17:14

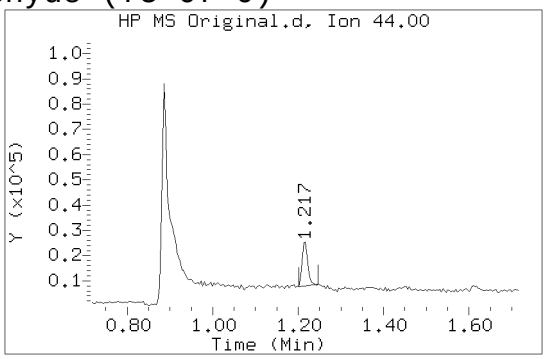


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061705.D
Inj Date : 17-JUN-2023 12:40
InstruID : voa6.i
LabSampID : VLCSW-230617

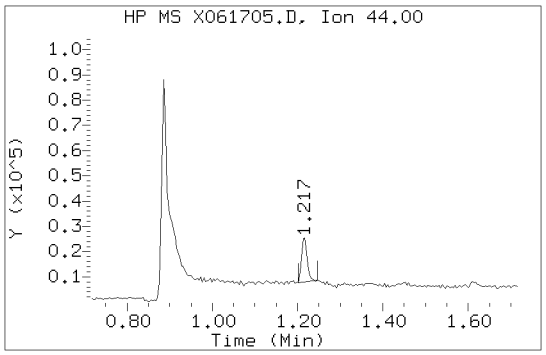
Acetaldehyde (75-07-0)

Reason Code:

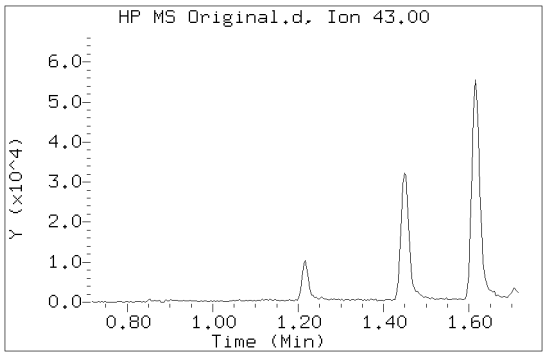
BEFORE
MASS
44
AREA
16555
HEIGHT
17459
19-Jun-2023
12:25



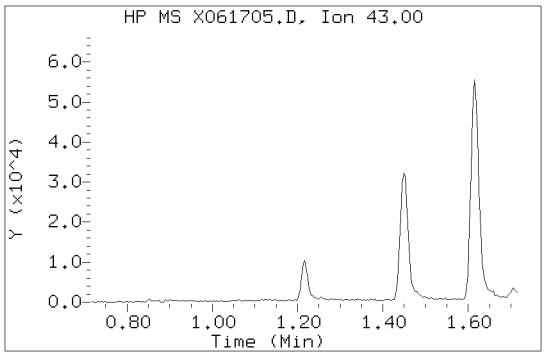
AFTER
MASS
44
AREA
16555
HEIGHT
17459
20-Jun-2023
17:14



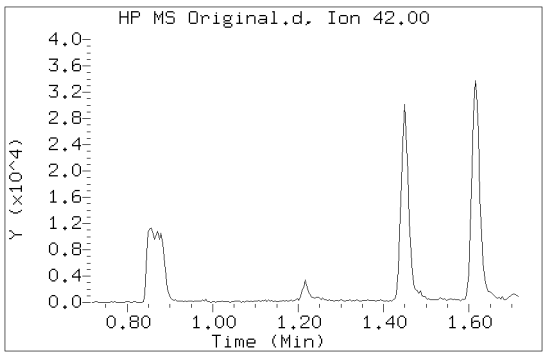
BEFORE
MASS
43
AREA
0
HEIGHT
0
19-Jun-2023
12:25



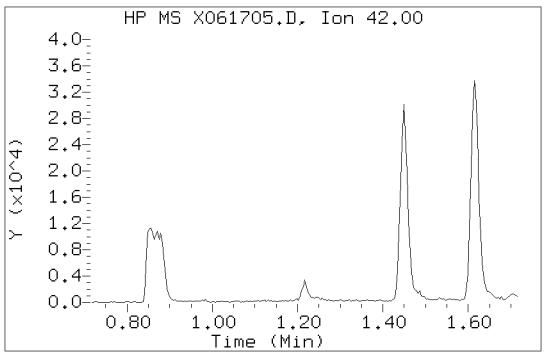
AFTER
MASS
43
AREA
0
HEIGHT
0
20-Jun-2023
17:14



BEFORE
MASS
42
AREA
0
HEIGHT
0
19-Jun-2023
12:25



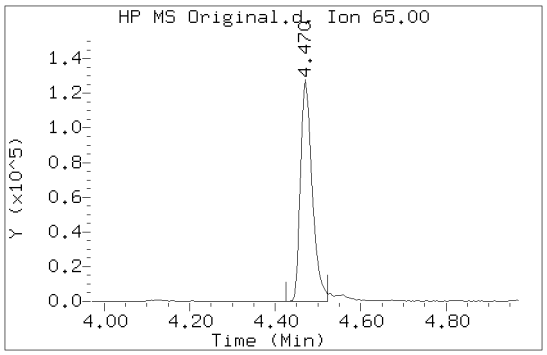
AFTER
MASS
42
AREA
0
HEIGHT
0
20-Jun-2023
17:14



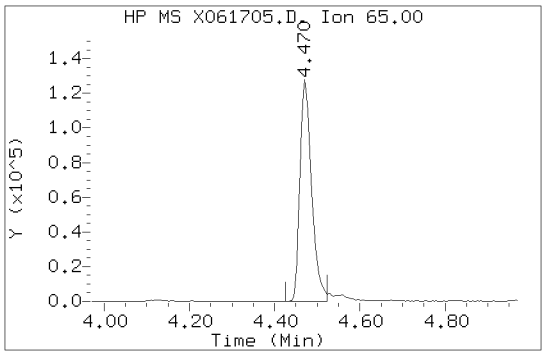
1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

BEFORE
MASS
65
AREA
248678
HEIGHT
127716
19-Jun-2023
12:25



AFTER
MASS
65
AREA
248678
HEIGHT
127716
20-Jun-2023
17:14



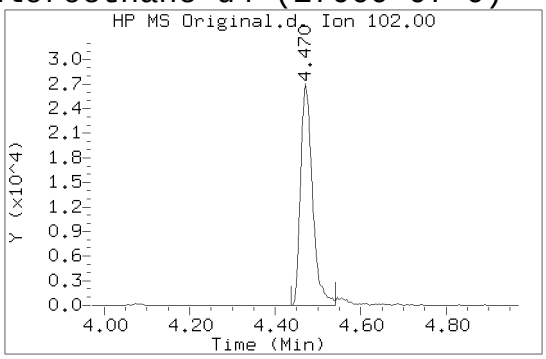
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061705.D
Inj Date : 17-JUN-2023 12:40
InstruID : voa6.i
LabSampID : VLCSW-230617

1,2-Dichloroethane-d4 (17060-07-0)

Reason Code:

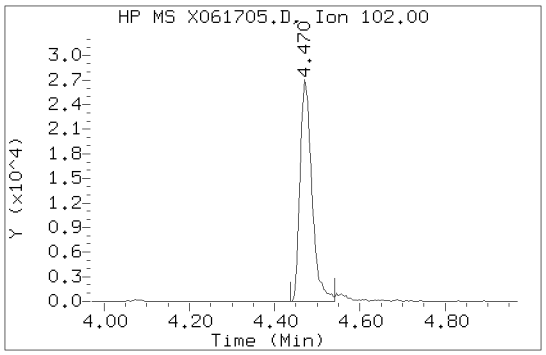
BEFORE

MASS
102
AREA
53594
HEIGHT
27048
19-Jun-2023
12:25



AFTER

MASS
102
AREA
53594
HEIGHT
27048
20-Jun-2023
17:14



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061707.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061707.D
Lab Smp Id: VBLKW-230617 Client Smp ID: VBLKW-230617
Inj Date : 17-JUN-2023 13:23
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-230617;VBLKW-230617;3;;BLANK
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	497634	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.099	(0.981)	225839	50.8216	50.82
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	246749	51.4602	51.46
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	733360	50.0000	
* 47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	649753	50.0000	
$ 48 Toluene-d8	98	6.386	6.386	(0.833)	877454	53.4147	53.41
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	310423	48.9230	48.92
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	331139	50.0000	

01194631

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061707.D

Date : 17-JUN-2023 13:23

Client ID: VBLKW-230617

Instrument: voa6.i

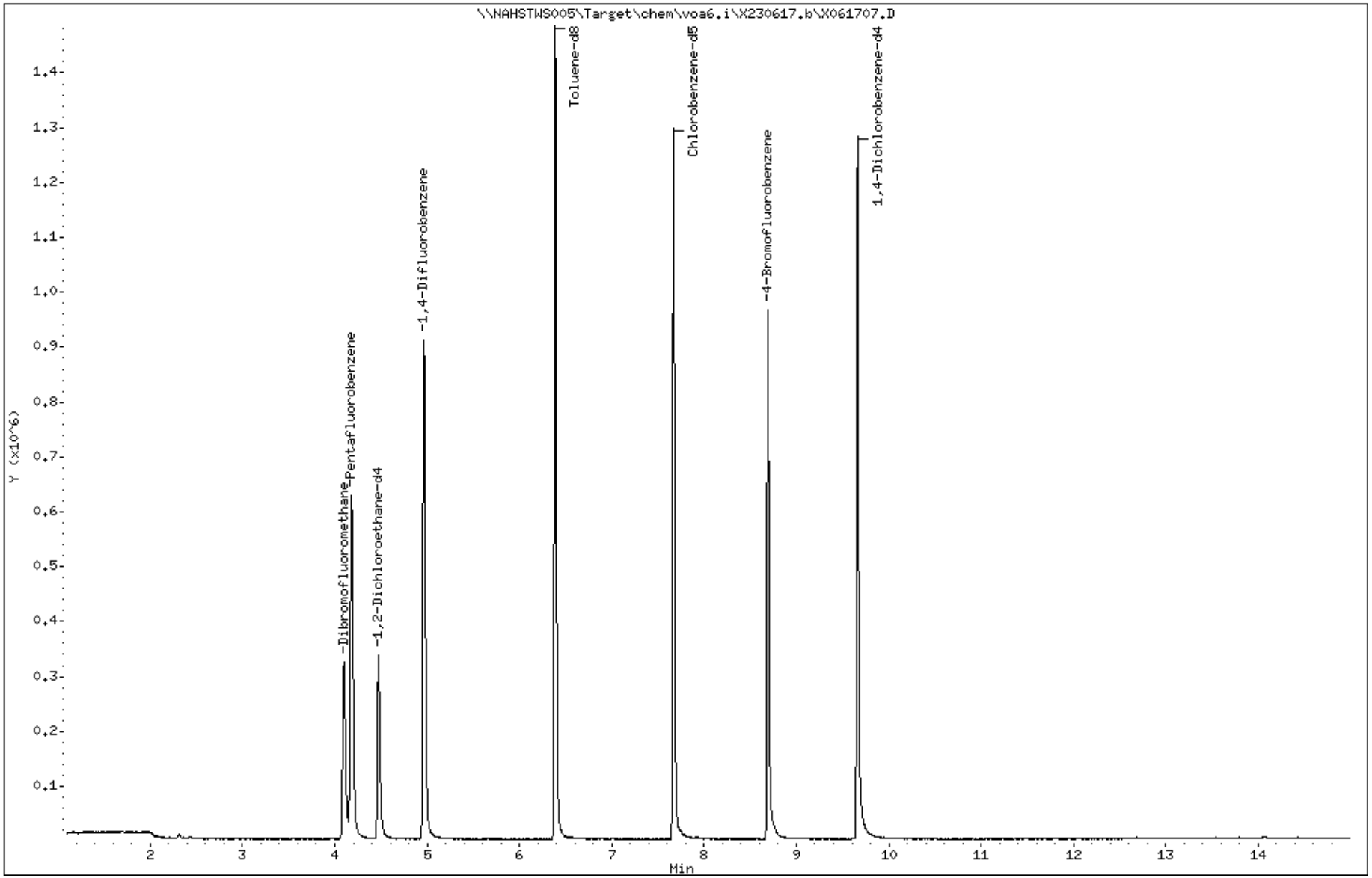
Sample Info: VBLKW-230617;VBLKW-230617;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061707.D
Inj Date : 17-JUN-2023 13:23
InstruID : voa6.i
LabSampID : VBLKW-230617

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061710.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061710.D
Lab Smp Id: HS23060722-05MS Client Smp ID: HS23060722-05MS
Inj Date : 17-JUN-2023 14:26
Operator : PC Inst ID: voa6.i
Smp Info : HS23060722-05MS;HS23060722-05MS;3;;MS
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 9 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.181	4.178	(1.000)	499166	50.0000	
135	1,4-Dioxane	88	5.602	5.595	(1.340)	24746	409.072	409.07(a)
140	1,3-Butadiene	54	1.167	1.167	(0.279)	90530	21.8852	21.88
25	Methacrylonitrile	41	3.829	3.821	(0.916)	90103	21.8767	21.87
12	Isobutyl Alcohol	43	4.680	4.676	(1.119)	288725	443.605	443.60
13	Acetonitrile	39	2.198	2.198	(0.526)	117242	242.156	242.15
14	Allyl Chloride	41	2.202	2.202	(0.527)	244807	22.3634	22.36
4	Propionitrile	54	3.656	3.649	(0.874)	130947	216.913	216.91(a)
72	trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	33944	21.5361	21.53
194	Acetaldehyde	44	1.216	1.216	(0.291)	26906	100.742	100.74(M)
23	Chloroprene	53	1.775	1.775	(0.424)	34145	20.5805	20.58(M)
130	Ethyl Acetate	43	3.656	3.653	(0.874)	109033	21.4285	21.42
40	Methyl Methacrylate	41	5.606	5.602	(1.341)	87240	22.5762	22.57
49	Ethyl Methacrylate	69	6.708	6.708	(1.351)	110784	21.2728	21.27
131	Methyl Acrylate	55	3.694	3.687	(0.883)	95619	23.6516	23.65
136	n-Hexane	57	2.772	2.772	(0.663)	120867	27.0589	27.05
156	Diisopropyl ether	45	3.000	3.001	(0.718)	311739	21.1754	21.17
166	1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	422424	25.2848	25.28
2	Dichlorodifluoromethane	85	0.976	0.976	(0.234)	89814	21.0871	21.08
3	Chloromethane	50	1.081	1.081	(0.259)	108609	21.1874	21.18

5	Vinyl Chloride	62	1.148	1.145 (0.275)	115320	21.9979	21.99
6	Bromomethane	94	1.343	1.344 (0.321)	60639	20.1515	20.15

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061710.D Page 2
Report Date: 20-Jun-2023 17:15

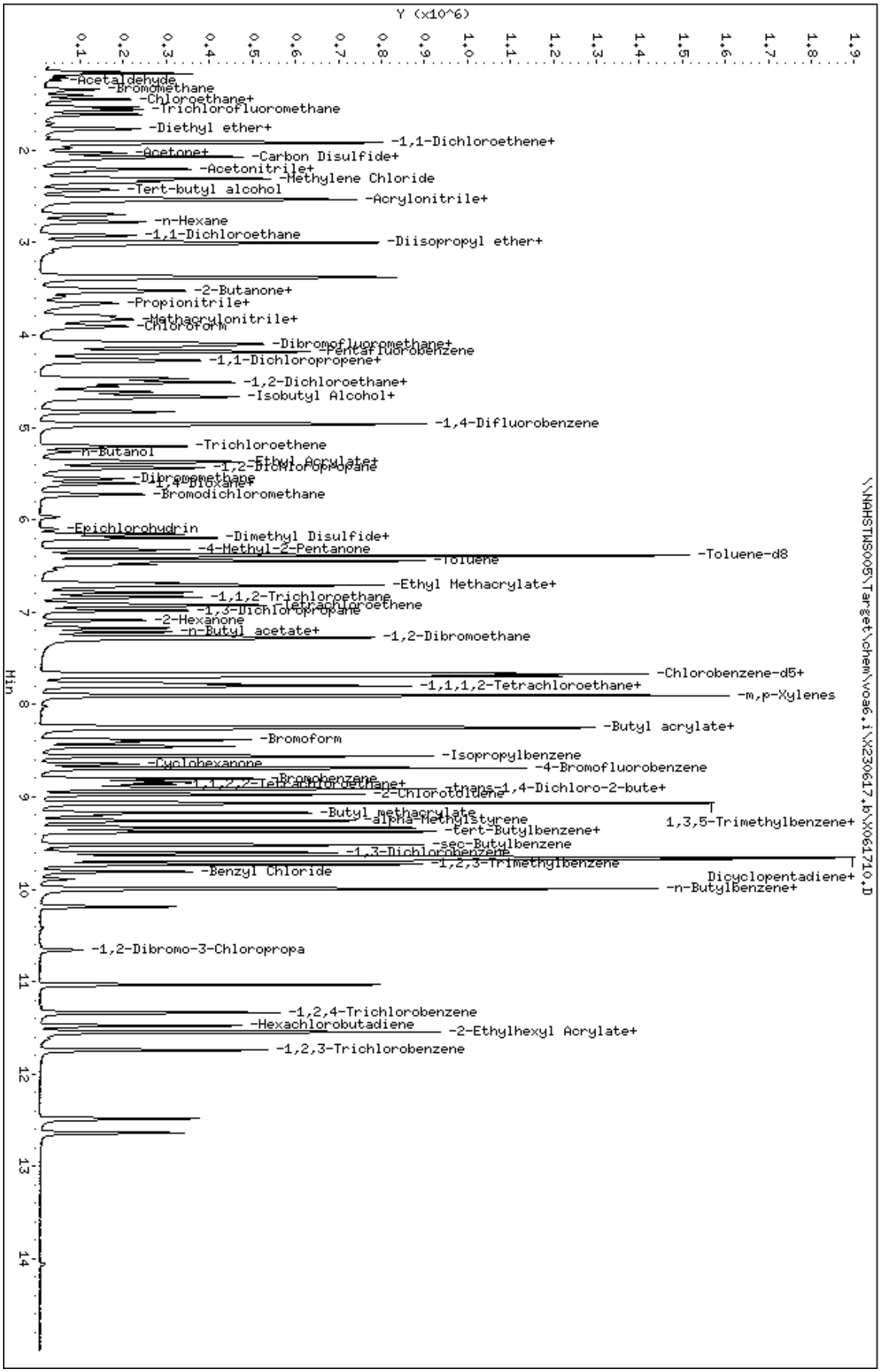
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	7 Chloroethane	64	1.407	1.407	(0.337)	70439	21.9817	21.98
	8 Trichlorofluoromethane	101	1.561	1.565	(0.373)	144728	23.2321	23.23
	9 Acrolein	56	1.448	1.449	(0.346)	16616	53.6451	53.64
	10 Acetone	43	1.977	1.973	(0.473)	44795	34.2372	34.23
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	196515	50.2855	50.28
	15 Iodomethane	142	2.029	2.030	(0.485)	199867	32.6892	32.68
	16 Acrylonitrile	53	2.539	2.536	(0.607)	64988	41.0161	41.01
	17 Methylene Chloride	84	2.307	2.307	(0.552)	104262	18.8877	18.88
	18 Methyl tert-butyl ether	73	2.535	2.536	(0.606)	288149	21.1257	21.12
	19 Carbon Disulfide	76	2.071	2.071	(0.495)	544236	39.1109	39.11
	20 trans-1,2-Dichloroethene	96	2.532	2.528	(0.606)	95335	20.3871	20.38
	21 Vinyl Acetate	43	3.000	2.997	(0.718)	543755	43.5663	43.56
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	225208	26.7337	26.73
	24 2-Butanone	43	3.585	3.578	(0.857)	58380	35.5384	35.53
	26 2,2-Dichloropropane	77	3.510	3.507	(0.840)	158217	23.7976	23.79
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	112064	20.7812	20.78
	28 Chloroform	83	3.907	3.908	(0.935)	182466	20.1242	20.12
	29 Bromochloromethane	128	3.795	3.795	(0.908)	56125	19.5315	19.53
$	30 Dibromofluoromethane	113	4.099	4.099	(0.980)	219104	49.1433	49.14
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	157782	21.5305	21.53
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	142556	23.4152	23.41
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	137392	22.5213	22.52
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	136457	23.3053	23.30
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	248548	51.6799	51.67
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	726571	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	410877	21.9846	21.98
	38 Trichloroethene	130	5.208	5.205	(1.049)	113449	22.0161	22.01
	39 Bromodichloromethane	83	5.726	5.722	(1.153)	139638	21.1218	21.12
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	106909	21.7932	21.79
	44 Dibromomethane	93	5.553	5.550	(1.119)	66299	21.5292	21.52
	45 4-Methyl-2-Pentanone	43	6.325	6.322	(0.825)	199698	47.7391	47.73
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	175944	21.5846	21.58
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	647565	50.0000	
$	48 Toluene-d8	98	6.385	6.386	(0.833)	866691	52.9378	52.93
	50 Toluene	91	6.445	6.446	(0.841)	444296	23.3707	23.37
	51 trans-1,3-Dichloropropene	75	6.681	6.678	(1.346)	149640	21.9411	21.94
	52 2-Hexanone	43	7.086	7.087	(0.924)	132270	47.3375	47.33
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	82655	22.3172	22.31
	54 1,3-Dichloropropane	76	6.981	6.978	(0.911)	171508	22.9028	22.90
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	115672	22.0372	22.03
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	94112	24.0735	24.07
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	105978	22.3868	22.38
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	107209	24.2639	24.26
	59 Chlorobenzene	112	7.694	7.690	(1.003)	297620	22.8797	22.87
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.773	(1.014)	107337	22.1291	22.12
	61 Ethylbenzene	106	7.799	7.799	(1.017)	157424	23.4893	23.48
	62 m,p-Xylenes	106	7.900	7.900	(1.030)	395899	47.9017	47.90
	63 o-Xylene	106	8.241	8.241	(1.075)	190129	23.0543	23.05
	64 Styrene	104	8.260	8.256	(1.077)	312601	23.0121	23.01
	66 Bromoform	173	8.410	8.406	(1.097)	77718	21.2387	21.23
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	494030	24.2356	24.23
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	137617	22.2674	22.26

$	69	4-Bromofluorobenzene	95	8.687	8.687 (1.133)	309583	48.9558	48.95
*	70	1,4-Dichlorobenzene-d4	152	9.662	9.662 (1.000)	351472	50.0000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	103174	23.2812	23.28(M)
	73 n-Propylbenzene	91	8.912	8.908	(0.922)	592248	25.6067	25.60
	74 Bromobenzene	156	8.803	8.803	(0.911)	129158	22.5464	22.54
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	416226	24.5255	24.52
	76 2-Chlorotoluene	91	8.972	8.972	(0.929)	355324	24.1925	24.19
	77 4-Chlorotoluene	91	9.069	9.066	(0.939)	401962	24.5356	24.53
	78 tert-Butylbenzene	119	9.336	9.332	(0.966)	352740	24.9482	24.94
	79 1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	416905	24.3484	24.34
	81 sec-Butylbenzene	105	9.519	9.519	(0.985)	506372	25.3936	25.39
	82 p-Isopropyltoluene	119	9.647	9.647	(0.998)	438899	25.1396	25.13
	83 1,3-Dichlorobenzene	146	9.605	9.602	(0.994)	239060	23.4372	23.43
	84 1,4-Dichlorobenzene	146	9.680	9.681	(1.002)	250156	22.9128	22.91
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	394464	26.5283	26.52
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	232769	22.9994	22.99
	89 1,2-Dibromo-3-Chloropropane	155	10.659	10.655	(1.103)	23288	23.2303	23.23
	90 1,2,4-Trichlorobenzene	180	11.337	11.334	(1.173)	165656	23.5298	23.52
	91 Hexachlorobutadiene	225	11.476	11.480	(1.188)	76892	24.3315	24.33
	92 Naphthalene	128	11.543	11.540	(1.195)	366498	23.1246	23.12
	93 1,2,3-Trichlorobenzene	180	11.738	11.739	(1.215)	147749	22.8071	22.80
M	94 1,2-Dichloroethylene (total)	96				207399	41.1683	41.16
M	95 Xylenes (total)	106				586028	70.9560	70.95
	141 Cyclohexane	56	4.125	4.121	(0.987)	158636	24.9310	24.93
	138 Freon TF	101	1.917	1.917	(0.459)	88516	25.7467	25.74
	147 Methylcyclohexane	55	5.384	5.377	(1.085)	270392	26.6274	26.62
	146 Methyl Acetate	43	2.236	2.236	(0.535)	62235	21.0644	21.06
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	203167	396.355	396.35
	149 Isopropyl Alcohol	45	2.097	2.093	(0.502)	110343	389.992	389.99

QC Flag Legend

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



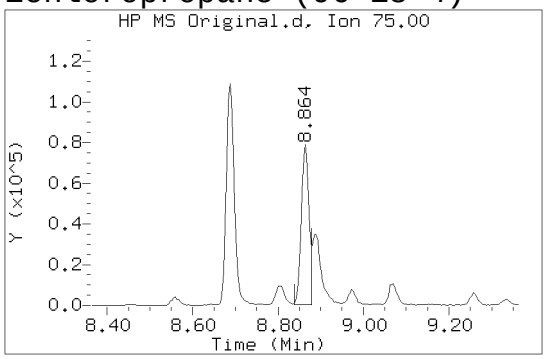
Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061710.D
Date : 17-JUN-2023 14:26
Client ID: HS23060722-05MS
Instrument: voa6.i
Sample Info: HS23060722-05MS;HS23060722-05MS;3;;MS
Purge Volume: 5.0
Operator: PC
Column phase: DB624
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061710.D
Inj Date : 17-JUN-2023 14:26
InstruID : voa6.i
LabSampID : HS23060722-05MS

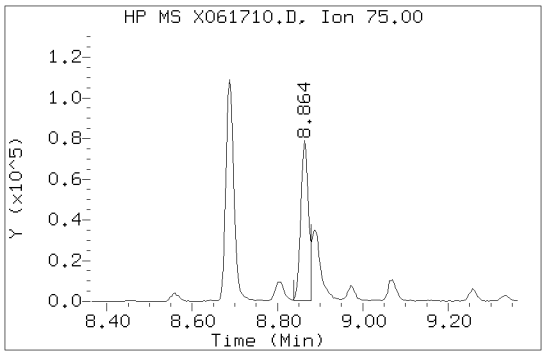
1,2,3-Trichloropropane (96-18-4)

Reason Code:

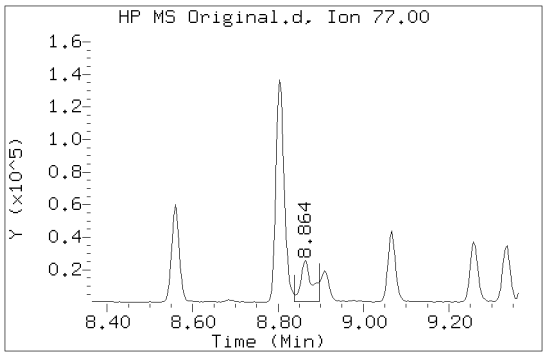
BEFORE
MASS
75
AREA
103174
HEIGHT
78698
19-Jun-2023
12:25



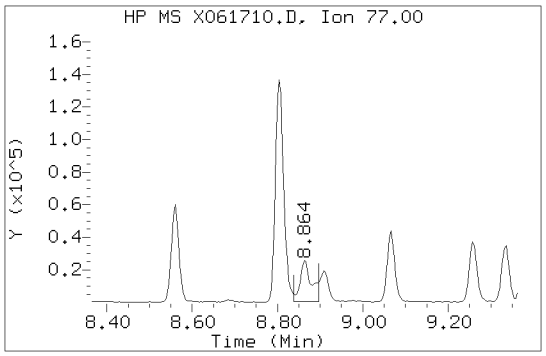
AFTER
MASS
75
AREA
103174
HEIGHT
78698
20-Jun-2023
17:14



BEFORE
MASS
77
AREA
49808
HEIGHT
25589
19-Jun-2023
12:25



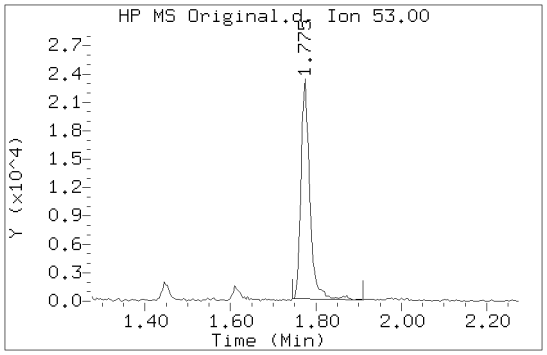
AFTER
MASS
77
AREA
49808
HEIGHT
25589
20-Jun-2023
17:14



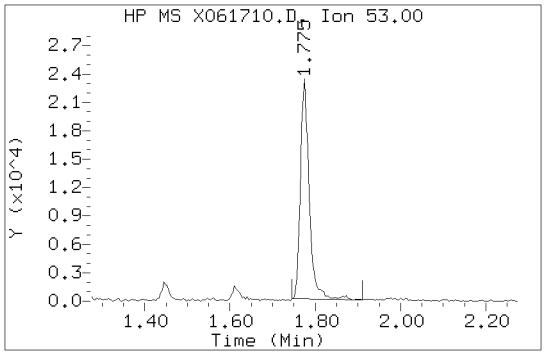
Chloroprene (126-99-8)

Reason Code:

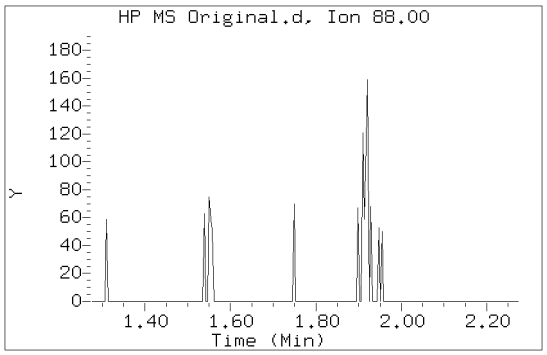
BEFORE
MASS
53
AREA
34145
HEIGHT
23217
19-Jun-2023
12:25



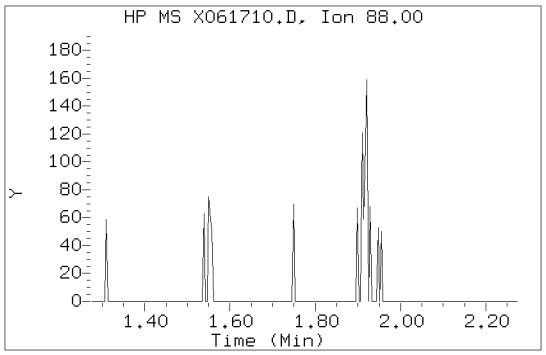
AFTER
MASS
53
AREA
34145
HEIGHT
23217
20-Jun-2023
17:14



BEFORE
MASS
88
AREA
0
HEIGHT
0
19-Jun-2023
12:25



AFTER
MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
17:14

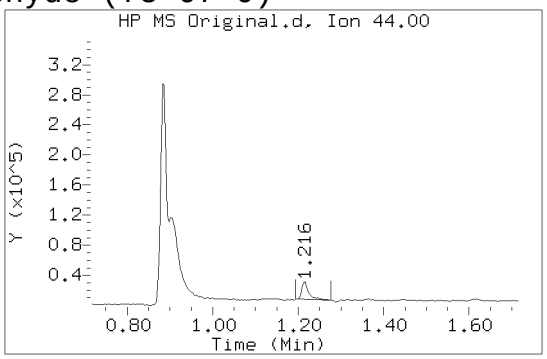


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061710.D
Inj Date : 17-JUN-2023 14:26
InstruID : voa6.i
LabSampID : HS23060722-05MS

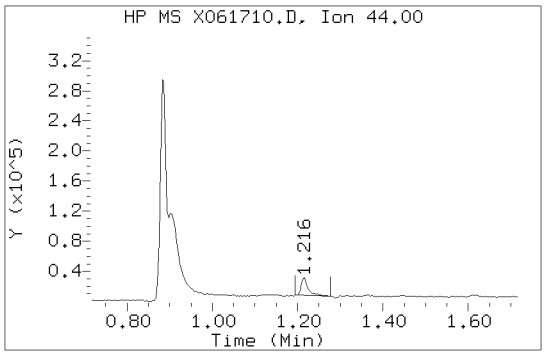
Acetaldehyde (75-07-0)

Reason Code:

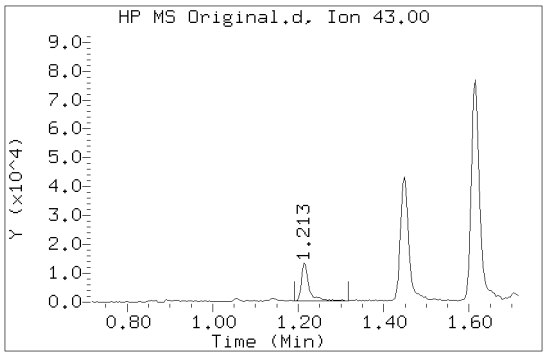
BEFORE
MASS
44
AREA
26906
HEIGHT
23321
19-Jun-2023
12:25



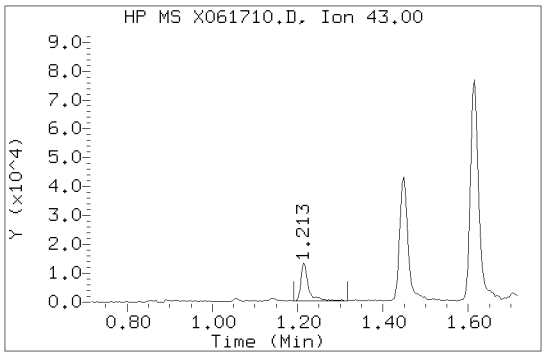
AFTER
MASS
44
AREA
26906
HEIGHT
23321
20-Jun-2023
17:14



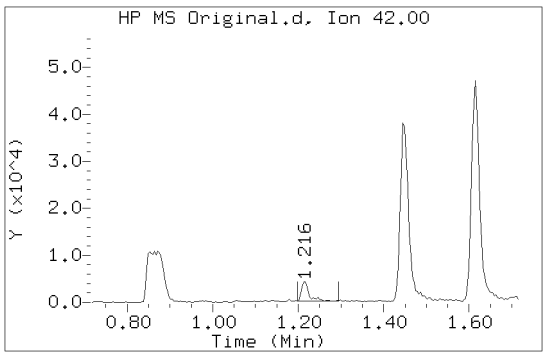
BEFORE
MASS
43
AREA
16653
HEIGHT
13070
19-Jun-2023
12:25



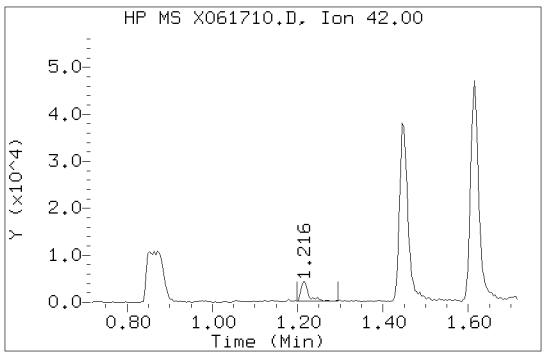
AFTER
MASS
43
AREA
16653
HEIGHT
13070
20-Jun-2023
17:14



BEFORE
MASS
42
AREA
5415
HEIGHT
4096
19-Jun-2023
12:25



AFTER
MASS
42
AREA
5415
HEIGHT
4096
20-Jun-2023
17:14



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061711.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061711.D
Lab Smp Id: HS23060722-05MSD Client Smp ID: HS23060722-05MSD
Inj Date : 17-JUN-2023 14:47
Operator : PC Inst ID: voa6.i
Smp Info : HS23060722-05MSD;HS23060722-05MSD;3;;MSD
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 9 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	506199	50.0000	
135 1,4-Dioxane	88	5.602	5.595	(1.340)	24829	404.742	404.74(a)
140 1,3-Butadiene	54	1.167	1.167	(0.279)	89845	21.4178	21.41
25 Methacrylonitrile	41	3.821	3.821	(0.914)	94430	22.6087	22.60
12 Isobutyl Alcohol	43	4.676	4.676	(1.118)	301477	456.762	456.76
13 Acetonitrile	39	2.202	2.198	(0.527)	118575	241.507	241.50
14 Allyl Chloride	41	2.202	2.202	(0.527)	255891	23.0512	23.05
4 Propionitrile	54	3.653	3.649	(0.874)	138689	226.546	226.54(a)
72 trans-1,4-Dichloro-2-butene	53	8.890	8.886	(1.159)	37226	22.8674	22.86
194 Acetaldehyde	44	1.216	1.216	(0.291)	26771	98.7790	98.77(M)
23 Chloroprene	53	1.775	1.775	(0.424)	33827	20.1056	20.10(M)
130 Ethyl Acetate	43	3.656	3.653	(0.874)	109966	21.3116	21.31
40 Methyl Methacrylate	41	5.606	5.602	(1.341)	93314	23.8126	23.81
49 Ethyl Methacrylate	69	6.708	6.708	(1.351)	119198	22.4184	22.41
131 Methyl Acrylate	55	3.690	3.687	(0.883)	99211	24.1991	24.19
136 n-Hexane	57	2.772	2.772	(0.663)	114930	25.4047	25.40
156 Diisopropyl ether	45	3.004	3.001	(0.719)	324611	21.7434	21.74
166 1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	428007	25.0150	25.01
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	90368	20.9250	20.92
3 Chloromethane	50	1.081	1.081	(0.259)	110681	21.2866	21.28

5 Vinyl Chloride	62	1.145	1.145 (0.274)	113780	21.4026	21.40
6 Bromomethane	94	1.344	1.344 (0.321)	61719	20.2254	20.22

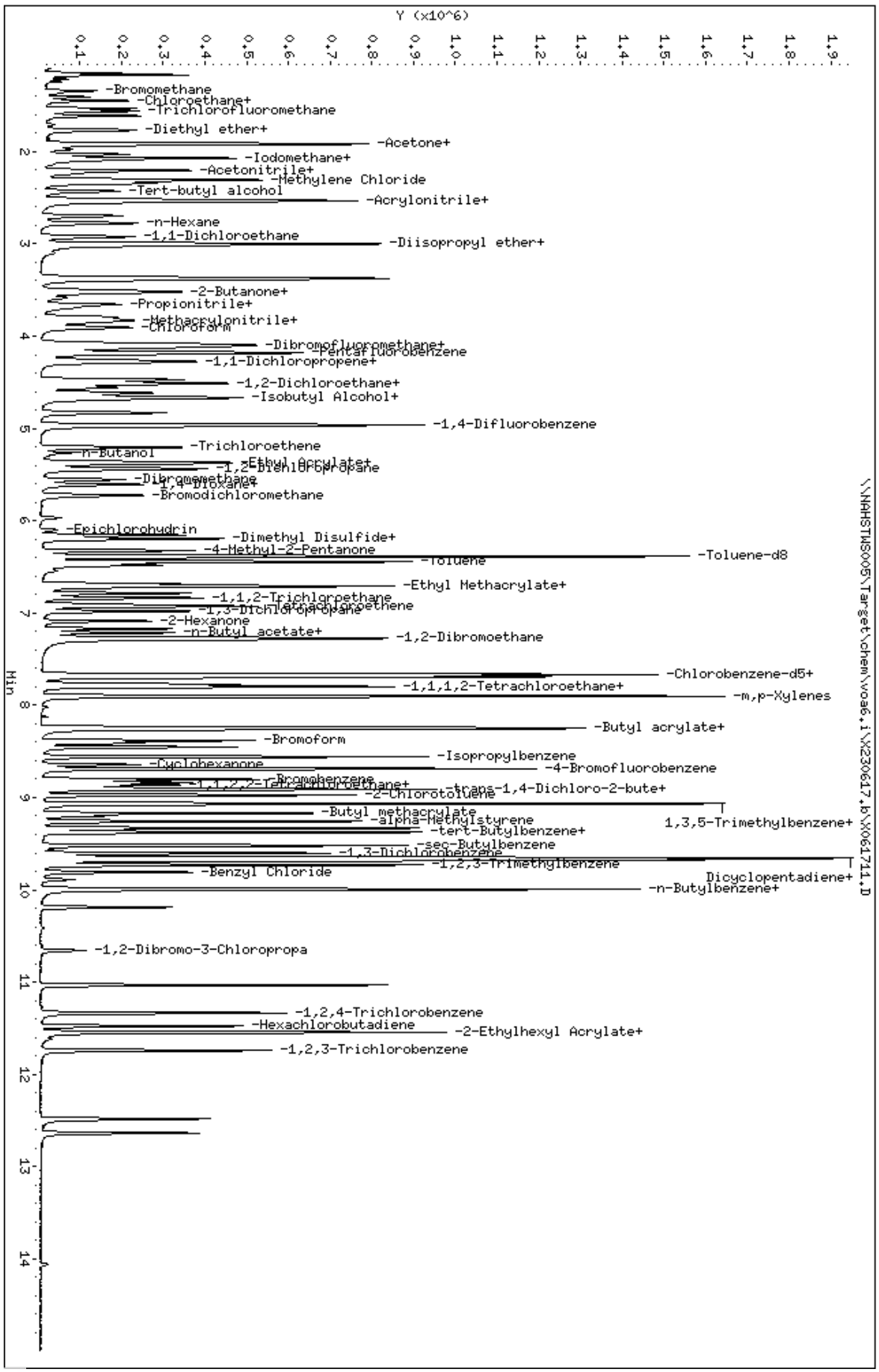
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	7 Chloroethane	64	1.407	1.407	(0.337)	69006	21.2353	21.23
	8 Trichlorofluoromethane	101	1.565	1.565	(0.374)	140635	22.2615	22.26
	9 Acrolein	56	1.448	1.449	(0.347)	15603	49.6747	49.67
	10 Acetone	43	1.977	1.973	(0.473)	47468	35.7883	35.78
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	189045	47.7020	47.70
	15 Iodomethane	142	2.030	2.030	(0.485)	220590	35.3613	35.36
	16 Acrylonitrile	53	2.539	2.536	(0.607)	66392	41.3200	41.32
	17 Methylene Chloride	84	2.307	2.307	(0.552)	107217	19.1531	19.15
	18 Methyl tert-butyl ether	73	2.532	2.536	(0.606)	300185	21.7023	21.70
	19 Carbon Disulfide	76	2.071	2.071	(0.495)	538702	38.1754	38.17
	20 trans-1,2-Dichloroethene	96	2.532	2.528	(0.606)	98716	20.8168	20.81
	21 Vinyl Acetate	43	3.000	2.997	(0.718)	564386	44.5910	44.59
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	226282	26.4880	26.48
	24 2-Butanone	43	3.581	3.578	(0.857)	68144	40.9058	40.90
	26 2,2-Dichloropropane	77	3.510	3.507	(0.840)	157292	23.3297	23.32
	27 cis-1,2-Dichloroethene	96	3.529	3.525	(0.844)	113055	20.6737	20.67
	28 Chloroform	83	3.904	3.908	(0.934)	184200	20.0332	20.03
	29 Bromochloromethane	128	3.795	3.795	(0.908)	57938	19.8823	19.88
$	30 Dibromofluoromethane	113	4.095	4.099	(0.979)	223169	49.3611	49.36
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	160956	21.6584	21.65
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	141223	22.7199	22.71
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	139339	22.3714	22.37
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	136360	22.8105	22.81
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	247333	50.6967	50.69
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	741804	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	410359	21.5060	21.50
	38 Trichloroethene	130	5.208	5.205	(1.049)	114849	21.8301	21.83
	39 Bromodichloromethane	83	5.722	5.722	(1.153)	141392	20.9479	20.94
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	109602	21.8834	21.88
	44 Dibromomethane	93	5.553	5.550	(1.119)	68936	21.9258	21.92
	45 4-Methyl-2-Pentanone	43	6.325	6.322	(0.825)	208384	48.2316	48.23
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	180926	21.7400	21.73
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	668832	50.0000	
$	48 Toluene-d8	98	6.385	6.386	(0.833)	884739	52.3219	52.32
	50 Toluene	91	6.445	6.446	(0.841)	451168	22.9776	22.97
	51 trans-1,3-Dichloropropene	75	6.682	6.678	(1.346)	149400	21.4561	21.45
	52 2-Hexanone	43	7.086	7.087	(0.924)	140791	48.7849	48.78
	53 1,1,2-Trichloroethane	83	6.835	6.839	(0.891)	84565	22.1069	22.10
	54 1,3-Dichloropropane	76	6.981	6.978	(0.911)	176823	22.8617	22.86
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	119444	22.0323	22.03
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	94766	23.4700	23.47
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	109878	22.4726	22.47
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	104958	23.2666	23.26
	59 Chlorobenzene	112	7.690	7.690	(1.003)	300011	22.3302	22.33
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.773	(1.014)	109204	21.7982	21.79
	61 Ethylbenzene	106	7.799	7.799	(1.017)	158134	22.8450	22.84
	62 m,p-Xylenes	106	7.900	7.900	(1.030)	404316	47.3646	47.36
	63 o-Xylene	106	8.241	8.241	(1.075)	192160	22.5597	22.55
	64 Styrene	104	8.260	8.256	(1.077)	317660	22.6410	22.64
	66 Bromoform	173	8.410	8.406	(1.097)	82585	21.8511	21.85
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	499426	23.7213	23.72
	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837	(0.915)	144915	22.8955	22.89

$	69	4-Bromofluorobenzene	95	8.687	8.687 (1.133)	322901	49.4435	49.44
*	70	1,4-Dichlorobenzene-d4	152	9.662	9.662 (1.000)	359957	50.0000	

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	116589	25.6882	25.68
	73 n-Propylbenzene	91	8.908	8.908	(0.922)	596597	25.1867	25.18
	74 Bromobenzene	156	8.803	8.803	(0.911)	134509	22.9270	22.92
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	428189	24.6357	24.63
	76 2-Chlorotoluene	91	8.972	8.972	(0.929)	356849	23.7236	23.72
	77 4-Chlorotoluene	91	9.069	9.066	(0.939)	411492	24.5252	24.52
	78 tert-Butylbenzene	119	9.332	9.332	(0.966)	358477	24.7563	24.75
	79 1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	422677	24.1036	24.10
	81 sec-Butylbenzene	105	9.519	9.519	(0.985)	508916	24.9196	24.91
	82 p-Isopropyltoluene	119	9.647	9.647	(0.998)	445404	24.9108	24.91
	83 1,3-Dichlorobenzene	146	9.606	9.602	(0.994)	241215	23.0910	23.09
	84 1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	252499	22.5823	22.58
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	394473	25.9036	25.90
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	240879	23.2397	23.23
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	23977	23.3524	23.35
	90 1,2,4-Trichlorobenzene	180	11.337	11.334	(1.173)	168901	23.4252	23.42
	91 Hexachlorobutadiene	225	11.476	11.480	(1.188)	78687	24.3125	24.31
	92 Naphthalene	128	11.540	11.540	(1.194)	393455	24.2403	24.24
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	157355	23.7173	23.71
M	94 1,2-Dichloroethylene (total)	96				211771	41.4905	41.49
M	95 Xylenes (total)	106				596476	69.9242	69.92
	141 Cyclohexane	56	4.121	4.121	(0.986)	158016	24.4886	24.48
	138 Freon TF	101	1.917	1.917	(0.459)	89605	25.7019	25.70
	147 Methylcyclohexane	55	5.381	5.377	(1.084)	275566	26.5796	26.57
	146 Methyl Acetate	43	2.236	2.236	(0.535)	64104	21.3955	21.39
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	216226	415.971	415.97
	149 Isopropyl Alcohol	45	2.097	2.093	(0.502)	116513	406.077	406.07

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\X230617,b\X061711,D
Date : 17-JUN-2023 14:47
Client ID: HS23060722-05HSD
Sample Info: HS23060722-05HSD;HS23060722-05HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

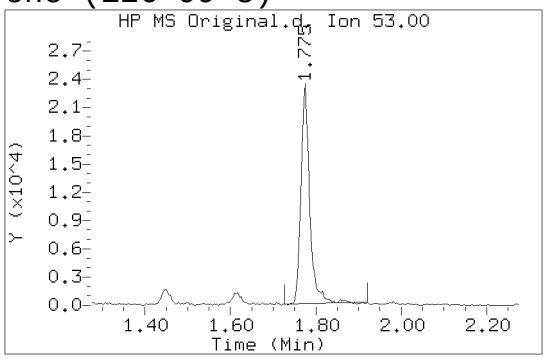
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061711.D
Inj Date : 17-JUN-2023 14:47
InstruID : voa6.i
LabSampID : HS23060722-05MSD

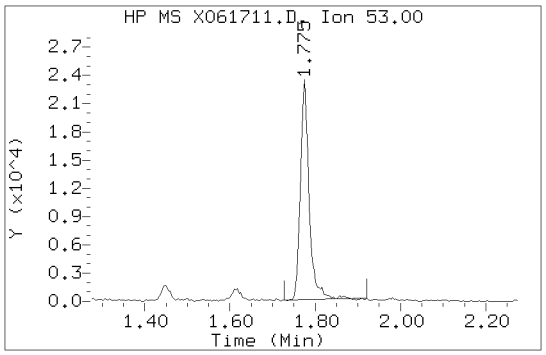
Chloroprene (126-99-8)

Reason Code:

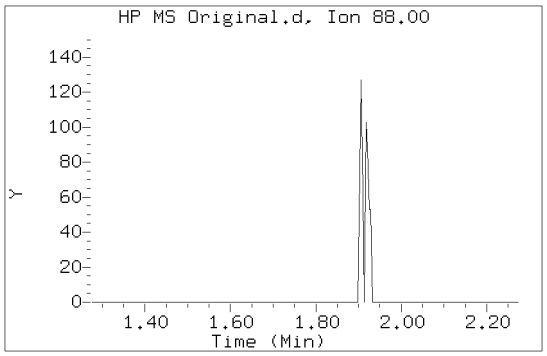
BEFORE
MASS
53
AREA
33827
HEIGHT
23336
19-Jun-2023
12:25



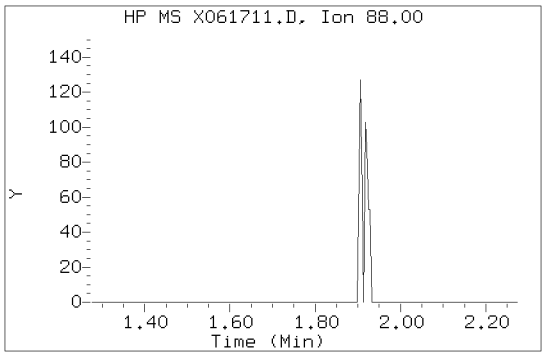
AFTER
MASS
53
AREA
33827
HEIGHT
23336
20-Jun-2023
17:14



BEFORE
MASS
88
AREA
0
HEIGHT
0
19-Jun-2023
12:25



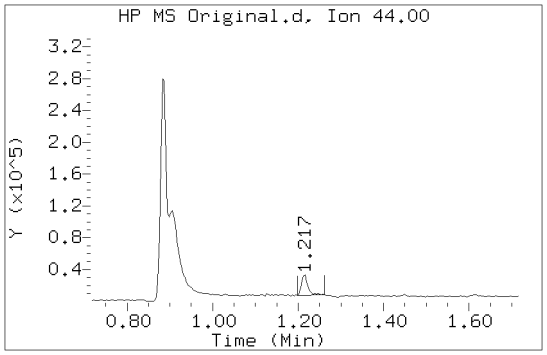
AFTER
MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
17:14



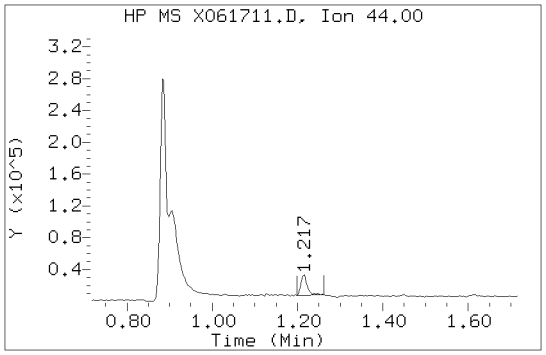
Acetaldehyde (75-07-0)

Reason Code:

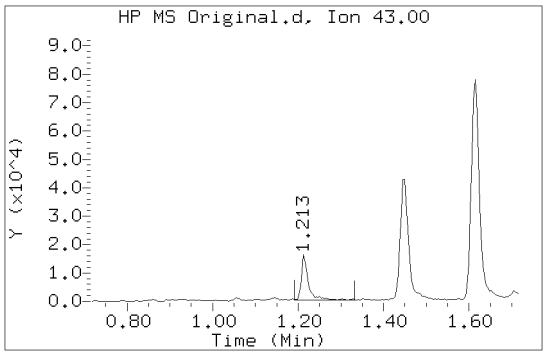
BEFORE
MASS
44
AREA
26771
HEIGHT
25485
19-Jun-2023
12:25



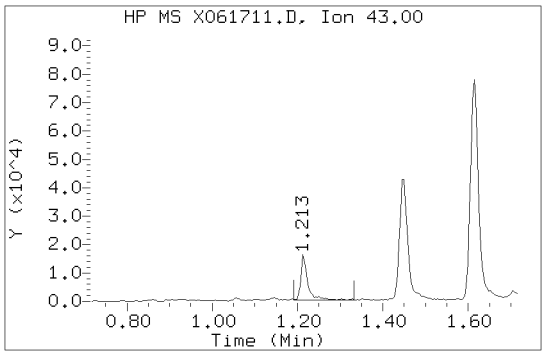
AFTER
MASS
44
AREA
26771
HEIGHT
25485
20-Jun-2023
17:14



BEFORE
MASS
43
AREA
18605
HEIGHT
15982
19-Jun-2023
12:25



AFTER
MASS
43
AREA
18605
HEIGHT
15982
20-Jun-2023
17:14



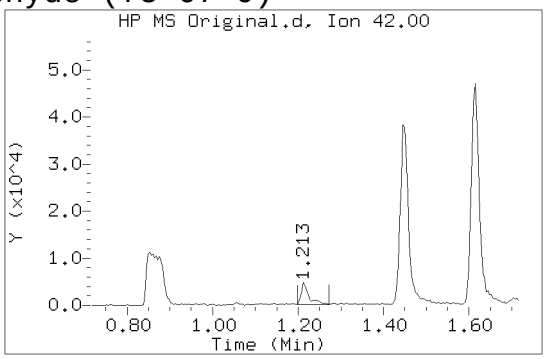
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061711.D
Inj Date : 17-JUN-2023 14:47
InstruID : voa6.i
LabSampID : HS23060722-05MSD

Acetaldehyde (75-07-0)

Reason Code:

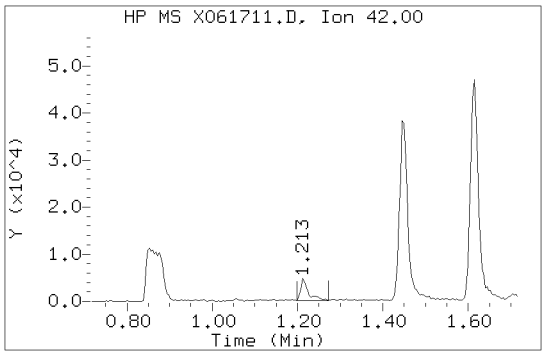
BEFORE

MASS
42
AREA
5896
HEIGHT
4698
19-Jun-2023
12:25



AFTER

MASS
42
AREA
5896
HEIGHT
4698
20-Jun-2023
17:14



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061713.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061713.D
Lab Smp Id: HS23060739-07 Client Smp ID: HS23060739-07
Inj Date : 17-JUN-2023 15:29
Operator : PC Inst ID: voa6.i
Smp Info : HS23060739-07;HS23060739-07;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	504290	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.099	(0.980)	225723	50.1203	50.12
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	252013	51.8711	51.87
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	730912	50.0000	
* 47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	651618	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.833)	872902	52.9856	52.98
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	306989	48.2358	48.23
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	325999	50.0000	

01194650

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061713.D

Date : 17-JUN-2023 15:29

Client ID: HS23060739-07

Instrument: voa6.i

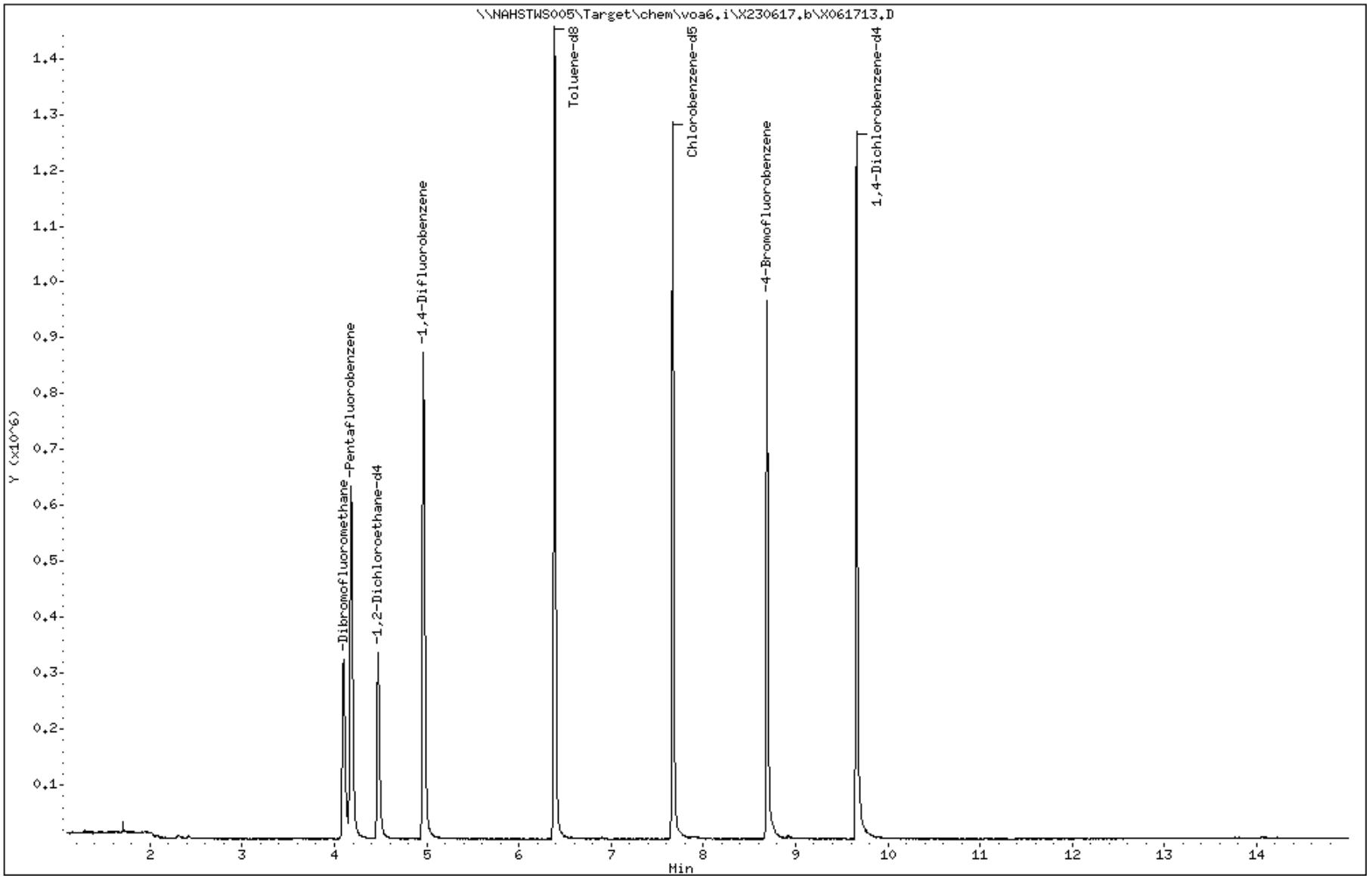
Sample Info: HS23060739-07;HS23060739-07;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061713.D
Inj Date : 17-JUN-2023 15:29
InstruID : voa6.i
LabSampID : HS23060739-07

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061722.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061722.D
Lab Smp Id: HS23060739-05 Client Smp ID: HS23060739-05
Inj Date : 17-JUN-2023 18:38
Operator : PC Inst ID: voa6.i
Smp Info : HS23060739-05;HS23060739-05;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1	Pentafluorobenzene	168	4.181	4.178	(1.000)	496073	50.0000	
	27	cis-1,2-Dichloroethene	96	3.536	3.525	(0.846)	31439	5.86642	5.86
$	30	Dibromofluoromethane	113	4.099	4.099	(0.980)	223964	50.5565	50.55
$	35	1,2-Dichloroethane-d4	65	4.474	4.470	(1.070)	248061	51.9039	51.90
*	36	1,4-Difluorobenzene	114	4.965	4.965	(1.000)	731251	50.0000	
	38	Trichloroethene	130	5.205	5.205	(1.048)	888453	171.311	171.31
*	47	Chlorobenzene-d5	117	7.667	7.668	(1.000)	647573	50.0000	
$	48	Toluene-d8	98	6.385	6.386	(0.833)	864806	52.8220	52.82
$	69	4-Bromofluorobenzene	95	8.687	8.687	(1.133)	310557	49.1109	49.11
*	70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	328253	50.0000	
M	94	1,2-Dichloroethylene (total)	96				31439	5.86642	5.86(a)
	138	Freon TF	101	1.917	1.917	(0.459)	1132533	291.032	291.03(A)

QC Flag Legend

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

01194653

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061722.D

Date : 17-JUN-2023 18:38

Client ID: HS23060739-05

Instrument: voa6.i

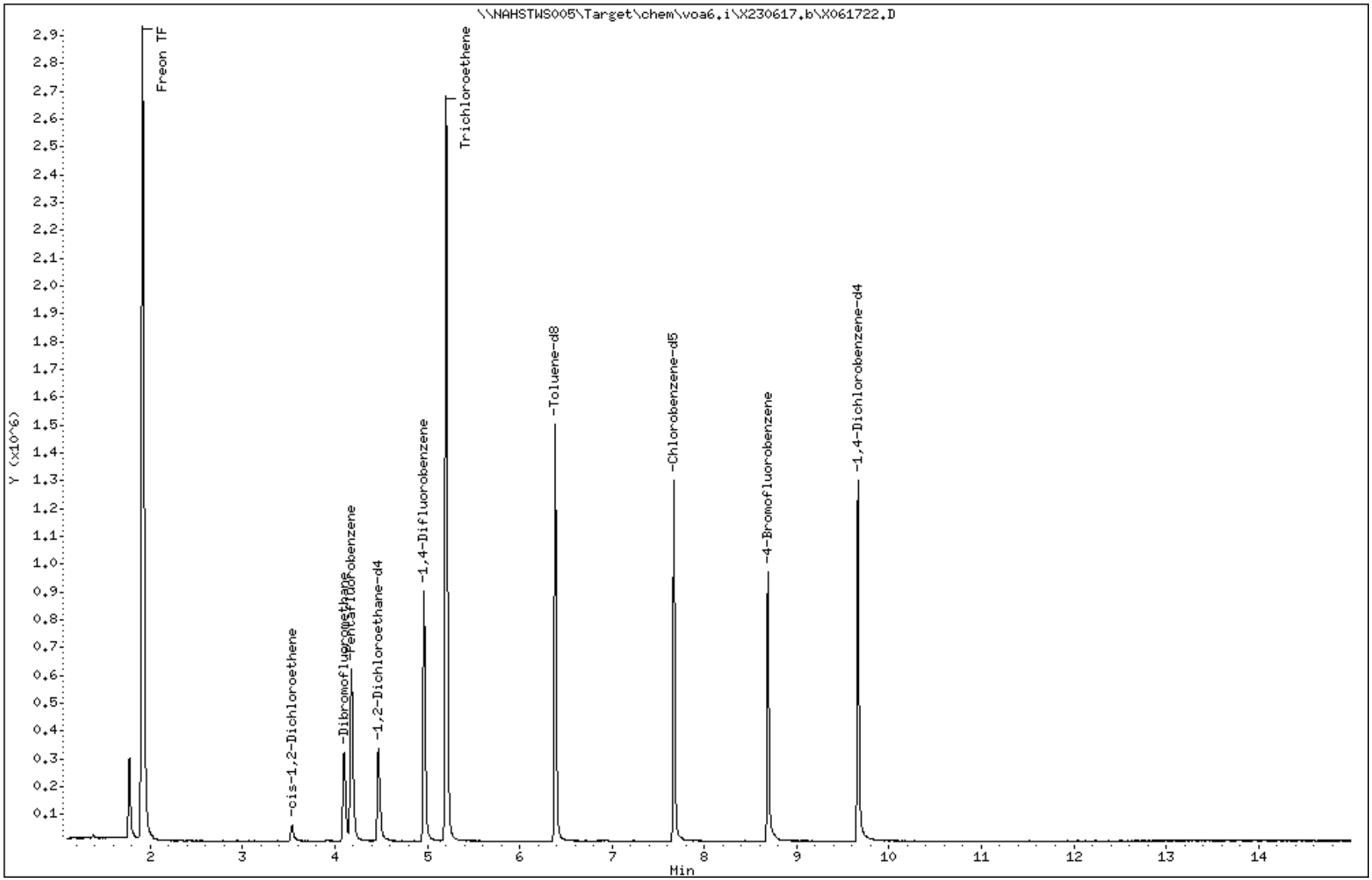
Sample Info: HS23060739-05;HS23060739-05;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061722.D

Date : 17-JUN-2023 18:38

Client ID: HS23060739-05

Instrument: voa6.i

Sample Info: HS23060739-05;HS23060739-05;;;

Purge Volume: 5.0

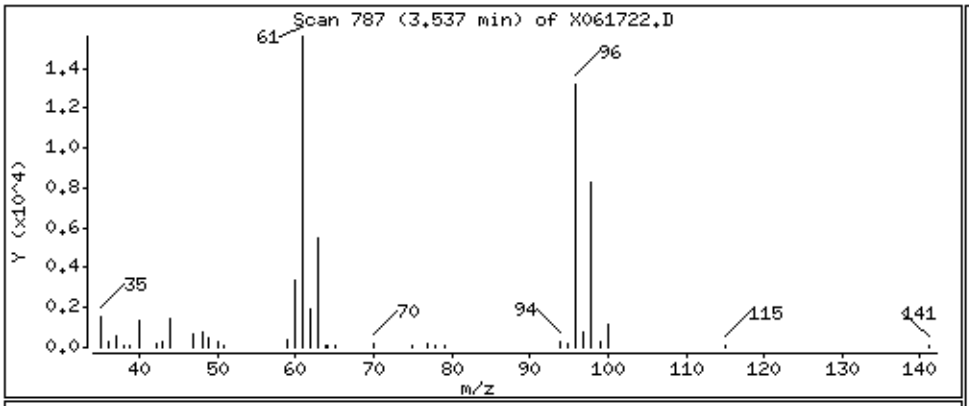
Operator: PC

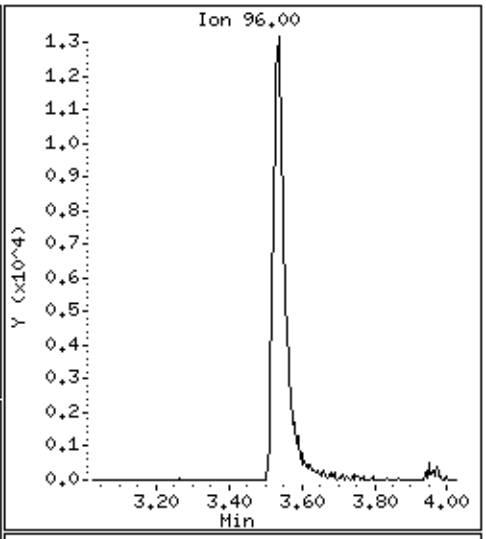
Column phase: DB624

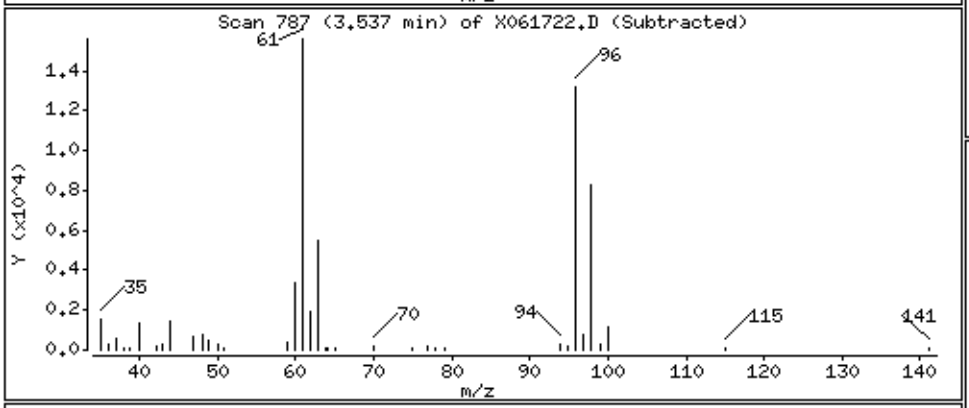
Column diameter: 0.18

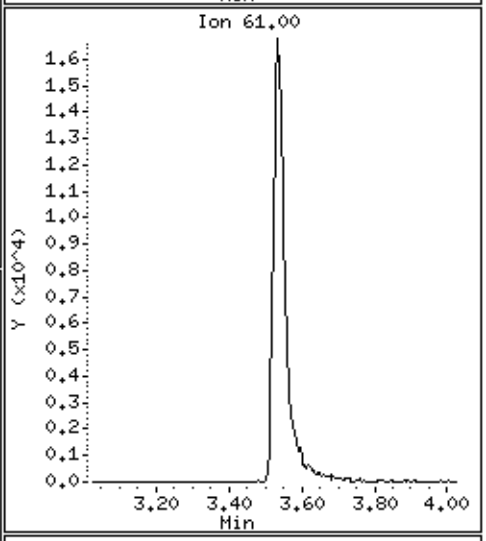
27 cis-1,2-Dichloroethene

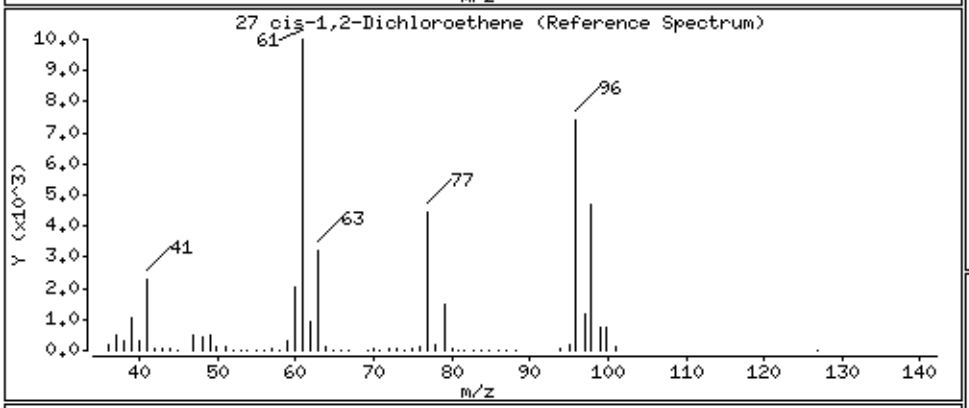
Concentration: 5.86 ug/l

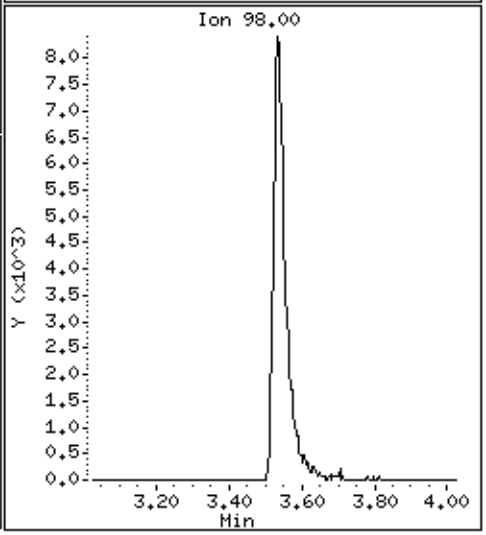


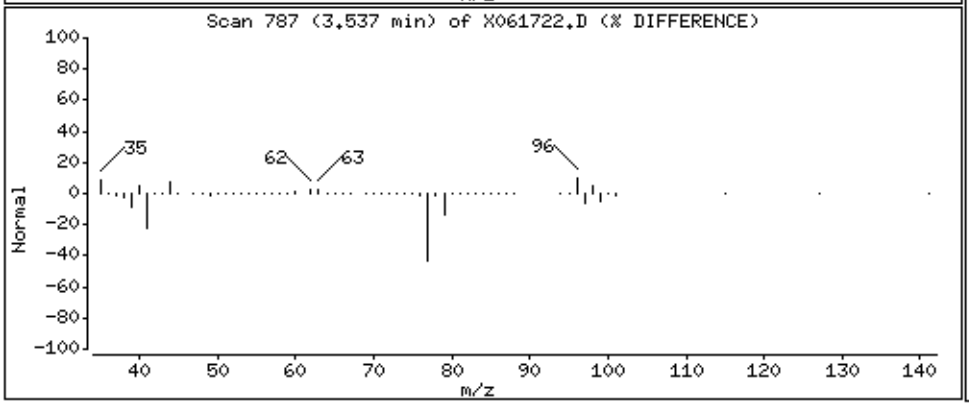












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061722.D Page 3

Date : 17-JUN-2023 18:38

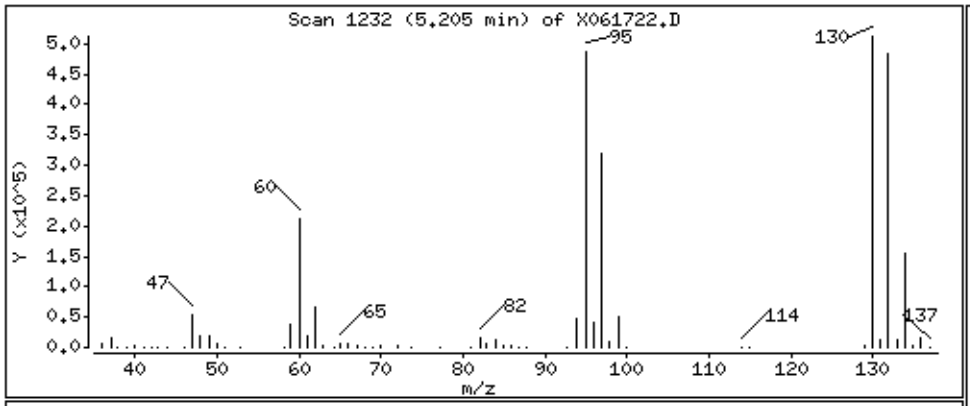
Client ID: HS23060739-05 Instrument: voa6.i

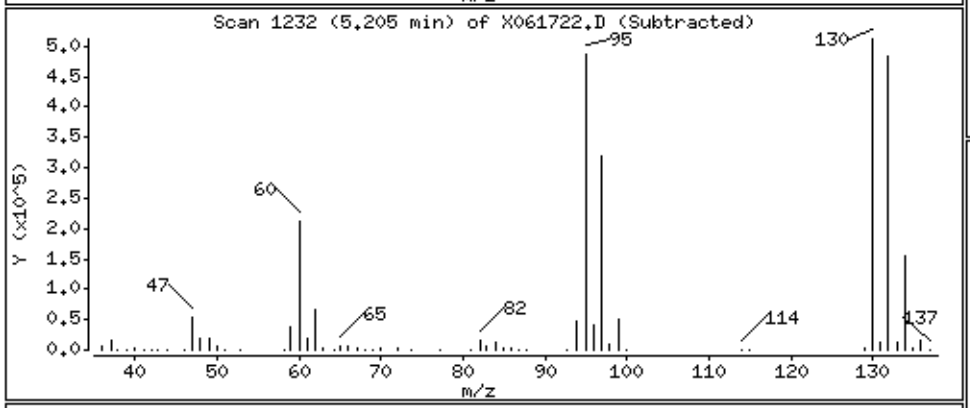
Sample Info: HS23060739-05;HS23060739-05;;;

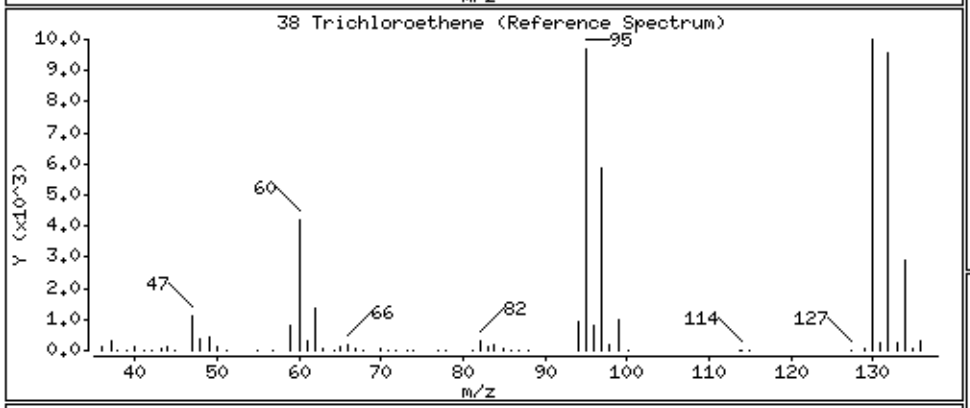
Purge Volume: 5.0 Operator: PC

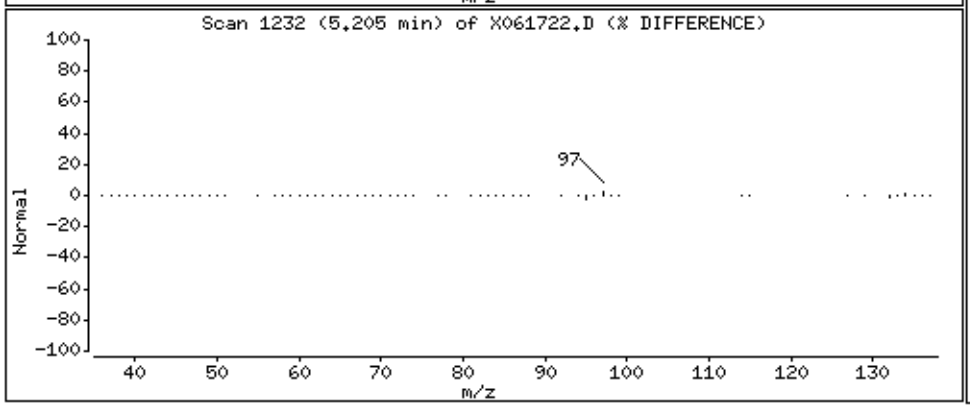
Column phase: DB624 Column diameter: 0.18

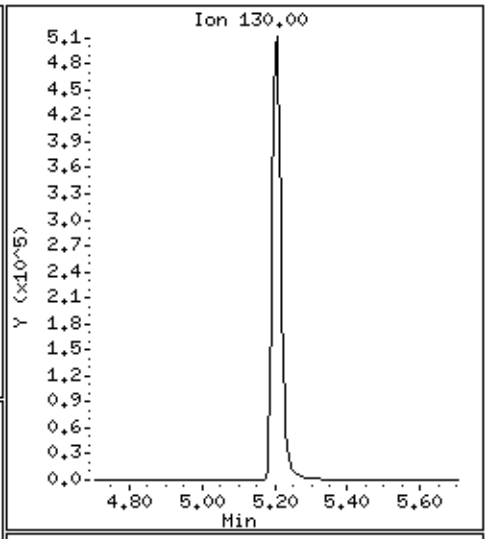
38 Trichloroethene Concentration: 171.31 ug/l

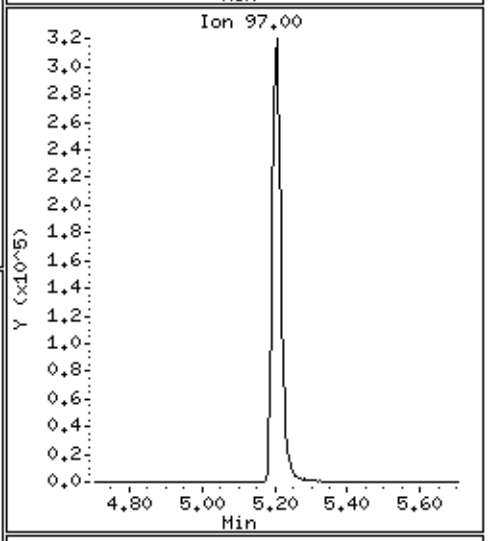


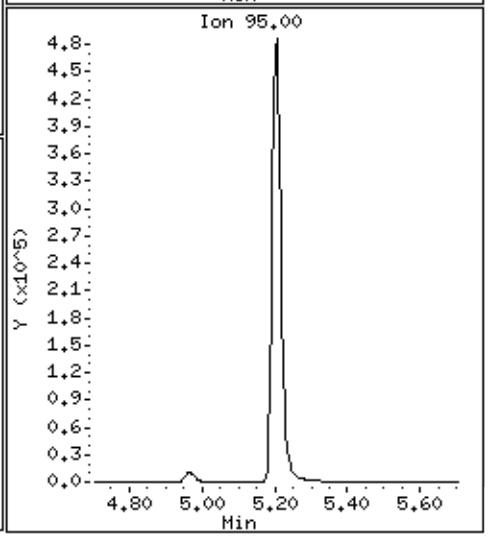












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061722.D

Date : 17-JUN-2023 18:38

Client ID: HS23060739-05

Instrument: voa6.i

Sample Info: HS23060739-05;HS23060739-05;;;

Purge Volume: 5.0

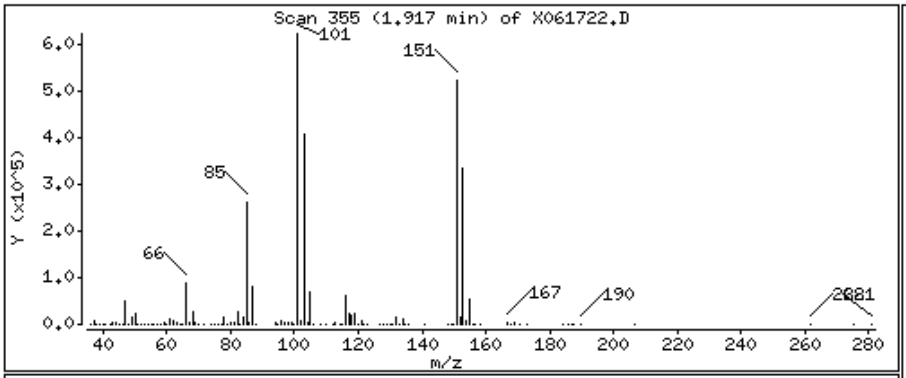
Operator: PC

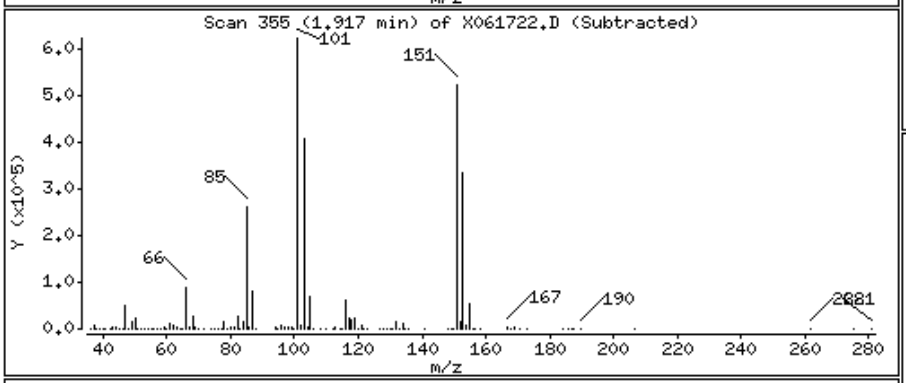
Column phase: DB624

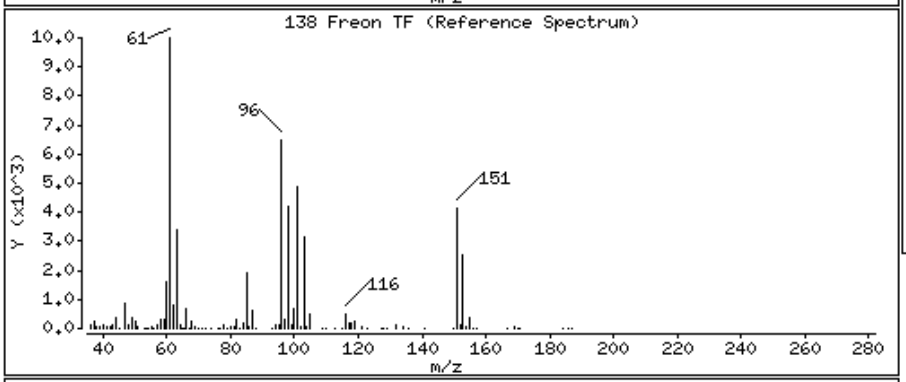
Column diameter: 0.18

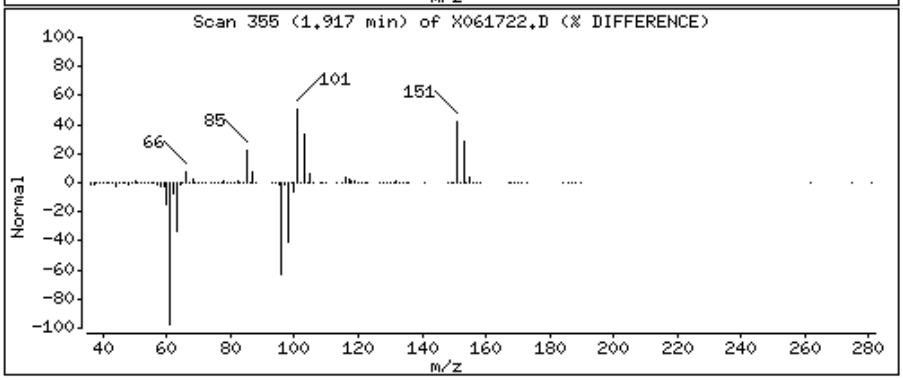
138 Freon TF

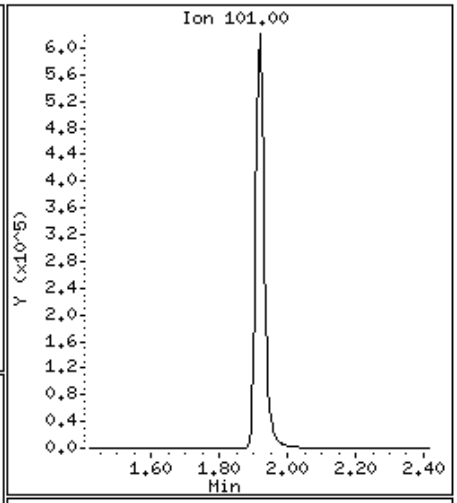
Concentration: 291.03 ug/l

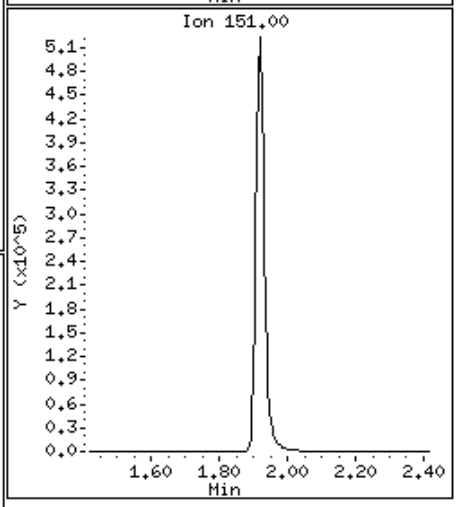












Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061722.D
Inj Date : 17-JUN-2023 18:38
InstruID : voa6.i
LabSampID : HS23060739-05

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061723.D Page 1
Report Date: 20-Jun-2023 17:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061723.D
Lab Smp Id: HS23060739-06 Client Smp ID: HS23060739-06
Inj Date : 17-JUN-2023 18:59
Operator : PC Inst ID: voa6.i
Smp Info : HS23060739-06;HS23060739-06;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.181	4.178	(1.000)	483328	50.0000	
	27 cis-1,2-Dichloroethene	96	3.533	3.525	(0.845)	30586	5.85775	5.85
$	30 Dibromofluoromethane	113	4.099	4.099	(0.980)	218658	50.6610	50.66
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	244927	52.6110	52.61
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	704922	50.0000	
	38 Trichloroethene	130	5.205	5.205	(1.048)	885938	177.206	177.20
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	619318	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.833)	840137	53.6564	53.65
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	294598	48.7082	48.70
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	307035	50.0000	
M	94 1,2-Dichloroethylene (total)	96				30586	5.85775	5.85(a)
	138 Freon TF	101	1.917	1.917	(0.459)	1120203	294.780	294.77(A)

QC Flag Legend

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

01194659

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061723.D

Page 1

Date : 17-JUN-2023 18:59

Client ID: HS23060739-06

Instrument: voa6.i

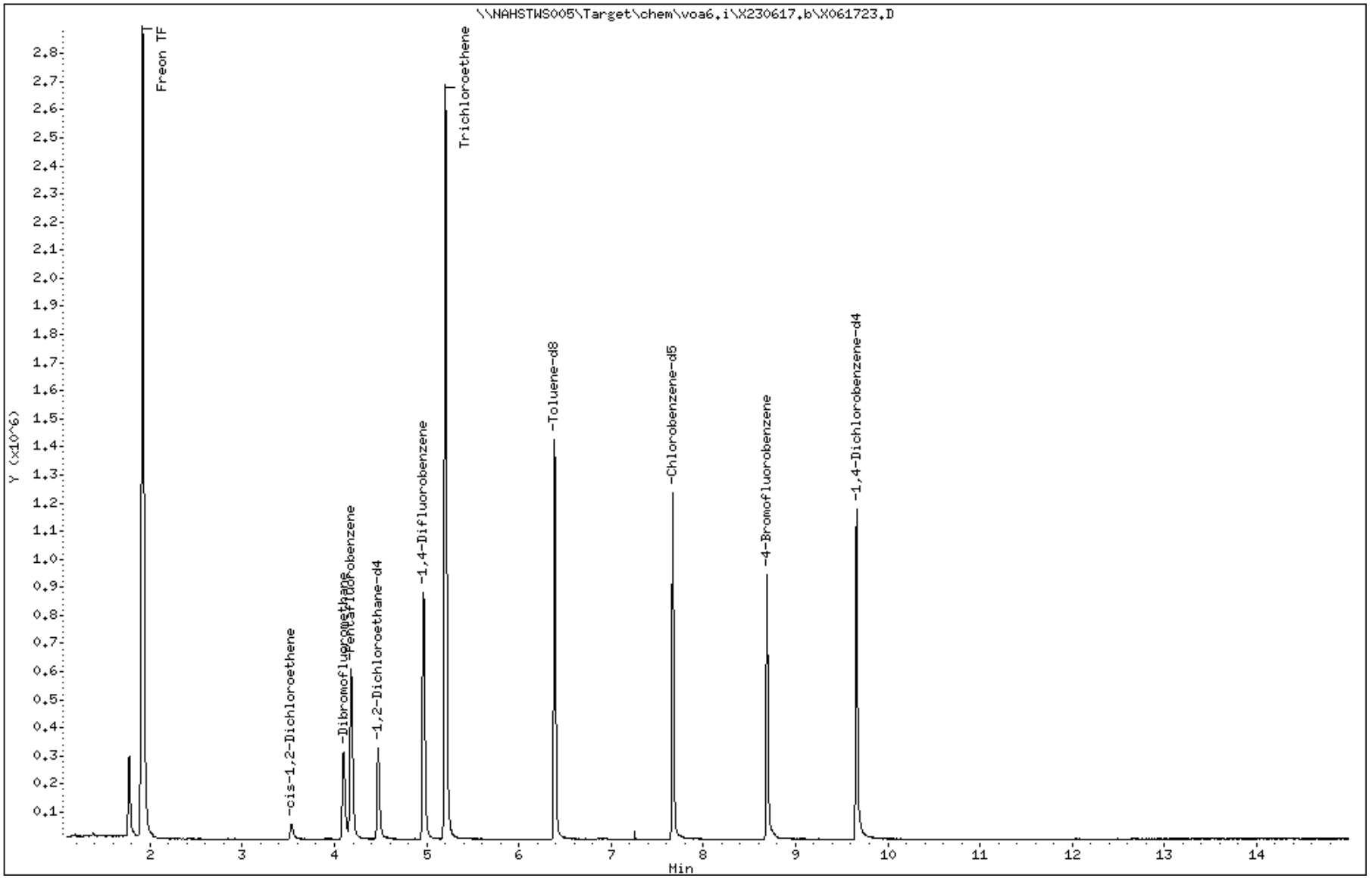
Sample Info: HS23060739-06;HS23060739-06;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061723.D

Date : 17-JUN-2023 18:59

Client ID: HS23060739-06

Instrument: voa6.i

Sample Info: HS23060739-06;HS23060739-06;;;

Purge Volume: 5.0

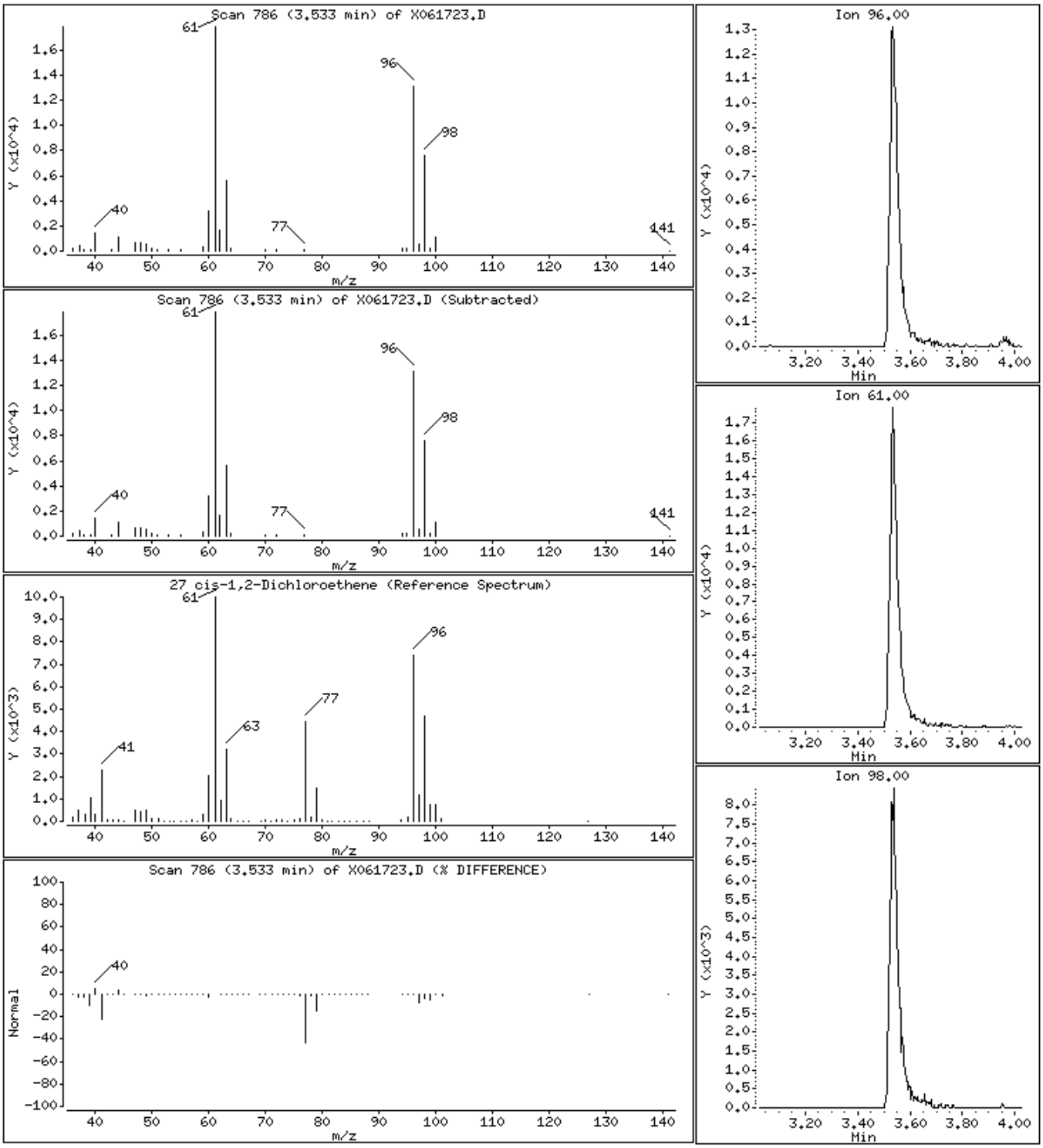
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 5.85 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061723.D

Date : 17-JUN-2023 18:59

Client ID: HS23060739-06

Instrument: voa6.i

Sample Info: HS23060739-06;HS23060739-06;;;

Purge Volume: 5.0

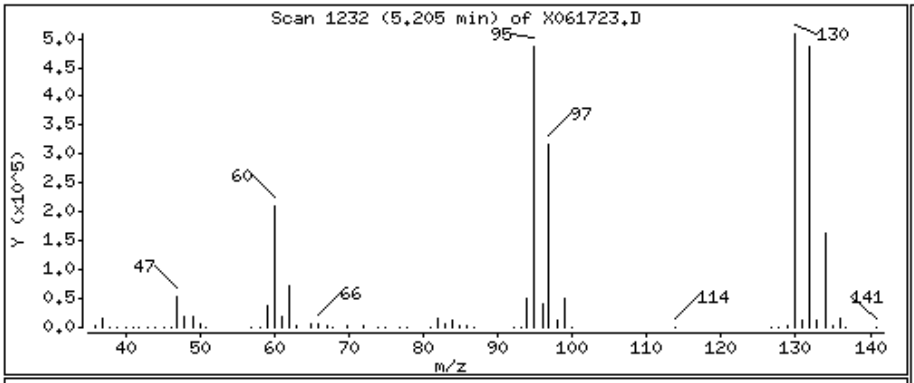
Operator: PC

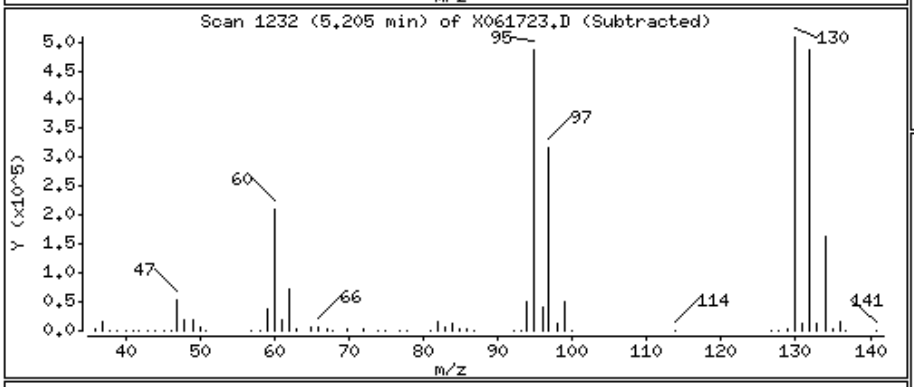
Column phase: DB624

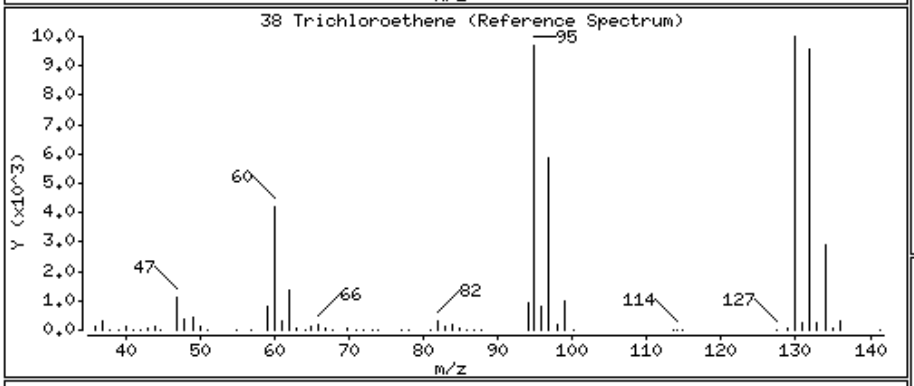
Column diameter: 0.18

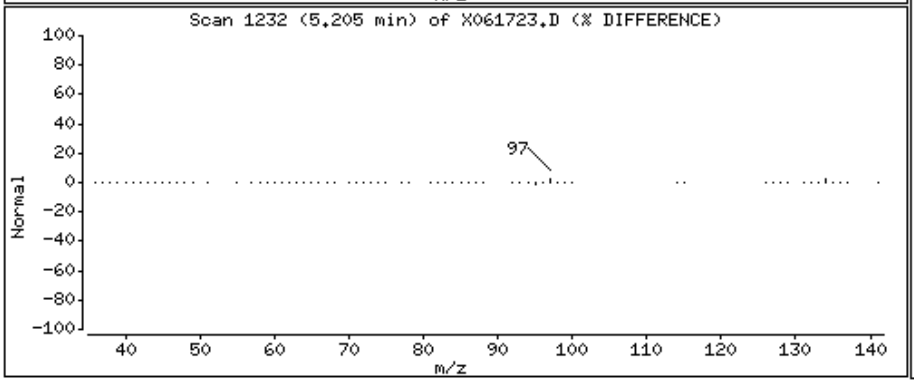
38 Trichloroethene

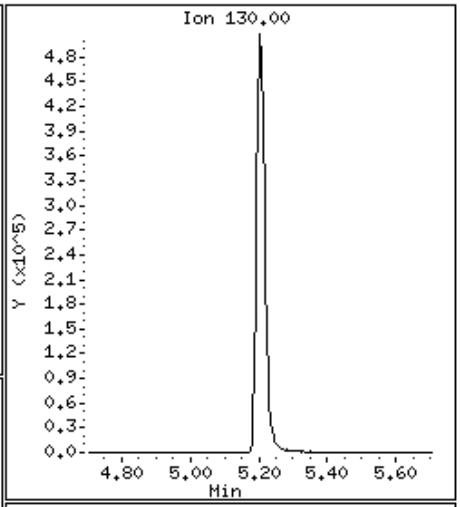
Concentration: 177.20 ug/l

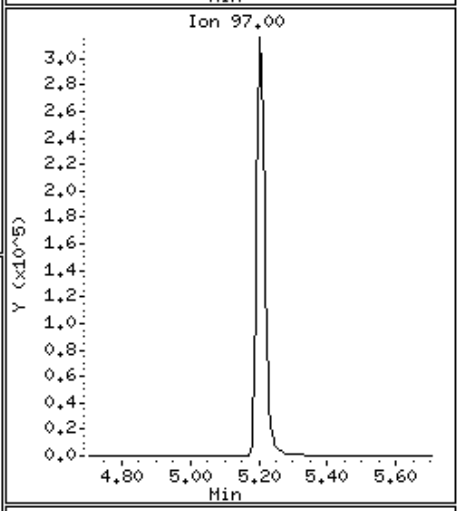


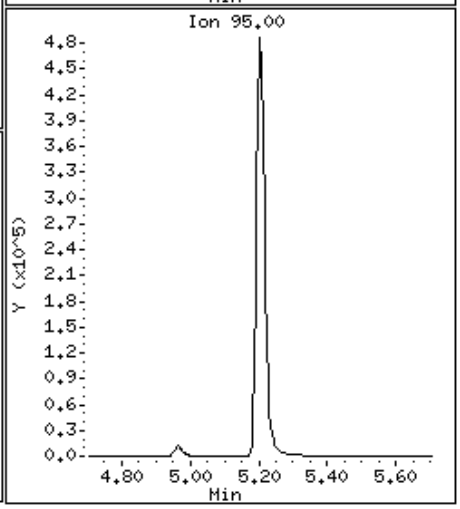












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061723.D

Date : 17-JUN-2023 18:59

Client ID: HS23060739-06

Instrument: voa6.i

Sample Info: HS23060739-06;HS23060739-06;;;

Purge Volume: 5.0

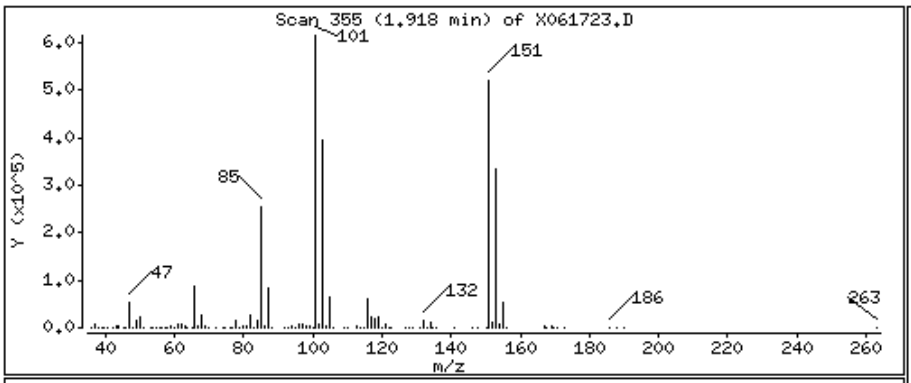
Operator: PC

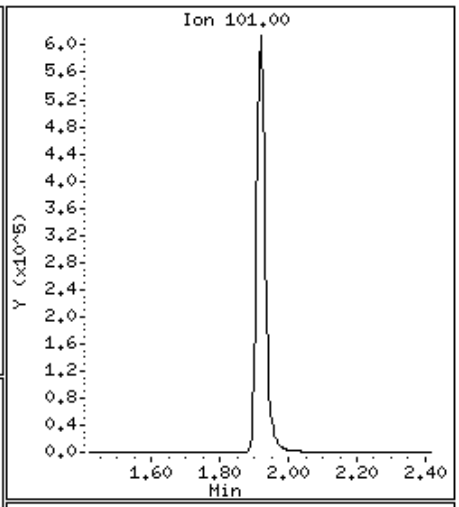
Column phase: DB624

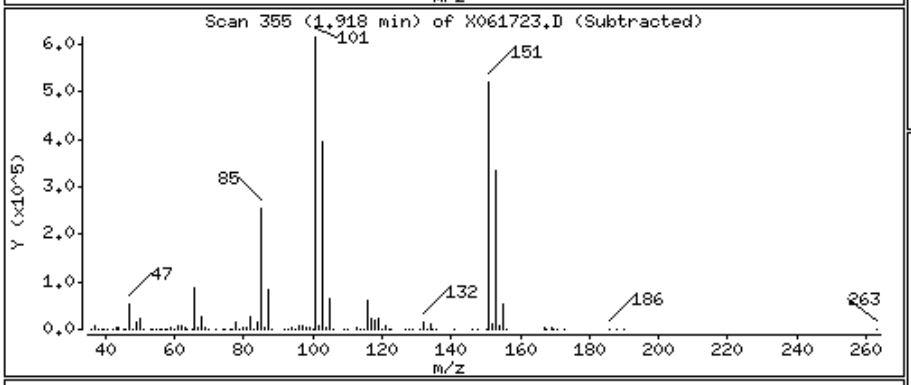
Column diameter: 0.18

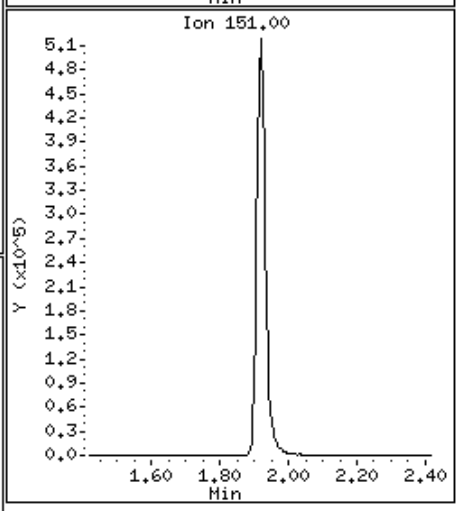
138 Freon TF

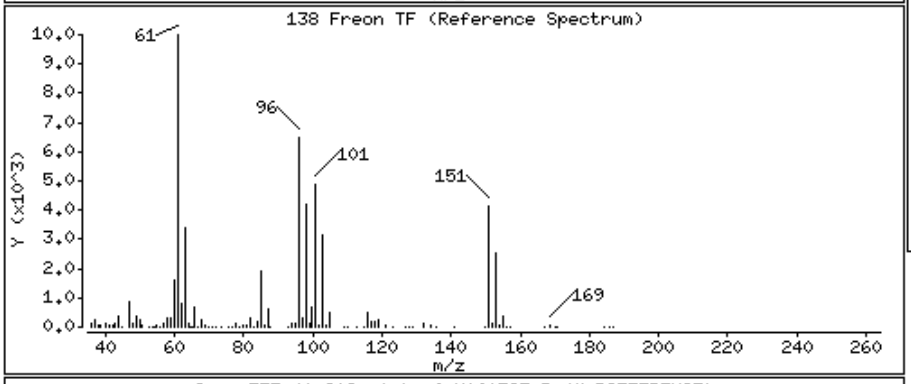
Concentration: 294.77 ug/l

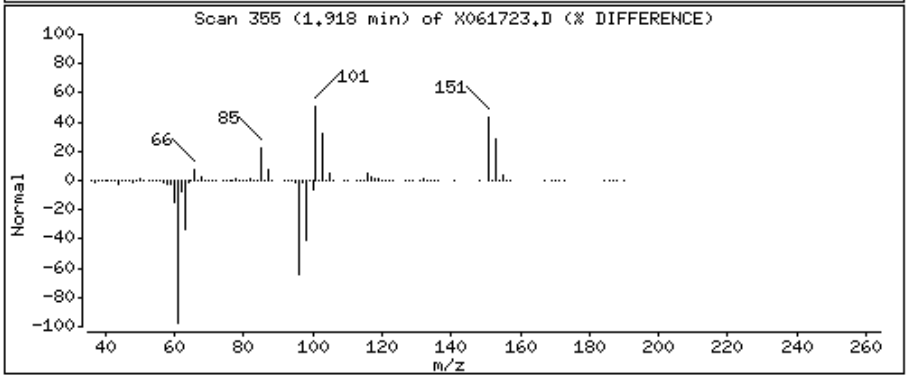












Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061723.D
Inj Date : 17-JUN-2023 18:59
InstruID : voa6.i
LabSampID : HS23060739-06

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D Page 1
Report Date: 20-Jun-2023 17:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D
Lab Smp Id: HS23060739-01 Client Smp ID: HS23060739-01
Inj Date : 17-JUN-2023 20:44
Operator : PC Inst ID: voa6.i
Smp Info : HS23060739-01;HS23060739-01;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.181	4.178	(1.000)	493483	50.0000	
	5 Vinyl Chloride	62	1.149	1.145	(0.275)	21254	4.10101	4.10(a)
	22 1,1-Dichloroethane	63	2.925	2.922	(0.700)	26211	3.14726	3.14(a)
	27 cis-1,2-Dichloroethene	96	3.529	3.525	(0.844)	58913	11.0507	11.05
$	30 Dibromofluoromethane	113	4.099	4.099	(0.980)	219119	49.7166	49.71
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	247901	52.1466	52.14
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	722423	50.0000	
	38 Trichloroethene	130	5.205	5.205	(1.048)	208891	40.7704	40.77
*	47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	632348	50.0000	
$	48 Toluene-d8	98	6.385	6.386	(0.833)	860521	53.8258	53.82
$	69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	298516	48.3349	48.33
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	317687	50.0000	
	83 1,3-Dichlorobenzene	146	9.617	9.602	(0.995)	4762	0.51651	0.51(a)
M	94 1,2-Dichloroethylene (total)	96				58913	11.0507	11.05
	138 Freon TF	101	1.917	1.917	(0.459)	579476	160.617	160.61

QC Flag Legend

a - Target compound detected but, quantitated amount

Below Limit Of Quantitation(BLOQ).

01194666

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D

Date : 17-JUN-2023 20:44

Client ID: HS23060739-01

Instrument: voa6.i

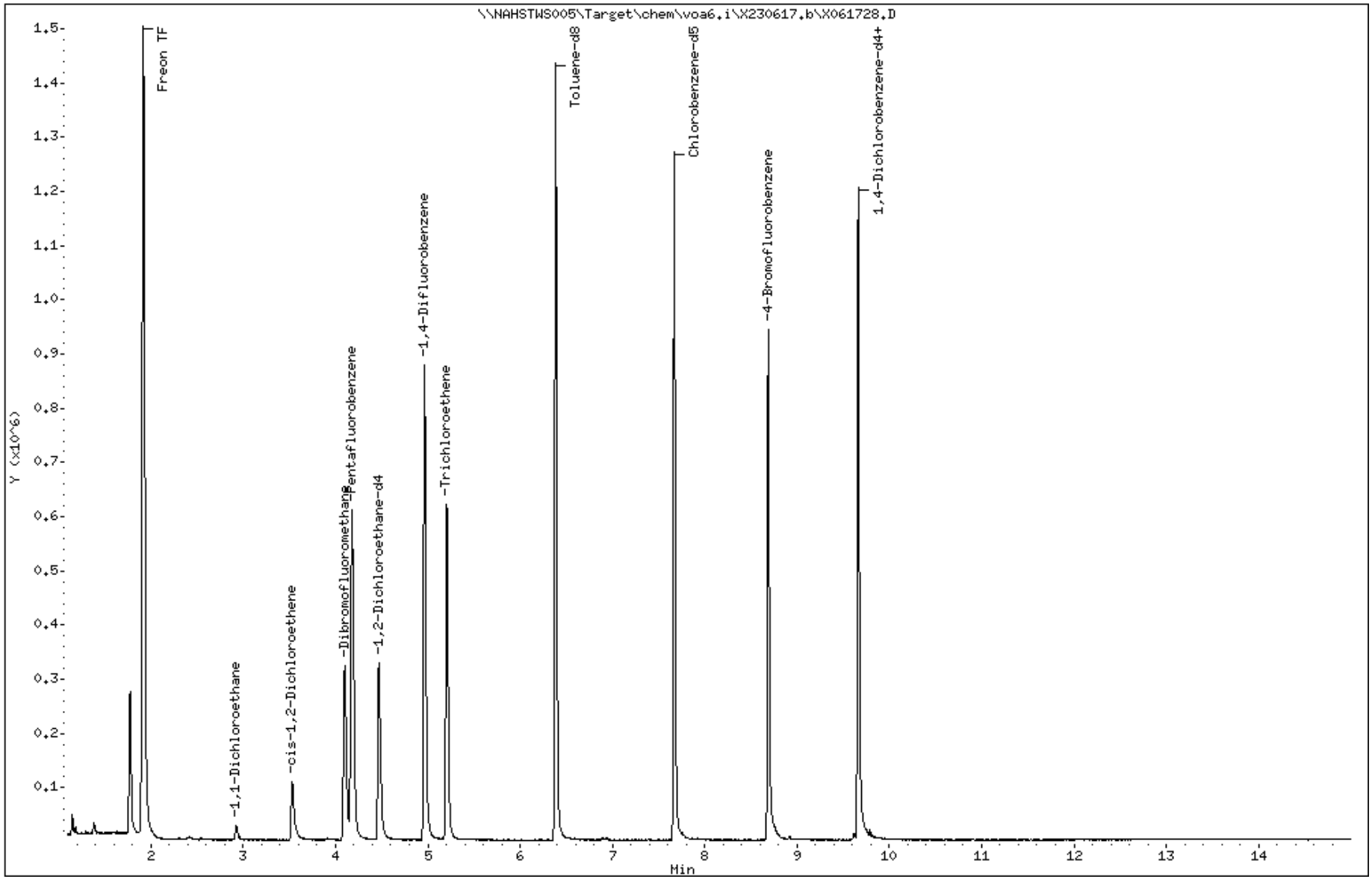
Sample Info: HS23060739-01;HS23060739-01;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D

Date : 17-JUN-2023 20:44

Client ID: HS23060739-01

Instrument: voa6.i

Sample Info: HS23060739-01;HS23060739-01;;;

Purge Volume: 5.0

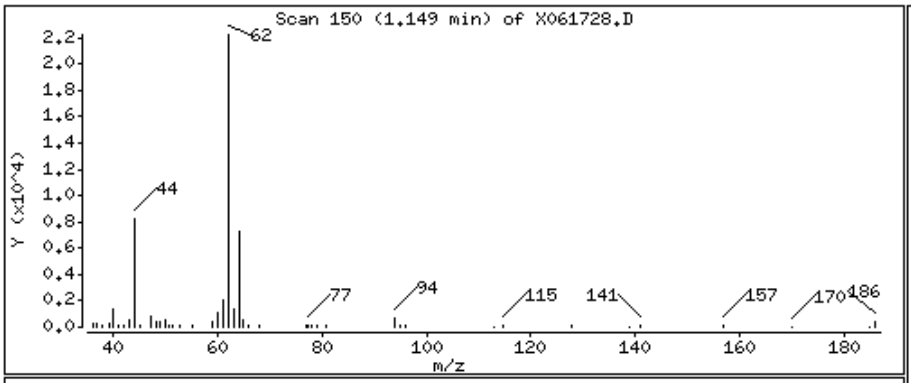
Operator: PC

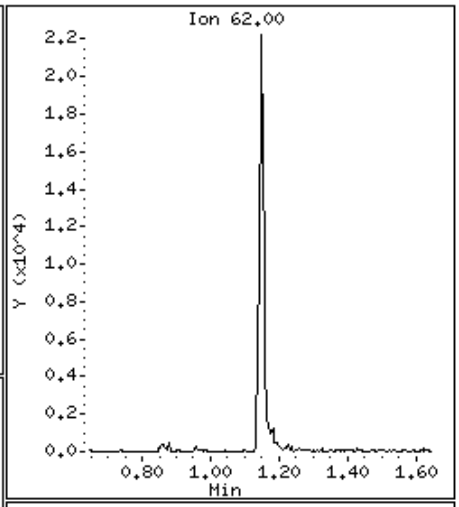
Column phase: DB624

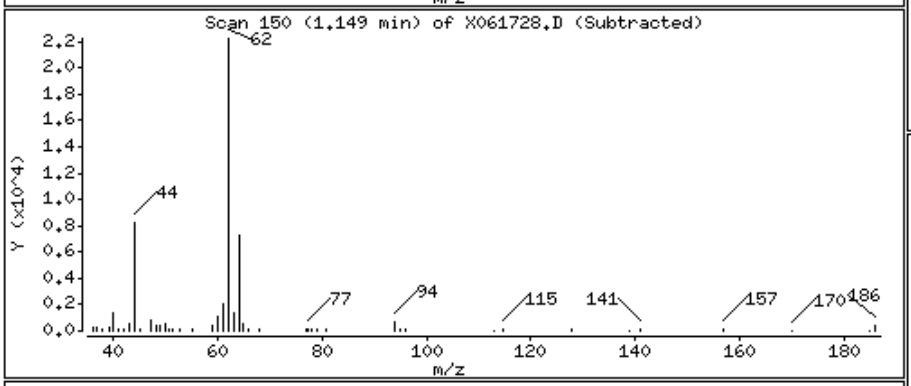
Column diameter: 0.18

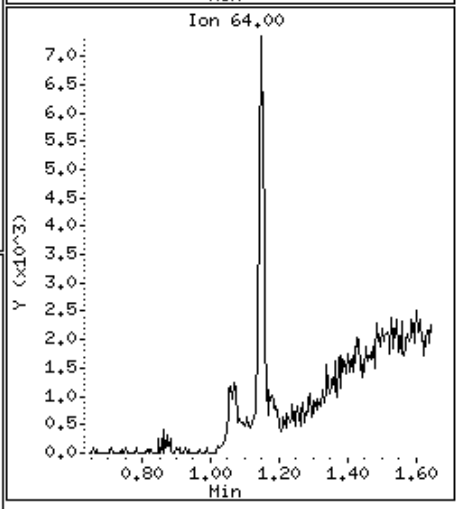
5 Vinyl Chloride

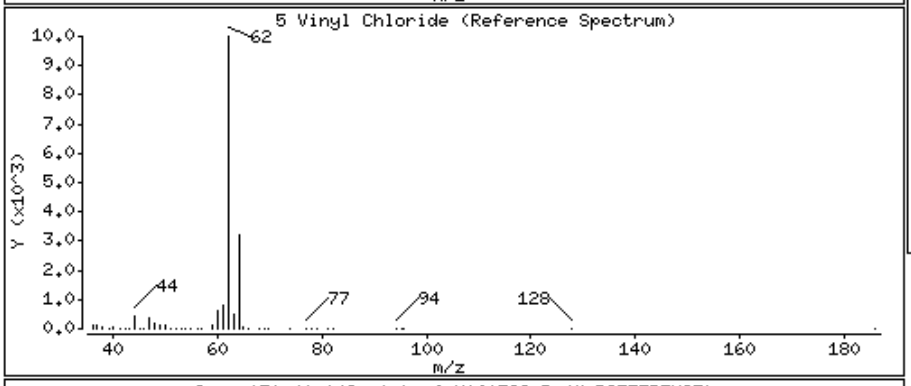
Concentration: 4.10 ug/l

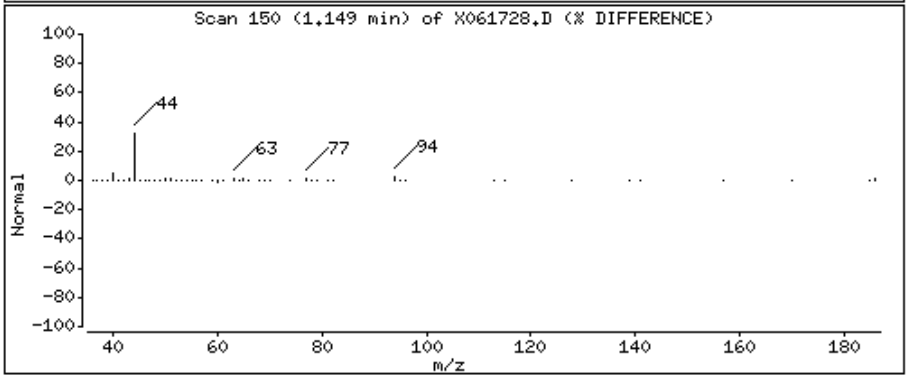












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D

Date : 17-JUN-2023 20:44

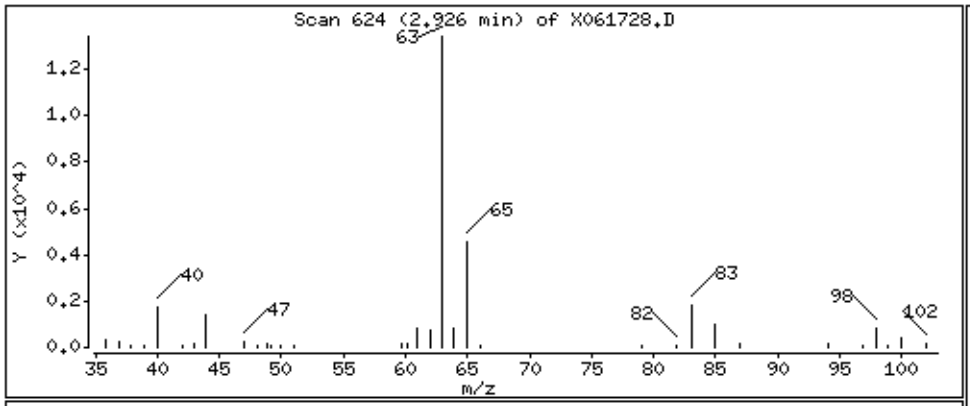
Client ID: HS23060739-01 Instrument: voa6.i

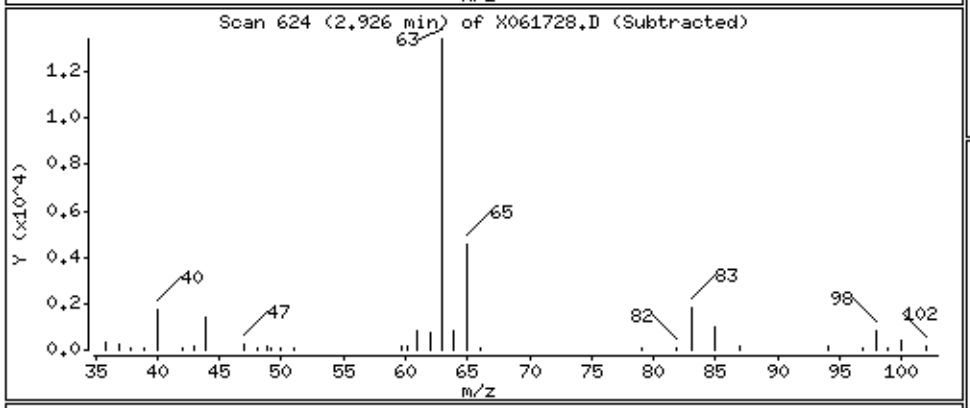
Sample Info: HS23060739-01;HS23060739-01;;;

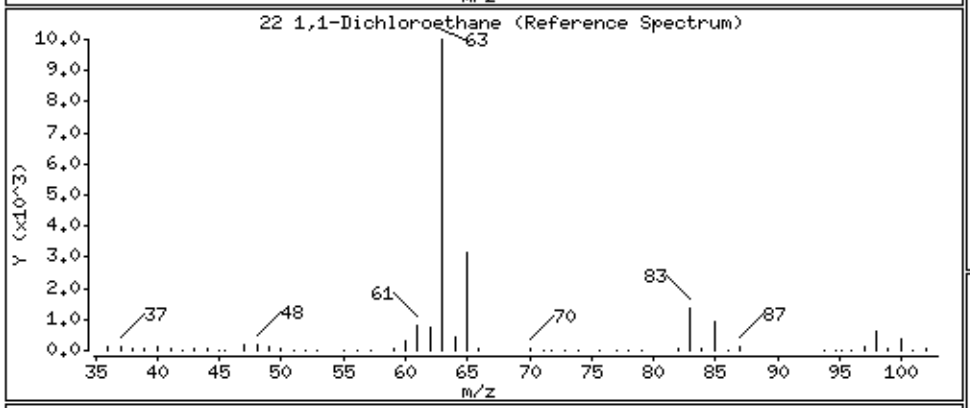
Purge Volume: 5.0 Operator: PC

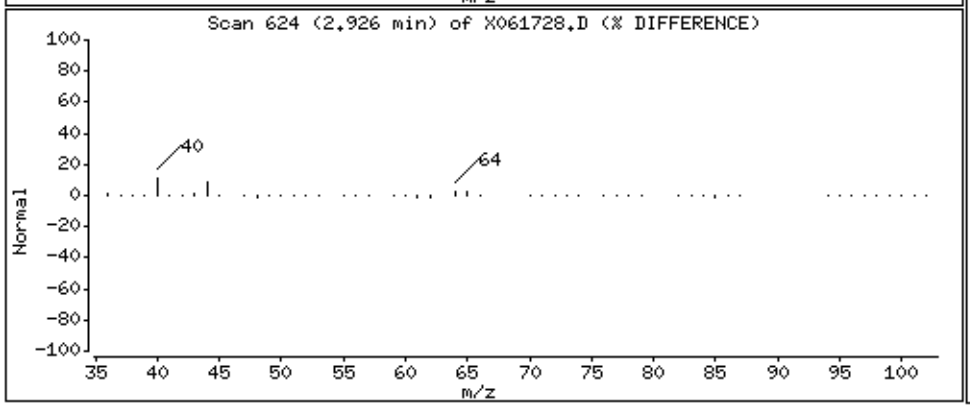
Column phase: DB624 Column diameter: 0.18

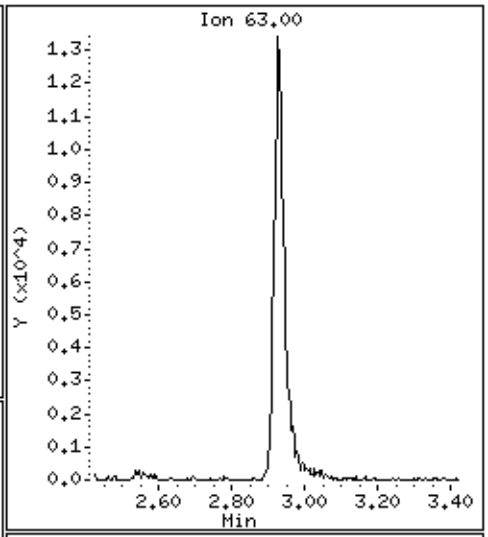
22 1,1-Dichloroethane Concentration: 3.14 ug/l

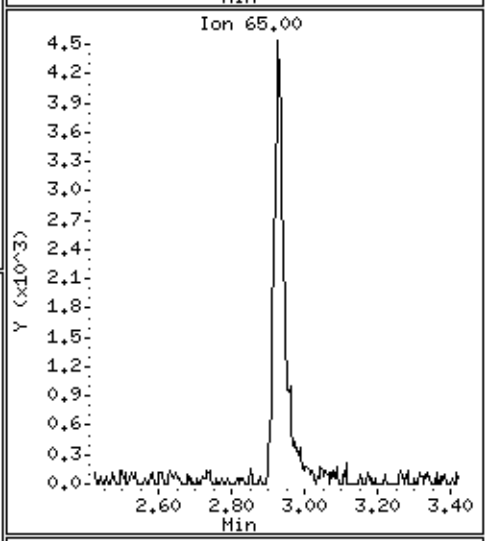


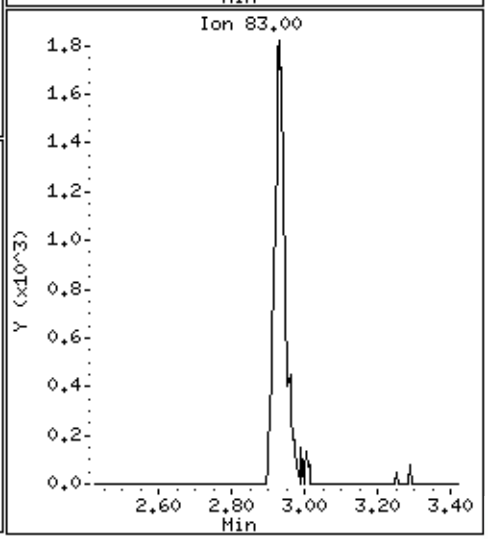












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D Page 4

Date : 17-JUN-2023 20:44

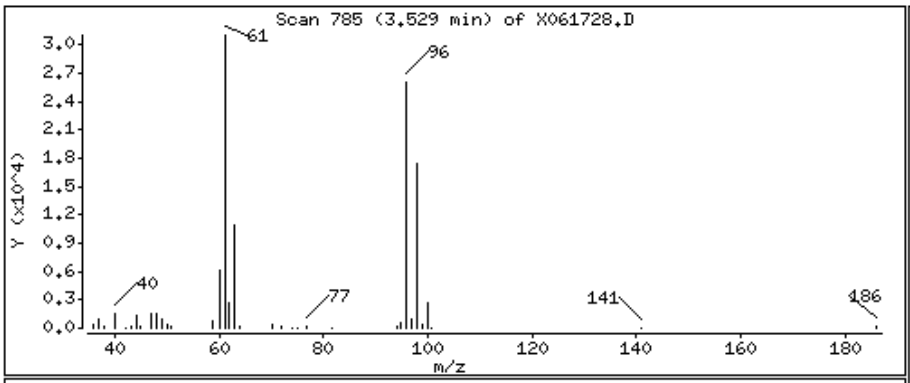
Client ID: HS23060739-01 Instrument: voa6.i

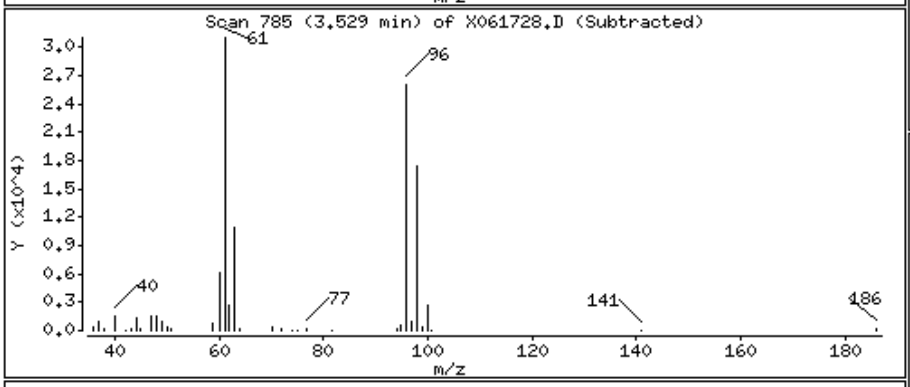
Sample Info: HS23060739-01;HS23060739-01;;;

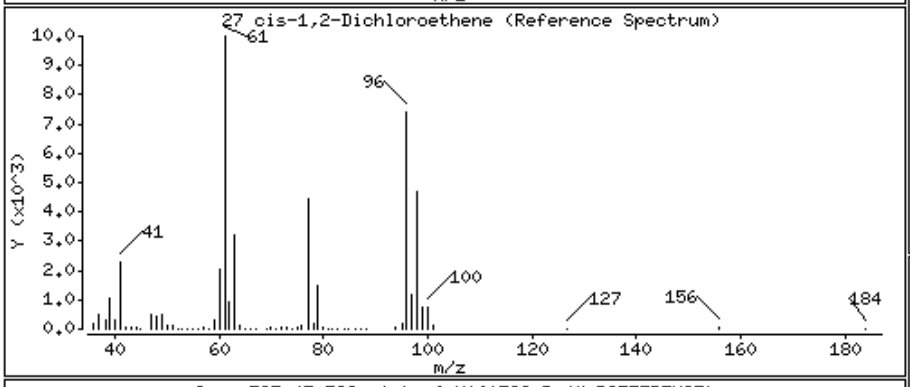
Purge Volume: 5.0 Operator: PC

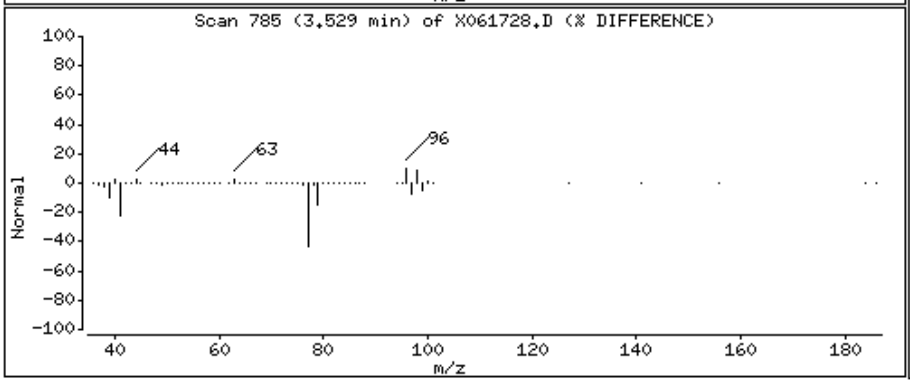
Column phase: DB624 Column diameter: 0.18

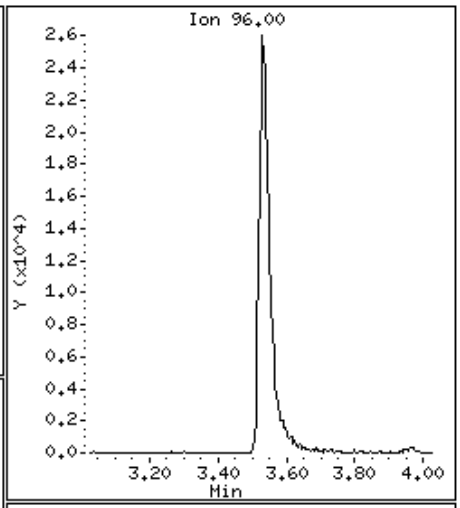
27 cis-1,2-Dichloroethene Concentration: 11.05 ug/l

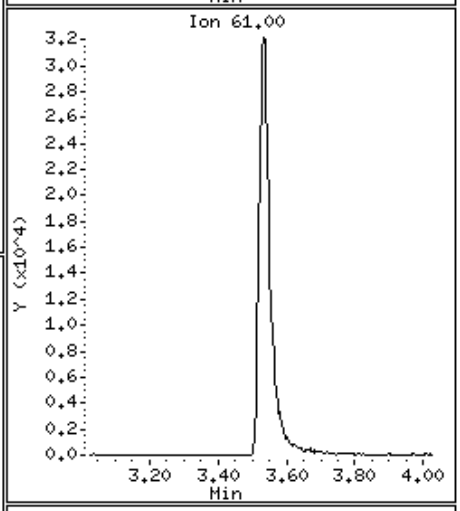


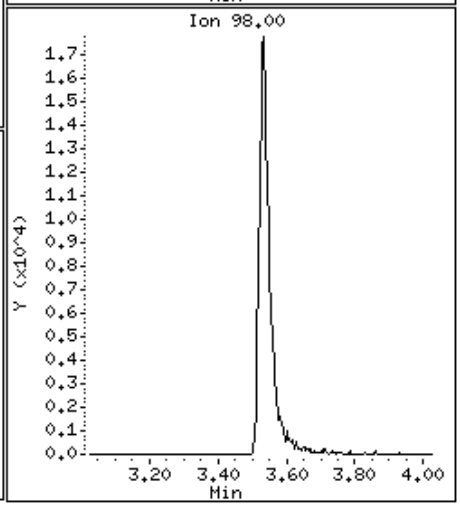












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D Page 5

Date : 17-JUN-2023 20:44

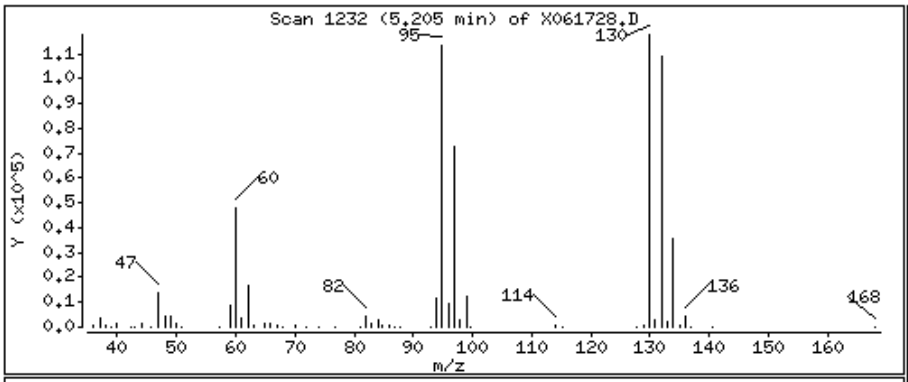
Client ID: HS23060739-01 Instrument: voa6.i

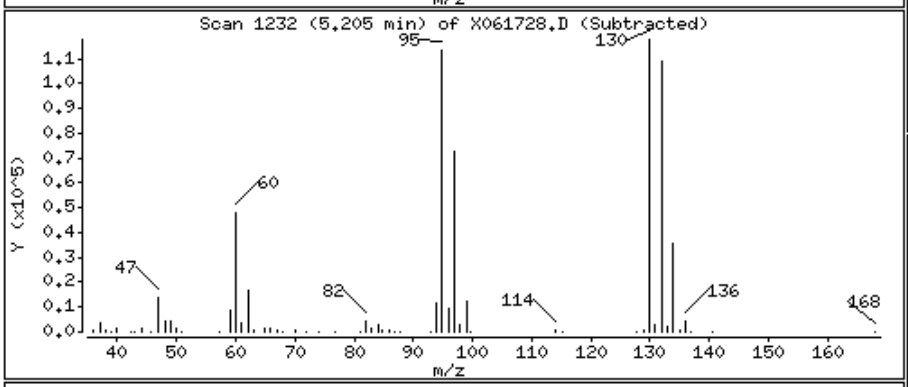
Sample Info: HS23060739-01;HS23060739-01;;;

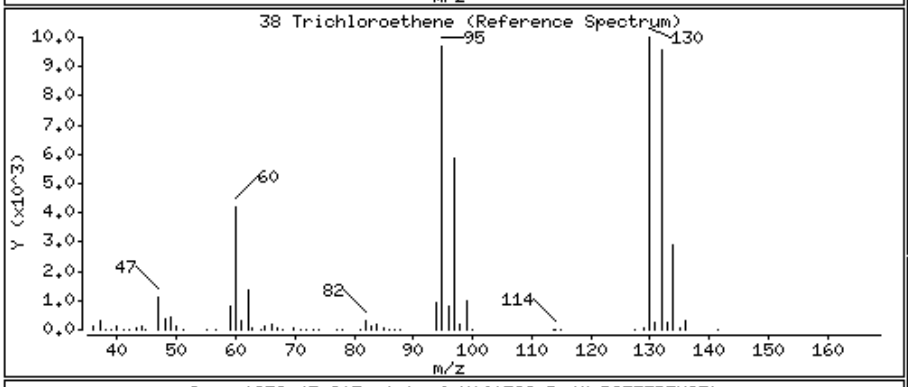
Purge Volume: 5.0 Operator: PC

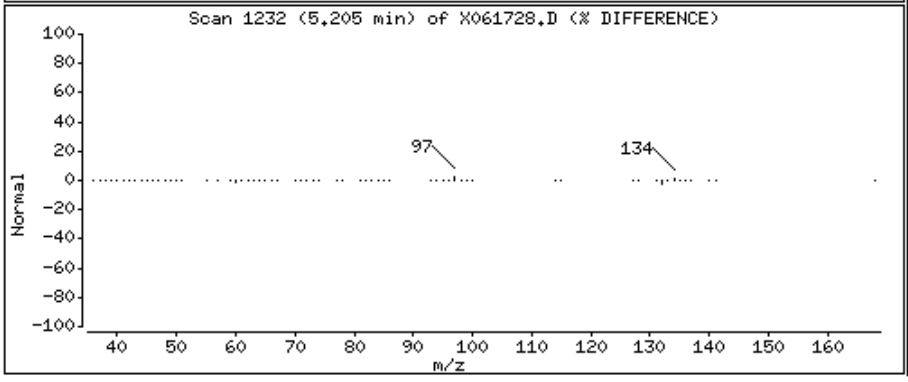
Column phase: DB624 Column diameter: 0.18

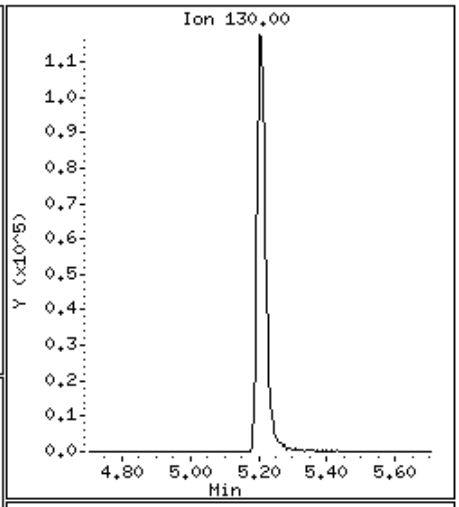
38 Trichloroethene Concentration: 40.77 ug/l

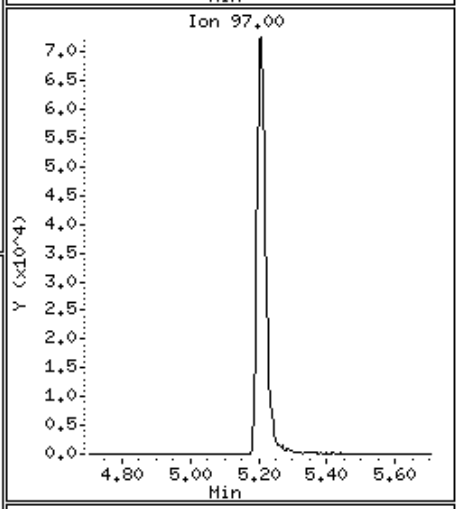


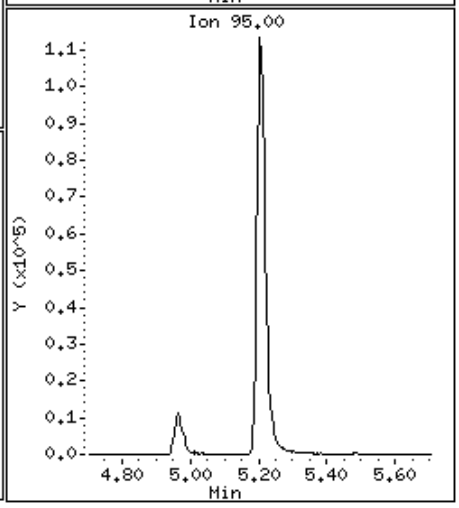












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D

Date : 17-JUN-2023 20:44

Client ID: HS23060739-01

Instrument: voa6.i

Sample Info: HS23060739-01;HS23060739-01;;;

Purge Volume: 5.0

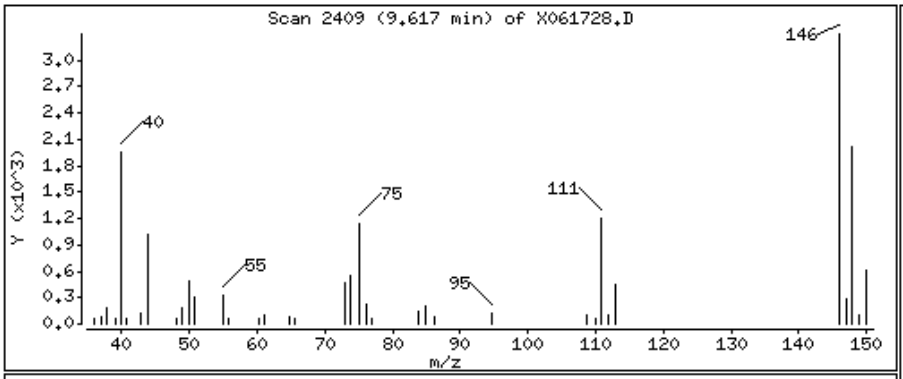
Operator: PC

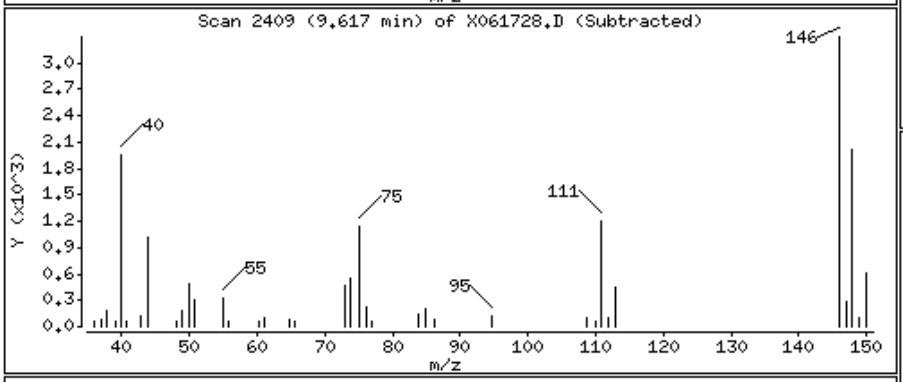
Column phase: DB624

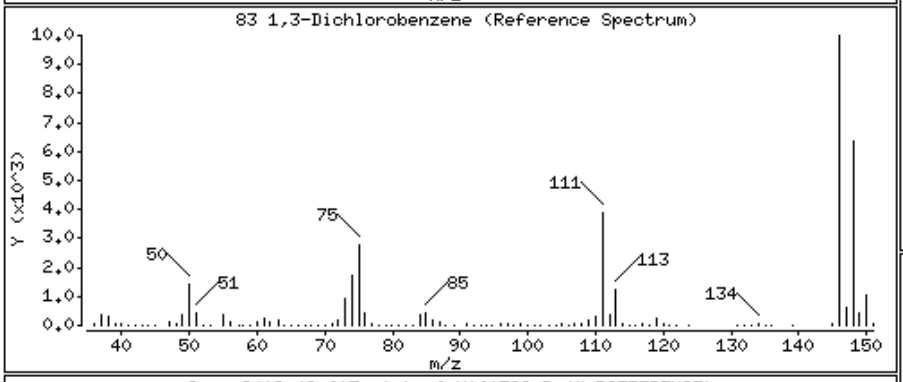
Column diameter: 0.18

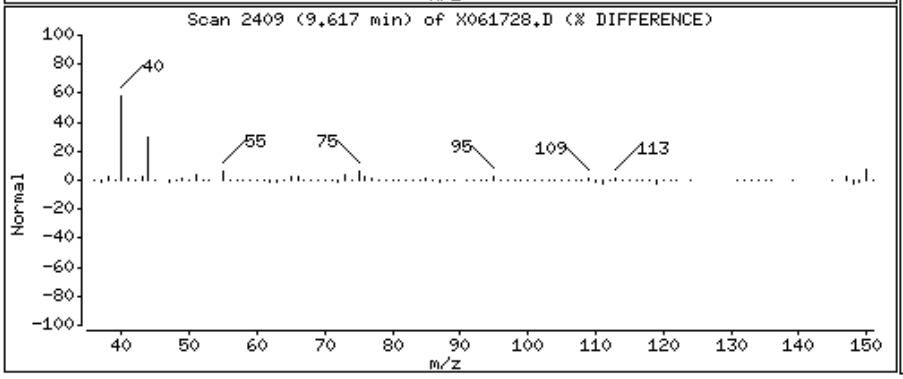
83 1,3-Dichlorobenzene

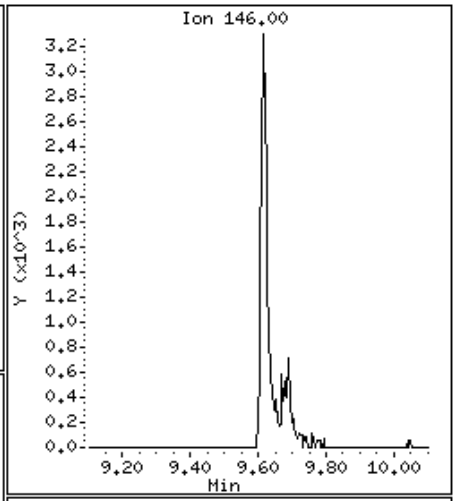
Concentration: 0.51 ug/l

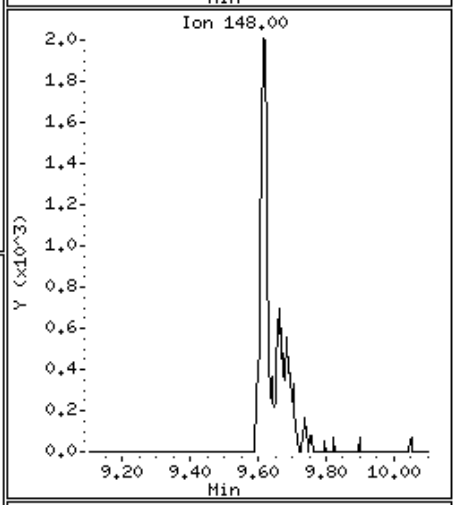


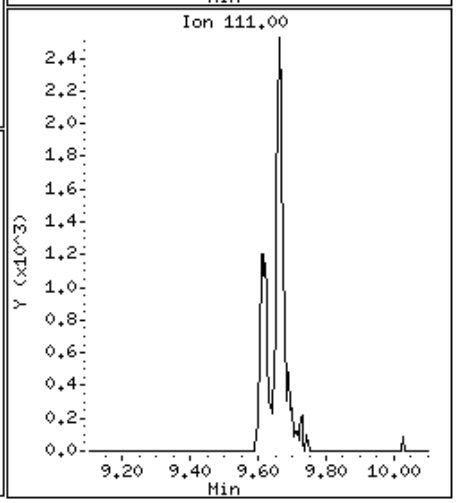












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D Page 7

Date : 17-JUN-2023 20:44

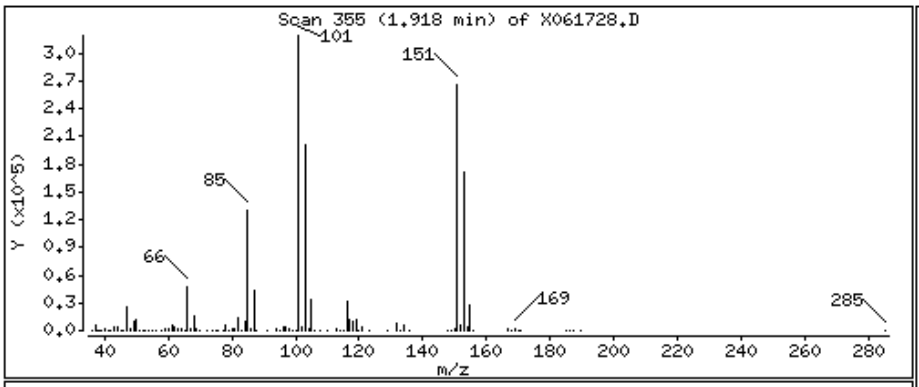
Client ID: HS23060739-01 Instrument: voa6.i

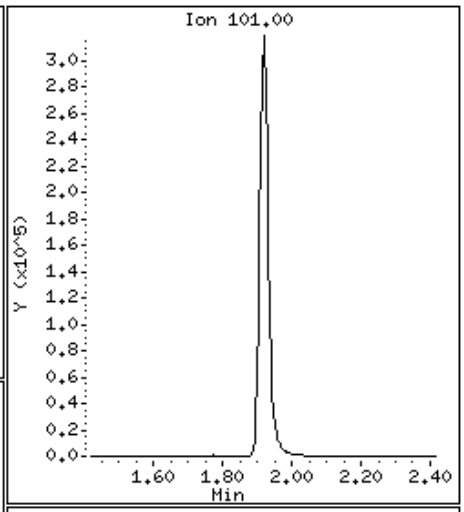
Sample Info: HS23060739-01;HS23060739-01;;;

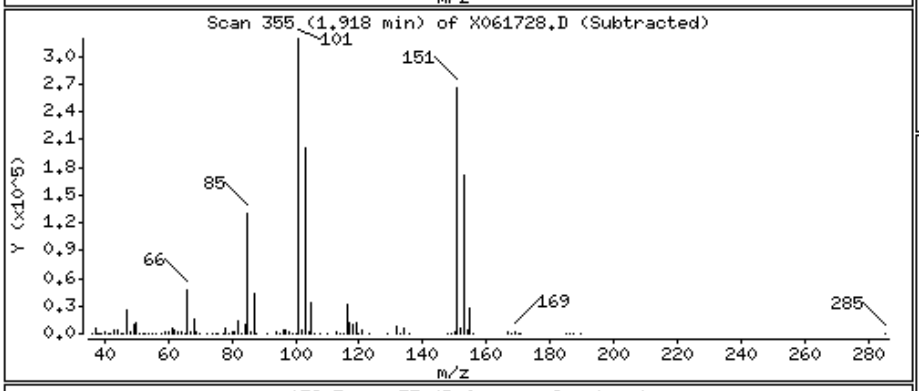
Purge Volume: 5.0 Operator: PC

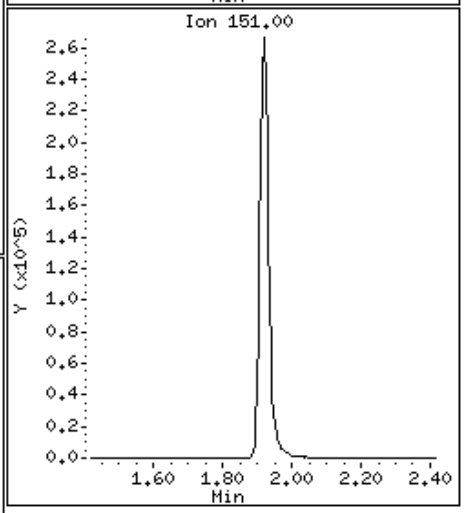
Column phase: DB624 Column diameter: 0.18

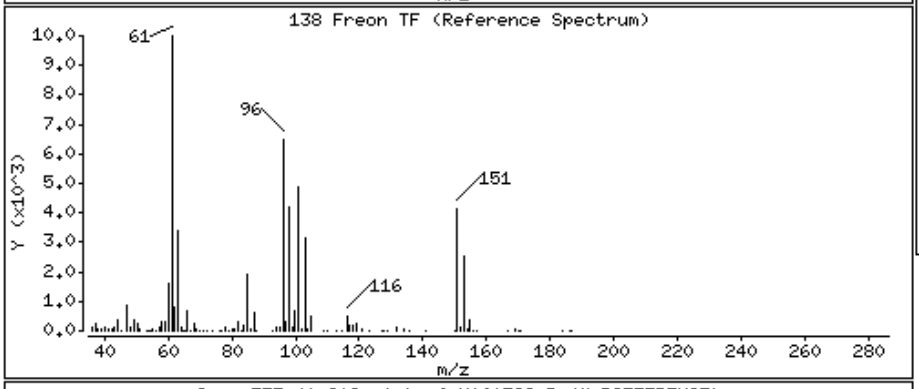
138 Freon TF Concentration: 160.61 ug/l

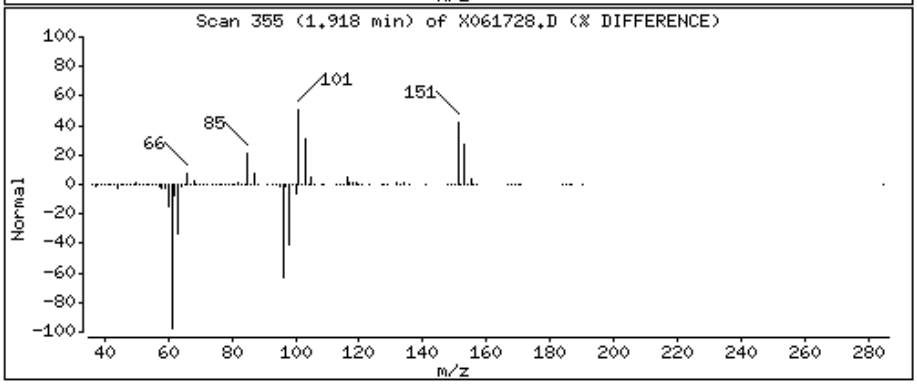












Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061728.D
Inj Date : 17-JUN-2023 20:44
InstruID : voa6.i
LabSampID : HS23060739-01

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D Page 1
Report Date: 20-Jun-2023 17:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D
Lab Smp Id: HS23060739-03 Client Smp ID: HS23060739-03
Inj Date : 17-JUN-2023 21:05
Operator : PC Inst ID: voa6.i
Smp Info : HS23060739-03;HS23060739-03;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.181	4.178	(1.000)	487529	50.0000	
	5 Vinyl Chloride	62	1.149	1.145	(0.275)	5062	0.98865	0.98(a)
	22 1,1-Dichloroethane	63	2.929	2.922	(0.701)	24965	3.03425	3.03(a)
	27 cis-1,2-Dichloroethene	96	3.529	3.525	(0.844)	43995	8.35320	8.35
$	30 Dibromofluoromethane	113	4.099	4.099	(0.980)	217302	49.9078	49.90
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	246420	52.4734	52.47
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	714128	50.0000	
	38 Trichloroethene	130	5.209	5.205	(1.049)	154524	30.5096	30.50
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	629981	50.0000	
$	48 Toluene-d8	98	6.386	6.386	(0.833)	850524	53.4004	53.40
$	69 4-Bromofluorobenzene	95	8.691	8.687	(1.133)	301782	49.0553	49.05
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	323987	50.0000	
M	94 1,2-Dichloroethylene (total)	96				43995	8.35320	8.35(a)
	138 Freon TF	101	1.921	1.917	(0.459)	198781	58.3982	58.39

QC Flag Legend

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

01194675

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D

Date : 17-JUN-2023 21:05

Client ID: HS23060739-03

Instrument: voa6.i

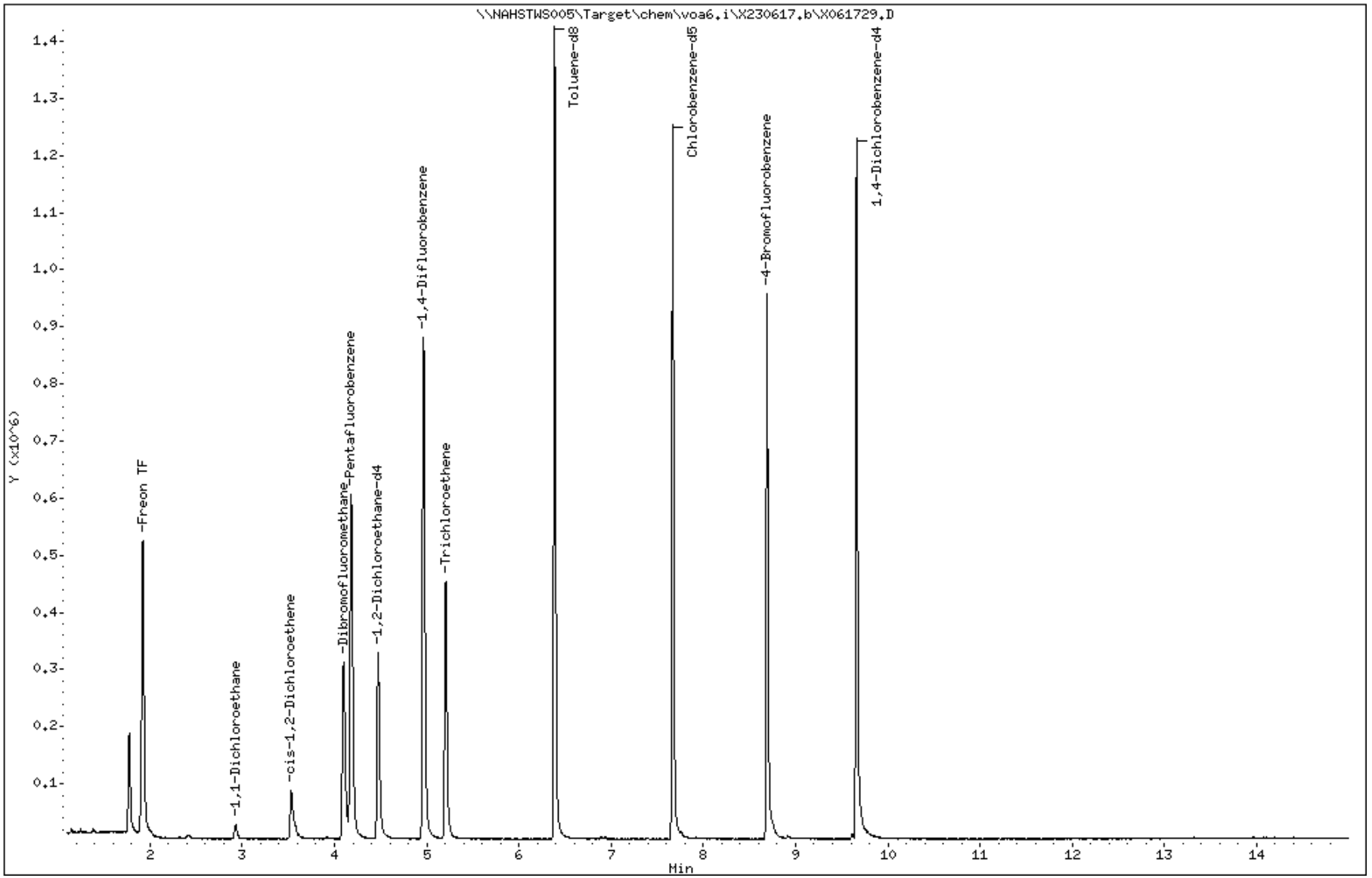
Sample Info: HS23060739-03;HS23060739-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D

Date : 17-JUN-2023 21:05

Client ID: HS23060739-03

Instrument: voa6.i

Sample Info: HS23060739-03;HS23060739-03;;;

Purge Volume: 5.0

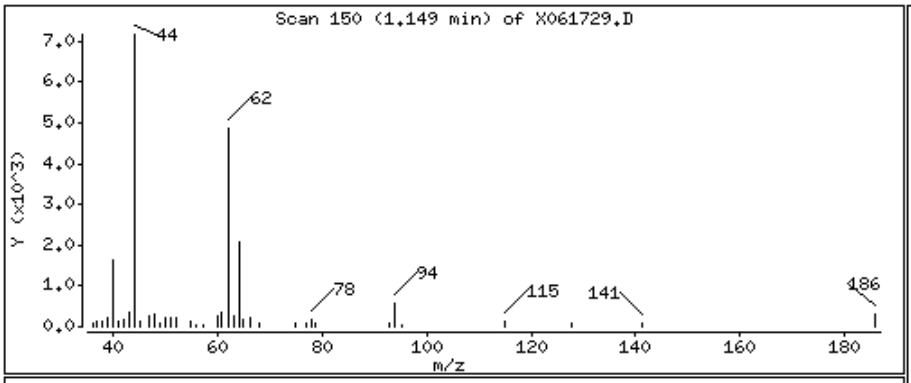
Operator: PC

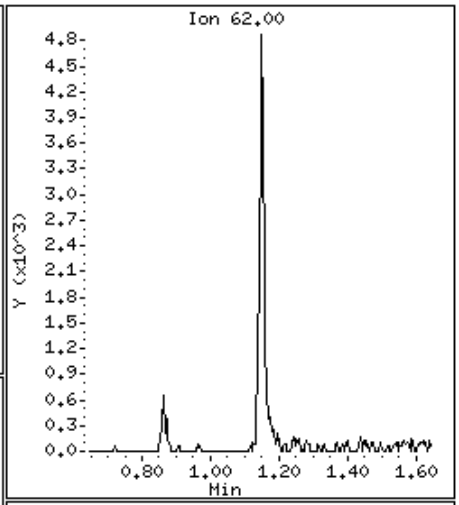
Column phase: DB624

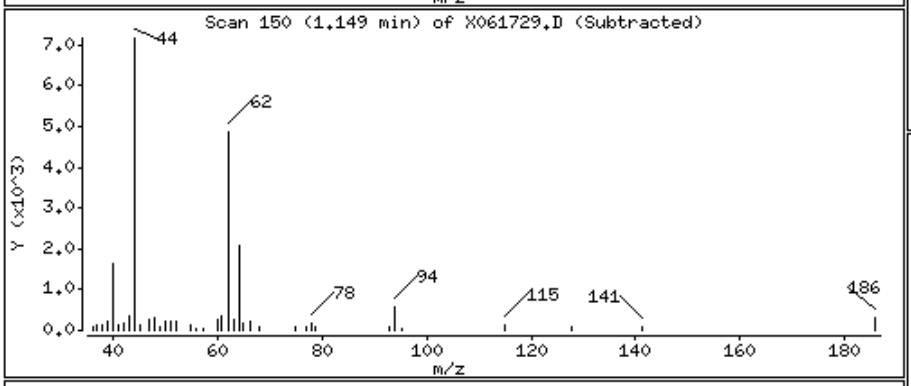
Column diameter: 0.18

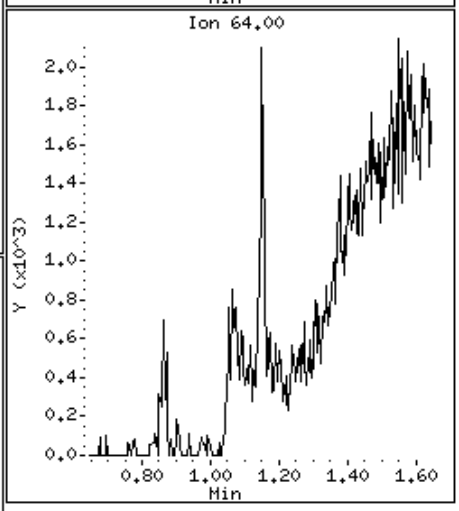
5 Vinyl Chloride

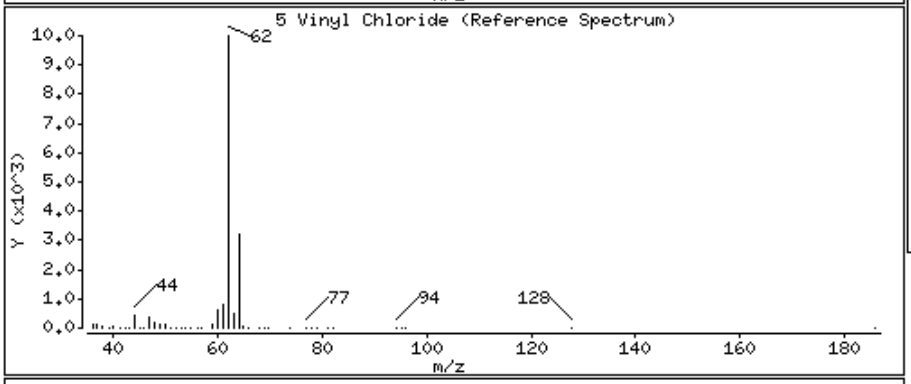
Concentration: 0.98 ug/l

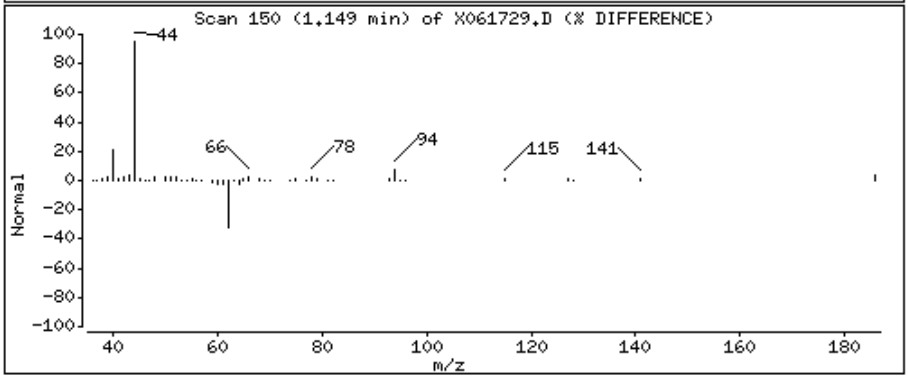












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D Page 3

Date : 17-JUN-2023 21:05

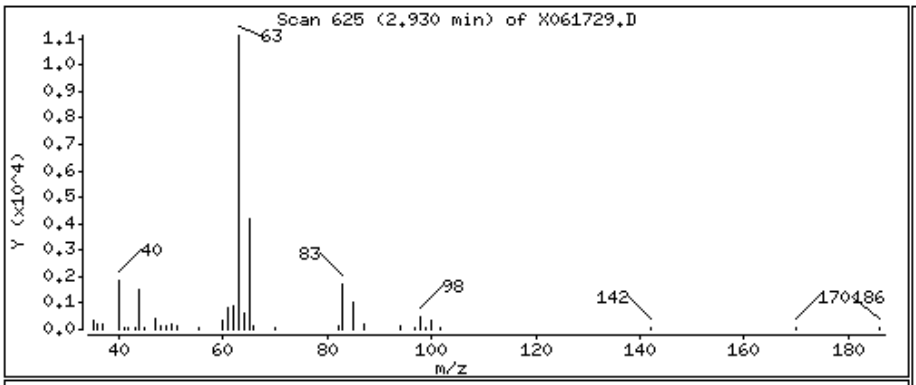
Client ID: HS23060739-03 Instrument: voa6.i

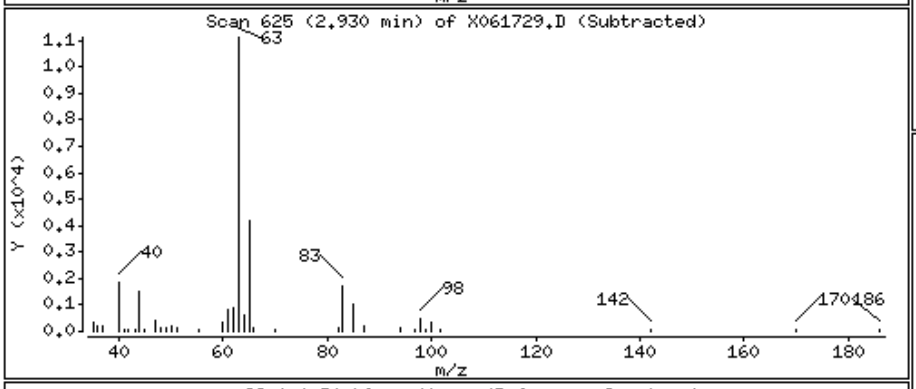
Sample Info: HS23060739-03;HS23060739-03;;;

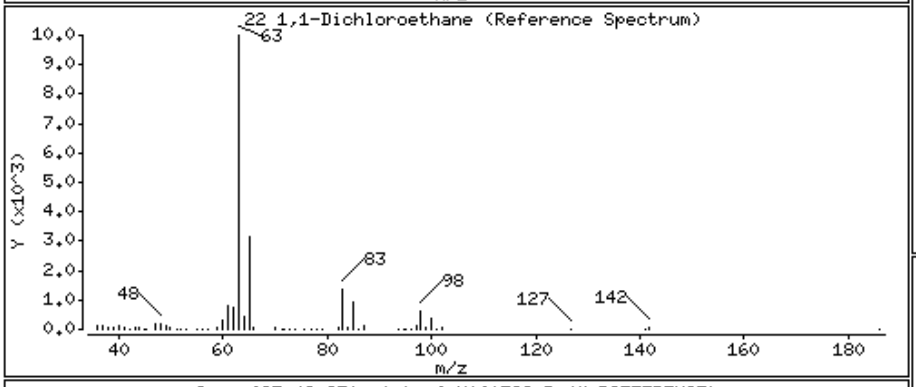
Purge Volume: 5.0 Operator: PC

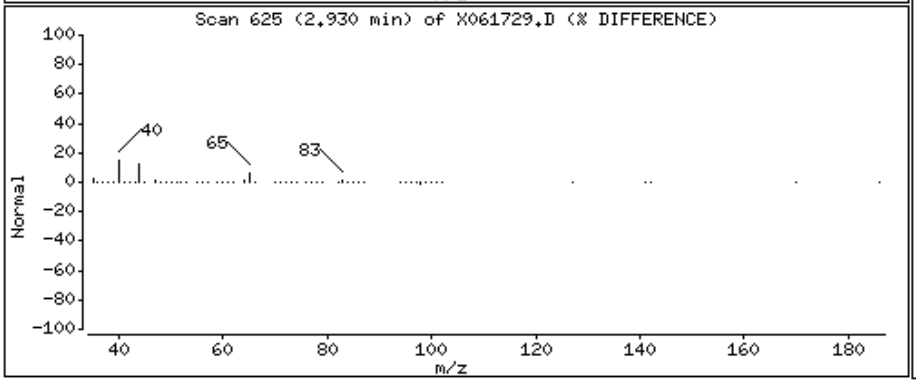
Column phase: DB624 Column diameter: 0.18

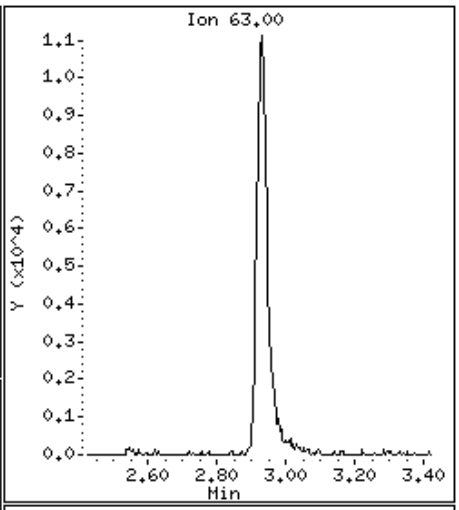
22 1,1-Dichloroethane Concentration: 3.03 ug/l

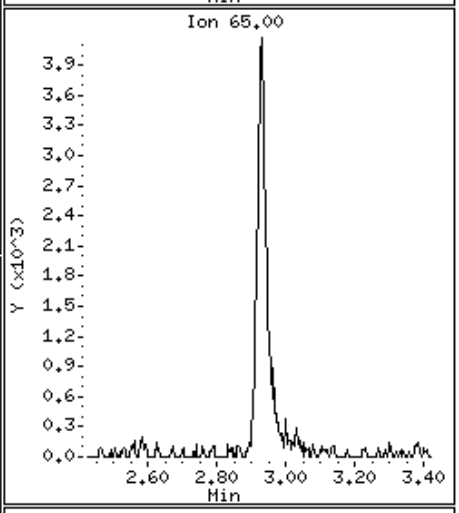


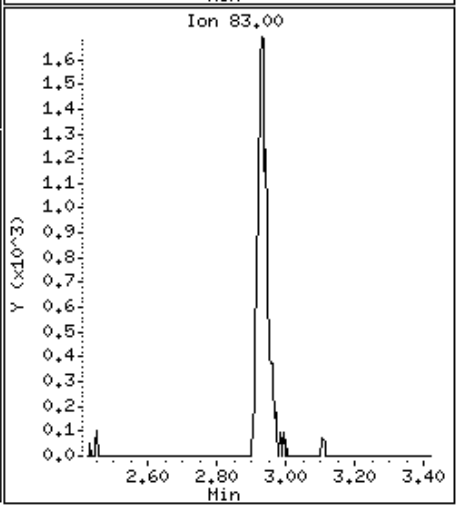












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D

Date : 17-JUN-2023 21:05

Client ID: HS23060739-03

Instrument: voa6.i

Sample Info: HS23060739-03;HS23060739-03;;;

Purge Volume: 5.0

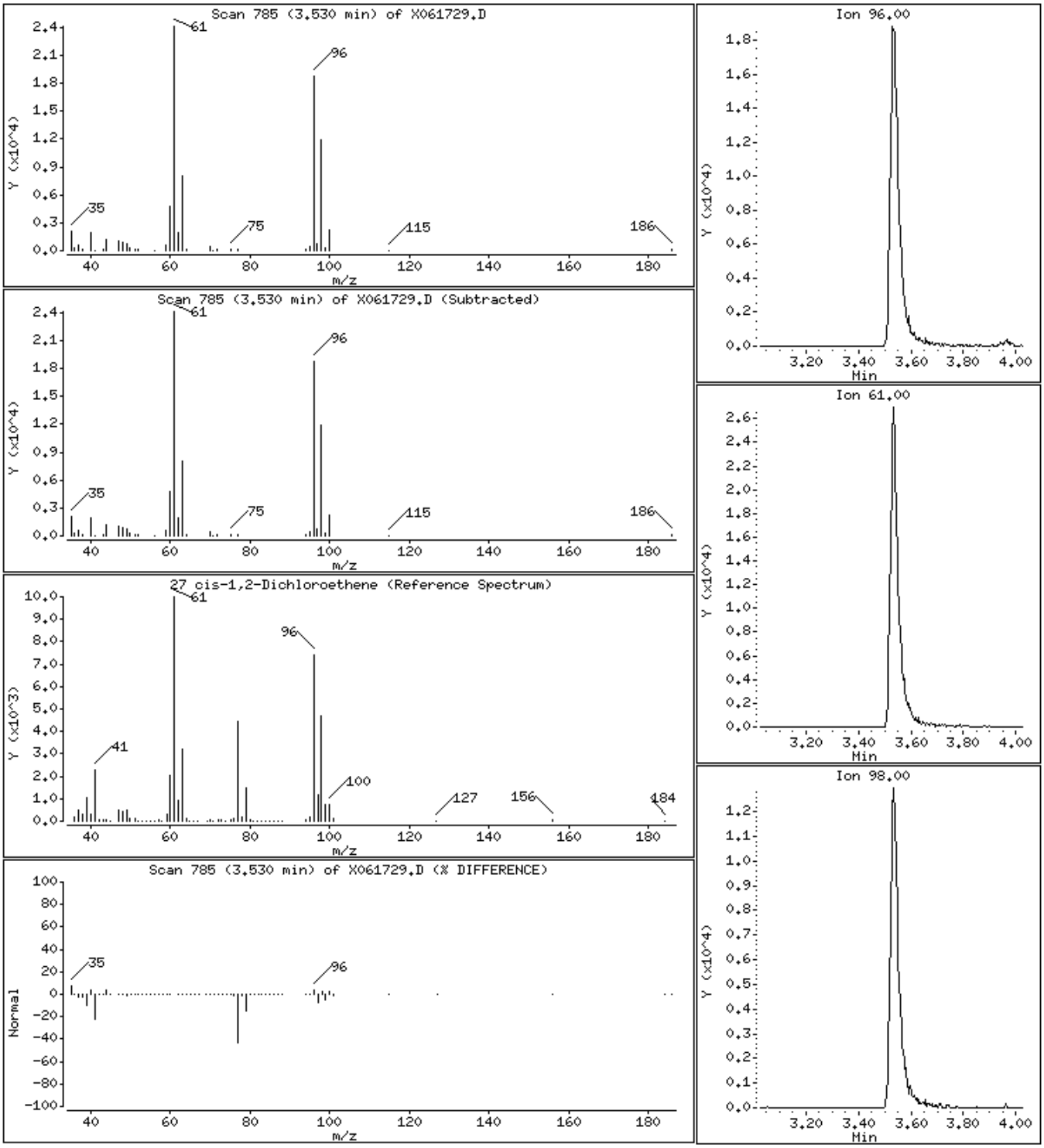
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 8.35 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D

Date : 17-JUN-2023 21:05

Client ID: HS23060739-03

Instrument: voa6.i

Sample Info: HS23060739-03;HS23060739-03;;;

Purge Volume: 5.0

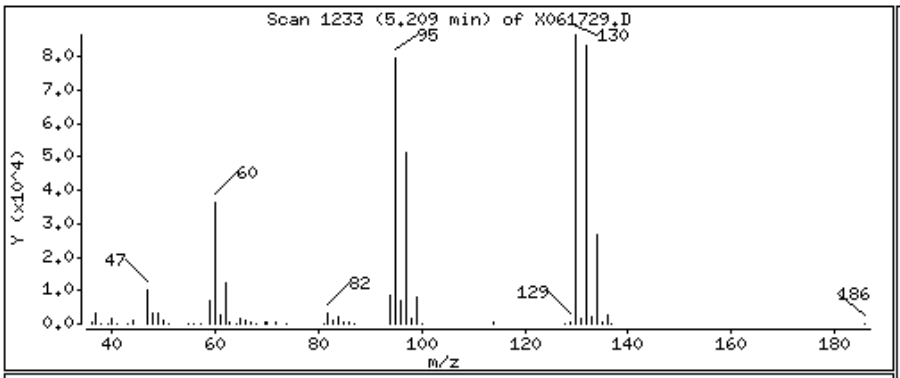
Operator: PC

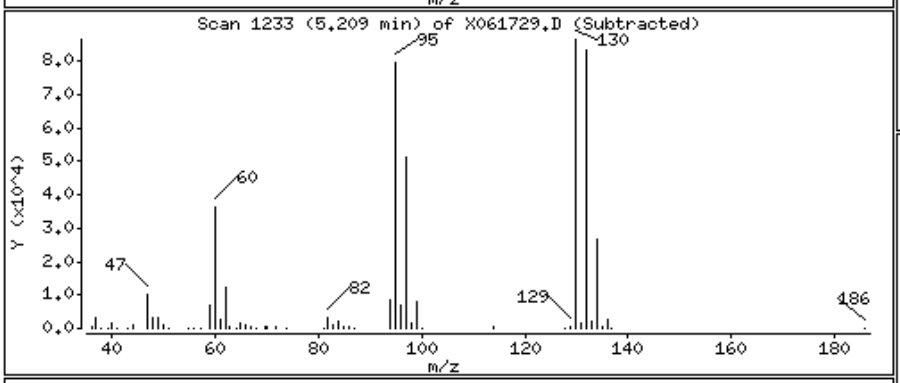
Column phase: DB624

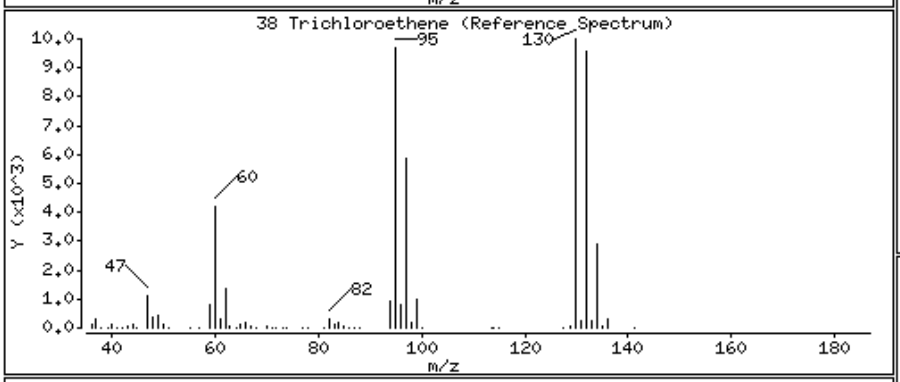
Column diameter: 0.18

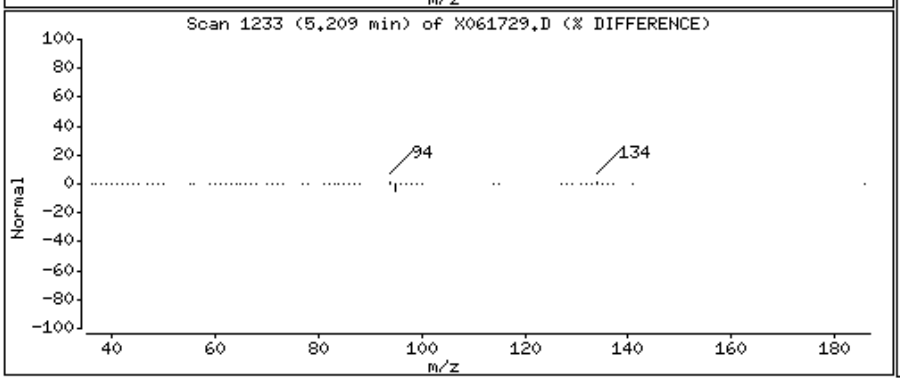
38 Trichloroethene

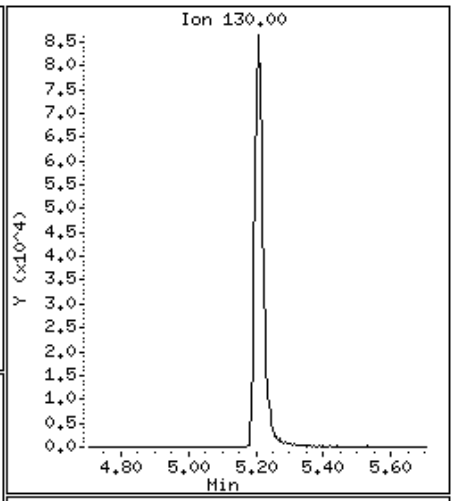
Concentration: 30.50 ug/l

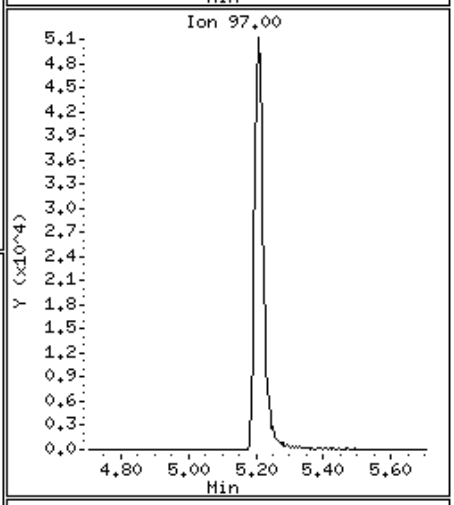


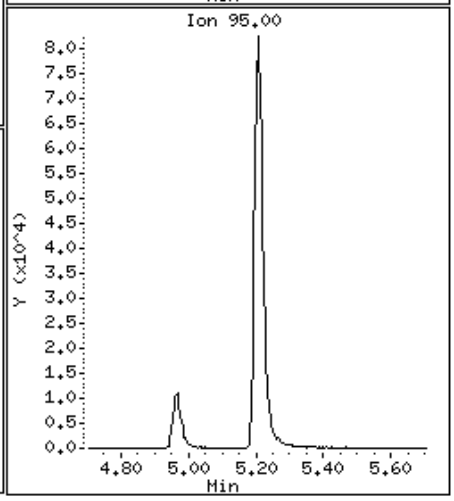












Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D

Date : 17-JUN-2023 21:05

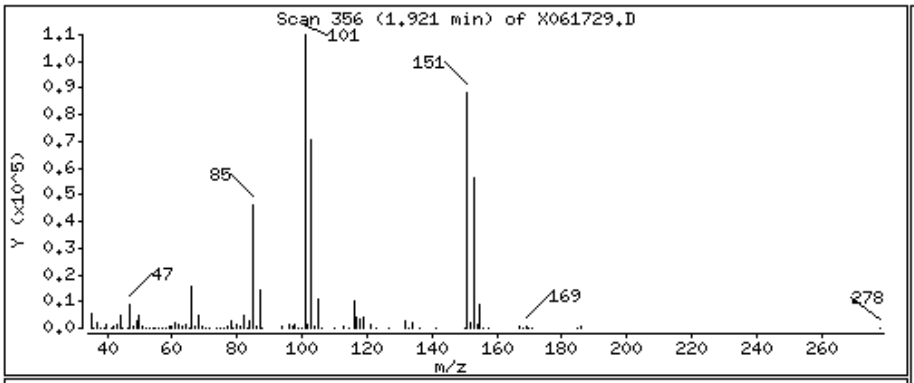
Client ID: HS23060739-03 Instrument: voa6.i

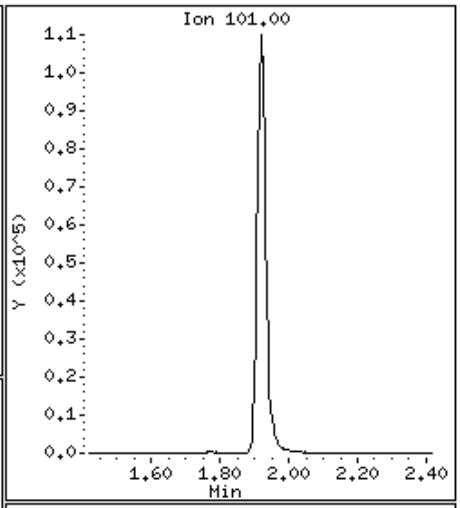
Sample Info: HS23060739-03;HS23060739-03;;;

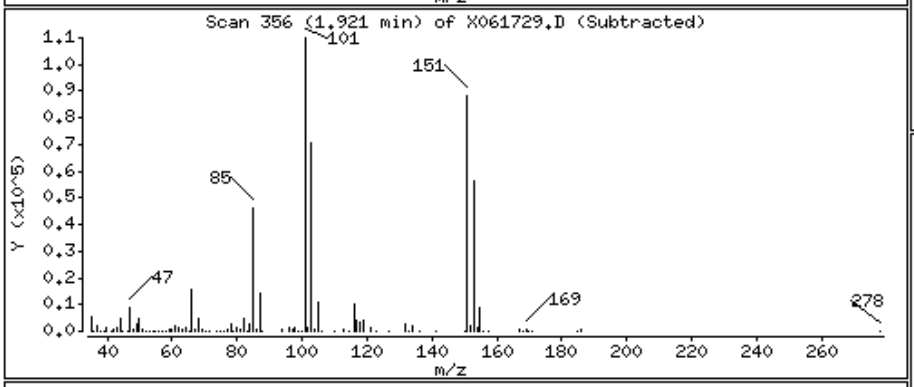
Purge Volume: 5.0 Operator: PC

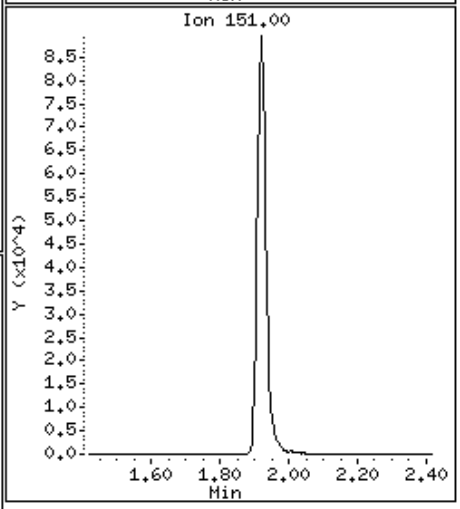
Column phase: DB624 Column diameter: 0.18

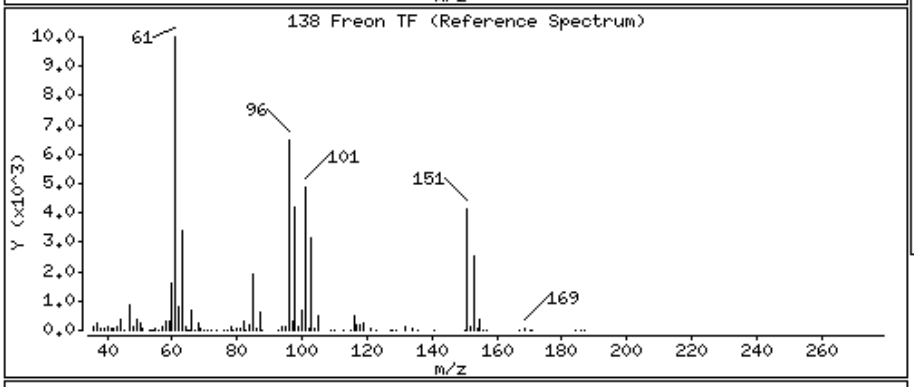
138 Freon TF Concentration: 58.39 ug/l

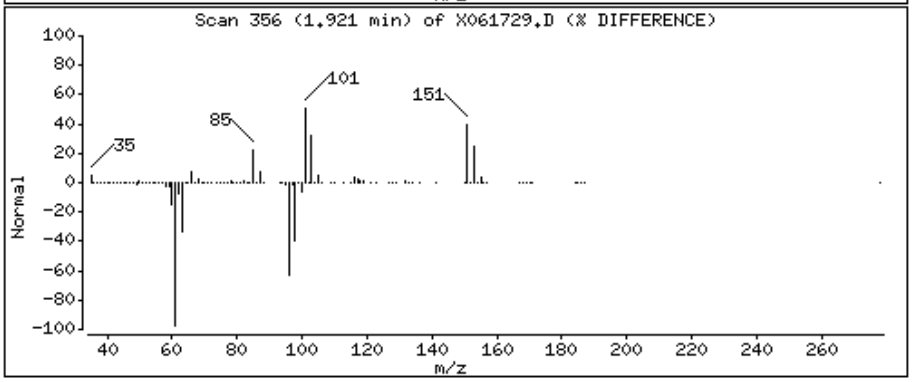












Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061729.D
Inj Date : 17-JUN-2023 21:05
InstruID : voa6.i
LabSampID : HS23060739-03

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061730.D Page 1
Report Date: 20-Jun-2023 17:16

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061730.D
Lab Smp Id: HS23060739-04 Client Smp ID: HS23060739-04
Inj Date : 17-JUN-2023 21:27
Operator : PC Inst ID: voa6.i
Smp Info : HS23060739-04;HS23060739-04;;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 20-Jun-2023 17:15 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.178	(1.000)	493079	50.0000	
$ 30 Dibromofluoromethane	113	4.099	4.099	(0.980)	219686	49.8873	49.88
$ 35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	249797	52.5958	52.59
* 36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	723822	50.0000	
* 47 Chlorobenzene-d5	117	7.667	7.668	(1.000)	639613	50.0000	
$ 48 Toluene-d8	98	6.385	6.386	(0.833)	858466	53.0873	53.08
$ 69 4-Bromofluorobenzene	95	8.687	8.687	(1.133)	305293	48.8767	48.87
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	321096	50.0000	

01194683

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061730.D

Date : 17-JUN-2023 21:27

Client ID: HS23060739-04

Instrument: voa6.i

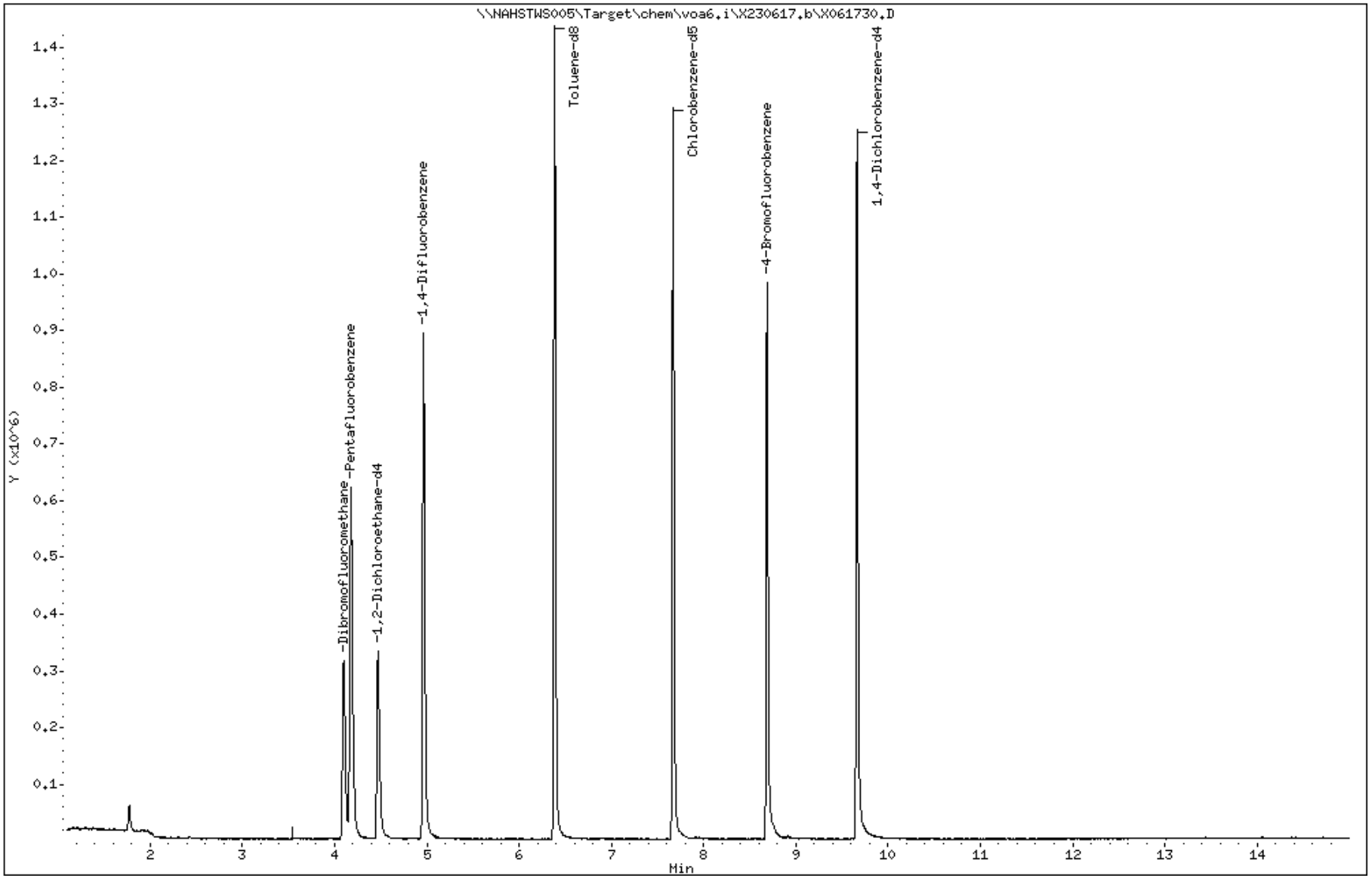
Sample Info: HS23060739-04;HS23060739-04;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061730.D
Inj Date : 17-JUN-2023 21:27
InstruID : voa6.i
LabSampID : HS23060739-04

NO MANUAL INTEGRATIONS

Data File: \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061731.D Page 1
Report Date: 21-Jun-2023 15:59

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061731.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 17-JUN-2023 21:47
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : V6;WATER;0;1;
Comment   :
Method   : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\8260W.m
Meth Date : 21-Jun-2023 15:59 voa6.i Quant Type: ISTD
Cal Date : 15-JUN-2023 13:42 Cal File: X061508.D
Als bottle: 29 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.181	4.181	(1.000)	462619	50.0000	
135 1,4-Dioxane	88	5.595	5.595	(1.338)	57320	1000.00	1022.40
140 1,3-Butadiene	54	1.167	1.167	(0.279)	189031	50.0000	49.30
25 Methacrylonitrile	41	3.825	3.825	(0.915)	205894	50.0000	53.93
12 Isobutyl Alcohol	43	4.672	4.672	(1.117)	631436	1000.00	1046.79
13 Acetonitrile	39	2.198	2.198	(0.526)	246934	500.000	550.31
14 Allyl Chloride	41	2.198	2.198	(0.526)	529916	50.0000	52.23
4 Propionitrile	54	3.649	3.649	(0.873)	306017	500.000	546.96
72 trans-1,4-Dichloro-2-butene	53	8.886	8.886	(1.159)	76918	50.0000	45.59
194 Acetaldehyde	44	1.216	1.216	(0.291)	49445	200.000	203.14(M)
23 Chloroprene	53	1.775	1.775	(0.424)	70395	50.0000	45.78(M)
130 Ethyl Acetate	43	3.656	3.656	(0.875)	233520	50.0000	49.51
40 Methyl Methacrylate	41	5.606	5.606	(1.341)	194634	50.0000	54.34
49 Ethyl Methacrylate	69	6.708	6.708	(1.351)	241406	50.0000	46.18
131 Methyl Acrylate	55	3.686	3.686	(0.882)	216237	50.0000	57.71
136 n-Hexane	57	2.772	2.772	(0.663)	204124	50.0000	48.28
156 Diisopropyl ether	45	3.000	3.000	(0.718)	685518	50.0000	50.24
166 1,2,3-Trimethylbenzene	105	9.729	9.729	(1.007)	932096	50.0000	50.38
2 Dichlorodifluoromethane	85	0.976	0.976	(0.234)	194068	50.0000	48.72
3 Chloromethane	50	1.081	1.081	(0.259)	219280	50.0000	44.94

5 Vinyl Chloride	62	1.145	1.145 (0.274)	234192	50.0000	48.20
6 Bromomethane	94	1.344	1.344 (0.321)	119407	50.0000	42.81

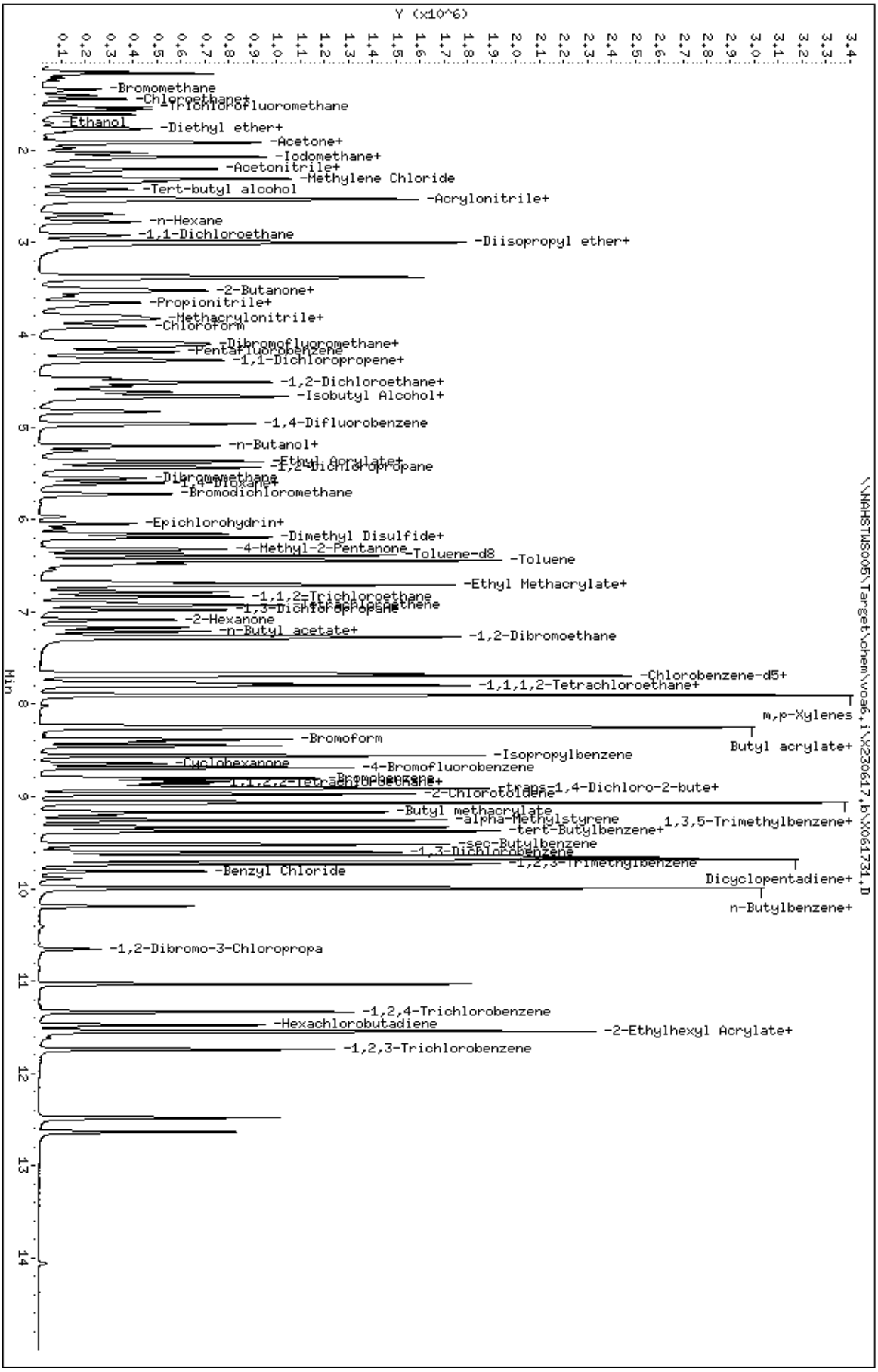
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	7 Chloroethane	64	1.407	1.407	(0.337)	146390	50.0000	49.29
	8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	284829	50.0000	49.33
	9 Acrolein	56	1.449	1.449	(0.347)	27694	100.000	96.47
	10 Acetone	43	1.973	1.973	(0.472)	110038	100.000	91.19
	11 1,1-Dichloroethene	96	1.917	1.917	(0.459)	172561	50.0000	47.64
	15 Iodomethane	142	2.030	2.030	(0.485)	455970	100.000	76.66
	16 Acrylonitrile	53	2.536	2.536	(0.606)	150361	100.000	102.39
	17 Methylene Chloride	84	2.303	2.303	(0.551)	236275	50.0000	46.18
	18 Methyl tert-butyl ether	73	2.536	2.536	(0.606)	621489	50.0000	49.16
	19 Carbon Disulfide	76	2.071	2.071	(0.495)	1093384	100.000	84.78
	20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.605)	206842	50.0000	47.72
	21 Vinyl Acetate	43	2.997	2.997	(0.717)	1252050	100.000	108.24
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	386647	50.0000	49.52
	24 2-Butanone	43	3.578	3.578	(0.856)	155091	100.000	101.86
	26 2,2-Dichloropropane	77	3.507	3.507	(0.839)	284615	50.0000	46.19
	27 cis-1,2-Dichloroethene	96	3.525	3.525	(0.843)	242655	50.0000	48.55
	28 Chloroform	83	3.908	3.908	(0.935)	403122	50.0000	47.97
	29 Bromochloromethane	128	3.795	3.795	(0.908)	126855	50.0000	47.63
$	30 Dibromofluoromethane	113	4.099	4.099	(0.980)	226451	50.0000	54.84
	31 1,1,1-Trichloroethane	97	4.080	4.080	(0.976)	327951	50.0000	48.28
	32 1,1-Dichloropropene	75	4.279	4.279	(0.862)	290800	50.0000	47.59
	33 1,2-Dichloroethane	62	4.556	4.556	(0.918)	309966	50.0000	50.62
	34 Carbon Tetrachloride	117	4.264	4.264	(0.859)	273057	50.0000	46.46
$	35 1,2-Dichloroethane-d4	65	4.470	4.470	(1.069)	247688	50.0000	55.63
*	36 1,4-Difluorobenzene	114	4.965	4.965	(1.000)	729195	50.0000	
	37 Benzene	78	4.511	4.511	(0.909)	892906	50.0000	47.60
	38 Trichloroethene	130	5.205	5.205	(1.048)	243193	50.0000	47.02
	39 Bromodichloromethane	83	5.726	5.726	(1.153)	315845	50.0000	47.60
	41 2-Chloroethylvinyl ether	63	6.048	6.048	(1.218)	159282	100.000	88.71
	42 1,2-Dichloropropane	63	5.433	5.433	(1.094)	240094	50.0000	48.76
	44 Dibromomethane	93	5.550	5.550	(1.118)	151535	50.0000	49.03
	45 4-Methyl-2-Pentanone	43	6.325	6.325	(0.825)	445705	100.000	99.54
	46 cis-1,3-Dichloropropene	75	6.153	6.153	(1.239)	396451	50.0000	48.46
*	47 Chlorobenzene-d5	117	7.668	7.668	(1.000)	693141	50.0000	
$	48 Toluene-d8	98	6.385	6.385	(0.833)	860569	50.0000	49.10
	50 Toluene	91	6.445	6.445	(0.841)	974144	50.0000	47.87
	51 trans-1,3-Dichloropropene	75	6.678	6.678	(1.345)	334782	50.0000	48.91
	52 2-Hexanone	43	7.086	7.086	(0.924)	301856	100.000	100.92
	53 1,1,2-Trichloroethane	83	6.839	6.839	(0.892)	186834	50.0000	47.12
	54 1,3-Dichloropropane	76	6.981	6.981	(0.911)	385958	50.0000	48.15
	55 Dibromochloromethane	129	7.173	7.173	(0.935)	267108	50.0000	47.54
	56 Tetrachloroethene	164	6.925	6.925	(0.903)	186044	50.0000	44.46
	57 1,2-Dibromoethane	107	7.259	7.259	(0.947)	239837	50.0000	47.33
	58 1-Chlorohexane	55	7.694	7.694	(1.550)	194577	50.0000	43.87
	59 Chlorobenzene	112	7.694	7.694	(1.003)	651277	50.0000	46.77
	60 1,1,1,2-Tetrachloroethane	131	7.772	7.772	(1.014)	243230	50.0000	46.84
	61 Ethylbenzene	106	7.799	7.799	(1.017)	327657	50.0000	45.67
	62 m,p-Xylenes	106	7.904	7.904	(1.031)	833393	100.000	94.20
	63 o-Xylene	106	8.241	8.241	(1.075)	406505	50.0000	46.05
	64 Styrene	104	8.256	8.256	(1.077)	697364	50.0000	47.96
	66 Bromoform	173	8.410	8.410	(1.097)	186020	50.0000	47.49
	67 Isopropylbenzene	105	8.560	8.560	(1.116)	995856	50.0000	45.64

	68 1,1,2,2-Tetrachloroethane	83	8.837	8.837 (0.915)	317839	50.0000	46.44
$	69 4-Bromofluorobenzene	95	8.687	8.687 (1.133)	345106	50.0000	51.00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	389222	50.0000	
	71 1,2,3-Trichloropropane	75	8.863	8.863	(0.917)	245366	50.0000	49.99(M)
	73 n-Propylbenzene	91	8.912	8.912	(0.922)	1175265	50.0000	45.88
	74 Bromobenzene	156	8.803	8.803	(0.911)	295674	50.0000	46.60
	75 1,3,5-Trimethylbenzene	105	9.066	9.066	(0.938)	862783	50.0000	45.90
	76 2-Chlorotoluene	91	8.972	8.972	(0.929)	730219	50.0000	44.89
	77 4-Chlorotoluene	91	9.069	9.069	(0.939)	848562	50.0000	46.77
	78 tert-Butylbenzene	119	9.332	9.332	(0.966)	708442	50.0000	45.24
	79 1,2,4-Trimethylbenzene	105	9.377	9.377	(0.971)	871521	50.0000	45.96
	81 sec-Butylbenzene	105	9.519	9.519	(0.985)	990278	50.0000	44.84
	82 p-Isopropyltoluene	119	9.647	9.647	(0.998)	873237	50.0000	45.16
	83 1,3-Dichlorobenzene	146	9.602	9.602	(0.994)	515988	50.0000	45.68
	84 1,4-Dichlorobenzene	146	9.681	9.681	(1.002)	536866	50.0000	44.40
	87 n-Butylbenzene	91	9.992	9.992	(1.034)	770750	50.0000	46.80
	88 1,2-Dichlorobenzene	146	9.992	9.992	(1.034)	511678	50.0000	45.65
	89 1,2-Dibromo-3-Chloropropane	155	10.655	10.655	(1.103)	53813	50.0000	48.18
	90 1,2,4-Trichlorobenzene	180	11.334	11.334	(1.173)	366585	50.0000	47.01
	91 Hexachlorobutadiene	225	11.476	11.476	(1.188)	155725	50.0000	44.49
	92 Naphthalene	128	11.540	11.540	(1.194)	880392	50.0000	50.16
	93 1,2,3-Trichlorobenzene	180	11.739	11.739	(1.215)	343572	50.0000	47.89
M	94 1,2-Dichloroethylene (total)	96				449497	100.000	(a)
	141 Cyclohexane	56	4.121	4.121	(0.986)	297069	50.0000	50.37
	138 Freon TF	101	1.917	1.917	(0.459)	161472	50.0000	50.16
	147 Methylcyclohexane	55	5.381	5.381	(1.084)	543249	50.0000	53.30
	146 Methyl Acetate	43	2.232	2.232	(0.534)	148262	50.0000	54.14
	148 Tert-Butyl alcohol	59	2.431	2.431	(0.581)	442097	1000.00	930.61
	149 Isopropyl Alcohol	45	2.097	2.097	(0.502)	242430	1000.00	924.52

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\X230617.b\X061731.D
Date : 17-JUN-2023 21:47
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

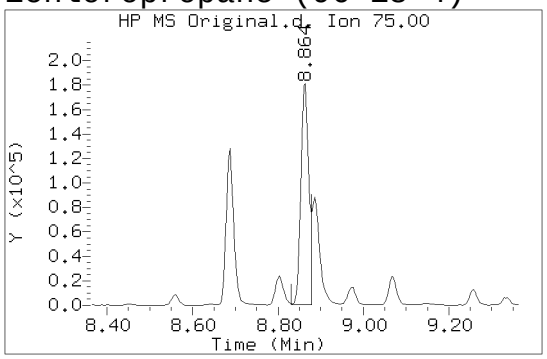
Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061731.D
Inj Date : 17-JUN-2023 21:47
InstruID : voa6.i
LabSampID : CCV-END

1,2,3-Trichloropropane (96-18-4)

Reason Code:

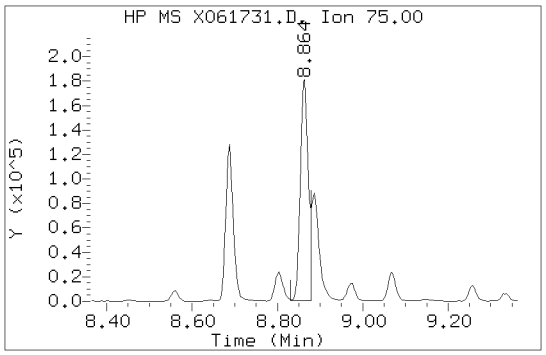
BEFORE

MASS
75
AREA
245366
HEIGHT
180734
20-Jun-2023
17:15
linh
pham



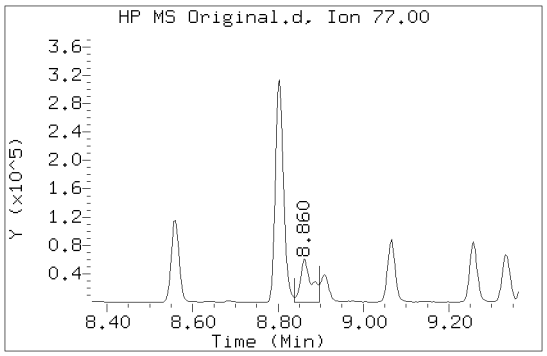
AFTER

MASS
75
AREA
245366
HEIGHT
180734
21-Jun-2023
15:59
linh
pham



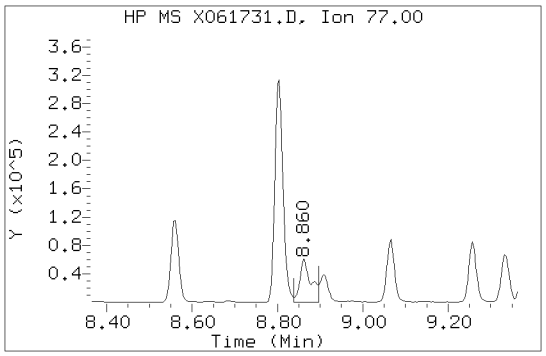
BEFORE

MASS
77
AREA
115202
HEIGHT
60225
20-Jun-2023
17:15
linh
pham



AFTER

MASS
77
AREA
115202
HEIGHT
60225
21-Jun-2023
15:59
linh
pham

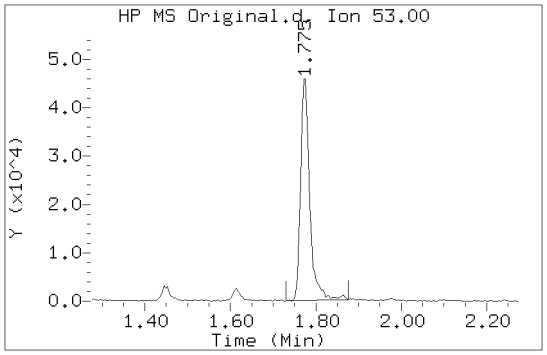


Chloroprene (126-99-8)

Reason Code:

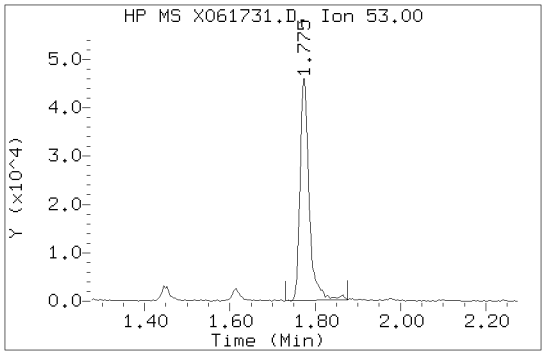
BEFORE

MASS
53
AREA
70395
HEIGHT
45778
20-Jun-2023
17:15
linh
pham



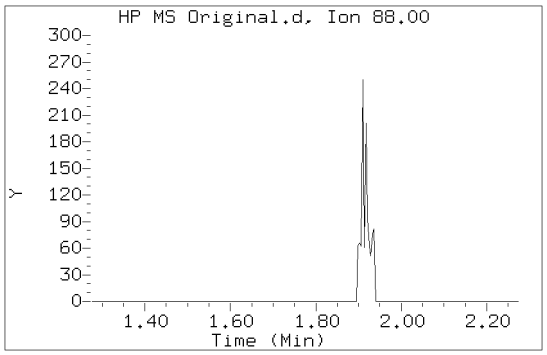
AFTER

MASS
53
AREA
70395
HEIGHT
45778
21-Jun-2023
15:59
linh
pham



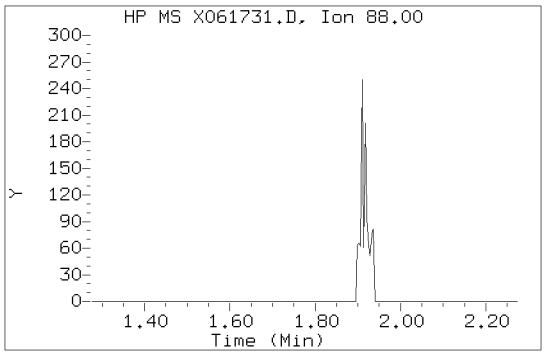
BEFORE

MASS
88
AREA
0
HEIGHT
0
20-Jun-2023
17:15
linh
pham



AFTER

MASS
88
AREA
0
HEIGHT
0
21-Jun-2023
15:59
linh
pham

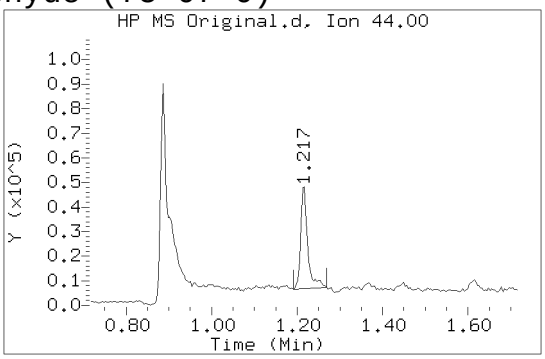


Data File : \\NAHSTWS005\Target\chem\voa6.i\X230617.b\X061731.D
Inj Date : 17-JUN-2023 21:47
InstruID : voa6.i
LabSampID : CCV-END

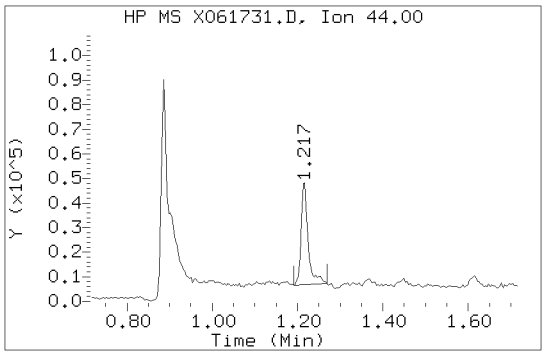
Acetaldehyde (75-07-0)

Reason Code:

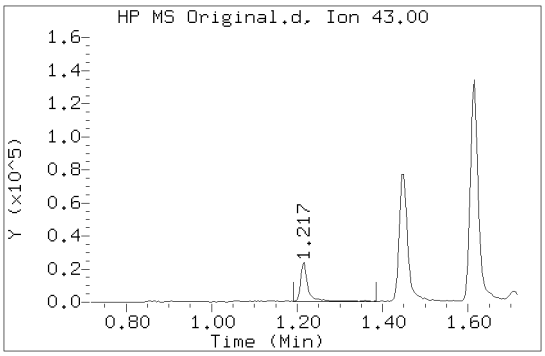
BEFORE
MASS
44
AREA
49445
HEIGHT
41525
20-Jun-2023
17:15
linh
pham



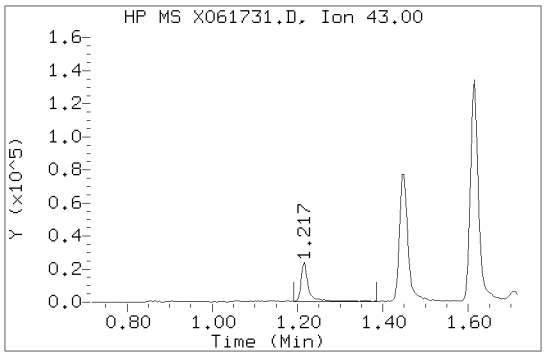
AFTER
MASS
44
AREA
49445
HEIGHT
41525
21-Jun-2023
15:59
linh
pham



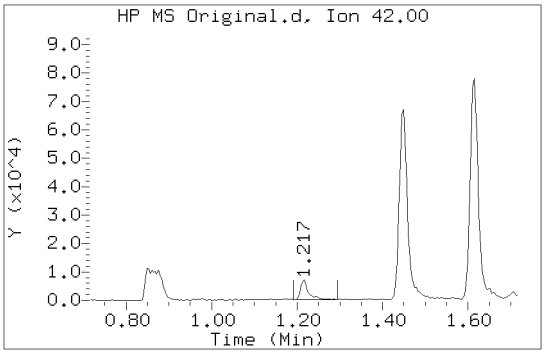
BEFORE
MASS
43
AREA
30301
HEIGHT
23580
20-Jun-2023
17:15
linh
pham



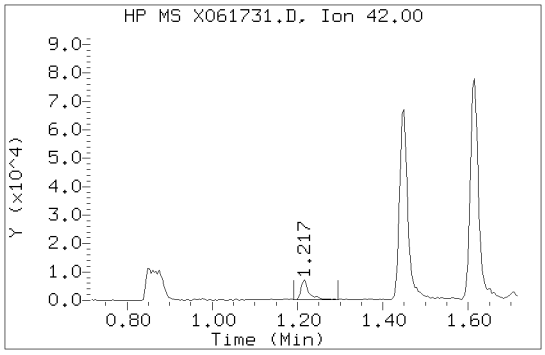
AFTER
MASS
43
AREA
30301
HEIGHT
23580
21-Jun-2023
15:59
linh
pham



BEFORE
MASS
42
AREA
9531
HEIGHT
6998
20-Jun-2023
17:15
linh
pham



AFTER
MASS
42
AREA
9531
HEIGHT
6998
21-Jun-2023
15:59
linh
pham



HS23060739-MSSEMI-SW8270SIM

ALS WO# HS23060739

01194694

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Semi-Volatiles by EPA 8270SIM

HS23060739-01

MW5_060923

Collected	Received	Matrix	Basis
06/09/23 06:50	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.056		0.010	0.010	0.010	1	06/19/23 13:32	SV-6_439307	08.D	195305

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

Semi-Volatiles by EPA 8270SIM

HS23060739-02
18CPTMW08DW_060923

Collected	Received	Matrix	Basis
06/09/23 07:35	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.021		0.010	0.010	0.010	1	06/19/23 13:50	SV-6_439307	09.D	195305

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Semi-Volatiles by EPA 8270SIM

HS23060739-03

18CPTMW08SW_060923

Collected	Received	Matrix	Basis
06/09/23 08:20	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.035		0.010	0.010	0.010	1	06/19/23 14:08	SV-6_439307	10.D	195305

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

Semi-Volatiles by EPA 8270SIM

HS23060739-04
18CPTMW04SW_060923

Collected	Received	Matrix	Basis
06/09/23 09:05	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.010	U	0.010	0.010	0.010	1	06/19/23 14:26	SV-6_439307	11.D	195305

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder **HS23060739**

Semi-Volatiles by EPA 8270SIM

HS23060739-05

18CPTMW04_060923

Collected	Received	Matrix	Basis
06/09/23 09:55	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.027		0.010	0.010	0.010	1	06/19/23 14:44	SV-6_439307	12.D	195305

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

Semi-Volatiles by EPA 8270SIM

HS23060739-06

18CPTMW04_060923_a

Collected	Received	Matrix	Basis
06/09/23 09:55	06/10/23 11:10	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.039		0.010	0.010	0.010	1	06/19/23 15:02	SV-6_439307	13.D	195305

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

Semi-Volatiles by EPA 8270SIM

MBLK-195305

MBLK-195305

Collected	Received	Matrix	Basis
NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile	PrepBatch
1,4-Dioxane	ug/L	0.030	U	0.010	0.030	0.030	1	06/19/23 12:38	SV-6_439307	05.D	195305

01194702

right solutions.
right partner.

Form 2

System Monitoring Compound Recovery

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 2 - System Monitoring Compound Recovery

Client: Bhate Environmental Associates, Inc.

Project: LHAAP 18 24

Workorder: HS23060739

RunID: SV-6-439307

Semi-Volatiles by EPA 8270SIM

HS23060739-01	Analyzed	Conc Units	Dilution
MW5_060923	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.088	0.08	111		40-140
4-Terphenyl-d14	0.085	0.08	107		40-140
Nitrobenzene-d5	0.075	0.08	93.4		40-140

HS23060739-02	Analyzed	Conc Units	Dilution
18CPTMW08DW_060923	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.089	0.08	111		40-140
4-Terphenyl-d14	0.089	0.08	111		40-140
Nitrobenzene-d5	0.075	0.08	94.3		40-140

HS23060739-03	Analyzed	Conc Units	Dilution
18CPTMW08SW_060923	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.09	0.08	112		40-140
4-Terphenyl-d14	0.089	0.08	111		40-140
Nitrobenzene-d5	0.078	0.08	97.7		40-140

HS23060739-04	Analyzed	Conc Units	Dilution
18CPTMW04SW_060923	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.09	0.08	112		40-140
4-Terphenyl-d14	0.089	0.08	112		40-140
Nitrobenzene-d5	0.075	0.08	93.2		40-140

Form 2 - System Monitoring Compound Recovery

Client: Bhate Environmental Associates, Inc.

Project: LHAAP 18 24

Workorder: HS23060739

RunID: SV-6-439307

Semi-Volatiles by EPA 8270SIM

HS23060739-05	Analyzed	Conc Units	Dilution
18CPTMW04_060923	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.089	0.08	111		40-140
4-Terphenyl-d14	0.089	0.08	111		40-140
Nitrobenzene-d5	0.074	0.08	92.7		40-140

HS23060739-06	Analyzed	Conc Units	Dilution
18CPTMW04_060923_a	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.089	0.08	112		40-140
4-Terphenyl-d14	0.089	0.08	112		40-140
Nitrobenzene-d5	0.078	0.08	97.9		40-140

LCS1-195305	Analyzed	Conc Units	Dilution
LCS1-195305	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.08727	0.08	109		40-140
4-Terphenyl-d14	0.08357	0.08	104		40-140
Nitrobenzene-d5	0.07742	0.08	96.8		40-140

LCSD1-195305	Analyzed	Conc Units	Dilution
LCSD1-195305	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.08954	0.08	112		40-140
4-Terphenyl-d14	0.08768	0.08	110		40-140
Nitrobenzene-d5	0.07887	0.08	98.6		40-140

Form 2 - System Monitoring Compound Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID SV-6-439307

Semi-Volatiles by EPA 8270SIM

MBLK-195305	Analyzed	Conc Units	Dilution
MBLK-195305	06/19/23	%REC	1

Surrogate	Result Conc	Spike Conc	%Recovery	Q	%Recovery Limits
2-Fluorobiphenyl	0.08836	0.08	110		40-140
4-Terphenyl-d14	0.08665	0.08	108		40-140
Nitrobenzene-d5	0.0821	0.08	103		40-140

01194706

right solutions.
right partner.

Form 3B

Laboratory Control Sample Recovery

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

SAMPLENUM
LCS1-195305

Semi-Volatiles by EPA 8270SIM

SV-6_439307				LCS1-195305			LCSD1-195305					
Spike Matrix	Aqueous		Run Date	06/19/23			06/19/23					
Result Units	ug/L		Run Time	12:56			13:14					
Prep Method	SW3510		Data File	06.D			07.D					
Prep Date	06/16/23	Prep Batch 195305	Prep Amt	1000 mL			1000 mL					
Analyte		%Recovery Limits	Spike Added	LCS Result	%R	Q	LCSD Result	%R	Q	RPD Limit	RPD	Q
1,4-Dioxane		40-140	0.08	0.07743	97		0.07928	99.0		20	2.35	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

Form 3B - Laboratory Control Sample Recovery

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

SAMPLENUM LCSD1-195305

Semi-Volatiles by EPA 8270SIM

SV-6_439307				LCSD1-195305		
Spike Matrix	Aqueous		Run Date	06/19/23		
Result Units	ug/L		Run Time	13:14		
Prep Method	SW3510		Data File	07.D		
Prep Date	06/16/23	Prep Batch 195305	Prep Amt	1000 mL		

Analyte	%Recovery Limits	Spike Added	LCS Result	%R	Q
1,4-Dioxane	40-140	0.08	0.07928	99	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits %R - %Recovery DF - Dilution Factor Amt - Amount (weight or volume)

01194709

right solutions.
right partner.

Form 4

Method Blank Summary

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 4 - Method Blank Summary

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

Semi-Volatiles by EPA 8270SIM

Client Sample ID	Type	Lab Sample ID	File ID	Date Analyzed	Run ID
METHOD BLANK	MBLK	MBLK-195305	05.D	06/19/23 12:38	SV-6_439307
LCS1-195305	LCS	LCS1-195305	06.D	06/19/23 12:56	SV-6_439307
LCSD1-195305	LCSD	LCSD1-195305	07.D	06/19/23 13:14	SV-6_439307
MW5_060923	SAMP	HS23060739-01	08.D	06/19/23 13:32	SV-6_439307
18CPTMW08DW_060923	SAMP	HS23060739-02	09.D	06/19/23 13:50	SV-6_439307
18CPTMW08SW_060923	SAMP	HS23060739-03	10.D	06/19/23 14:08	SV-6_439307
18CPTMW04SW_060923	SAMP	HS23060739-04	11.D	06/19/23 14:26	SV-6_439307
18CPTMW04_060923	SAMP	HS23060739-05	12.D	06/19/23 14:44	SV-6_439307
18CPTMW04_060923_a	SAMP	HS23060739-06	13.D	06/19/23 15:02	SV-6_439307

01194711

right solutions.
right partner.

Form 5

Instrument Performance Check

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

RunID
SV-6-439923

Semi-Volatiles by EPA 8270SIM

Tune File 01.D 06/16/23 6/16/2023

This check applies to the following analyses

m / e	Ion Abundance Criterion	%RA
51	30.0 - 80.0% of mass 198	40.3 (40.3)
68	Less than 2.0% of mass 69	0.5 (1.44) 1
69	Mass 69 RA	32.2 (32.2)
70	Less than 2.0% of mass 69	0.2 (0.502) 1
127	25.0 - 75.0% of mass 198	38.5 (38.5)
197	Less than 1.0% of mass 198	0.5 (0.46)
198	Base peak, 100% RA	100 (83.3)
199	5.0 - 9.0% of mass 198	6.5 (6.46)
275	10.0 - 30.0% of mass 198	25.8 (25.8)
365	Greater than 0.75% of mass 198	3.4 (3.43)
441	Present, but less than mass 443	17.7 (76.4)
442	40.0 - 110.0% of mass 198	120.1 (120)
443	15.0 - 24.0% of mass 442	23.2 (19.3) 2

%RA - Percent Relative Abundance

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	14DXICAL-	ICAL1	6/16/2023	04	14DXICAL-0.01
2	14DXICAL-	ICAL2	6/16/2023	05	14DXICAL-0.03
3	14DXICAL-	ICAL3	6/16/2023	06	14DXICAL-0.05
4	14DXICAL-	ICAL4	6/16/2023	07	14DXICAL-0.08
5	14DXICAL-	ICAL6	6/16/2023	09	14DXICAL-0.15
6	14DXICAL-0.1	ICAL5	6/16/2023	12	14DXICAL-0.1
7	14DXICAL-0.5	ICAL8	6/16/2023	14	14DXICAL-0.5
8	14DXICAL-0.2	ICAL7	6/16/2023	15	14DXICAL-0.2
9	14DXICV-0.08	ICV	6/16/2023	16	14DXICV-0.08

Form 5 - Instrument Performance Check

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder HS23060739

RunID SV-6-439307

Semi-Volatiles by EPA 8270SIM

Tune File 01.D 06/19/23 6/19/2023

This check applies to the following analyses

m / e	Ion Abundance Criterion	%RA
51	30.0 - 80.0% of mass 198	45.6 (45.65)
68	Less than 2.0% of mass 69	0.4 (1.27) 1
69	Mass 69 RA	34.9 (34.93)
70	Less than 2.0% of mass 69	0.2 (0.53) 1
127	25.0 - 75.0% of mass 198	39.7 (39.72)
197	Less than 1.0% of mass 198	0.6 (0.64)
198	Base peak, 100% RA	100 (85.16)
199	5.0 - 9.0% of mass 198	6 (6.02)
275	10.0 - 30.0% of mass 198	25.8 (25.82)
365	Greater than 0.75% of mass 198	3.8 (3.84)
441	Present, but less than mass 443	17.7 (77.07)
442	40.0 - 110.0% of mass 198	117.4 (117.42)
443	15.0 - 24.0% of mass 442	22.9 (19.53) 2

%RA - Percent Relative Abundance

	Lab Samp ID	Type	Date Analyzed	Lab File ID	Sample ID
1	14DX-0.08	CCV	6/19/2023	03	14DX-0.08
2	MBLK-195305	MBLK	6/19/2023	05	MBLK-195305
3	LCS1-195305	LCS	6/19/2023	06	LCS1-195305
4	LCSD1-	LCSD	6/19/2023	07	LCSD1-195305
5	HS23060739-	SAMP	6/19/2023	08	MW5_060923
6	HS23060739-	SAMP	6/19/2023	09	18CPTMW08DW_060923
7	HS23060739-	SAMP	6/19/2023	10	18CPTMW08SW_060923
8	HS23060739-	SAMP	6/19/2023	11	18CPTMW04SW_060923
9	HS23060739-	SAMP	6/19/2023	12	18CPTMW04_060923
10	HS23060739-	SAMP	6/19/2023	13	18CPTMW04_060923_a
11	14DXCCV-	CCV	6/19/2023	24	14DXCCV-END
12	MBLK-195305	MBLK	6/21/2023	26	MBLK-195305
13	LCS-195305	LCS	6/21/2023	27	LCS-195305
14	LCSD-195305	LCSD	6/21/2023	28	LCSD-195305

01194714

right solutions.
right partner.

Form 6

Initial Calibration Data

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Data

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID SV-6_439923

Semi-Volatiles by EPA 8270SIM

ICAL Start Date 10-MAR-2022 1025
ICAL End Date 16-JUN-2023 1556

Calibration file names
Level 1 ..target\chem\sv6.i\230616.b\04.d
Level 2 ..target\chem\sv6.i\230616.b\05.d
Level 3 ..target\chem\sv6.i\230616.b\06.d
Level 4 ..target\chem\sv6.i\230616.b\07.d
Level 5 ..target\chem\sv6.i\230616.b\12.d
Level 6 ..target\chem\sv6.i\230616.b\09.d

Compound	0.20000 Level 7 0.01000 Level 1	0.50000 Level 8 0.03000 Level 2	0.05000 Level 3	0.08000 Level 4	0.10000 Level 5	0.15000 Level 6	RRF	%RSD	Q
1,4-Dioxane	0.30124 0.40150	0.32659 0.31193	0.32643	0.34940	0.35892	0.33837	0.33930	9.241	
2-Fluorophenol	0.40150 NE NE	0.31193 NE NE	NE	NE	NE	NE	0.33930 NE	9.241 NE	
13 Phenol-d6	NE NE	NE NE	NE	NE	NE	NE	NE	NE	
33 Nitrobenzene-d5	0.28832 0.34832	0.28035 0.27609	0.30204	0.32108	0.30808	0.30634	0.30383	7.735	
69 2-Fluorobiphenyl	0.98985 1.25227	0.97067 0.94386	0.97876	1.06873	0.97017	1.00640	1.02259	9.764	
105 2,4,6-Tribromophenol	NE NE	NE NE	NE	NE	NE	NE	NE	NE	
158 4-Terphenyl-d14	0.60104 1.00267	0.68127 0.75942	0.64541	0.74244	0.75380	0.71602	0.73776	16.347	

NE - Not Evaluated, AVRG - Averaged, LINR - Linear Regression, WLIN - Weighted Linear, QUAD - Quadratic, * - Curve Fit Outside Limits

01194716

right solutions.
right partner.

Form 6I

Initial Calibration Verification (ICV)

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Initial Calibration Verification (ICV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID SV-6_439923

Semi-Volatiles by EPA 8270SIM

Sample Matrix LIQUID
Lab Smp Id 14DXICV-0.08
Level LOW

Fraction SV
Client Smp ID 14DXICV-0.08
Operator LG

Compound	CONC Added	CONC Recovered	% Recovered	Limits	Q
1,4-Dioxane	0.08000	0.07070	88.38	40-140	
Nitrobenzene-d5	0.08000	0.07086	88.57	40-140	
2-Fluorobiphenyl	0.08000	0.08036	100.45	40-140	
4-Terphenyl-d14	0.08000	0.08379	104.74	40-140	

01194718

right solutions.
right partner.

Form 7

Continuing Calibration Verification (CCV)

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID SV-6_439307

Semi-Volatiles by EPA 8270SIM

Instrument ID SV6.I
Lab File ID 03.D
Analysis Type WATER
Lab Sample ID 14DX-0.08

Injection Date 19-JUN-2023 11:32
ICAL Date(s) 10-MAR-2022 16-JUN-2023
ICAL Times 10:25 15:56
Quant Type ISTD

Compound	$\overline{RRF}$ / Conc	RF0.080	Min RRF	%D / %DRIFT	Max %D / %DRIFT	CURVE TYPE	Q
33 Nitrobenzene-d5	0.30383	0.27890	0.010	-8.20338	20.0	Averaged	
69 2-Fluorobiphenyl	1.02259	1.07247	0.010	4.87772	20.0	Averaged	
158 4-Terphenyl-d14	0.73776	0.69516	0.010	-5.77464	20.0	Averaged	
1,4-Dioxane	0.33930	0.33246	0.010	-2.01642	20.0	Averaged	

Continuing Calibration Verification (CCV)

Client Bhate Environmental Associates, Inc.
Project LHAAP 18 24

Workorder HS23060739

RunID SV-6_439307

Semi-Volatiles by EPA 8270SIM

Instrument ID SV6.I
Lab File ID 24.D
Analysis Type WATER
Lab Sample ID 14DXCCV-CLOSING Quant Type

Injection Date 19-JUN-2023 18:21
ICAL Date(s) 10-MAR-2022 16-JUN-2023
ICAL Times 10:25 15:56
ISTD

Compound	$\overline{RRF}$ / Conc	RF0.080	Min RRF	%D / %DRIFT	Max %D / %DRIFT	CURVE TYPE	Q
33 Nitrobenzene-d5	0.30383	0.29583	0.010	-2.63391	50.0	Averaged	
69 2-Fluorobiphenyl	1.02259	1.04971	0.010	2.65200	50.0	Averaged	
158 4-Terphenyl-d14	0.73776	0.77907	0.010	5.59919	50.0	Averaged	
1,4-Dioxane	0.33930	0.35175	0.010	3.67080	50.0	Averaged	

01194721

right solutions.
right partner.

Form 12

Preparation Log

Semi-VolatilesEPA 3510

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 12 - Preparation Log

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

RunID
195305

Semi-VolatilesEPA 3510

Prep Batch 195305 **Prep Date** 06/16/23

	Matrix	Type	Client Sample ID	Lab Sample ID	Initial Amt (mL)	Final Amt (mL)
1	Aqueous	MBLK	MBLK-195305	MBLK-195305	1000	1
2	Aqueous	LCS	LCS1-195305	LCS1-195305	1000	1
3	Aqueous	LCSD	LCSD1-195305	LCSD1-195305	1000	1
4	Groundwater	SAMP	MW5_060923	HS23060739-01	1000	1
5	Groundwater	SAMP	18CPTMW08DW_060923	HS23060739-02	1000	1
6	Groundwater	SAMP	18CPTMW08SW_060923	HS23060739-03	1000	1
7	Groundwater	SAMP	18CPTMW04SW_060923	HS23060739-04	1000	1
8	Groundwater	SAMP	18CPTMW04_060923	HS23060739-05	1000	1
9	Groundwater	SAMP	18CPTMW04_060923_a	HS23060739-06	1000	1

01194723

right solutions.
right partner.

Analysis Run Log

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

RunID
SV-6-439923

Semi-Volatiles by EPA 8270SIM

Run ID SV-6_439923 **Start Date** 06/16/23 **EndDate** 06/16/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
09:28	DFTPP	TUNE	DFTPP	01.D	06/16/23	1
11:08	14DXICAL-0.01	ICAL1	14DXICAL-0.01	04.D	06/16/23	1
11:26	14DXICAL-0.03	ICAL2	14DXICAL-0.03	05.D	06/16/23	1
11:44	14DXICAL-0.05	ICAL3	14DXICAL-0.05	06.D	06/16/23	1
12:02	14DXICAL-0.08	ICAL4	14DXICAL-0.08	07.D	06/16/23	1
12:38	14DXICAL-0.15	ICAL6	14DXICAL-0.15	09.D	06/16/23	1
14:15	14DXICAL-0.1	ICAL5	14DXICAL-0.1	12.D	06/16/23	1
14:51	14DXICAL-0.5	ICAL8	14DXICAL-0.5	14.D	06/16/23	1
15:56	14DXICAL-0.2	ICAL7	14DXICAL-0.2	15.D	06/16/23	1
16:22	14DXICV-0.08	ICV	14DXICV-0.08	16.D	06/16/23	1

Form 13 - Analysis Run Log

Client Bhate Environmental Associates, Inc.

Project LHAAP 18 24

Workorder
HS23060739

RunID
SV-6-439307

Semi-Volatiles by EPA 8270SIM

Run ID SV-6_439307 **Start Date** 06/19/23 **EndDate** 06/22/23

Inj. Time	Client Sample ID	Type	Lab Sample ID	File ID	Analysis Date	DF
10:35	DFTPP	TUNE	DFTPP	01.D	06/19/23	1
11:32	14DX-0.08	CCV	14DX-0.08	03.D	06/19/23	1
12:38	MBLK-195305	MBLK	MBLK-195305	05.D	06/19/23	1
12:56	LCS1-195305	LCS	LCS1-195305	06.D	06/19/23	1
13:14	LCSD1-195305	LCSD	LCSD1-195305	07.D	06/19/23	1
13:32	HS23060739-01	SAMP	MW5_060923	08.D	06/19/23	1
13:50	HS23060739-02	SAMP	18CPTMW08DW_0609	09.D	06/19/23	1
14:08	HS23060739-03	SAMP	18CPTMW08SW_0609	10.D	06/19/23	1
14:26	HS23060739-04	SAMP	18CPTMW04SW_0609	11.D	06/19/23	1
14:44	HS23060739-05	SAMP	18CPTMW04_060923	12.D	06/19/23	1
15:02	HS23060739-06	SAMP	18CPTMW04_060923_	13.D	06/19/23	1
15:20	HS23060999-02	SAMP	ZZZZZZZZZZ	14.D	06/19/23	1
16:14	HS23060999-05	SAMP	ZZZZZZZZZZ	17.D	06/19/23	1
16:32	HS23060999-06	SAMP	ZZZZZZZZZZ	18.D	06/19/23	1
16:50	HS23060999-07	SAMP	ZZZZZZZZZZ	19.D	06/19/23	1
17:45	HS23060999-03	SAMP	ZZZZZZZZZZ	22.D	06/19/23	1000
18:03	HS23060999-04	SAMP	ZZZZZZZZZZ	23.D	06/19/23	100
19:52	HS23060883-01	SAMP	ZZZZZZZZZZ	23.D	06/22/23	10
18:21	14DXCCV-END	CCV	14DXCCV-END	24.D	06/19/23	1
18:57	HS23060714-01	SAMP	ZZZZZZZZZZ	26.D	06/19/23	1
19:39	MBLK-195305	MBLK	MBLK-195305	26.D	06/21/23	1
19:15	HS23060714-02	SAMP	ZZZZZZZZZZ	27.D	06/19/23	1
19:59	LCS-195305	LCS	LCS-195305	27.D	06/21/23	1
19:33	HS23060714-03	SAMP	ZZZZZZZZZZ	28.D	06/19/23	1
20:19	LCSD-195305	LCSD	LCSD-195305	28.D	06/21/23	1
19:51	HS23060714-04	SAMP	ZZZZZZZZZZ	29.D	06/19/23	1
20:39	HS23060883-01	SAMP	ZZZZZZZZZZ	29.D	06/21/23	1
20:09	HS23060714-05	SAMP	ZZZZZZZZZZ	30.D	06/19/23	1
21:00	HS23060883-02	SAMP	ZZZZZZZZZZ	30.D	06/21/23	1

01194726

right solutions.
right partner.

Raw Data SV 6 439923

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Data File: \\nahstws005\Target\chem\SV6.i\230616.b\01.D Page 1
Report Date: 16-Jun-2023 09:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\SV6.i\230616.b\01.D
Lab Smp Id: DFTPP Client Smp ID: DFTPP
Inj Date : 16-JUN-2023 09:28
Operator : smith Inst ID: SV6.i
Smp Info : DFTPP;DFTPP;3;;DFTPP
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230616.b\DFTPP.m
Meth Date : 14-Mar-2023 15:59 Linh.Pham Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: DFTPP
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: None
Processing Host: NAHSTW7015

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/L)	TARGET RANGE	RATIO
1 dftpp						CAS #: 5074-71-5		
5.009	6.357	-1.348	198	573312			0.00- 100.00	83.28
5.009	6.357	-1.348	51	231176			10.00- 80.00	40.32
5.009	6.357	-1.348	68	2654			0.00- 2.00	1.44
5.009	6.357	-1.348	69	184729			0.00- 0.00	32.22
5.009	6.357	-1.348	70	927			0.00- 2.00	0.50
5.009	6.357	-1.348	127	220864			10.00- 80.00	38.52
5.009	6.357	-1.348	197	2637			0.00- 2.00	0.46
5.009	6.357	-1.348	199	37040			5.00- 9.00	6.46
5.009	6.357	-1.348	275	147776			10.00- 60.00	25.78
5.009	6.357	-1.348	365	19688			1.00- 100.00	3.43
5.009	6.357	-1.348	441	101568			0.01- 99.99	76.45
5.009	6.357	-1.348	442	688448			50.00- 150.00	120.08
5.009	6.357	-1.348	443	132864			15.00- 24.00	19.30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	40.32
68	Less than 2.00% of mass 69	0.46 (1.44)
69	Mass 69 relative abundance	32.22
70	Less than 2.00% of mass 69	0.16 (0.50)
127	10.00 - 80.00% of mass 198	38.52
197	Less than 2.00% of mass 198	0.46
199	5.00 - 9.00% of mass 198	6.46
275	10.00 - 60.00% of mass 198	25.78
365	1.00 - 100.00% of mass 198	3.43
441	Present, but less than mass 443	17.72
442	50.00 - 150.00% of mass 198	120.08
443	15.00 - 24.00% of mass 442	23.17 (19.30)

Data File: 01.D
Spectrum: HP ChemStation MS 01.D, Scan 453: 5.010 min. (SUB)
Location of Maximum: 442.10
Number of points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.10	691	128.10	16159	209.00	1513	297.00	5492
38.00	1909	129.00	84336	210.10	2201	298.00	365
39.10	12523	130.00	6769	211.00	6102	301.00	640
40.00	181	131.00	1444	213.00	401	302.00	602
40.90	276	132.10	794	214.00	192	303.10	4693
45.00	312	133.10	248	215.00	1503	304.00	1179
49.00	1051	134.00	2156	216.00	2932	304.90	175
50.10	53200	135.00	6519	217.00	39448	308.00	557
51.10	231168	136.00	2427	218.00	4584	309.00	385
52.10	12049	137.10	3257	219.00	408	310.00	461
53.00	444	138.10	689	221.10	31488	311.10	249
55.00	841	139.00	436	221.70	5812	311.90	184
56.00	6699	140.00	864	223.00	9377	312.90	383
57.00	16176	141.00	10733	224.10	87680	314.00	1739
58.00	734	142.00	3754	225.10	21984	315.00	3954
61.00	2603	143.00	2343	226.00	2230	316.10	2781
62.00	2746	144.00	787	227.00	33024	317.00	633
63.00	8959	145.00	657	228.00	4457	319.90	232
64.00	1134	146.10	1823	229.00	7608	321.00	1268
65.10	3754	147.00	5380	230.00	950	322.00	605
66.20	170	148.00	12478	231.00	3201	323.10	14516
66.90	176	149.00	2115	232.00	487	324.00	2985
68.00	2654	150.00	633	233.00	674	325.00	302
69.00	184704	151.60	2531	234.00	1838	326.00	247
70.00	927	152.00	808	235.00	2392	327.00	2521
71.10	180	153.00	3358	236.00	1374	328.00	1205
73.00	1217	154.00	2616	237.00	2292	329.00	338
74.00	17520	155.00	6177	238.00	338	332.00	1141
75.00	28192	156.10	9411	239.00	1122	333.00	1368
76.10	9960	157.00	2001	240.00	936	334.10	8776
77.10	218880	158.00	2113	241.00	1871	335.00	2203
78.10	13466	159.00	1675	242.00	4359	336.00	187
79.00	12046	160.10	3244	243.10	4502	339.10	380
80.00	9791	161.00	5606	244.10	67632	339.90	281
81.00	14216	162.00	1730	245.10	8922	341.00	1623
82.00	3653	163.00	400	246.00	11263	342.10	476
83.00	3381	164.00	727	247.00	2407	346.00	2738
84.00	184	165.00	4330	248.10	663	347.00	596
85.00	2227	166.00	3419	249.00	2399	350.90	220
86.00	3237	167.00	24512	250.00	534	352.10	4359
87.00	1991	168.00	9507	251.00	626	353.00	3284
88.00	676	169.10	1791	252.00	592	354.10	4838
89.00	341	170.00	842	253.00	1532	355.00	896
91.00	2912	170.90	1000	254.00	2136	359.00	467
92.00	3110	172.00	2269	255.00	354304	365.00	19688

93.00	21304	173.10	2549	256.00	51136	366.00	2752
94.00	1218	174.00	5175	257.00	3611	370.10	513
95.00	484	175.00	9799	258.00	18768	371.00	1054
96.00	924	176.00	2683	259.00	3038	372.00	8081
97.10	374	177.00	3904	260.00	415	373.10	1766
98.00	16345	178.00	1303	261.00	547	374.00	321
99.00	11441	179.00	17472	263.00	216	377.00	254
100.00	1118	180.00	12918	264.00	482	383.00	2280
101.00	8931	181.00	6121	265.00	7562	384.00	529
101.90	481	182.10	939	266.00	1247	385.00	199
103.00	2466	183.00	711	267.90	202	390.10	1132
104.00	4787	184.00	1198	270.00	419	391.00	640
105.00	4856	185.10	9374	270.90	595	392.00	528
106.00	1473	186.10	74288	272.00	859	401.00	506
107.00	67952	187.10	20504	273.00	9955	402.00	3420
108.00	9807	188.00	2068	274.00	26688	403.00	5432
109.00	1838	189.00	3837	275.00	147776	404.00	1627
110.00	123544	189.90	682	276.10	18968	405.00	236
111.00	17696	191.00	2262	277.00	11809	415.00	201
112.00	1819	192.00	6230	278.00	1774	421.00	5131
112.90	638	193.10	7049	279.00	482	422.00	3941
114.00	179	194.00	1444	280.90	159	423.00	33192
114.80	238	195.00	1036	282.00	357	424.00	5796
116.00	3334	196.10	15513	283.00	1383	425.00	632
117.00	50184	197.00	2637	284.00	975	434.00	155
118.10	3139	198.00	573312	285.00	2248	436.70	155
119.00	504	199.00	37040	286.10	556	441.10	101568
120.00	697	200.00	3218	289.00	393	442.10	688448
121.00	285	201.50	2802	290.00	552	443.10	132864
122.00	4036	203.00	3916	291.00	367	444.10	12072
123.10	5628	204.00	19400	291.90	558	445.00	733
124.00	2843	205.10	32656	293.00	2916		
125.00	2735	206.10	146944	294.00	680		
126.10	975	207.10	18016	295.00	908		
127.00	220864	208.10	4201	296.00	40008		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Lab Smp Id: 14DXICAL-0.01 Client Smp ID: 14DXICAL-0.01
Inj Date : 16-JUN-2023 11:08
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.01
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 12:20 Cal File: 08.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	5079	0.10000	(a)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	17862	0.10000	
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	515	0.01000	0.009537(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	10143	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	1004	0.01000	0.009665(M)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	20228	0.10000	
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	14841	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.909	8.909	(0.889)	892	0.01000	0.008235(M)
* 198 Perylene-d12	264	11.945	11.945	(1.000)	14498	0.10000	(M)
1 1,4-Dioxane	58	1.486	1.486	(0.475)	153	0.01000	0.008943(aQM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01194732

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D

Date : 16-JUN-2023 11:08

Client ID: 14DXICAL-0.01

Instrument: SV6.i

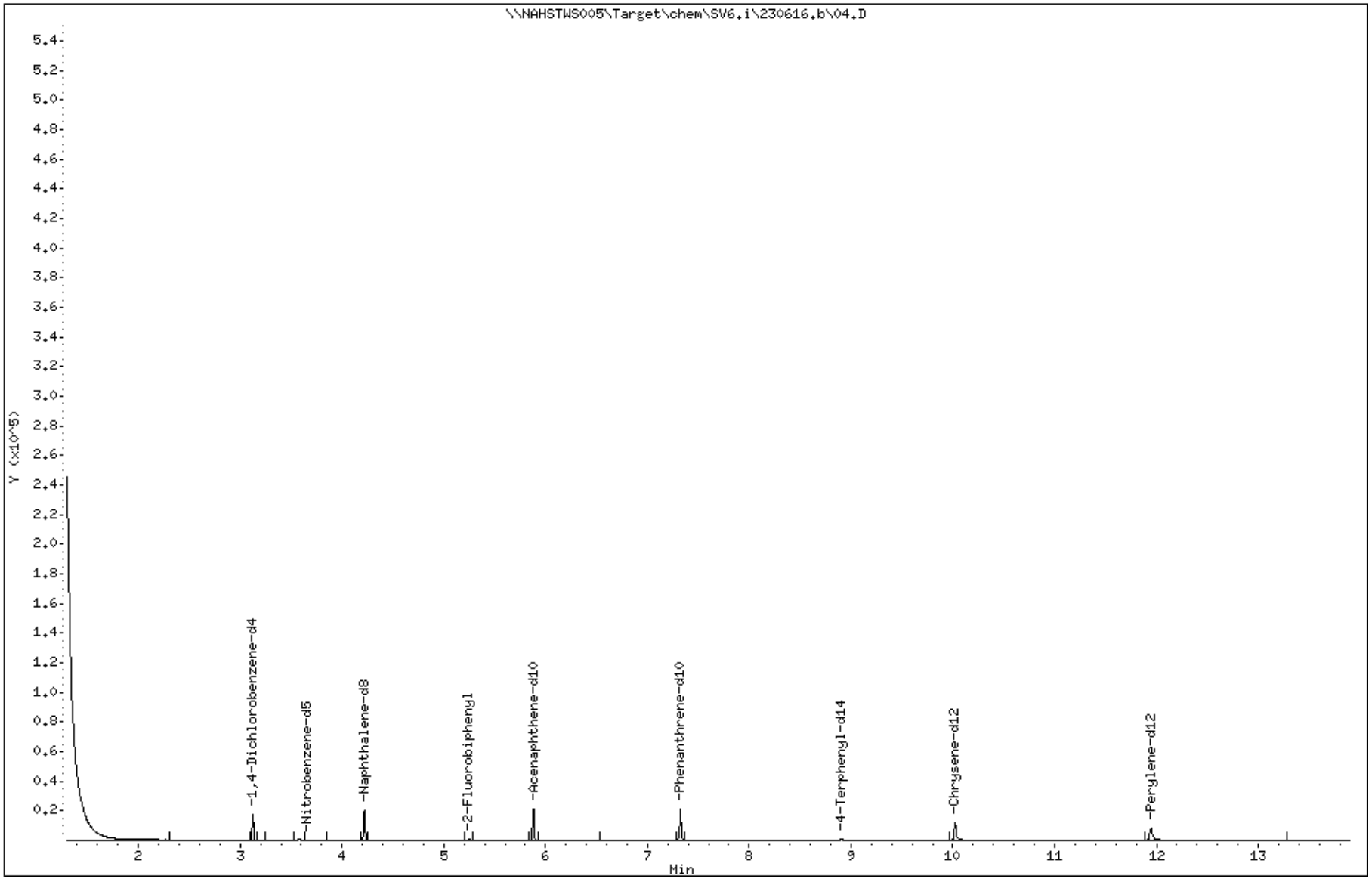
Sample Info: 14DXICAL-0.01

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



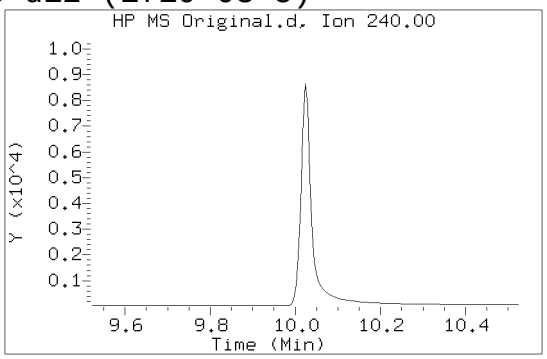
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

Chrysene-d12 (1719-03-5)

Reason Code:

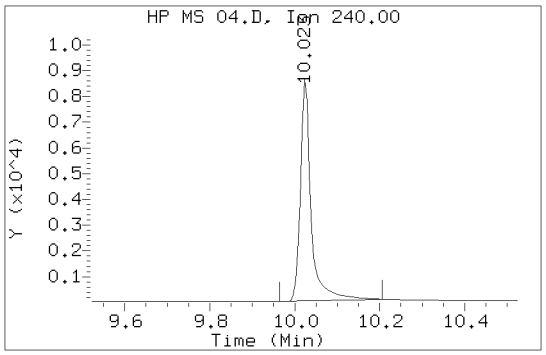
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



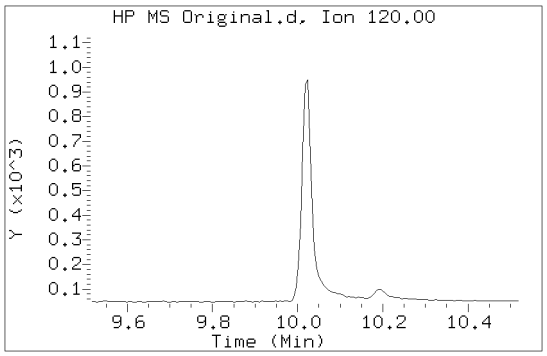
AFTER

MASS
240
AREA
14841
HEIGHT
8583
29-Jun-2023
14:26
ALSHS
Ser



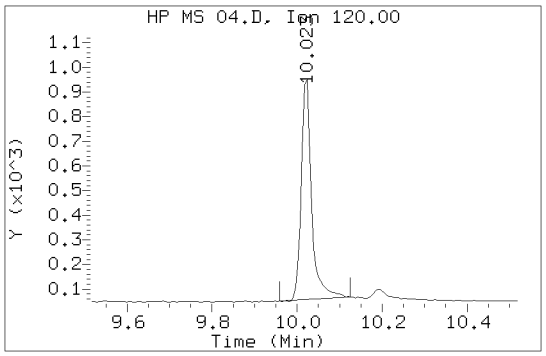
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



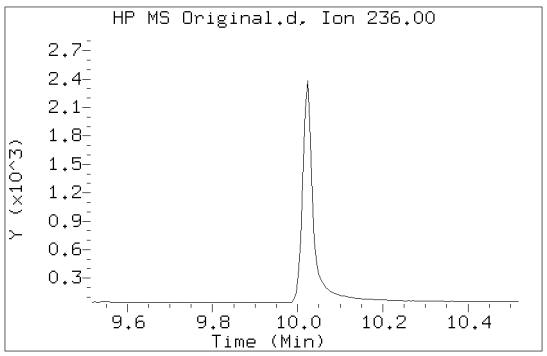
AFTER

MASS
120
AREA
1504
HEIGHT
891
29-Jun-2023
14:26
ALSHS
Ser



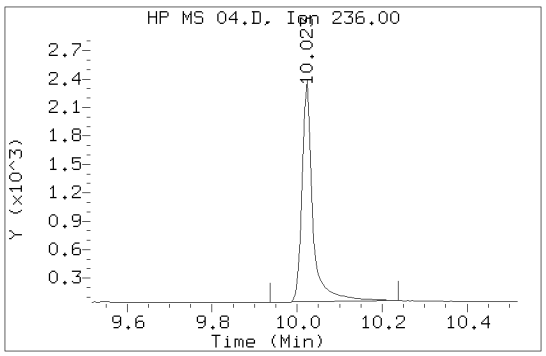
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
236
AREA
4047
HEIGHT
2330
29-Jun-2023
14:26
ALSHS
Ser

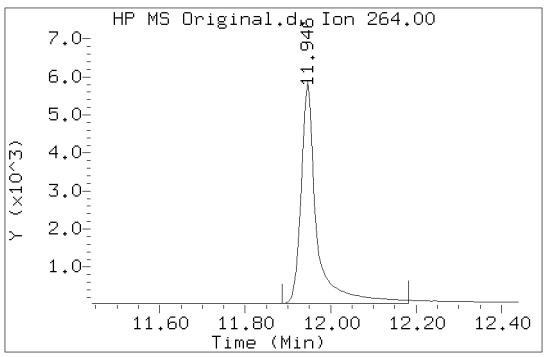


Perylene-d12 (1520-96-3)

Reason Code:

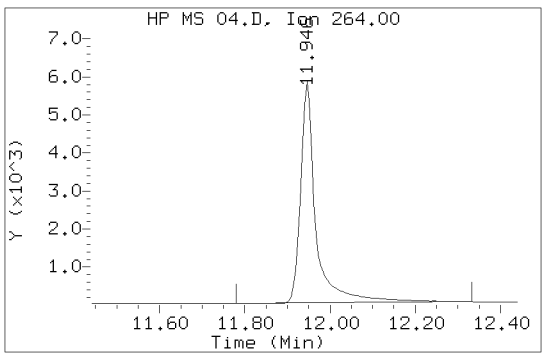
BEFORE

MASS
264
AREA
14674
HEIGHT
5826
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
264
AREA
14498
HEIGHT
5814
29-Jun-2023
14:26
ALSHS
Ser



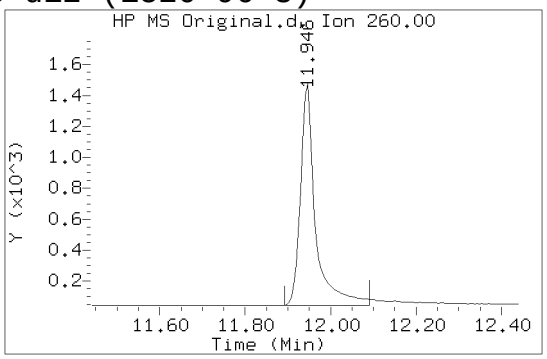
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

Perylene-d12 (1520-96-3)

Reason Code:

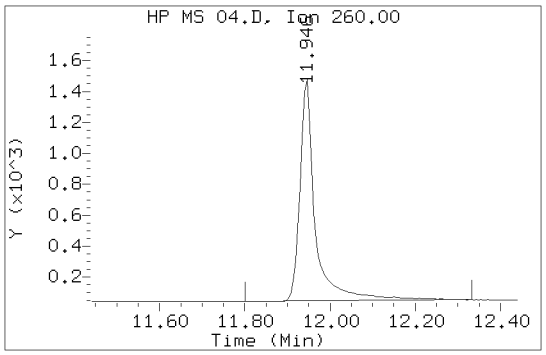
BEFORE

MASS
260
AREA
3461
HEIGHT
1431
16-Jun-2023
11:24
ALSHS
Server



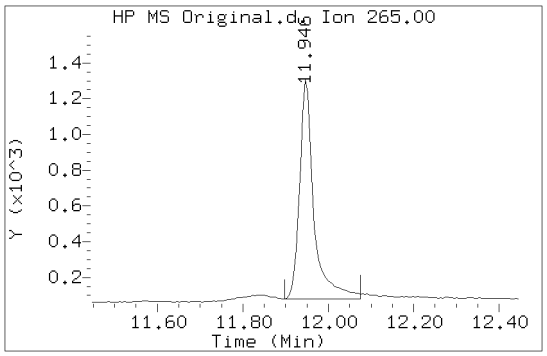
AFTER

MASS
260
AREA
3563
HEIGHT
1428
29-Jun-2023
14:26
ALSHS
Ser



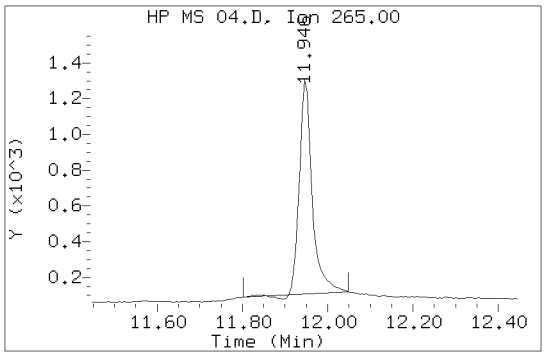
BEFORE

MASS
265
AREA
2841
HEIGHT
1225
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
265
AREA
2485
HEIGHT
1196
29-Jun-2023
14:26
ALSHS
Ser

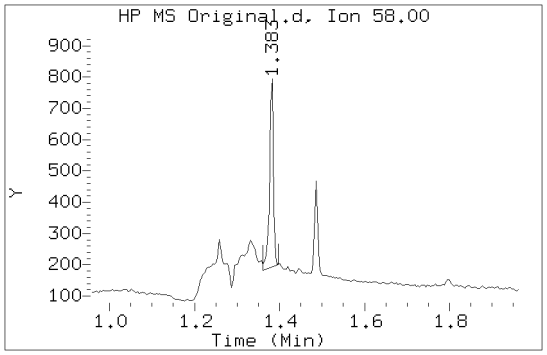


1,4-Dioxane ()

Reason Code:

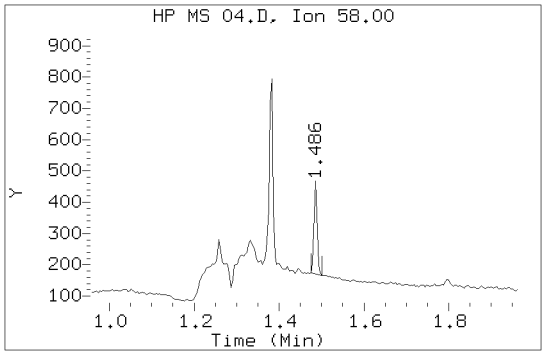
BEFORE

MASS
58
AREA
375
HEIGHT
599
16-Jun-2023
11:24
ALSHS
Server



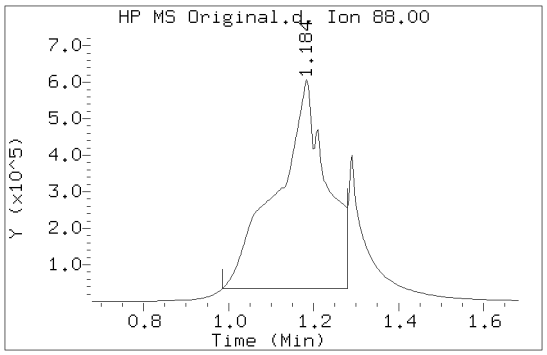
AFTER

MASS
58
AREA
153
HEIGHT
296
29-Jun-2023
14:26
ALSHS
Ser



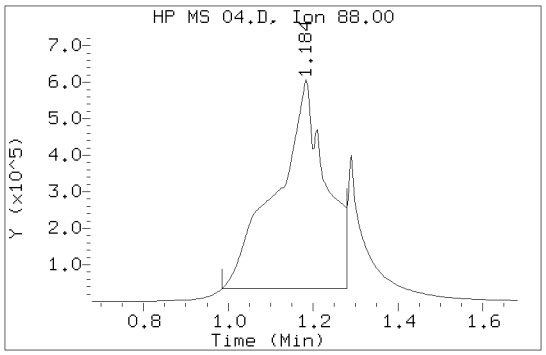
BEFORE

MASS
88
AREA
4618745
HEIGHT
572488
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
88
AREA
4618745
HEIGHT
572488
29-Jun-2023
14:26
ALSHS
Ser



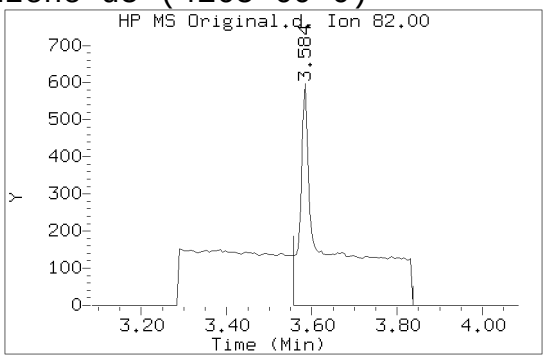
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

Nitrobenzene-d5 (4165-60-0)

Reason Code:

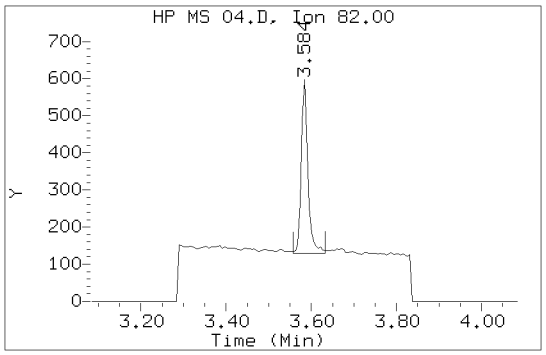
BEFORE

MASS
82
AREA
2695
HEIGHT
597
16-Jun-2023
11:24
ALSHS
Server



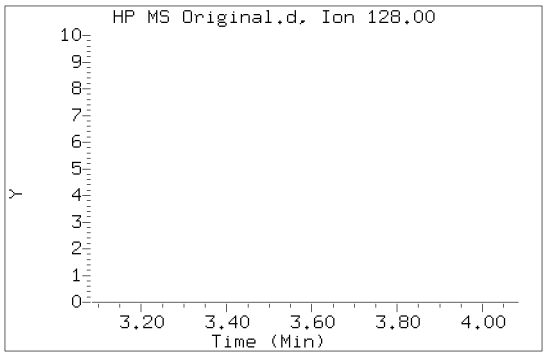
AFTER

MASS
82
AREA
515
HEIGHT
468
29-Jun-2023
14:26
ALSHS
Ser



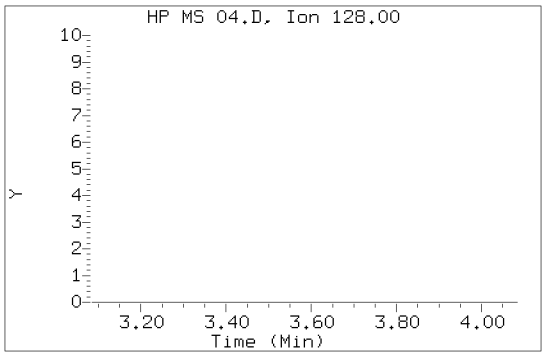
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



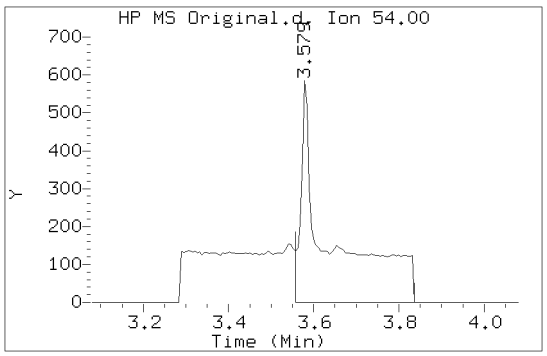
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



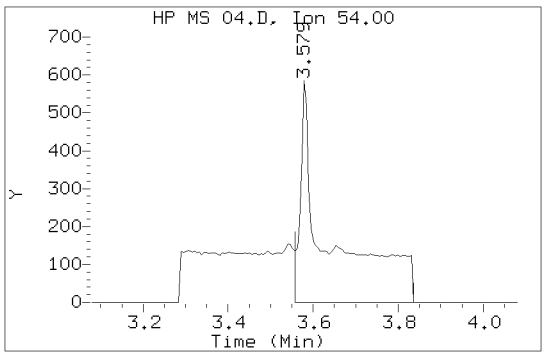
BEFORE

MASS
54
AREA
2634
HEIGHT
585
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
54
AREA
2634
HEIGHT
585
29-Jun-2023
14:26
ALSHS
Ser

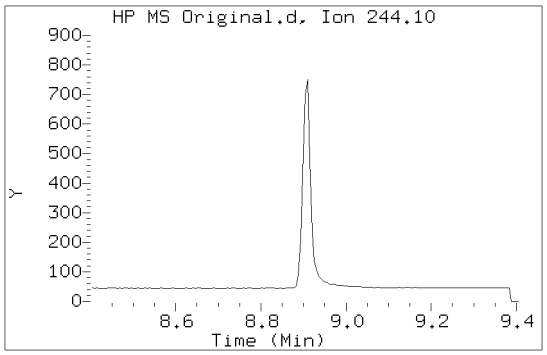


4-Terphenyl-d14 (1718-51-0)

Reason Code:

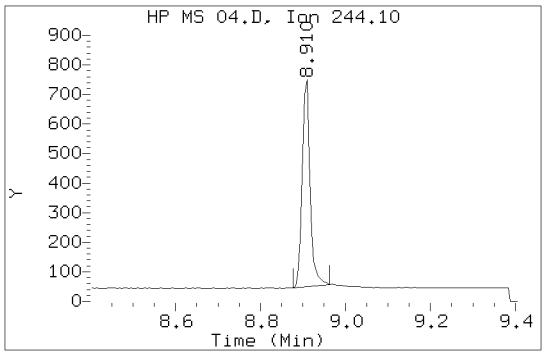
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
244.1
AREA
892
HEIGHT
699
29-Jun-2023
14:26
ALSHS
Ser



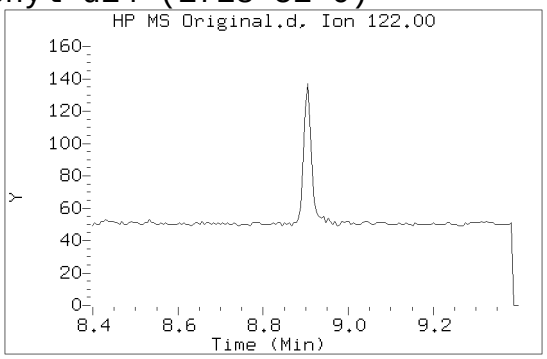
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\04.D
Inj Date : 16-JUN-2023 11:08
InstruID : SV6.i
LabSampID : 14DXICAL-0.01

4-Terphenyl-d14 (1718-51-0)

Reason Code:

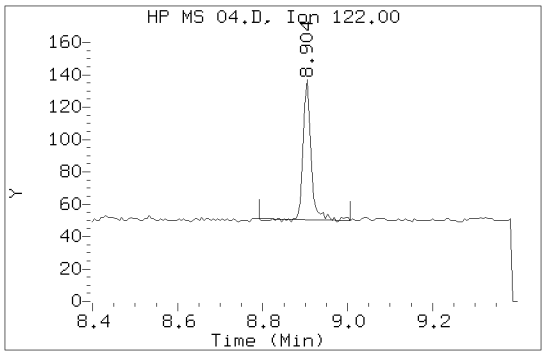
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



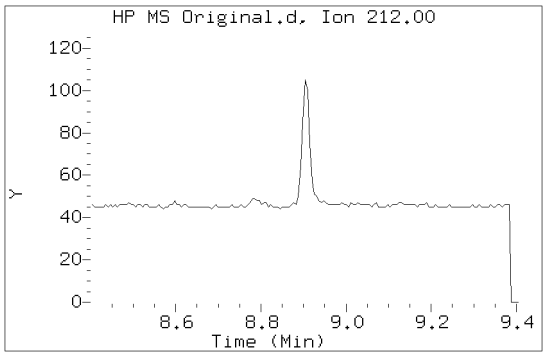
AFTER

MASS
122
AREA
109
HEIGHT
86
29-Jun-2023
14:26
ALSHS
Ser



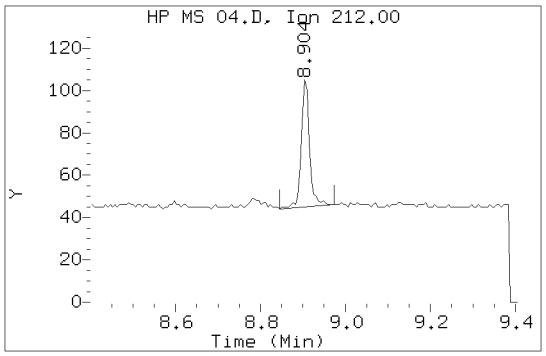
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
212
AREA
80
HEIGHT
60
29-Jun-2023
14:26
ALSHS
Ser

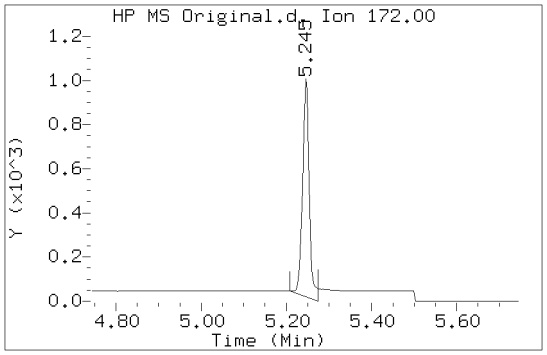


2-Fluorobiphenyl (321-60-8)

Reason Code:

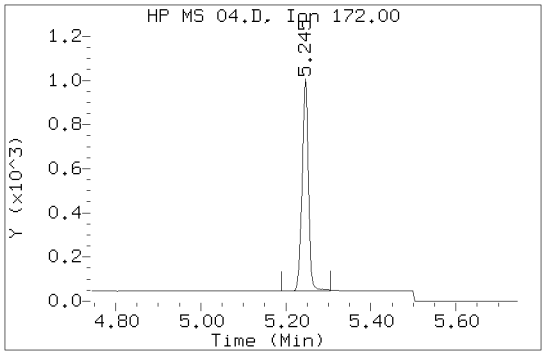
BEFORE

MASS
172
AREA
1093
HEIGHT
986
16-Jun-2023
11:24
ALSHS
Server



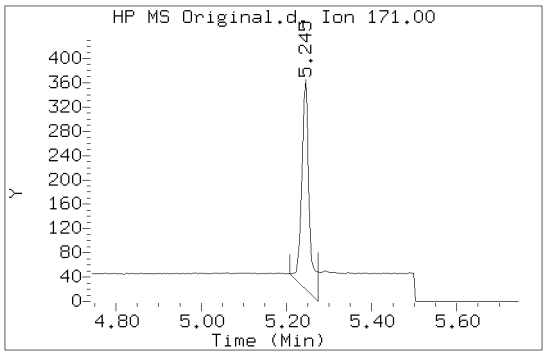
AFTER

MASS
172
AREA
1004
HEIGHT
960
29-Jun-2023
14:26
ALSHS
Ser



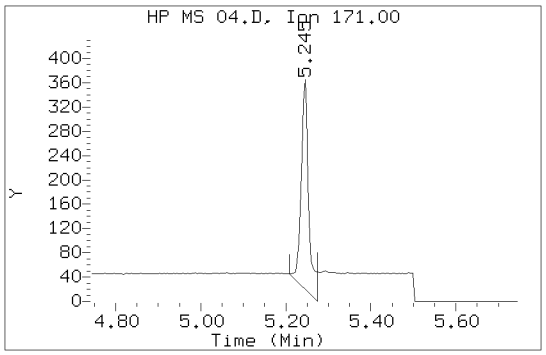
BEFORE

MASS
171
AREA
428
HEIGHT
345
16-Jun-2023
11:24
ALSHS
Server



AFTER

MASS
171
AREA
428
HEIGHT
345
29-Jun-2023
14:26
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Lab Smp Id: 14DXICAL-0.03 Client Smp ID: 14DXICAL-0.03
Inj Date : 16-JUN-2023 11:26
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.03
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 11:08 Cal File: 04.D
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	4348	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	14672	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	1234	0.03000	0.02782(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	8616	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	2509	0.03000	0.02843(M)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	16998	0.10000	
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	11821	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.888)	2416	0.03000	0.02800(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	10677	0.10000	(M)
1 1,4-Dioxane	58	1.467	1.467	(0.469)	426	0.03000	0.02909(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01194738

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D

Date : 16-JUN-2023 11:26

Client ID: 14DXICAL-0.03

Instrument: SV6.i

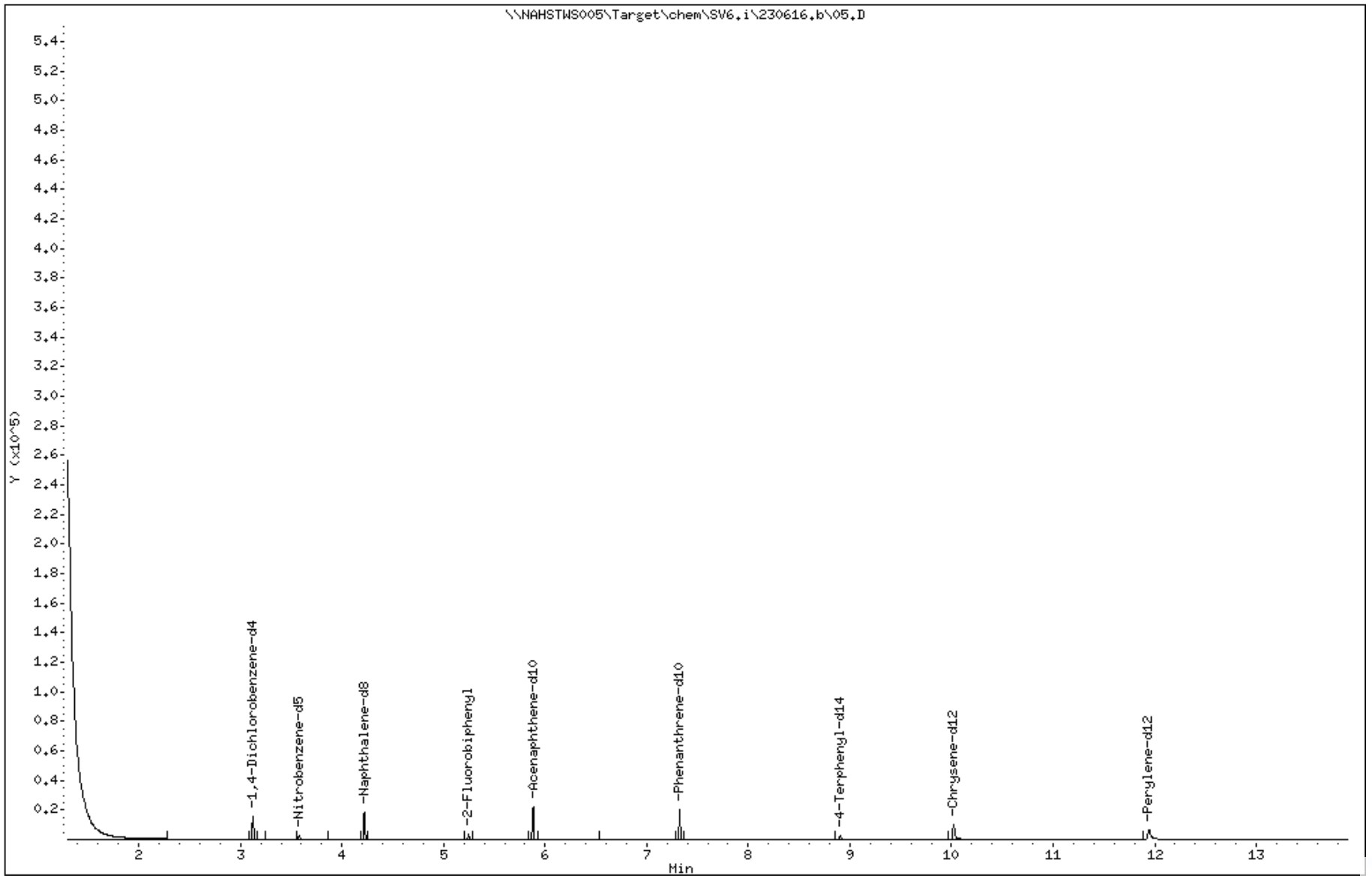
Sample Info: 14DXICAL-0.03

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



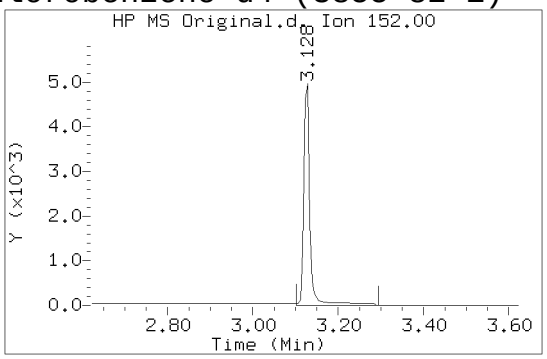
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

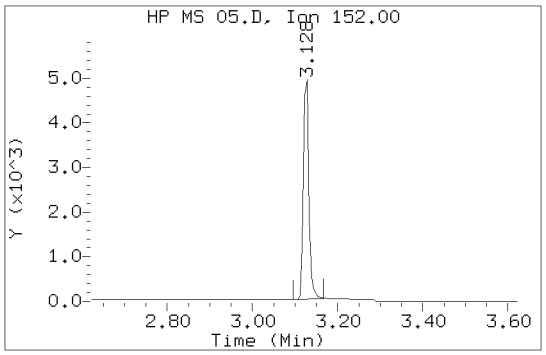
BEFORE

MASS
152
AREA
4935
HEIGHT
4966
16-Jun-2023
11:42
ALSHS
Server



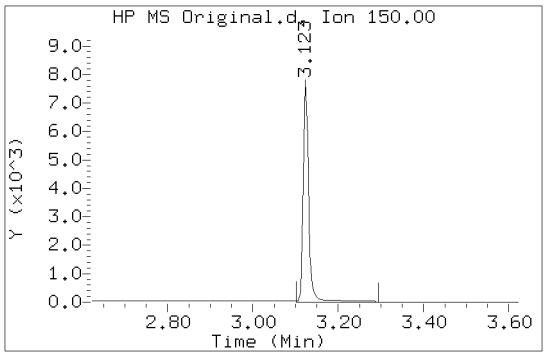
AFTER

MASS
152
AREA
4348
HEIGHT
4916
29-Jun-2023
14:26
ALSHS
Ser



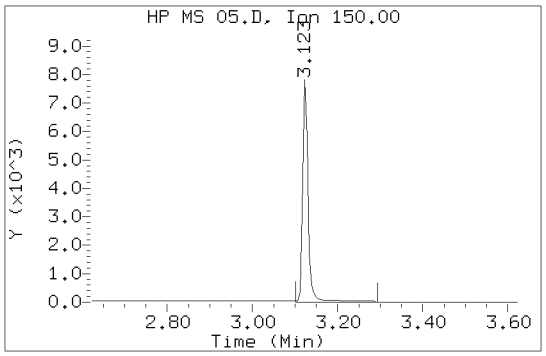
BEFORE

MASS
150
AREA
6954
HEIGHT
7812
16-Jun-2023
11:42
ALSHS
Server



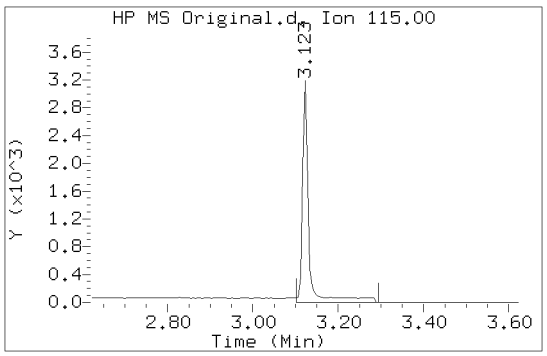
AFTER

MASS
150
AREA
6954
HEIGHT
7812
29-Jun-2023
14:26
ALSHS
Ser



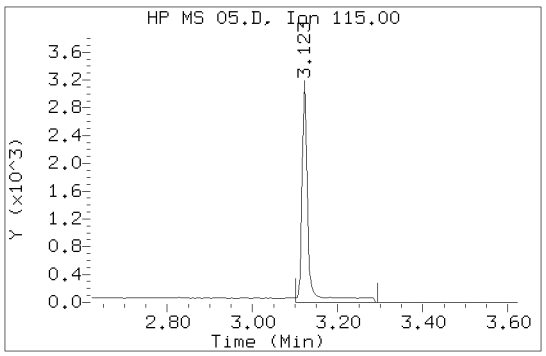
BEFORE

MASS
115
AREA
3189
HEIGHT
3190
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
115
AREA
3189
HEIGHT
3190
29-Jun-2023
14:26
ALSHS
Ser

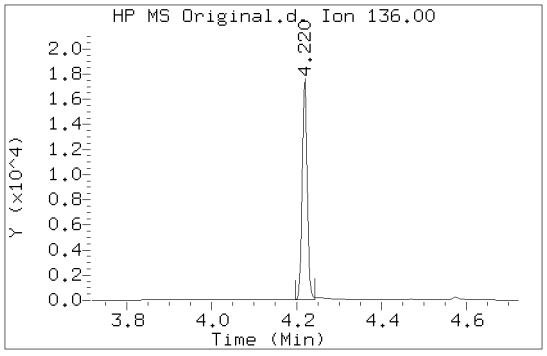


Naphthalene-d8 (1146-65-2)

Reason Code:

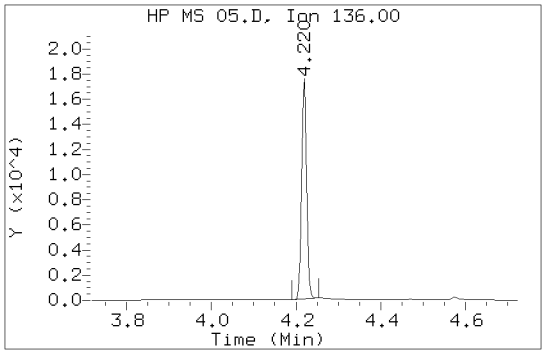
BEFORE

MASS
136
AREA
14851
HEIGHT
17567
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
136
AREA
14672
HEIGHT
17505
29-Jun-2023
14:26
ALSHS
Ser



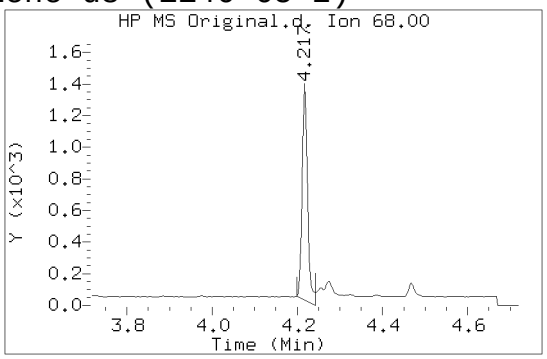
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

Naphthalene-d8 (1146-65-2)

Reason Code:

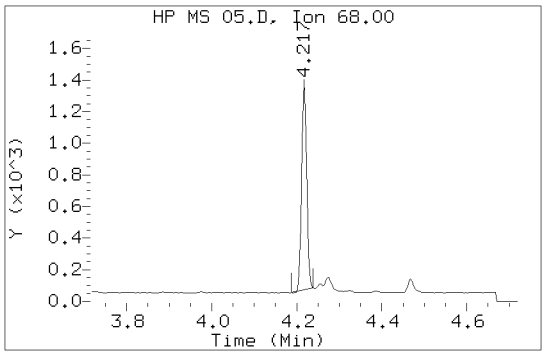
BEFORE

MASS
68
AREA
1196
HEIGHT
1368
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
68
AREA
1062
HEIGHT
1328
29-Jun-2023
14:26
ALSHS
Ser

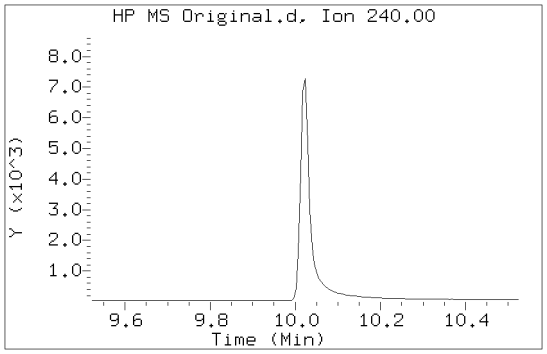


Chrysene-d12 (1719-03-5)

Reason Code:

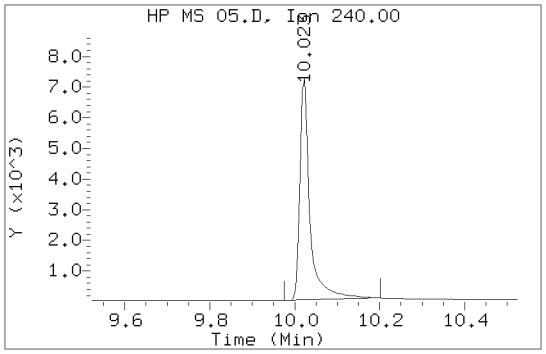
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



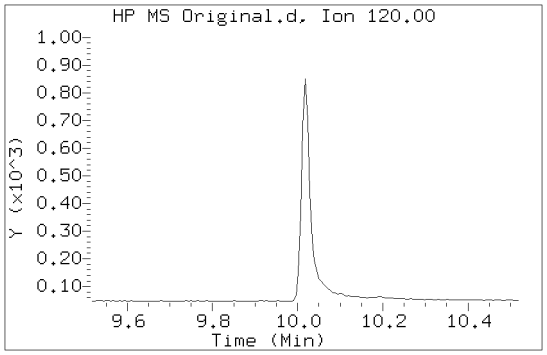
AFTER

MASS
240
AREA
11821
HEIGHT
7215
29-Jun-2023
14:26
ALSHS
Ser



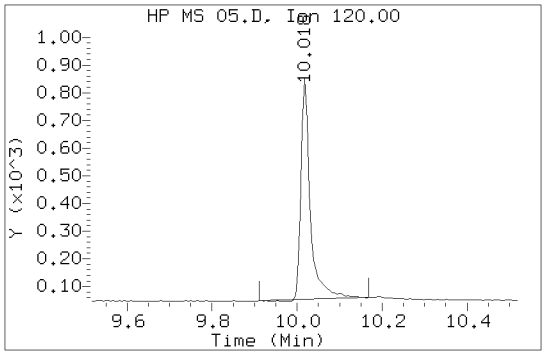
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



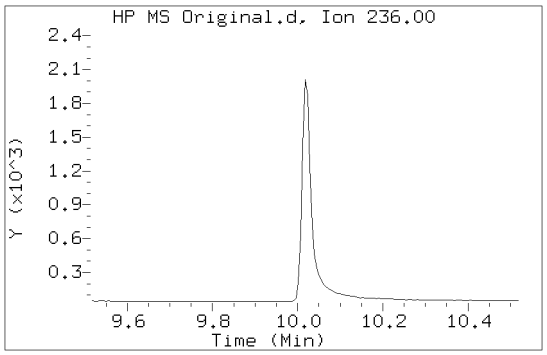
AFTER

MASS
120
AREA
1207
HEIGHT
796
29-Jun-2023
14:26
ALSHS
Ser



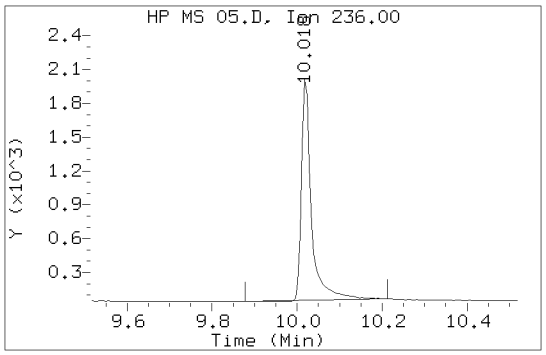
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
236
AREA
3185
HEIGHT
1956
29-Jun-2023
14:26
ALSHS
Ser



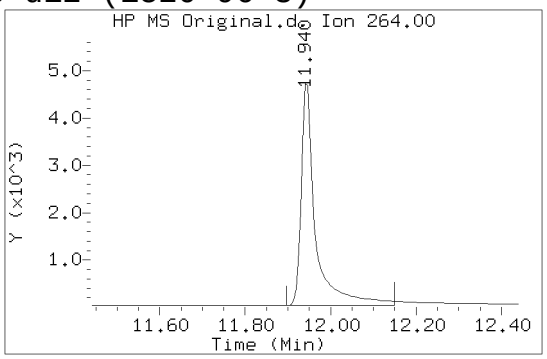
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

Perylene-d12 (1520-96-3)

Reason Code:

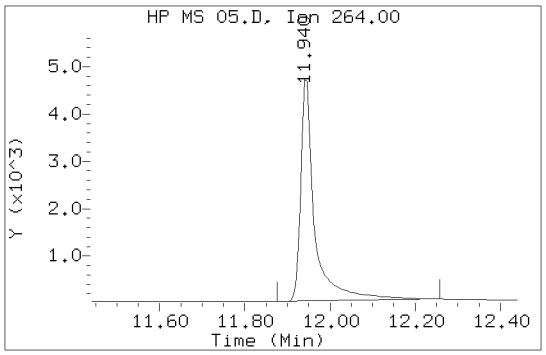
BEFORE

MASS
264
AREA
10829
HEIGHT
4681
16-Jun-2023
11:42
ALSHS
Server



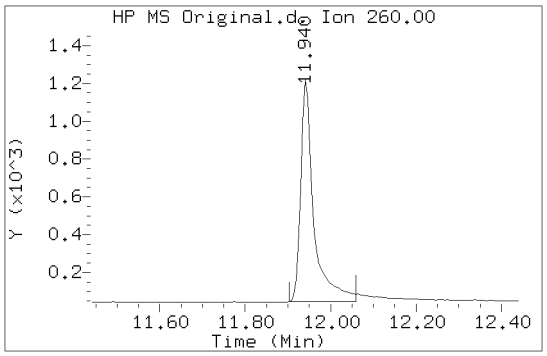
AFTER

MASS
264
AREA
10677
HEIGHT
4673
29-Jun-2023
14:26
ALSHS
Ser



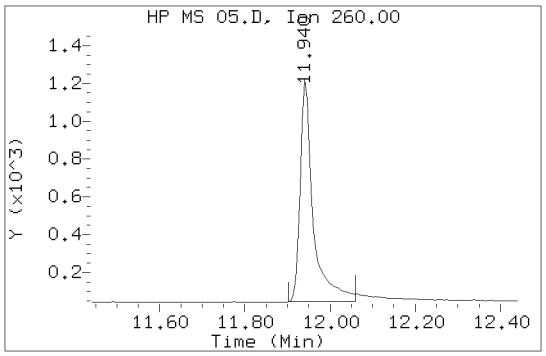
BEFORE

MASS
260
AREA
2488
HEIGHT
1174
16-Jun-2023
11:42
ALSHS
Server



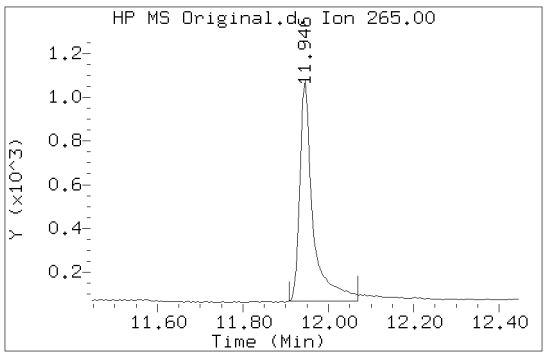
AFTER

MASS
260
AREA
2488
HEIGHT
1174
29-Jun-2023
14:26
ALSHS
Ser



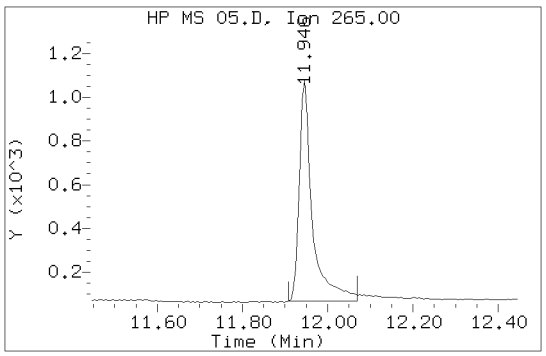
BEFORE

MASS
265
AREA
2154
HEIGHT
1009
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
265
AREA
2154
HEIGHT
1009
29-Jun-2023
14:26
ALSHS
Ser

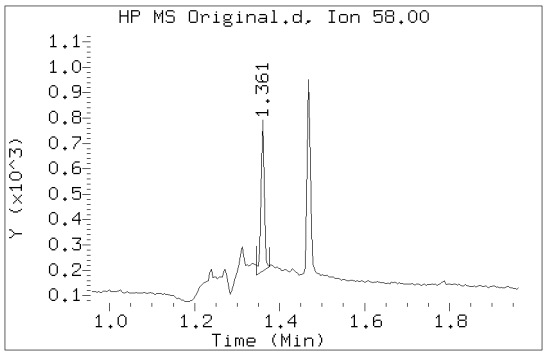


1,4-Dioxane ()

Reason Code:

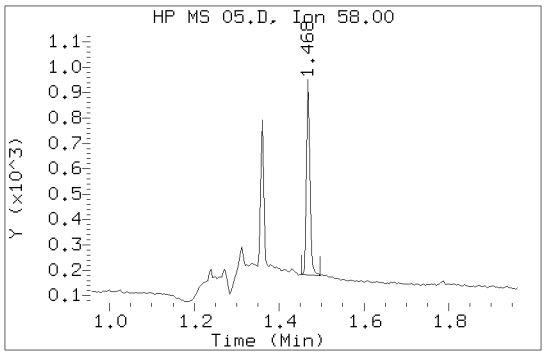
BEFORE

MASS
58
AREA
319
HEIGHT
594
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
58
AREA
426
HEIGHT
768
29-Jun-2023
14:26
ALSHS
Ser



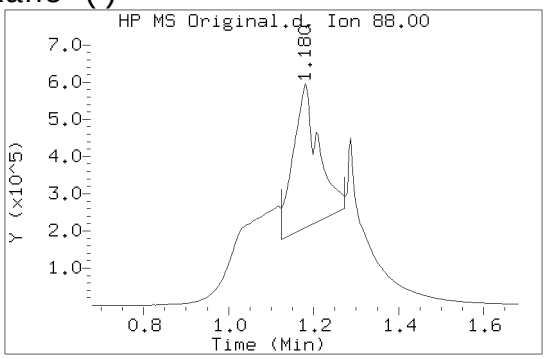
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

1,4-Dioxane ()

Reason Code:

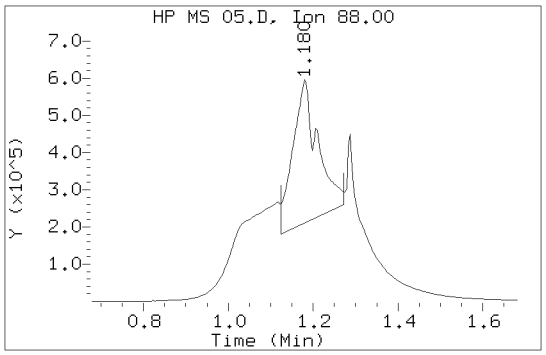
BEFORE

MASS
88
AREA
1599767
HEIGHT
386587
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
88
AREA
1591467
HEIGHT
385442
29-Jun-2023
14:26
ALSHS
Ser

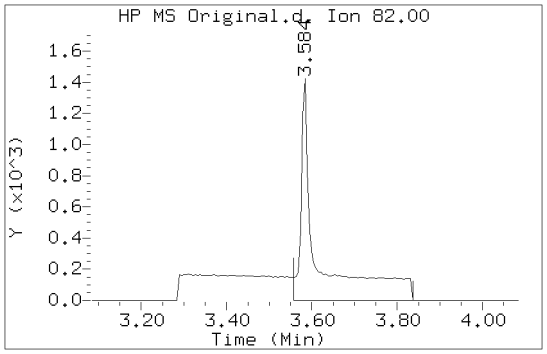


Nitrobenzene-d5 (4165-60-0)

Reason Code:

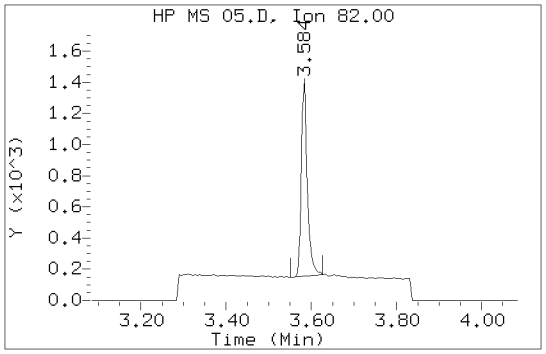
BEFORE

MASS
82
AREA
3739
HEIGHT
1423
16-Jun-2023
11:42
ALSHS
Server



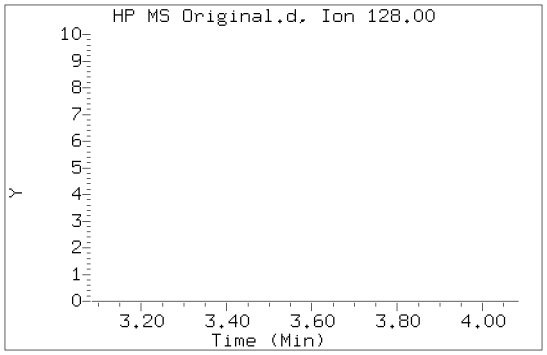
AFTER

MASS
82
AREA
1234
HEIGHT
1266
29-Jun-2023
14:26
ALSHS
Ser



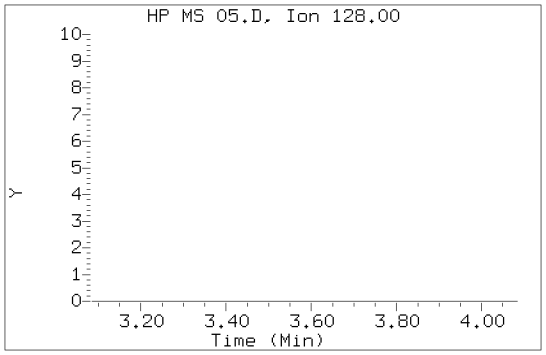
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



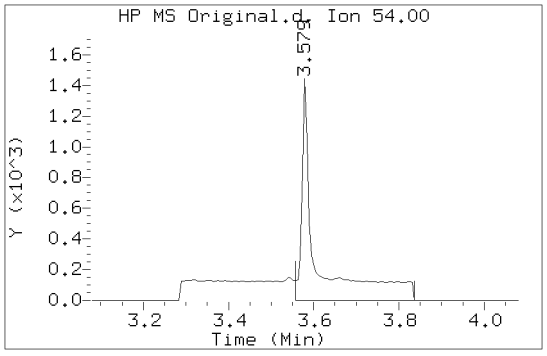
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



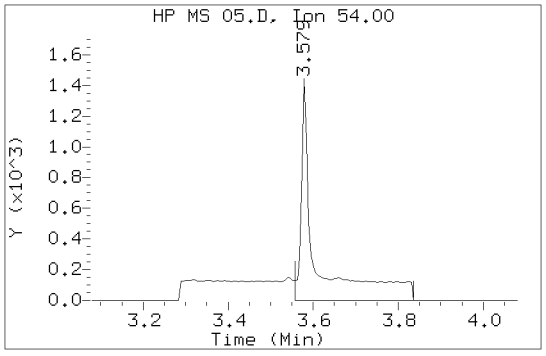
BEFORE

MASS
54
AREA
3364
HEIGHT
1444
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
54
AREA
3364
HEIGHT
1444
29-Jun-2023
14:26
ALSHS
Ser



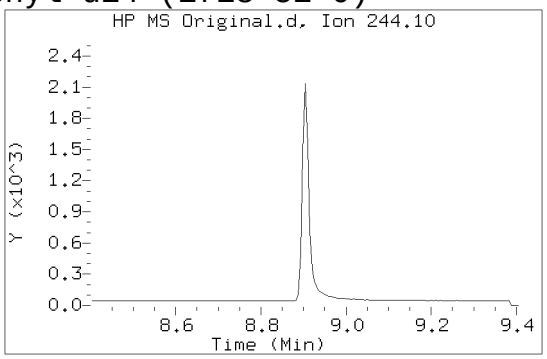
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

4-Terphenyl-d14 (1718-51-0)

Reason Code:

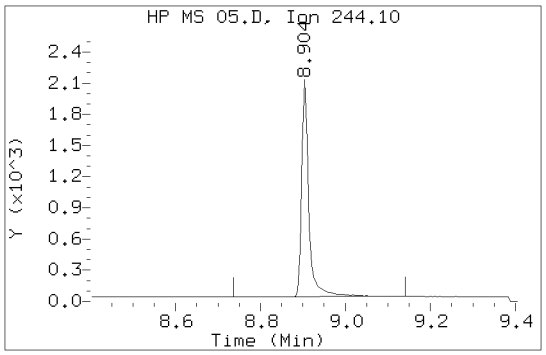
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



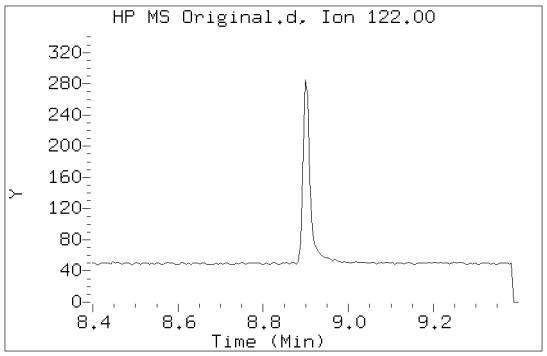
AFTER

MASS
244.1
AREA
2416
HEIGHT
2087
29-Jun-2023
14:26
ALSHS
Ser



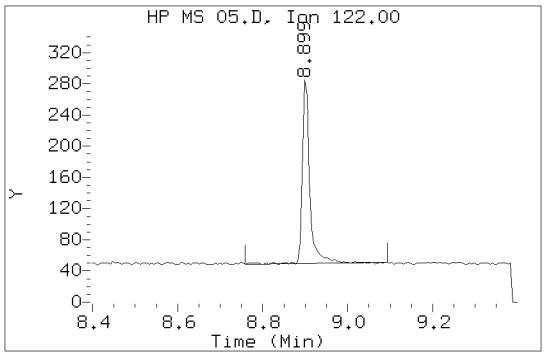
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



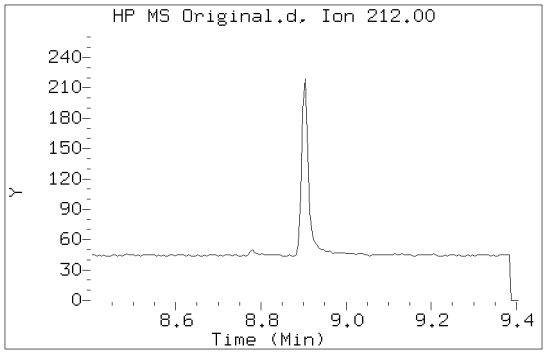
AFTER

MASS
122
AREA
278
HEIGHT
235
29-Jun-2023
14:26
ALSHS
Ser



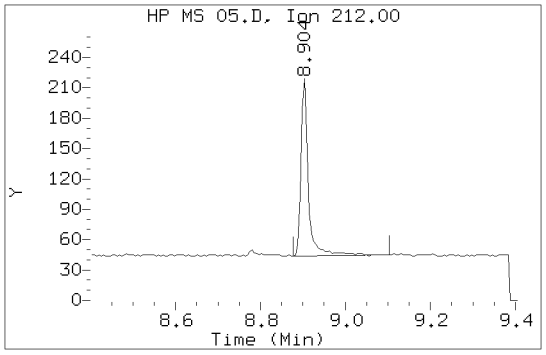
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
212
AREA
205
HEIGHT
174
29-Jun-2023
14:26
ALSHS
Ser

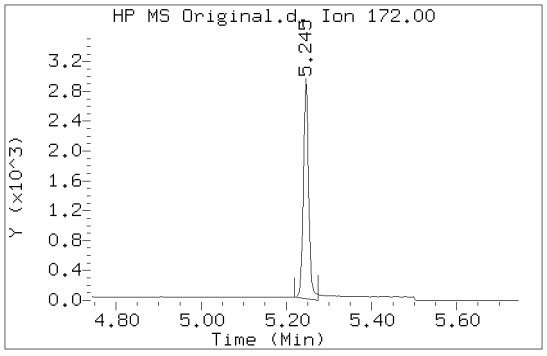


2-Fluorobiphenyl (321-60-8)

Reason Code:

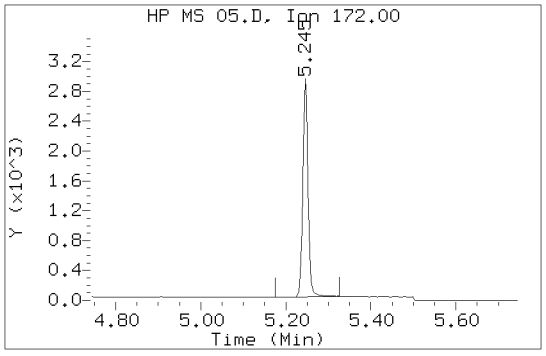
BEFORE

MASS
172
AREA
2588
HEIGHT
2943
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
172
AREA
2509
HEIGHT
2918
29-Jun-2023
14:26
ALSHS
Ser



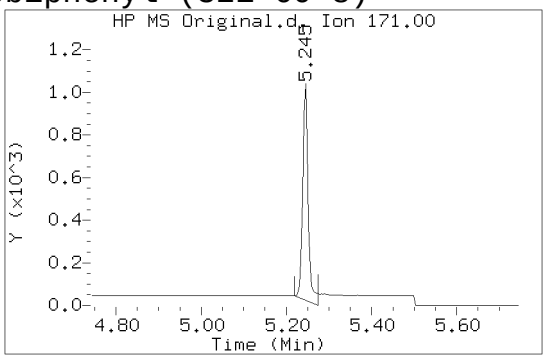
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\05.D
Inj Date : 16-JUN-2023 11:26
InstruID : SV6.i
LabSampID : 14DXICAL-0.03

2-Fluorobiphenyl (321-60-8)

Reason Code:

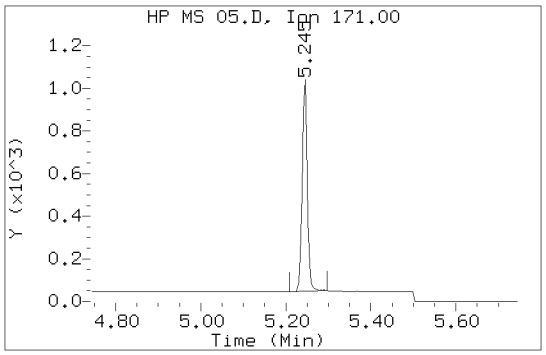
BEFORE

MASS
171
AREA
921
HEIGHT
1017
16-Jun-2023
11:42
ALSHS
Server



AFTER

MASS
171
AREA
834
HEIGHT
993
29-Jun-2023
14:26
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D Page 1
Report Date: 29-Jun-2023 14:27

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Lab Smp Id: 14DXICAL-0.05 Client Smp ID: 14DXICAL-0.05
Inj Date : 16-JUN-2023 11:44
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.05
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 11:26 Cal File: 05.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	5073	0.10000	(a)
* 45 Naphthalene-d8	136	4.216	4.216	(1.000)	17044	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.850)	2574	0.05000	0.04995(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	10027	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	4907	0.05000	0.04778(M)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	19800	0.10000	
* 182 Chrysene-d12	240	10.017	10.017	(1.000)	14524	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	4687	0.05000	0.04422(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	12549	0.10000	(M)
1 1,4-Dioxane	58	1.486	1.486	(0.475)	828	0.05000	0.04846(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01194746

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D

Date : 16-JUN-2023 11:44

Client ID: 14DXICAL-0.05

Instrument: SV6.i

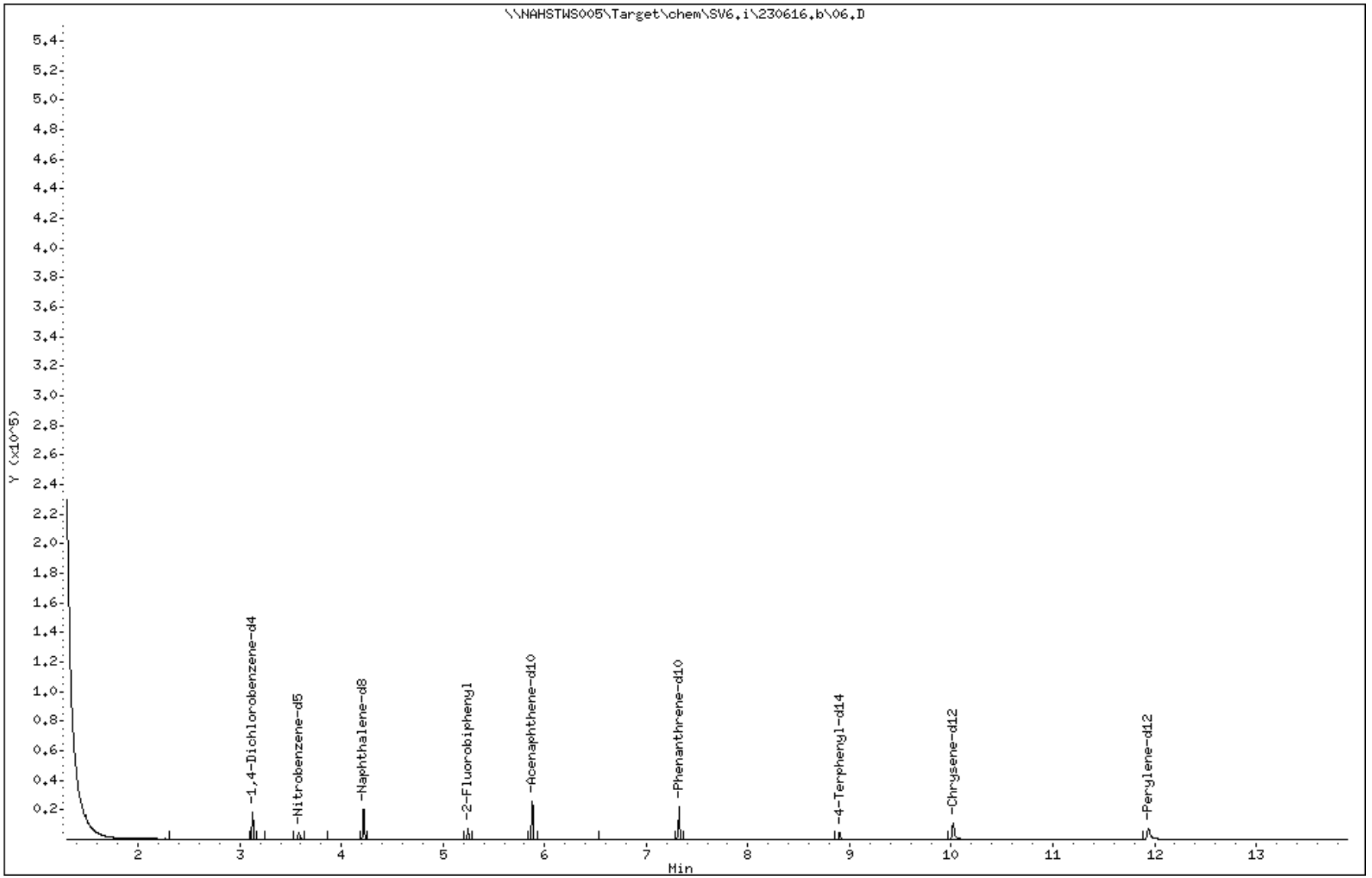
Sample Info: 14DXICAL-0.05

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



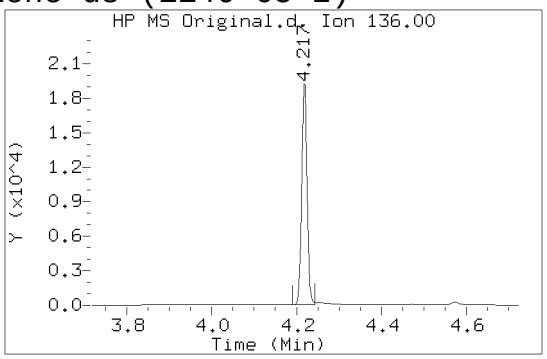
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

Naphthalene-d8 (1146-65-2)

Reason Code:

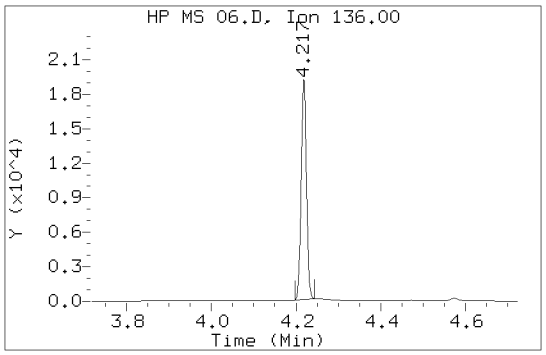
BEFORE

MASS
136
AREA
17378
HEIGHT
19211
16-Jun-2023
11:59
ALSHS
Server



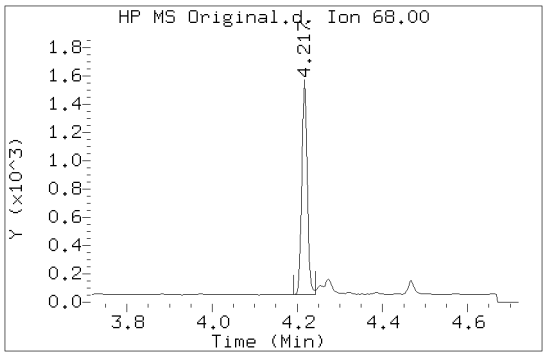
AFTER

MASS
136
AREA
17044
HEIGHT
19106
29-Jun-2023
14:26
ALSHS
Ser



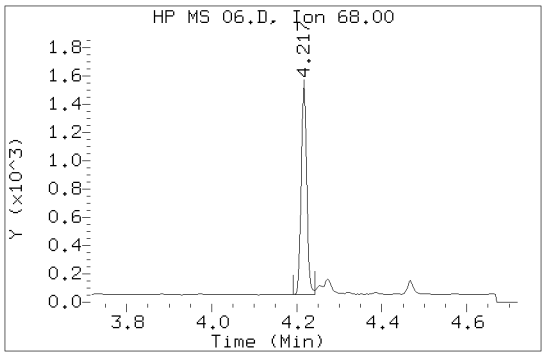
BEFORE

MASS
68
AREA
1330
HEIGHT
1515
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
68
AREA
1330
HEIGHT
1515
29-Jun-2023
14:26
ALSHS
Ser

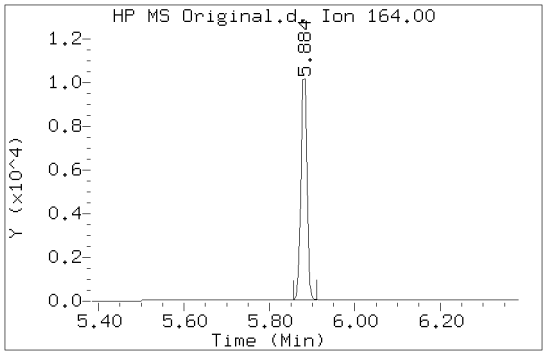


Acenaphthene-d10 (15067-26-2)

Reason Code:

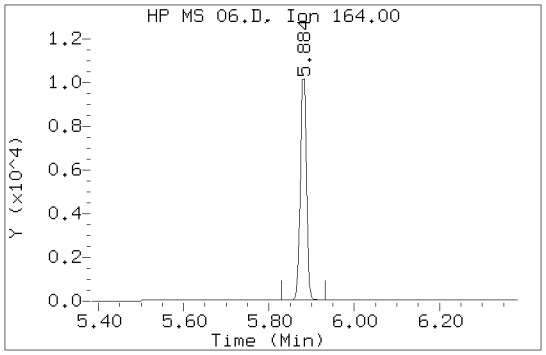
BEFORE

MASS
164
AREA
9969
HEIGHT
10109
16-Jun-2023
11:59
ALSHS
Server



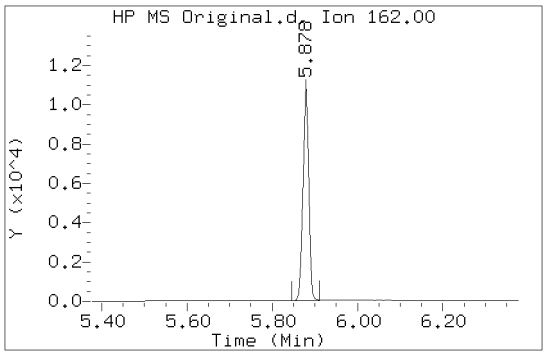
AFTER

MASS
164
AREA
10027
HEIGHT
10124
29-Jun-2023
14:26
ALSHS
Ser



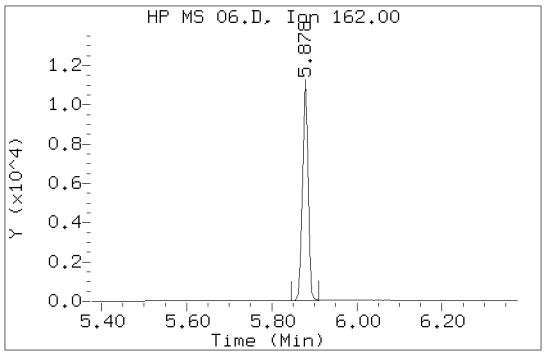
BEFORE

MASS
162
AREA
10122
HEIGHT
11230
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
162
AREA
10122
HEIGHT
11230
29-Jun-2023
14:26
ALSHS
Ser



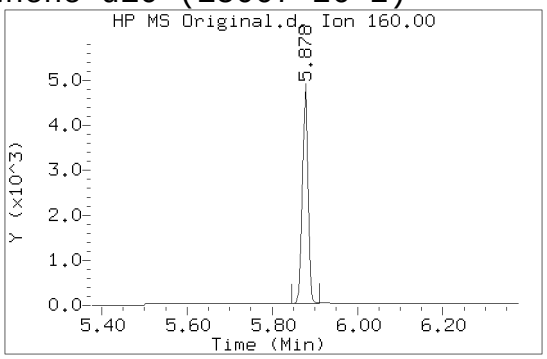
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

Acenaphthene-d10 (15067-26-2)

Reason Code:

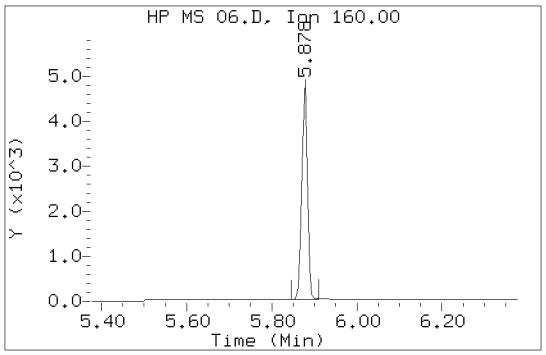
BEFORE

MASS
160
AREA
4359
HEIGHT
4881
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
160
AREA
4359
HEIGHT
4881
29-Jun-2023
14:26
ALSHS
Ser

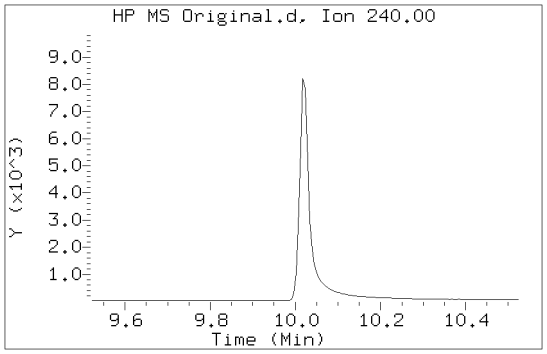


Chrysene-d12 (1719-03-5)

Reason Code:

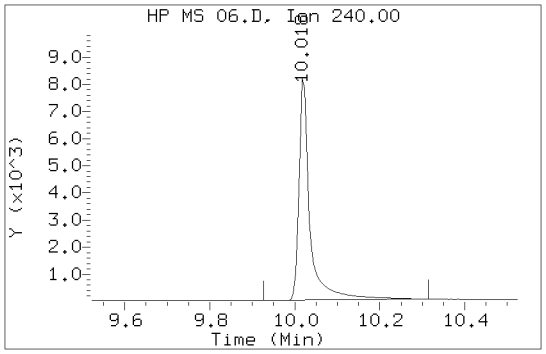
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



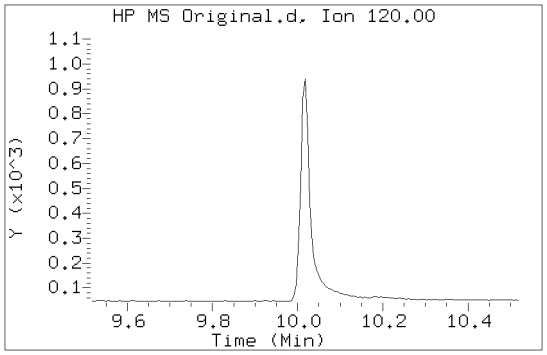
AFTER

MASS
240
AREA
14524
HEIGHT
8152
29-Jun-2023
14:26
ALSHS
Ser



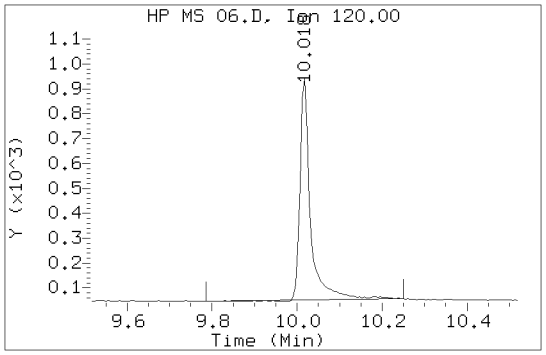
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



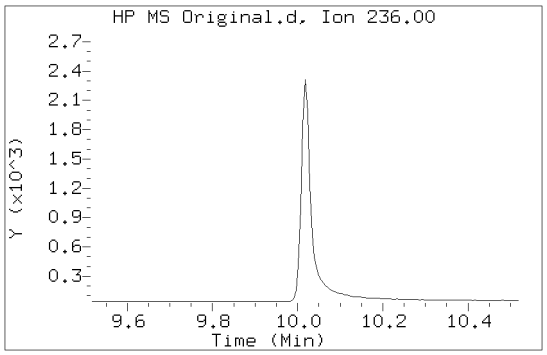
AFTER

MASS
120
AREA
1511
HEIGHT
888
29-Jun-2023
14:26
ALSHS
Ser



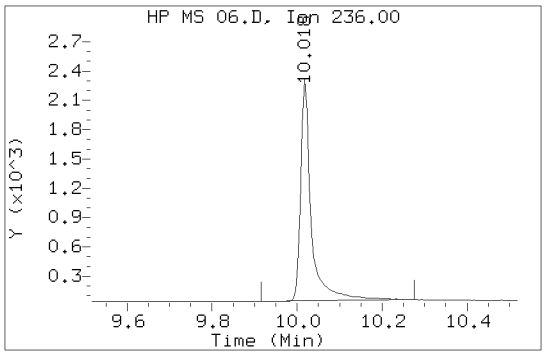
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
236
AREA
3903
HEIGHT
2262
29-Jun-2023
14:26
ALSHS
Ser



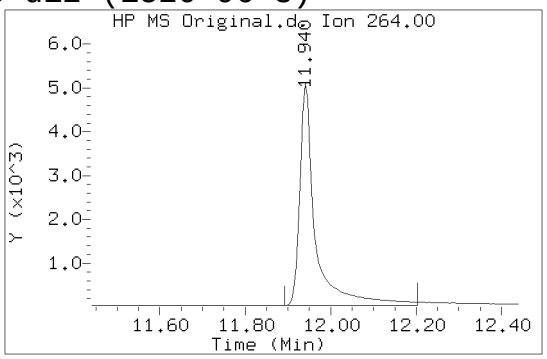
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

Perylene-d12 (1520-96-3)

Reason Code:

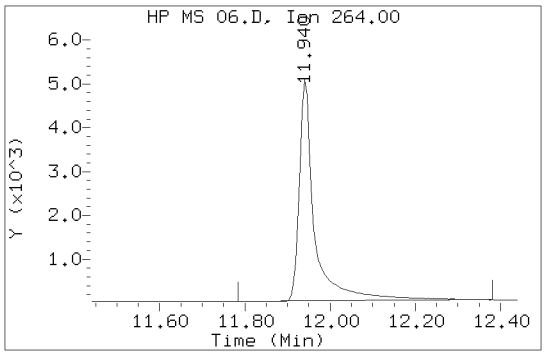
BEFORE

MASS
264
AREA
12686
HEIGHT
5050
16-Jun-2023
11:59
ALSHS
Server



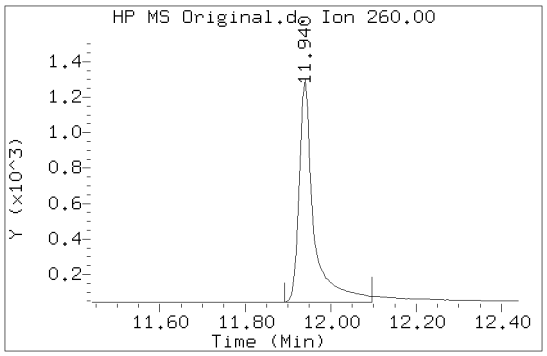
AFTER

MASS
264
AREA
12549
HEIGHT
5041
29-Jun-2023
14:26
ALSHS
Ser



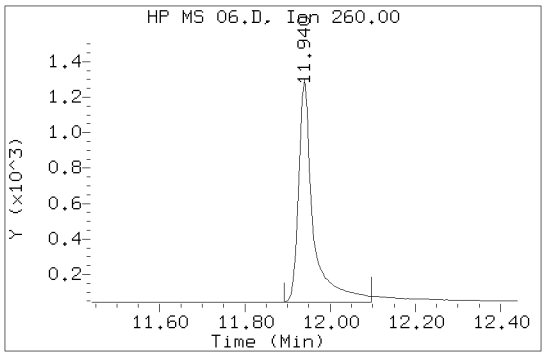
BEFORE

MASS
260
AREA
2978
HEIGHT
1253
16-Jun-2023
11:59
ALSHS
Server



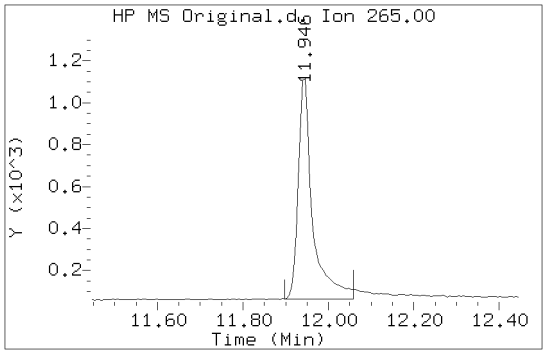
AFTER

MASS
260
AREA
2978
HEIGHT
1253
29-Jun-2023
14:26
ALSHS
Ser



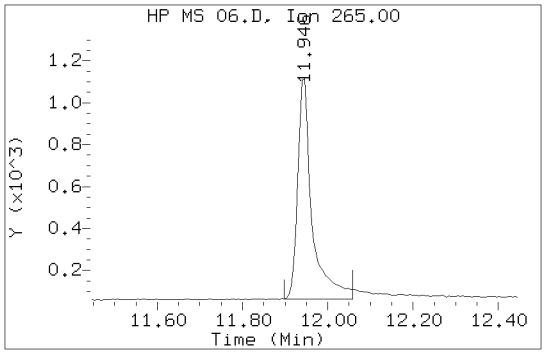
BEFORE

MASS
265
AREA
2473
HEIGHT
1053
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
265
AREA
2473
HEIGHT
1053
29-Jun-2023
14:26
ALSHS
Ser

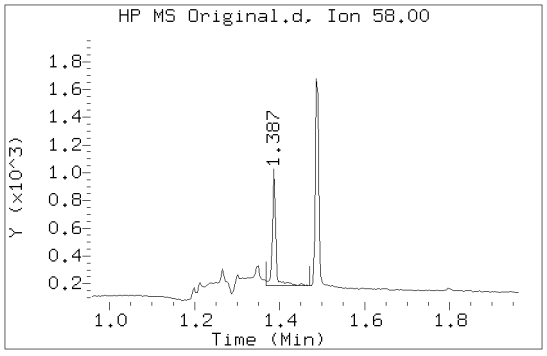


1,4-Dioxane ()

Reason Code:

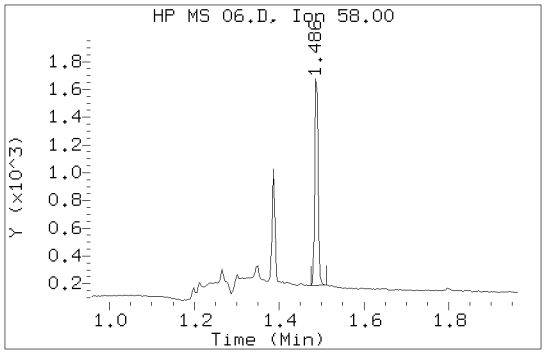
BEFORE

MASS
58
AREA
474
HEIGHT
839
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
58
AREA
828
HEIGHT
1488
29-Jun-2023
14:26
ALSHS
Ser



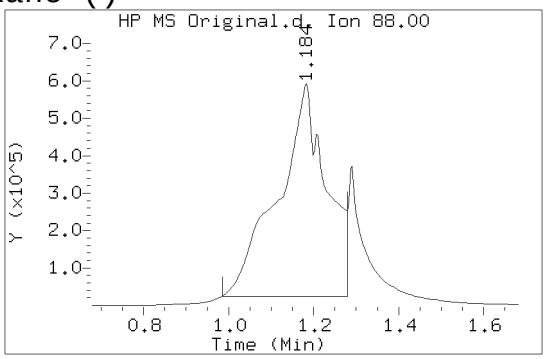
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

1,4-Dioxane ()

Reason Code:

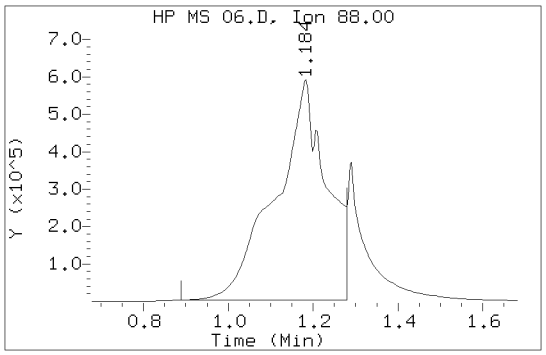
BEFORE

MASS
88
AREA
4490753
HEIGHT
567696
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
88
AREA
4905096
HEIGHT
589066
29-Jun-2023
14:26
ALSHS
Ser

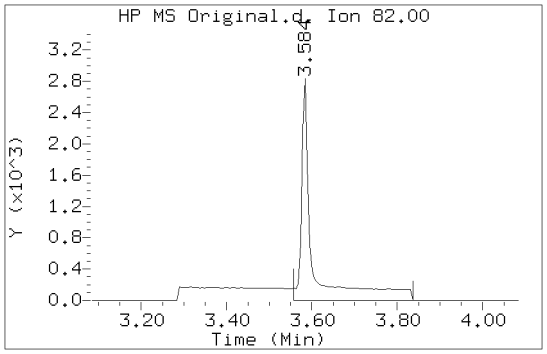


Nitrobenzene-d5 (4165-60-0)

Reason Code:

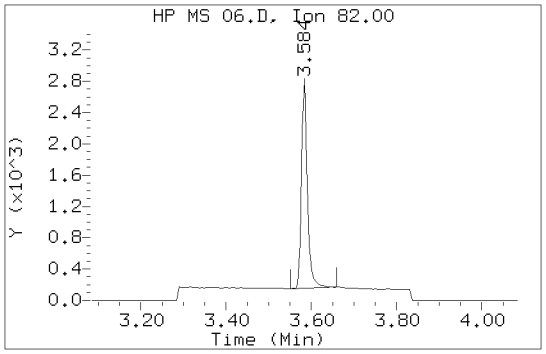
BEFORE

MASS
82
AREA
5121
HEIGHT
2833
16-Jun-2023
11:59
ALSHS
Server



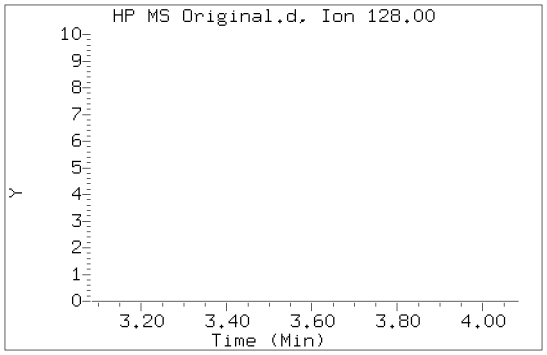
AFTER

MASS
82
AREA
2574
HEIGHT
2676
29-Jun-2023
14:26
ALSHS
Ser



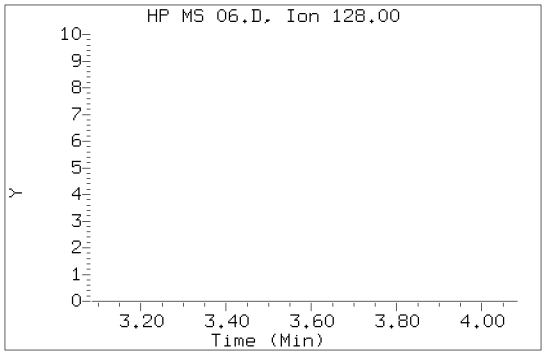
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



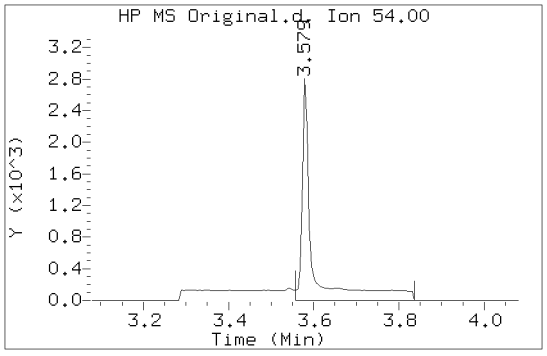
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



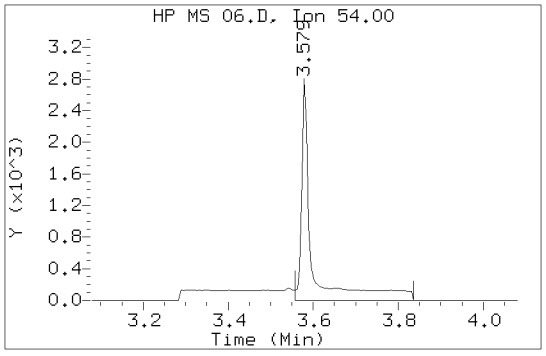
BEFORE

MASS
54
AREA
4709
HEIGHT
2805
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
54
AREA
4709
HEIGHT
2805
29-Jun-2023
14:26
ALSHS
Ser



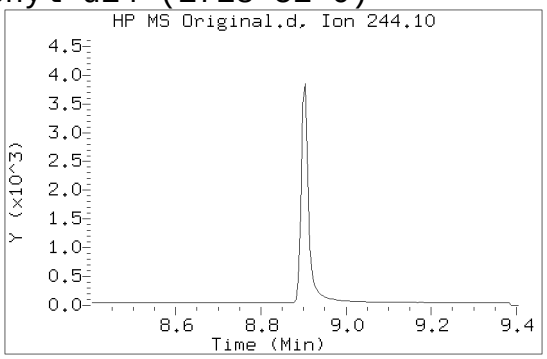
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

4-Terphenyl-d14 (1718-51-0)

Reason Code:

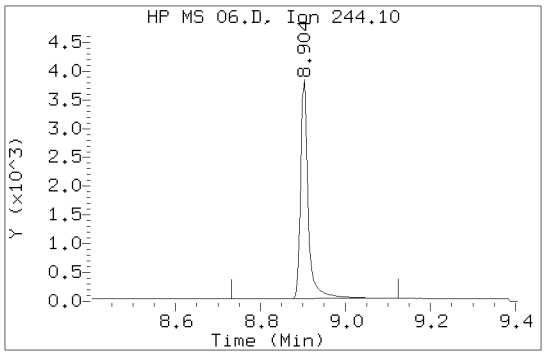
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



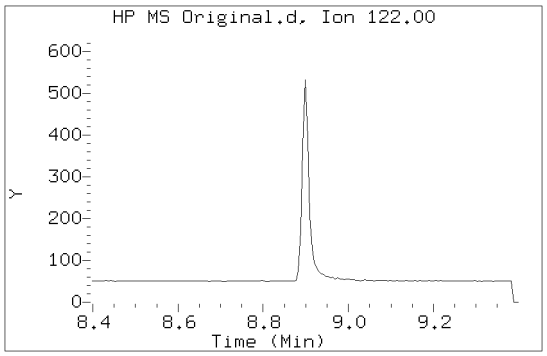
AFTER

MASS
244.1
AREA
4687
HEIGHT
3802
29-Jun-2023
14:26
ALSHS
Ser



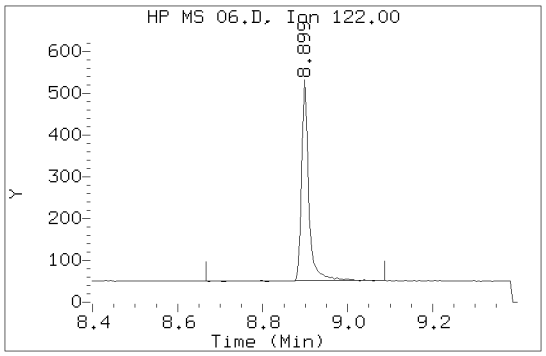
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



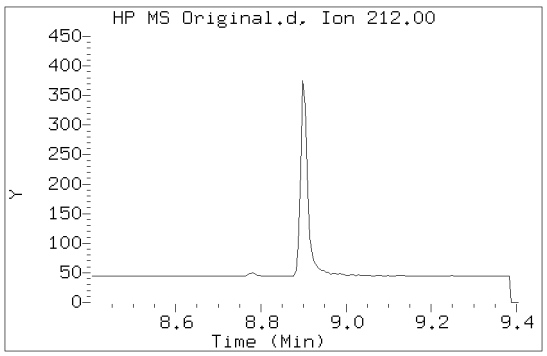
AFTER

MASS
122
AREA
540
HEIGHT
480
29-Jun-2023
14:26
ALSHS
Ser



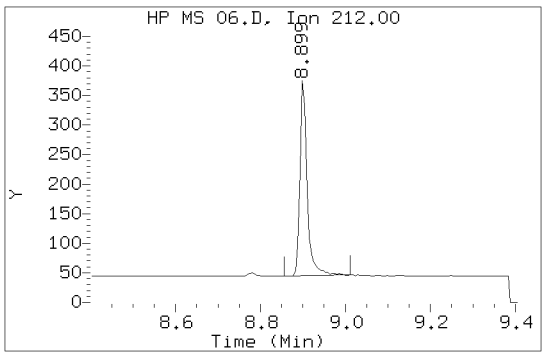
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
212
AREA
383
HEIGHT
330
29-Jun-2023
14:26
ALSHS
Ser

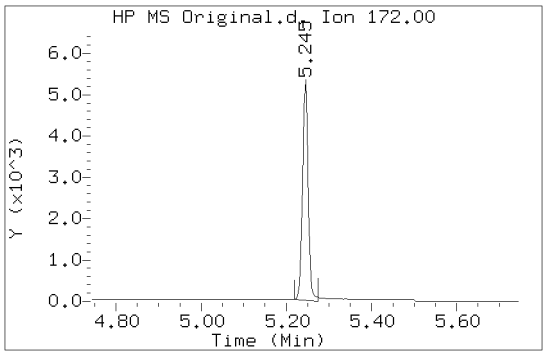


2-Fluorobiphenyl (321-60-8)

Reason Code:

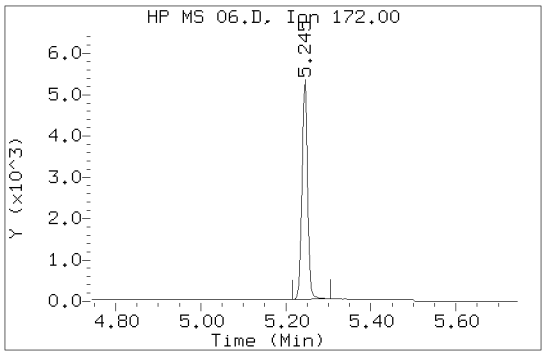
BEFORE

MASS
172
AREA
4989
HEIGHT
5338
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
172
AREA
4907
HEIGHT
5312
29-Jun-2023
14:26
ALSHS
Ser



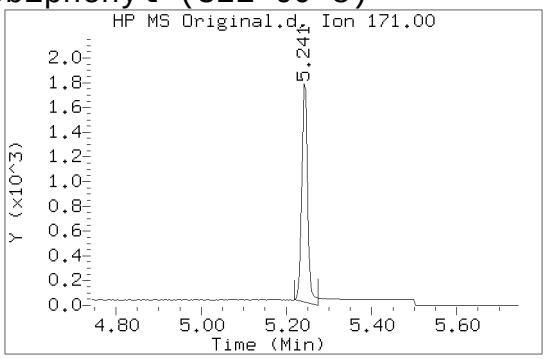
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\06.D
Inj Date : 16-JUN-2023 11:44
InstruID : SV6.i
LabSampID : 14DXICAL-0.05

2-Fluorobiphenyl (321-60-8)

Reason Code:

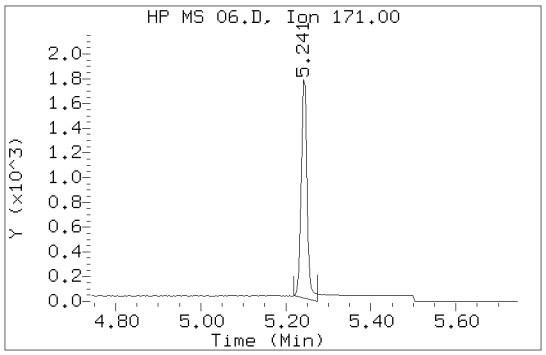
BEFORE

MASS
171
AREA
1727
HEIGHT
1764
16-Jun-2023
11:59
ALSHS
Server



AFTER

MASS
171
AREA
1727
HEIGHT
1764
29-Jun-2023
14:26
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Lab Smp Id: 14DXICAL-0.08 Client Smp ID: 14DXICAL-0.08
Inj Date : 16-JUN-2023 12:02
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.08
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 11:44 Cal File: 06.D
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	4590	0.10000	(a)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	15619	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	4012	0.08000	0.08496(M)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	9075	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	7759	0.08000	0.08348
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	18261	0.10000	
* 182 Chrysene-d12	240	10.017	10.017	(1.000)	12097	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	7185	0.08000	0.08138(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	10759	0.10000	(M)
1 1,4-Dioxane	58	1.482	1.482	(0.474)	1283	0.08000	0.08298(QH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

01194754

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D

Date : 16-JUN-2023 12:02

Client ID: 14DXICAL-0.08

Instrument: SV6.i

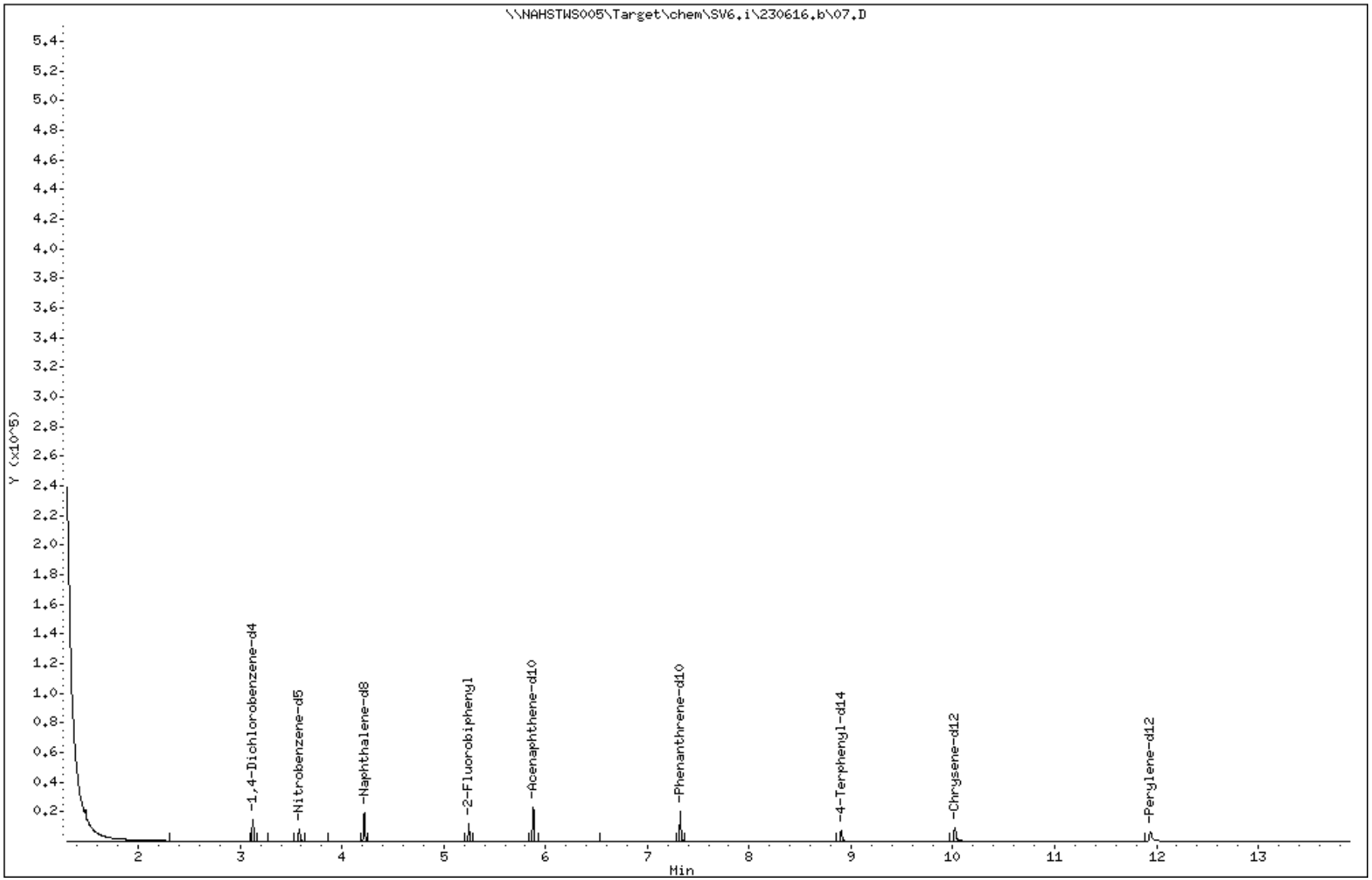
Sample Info: 14DXICAL-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



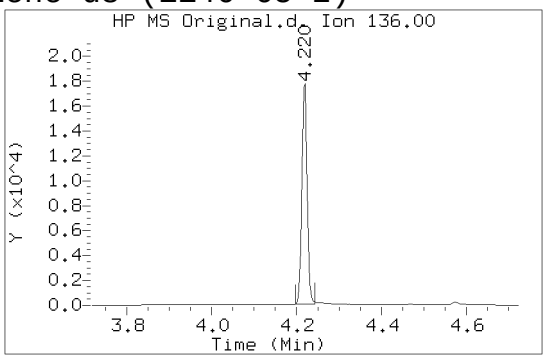
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Naphthalene-d8 (1146-65-2)

Reason Code:

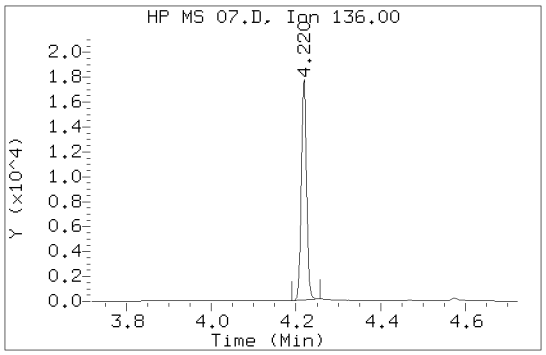
BEFORE

MASS
136
AREA
15744
HEIGHT
17718
16-Jun-2023
12:18
ALSHS
Server



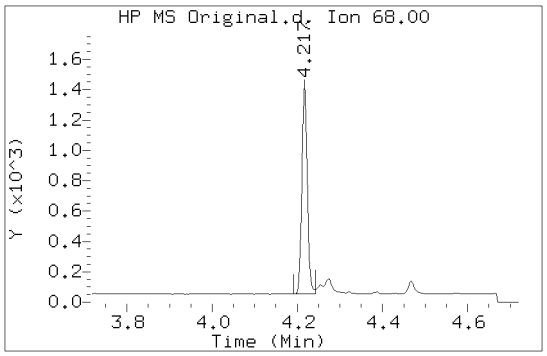
AFTER

MASS
136
AREA
15619
HEIGHT
17670
29-Jun-2023
14:26
ALSHS
Ser



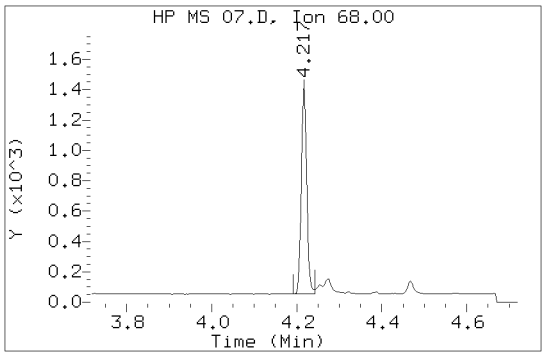
BEFORE

MASS
68
AREA
1209
HEIGHT
1411
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
68
AREA
1209
HEIGHT
1411
29-Jun-2023
14:26
ALSHS
Ser

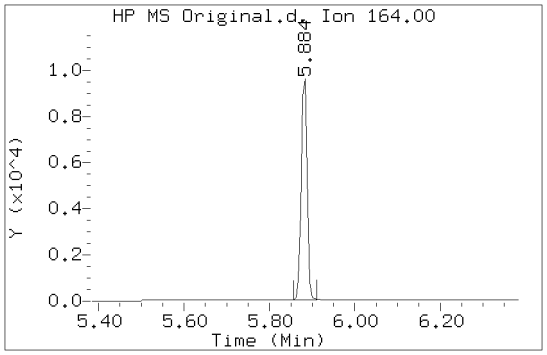


Acenaphthene-d10 (15067-26-2)

Reason Code:

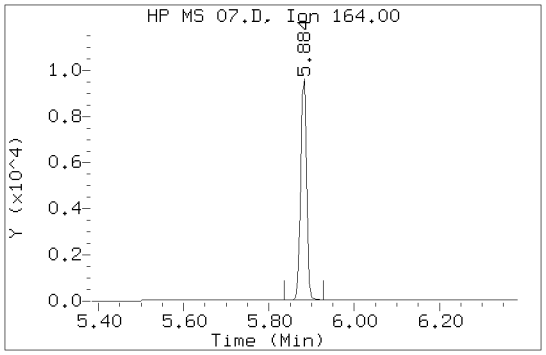
BEFORE

MASS
164
AREA
9060
HEIGHT
9568
16-Jun-2023
12:18
ALSHS
Server



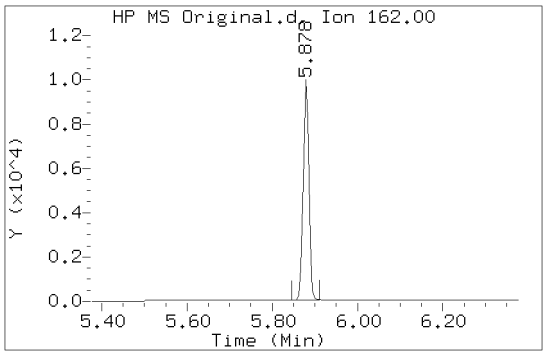
AFTER

MASS
164
AREA
9075
HEIGHT
9571
29-Jun-2023
14:26
ALSHS
Ser



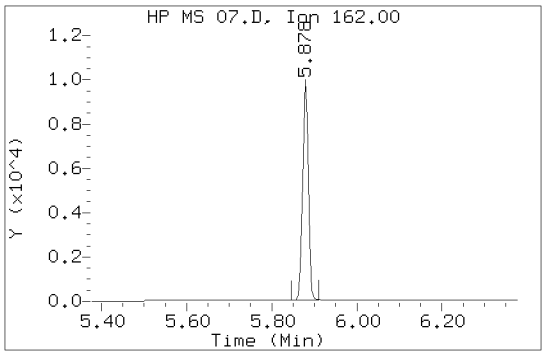
BEFORE

MASS
162
AREA
9173
HEIGHT
9961
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
162
AREA
9173
HEIGHT
9961
29-Jun-2023
14:26
ALSHS
Ser



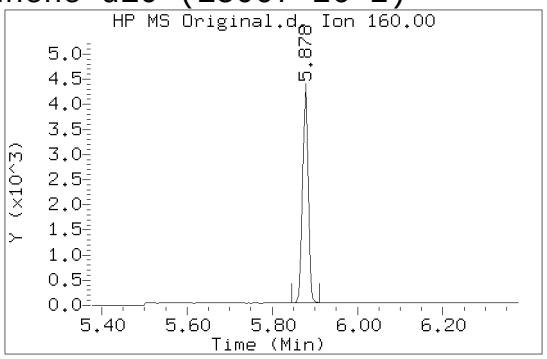
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Acenaphthene-d10 (15067-26-2)

Reason Code:

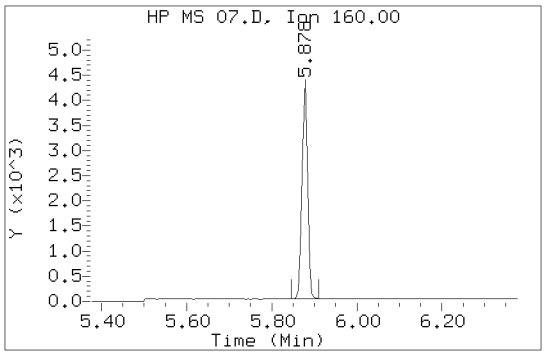
BEFORE

MASS
160
AREA
3928
HEIGHT
4365
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
160
AREA
3928
HEIGHT
4365
29-Jun-2023
14:26
ALSHS
Ser

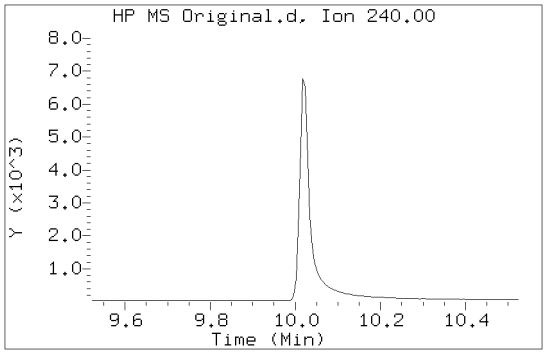


Chrysene-d12 (1719-03-5)

Reason Code:

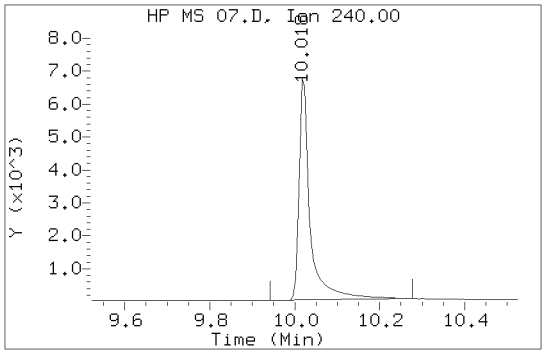
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



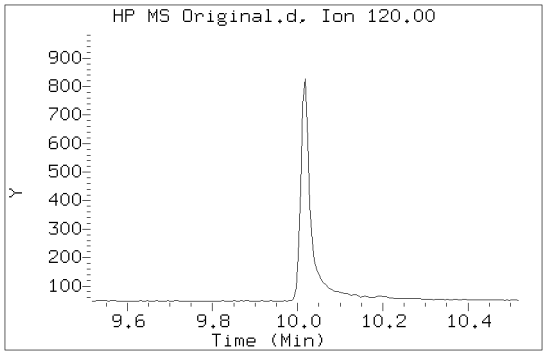
AFTER

MASS
240
AREA
12097
HEIGHT
6713
29-Jun-2023
14:26
ALSHS
Ser



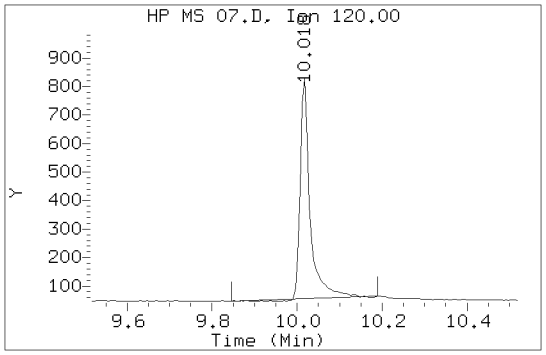
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



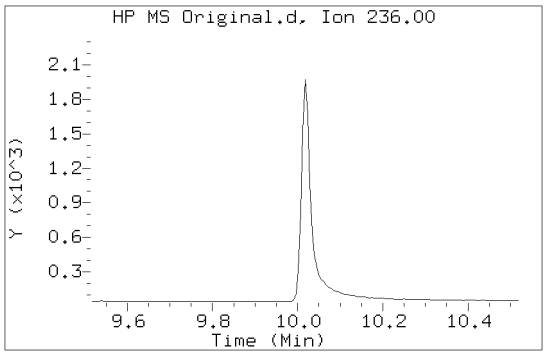
AFTER

MASS
120
AREA
1207
HEIGHT
771
29-Jun-2023
14:26
ALSHS
Ser



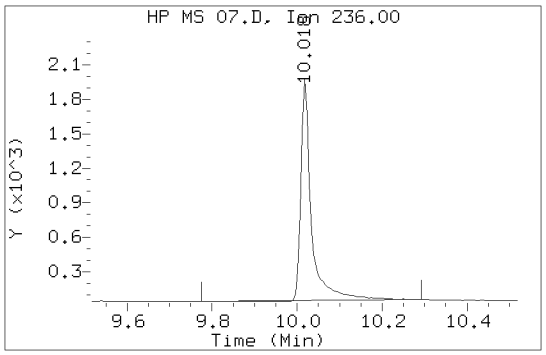
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
236
AREA
3279
HEIGHT
1919
29-Jun-2023
14:26
ALSHS
Ser



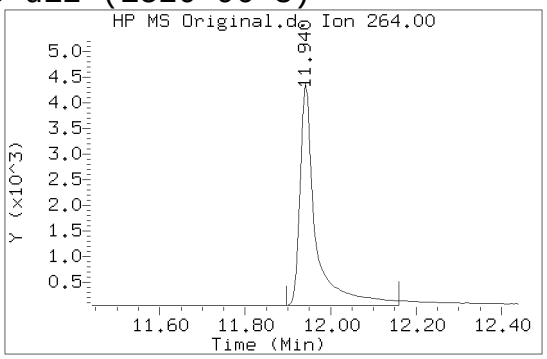
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Perylene-d12 (1520-96-3)

Reason Code:

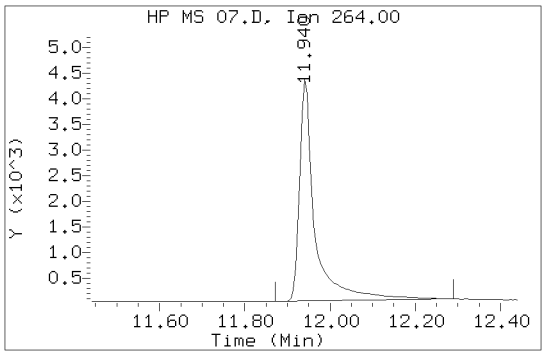
BEFORE

MASS
264
AREA
10879
HEIGHT
4324
16-Jun-2023
12:18
ALSHS
Server



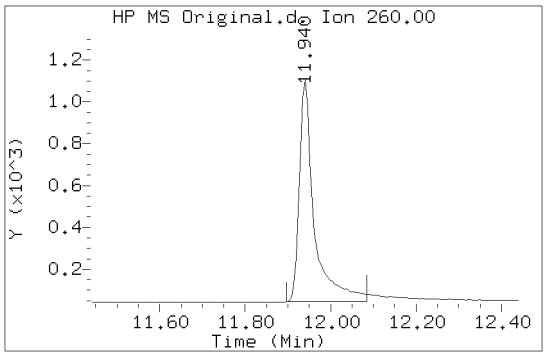
AFTER

MASS
264
AREA
10759
HEIGHT
4317
29-Jun-2023
14:26
ALSHS
Ser



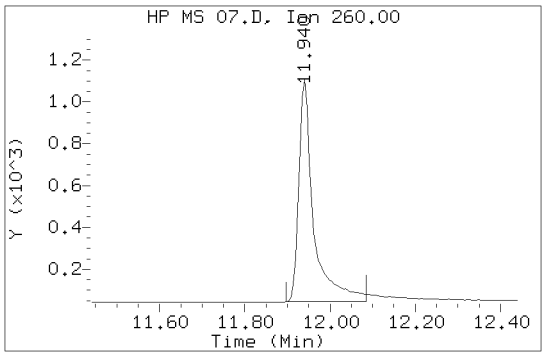
BEFORE

MASS
260
AREA
2559
HEIGHT
1060
16-Jun-2023
12:18
ALSHS
Server



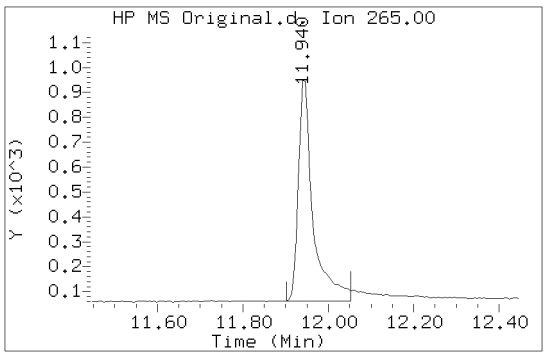
AFTER

MASS
260
AREA
2559
HEIGHT
1060
29-Jun-2023
14:26
ALSHS
Ser



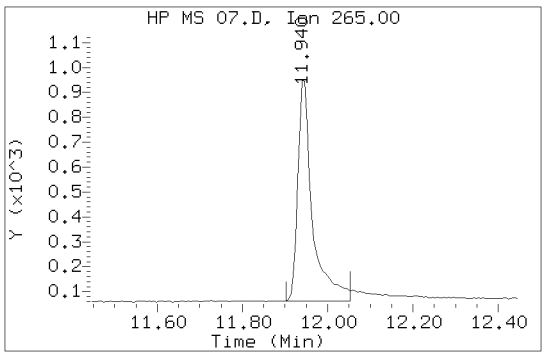
BEFORE

MASS
265
AREA
2115
HEIGHT
884
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
265
AREA
2115
HEIGHT
884
29-Jun-2023
14:26
ALSHS
Ser

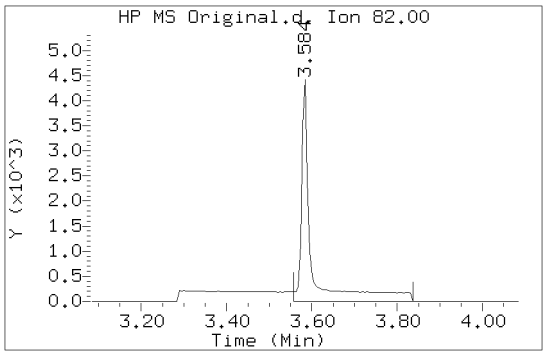


Nitrobenzene-d5 (4165-60-0)

Reason Code:

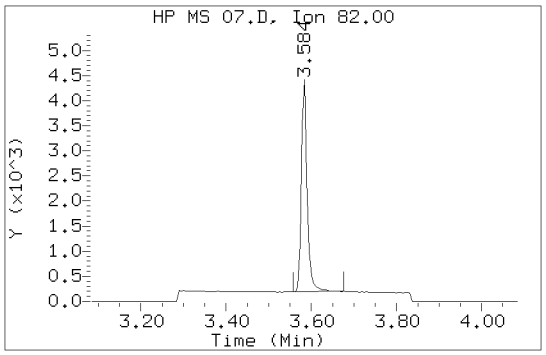
BEFORE

MASS
82
AREA
7140
HEIGHT
4418
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
82
AREA
4012
HEIGHT
4226
29-Jun-2023
14:26
ALSHS
Ser



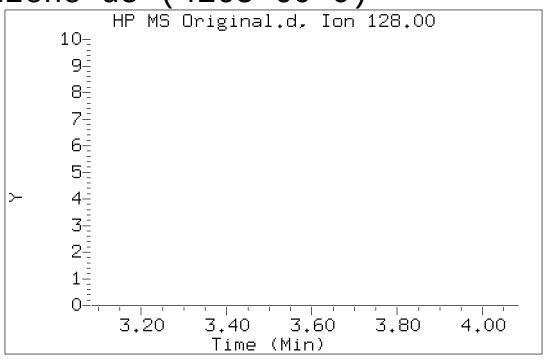
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

Nitrobenzene-d5 (4165-60-0)

Reason Code:

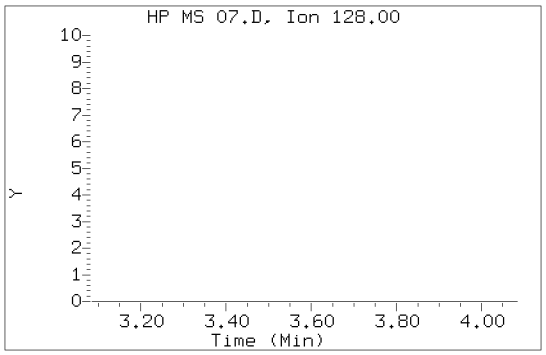
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



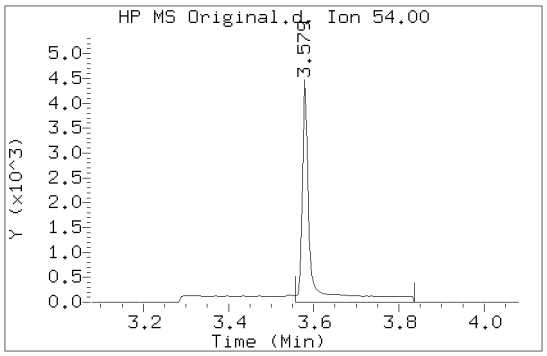
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:26
ALSHS
Ser



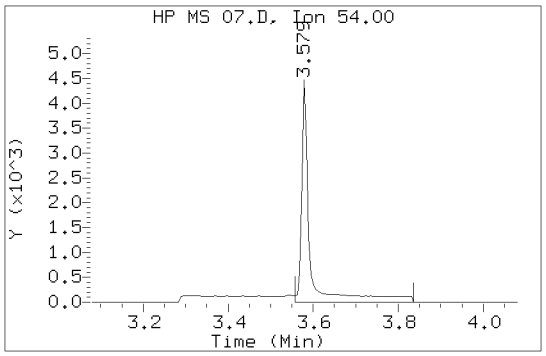
BEFORE

MASS
54
AREA
6137
HEIGHT
4470
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
54
AREA
6137
HEIGHT
4470
29-Jun-2023
14:26
ALSHS
Ser

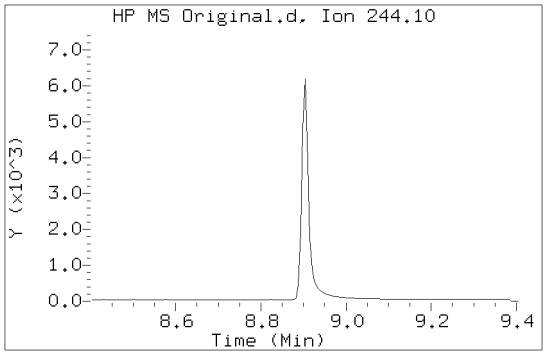


4-Terphenyl-d14 (1718-51-0)

Reason Code:

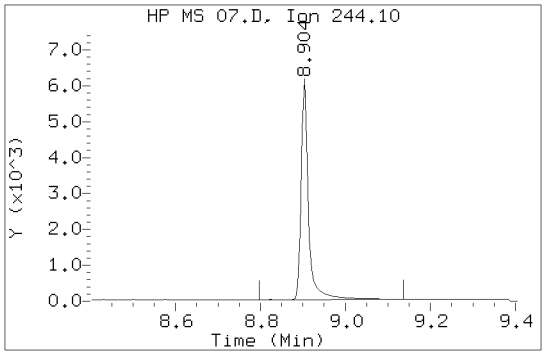
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



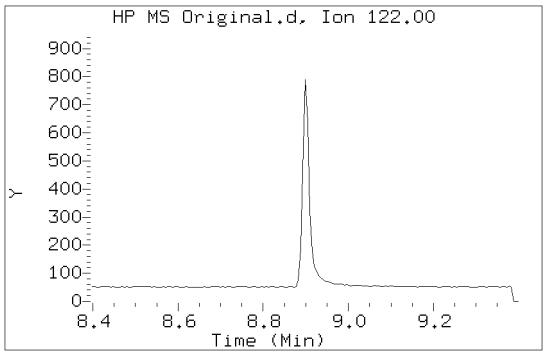
AFTER

MASS
244.1
AREA
7185
HEIGHT
6143
29-Jun-2023
14:26
ALSHS
Ser



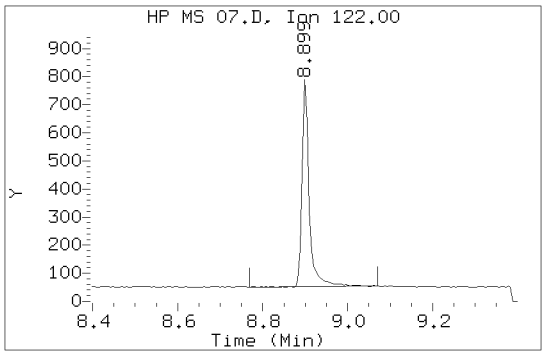
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
122
AREA
850
HEIGHT
736
29-Jun-2023
14:26
ALSHS
Ser



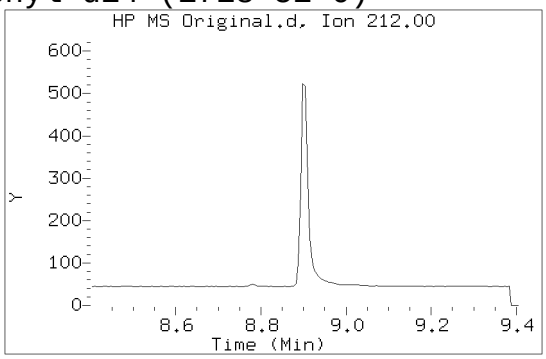
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\07.D
Inj Date : 16-JUN-2023 12:02
InstruID : SV6.i
LabSampID : 14DXICAL-0.08

4-Terphenyl-d14 (1718-51-0)

Reason Code:

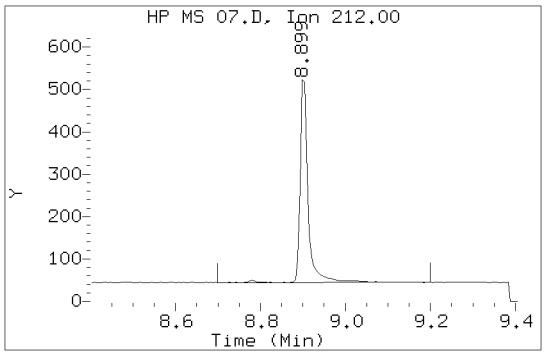
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
12:18
ALSHS
Server



AFTER

MASS
212
AREA
622
HEIGHT
478
29-Jun-2023
14:26
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Lab Smp Id: 14DXICAL-0.15 Client Smp ID: 14DXICAL-0.15
Inj Date : 16-JUN-2023 12:38
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.15
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 12:20 Cal File: 08.D
Als bottle: 9 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	3901	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	13349	0.10000	
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	6134	0.15000	0.1520(AQM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	7708	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	11636	0.15000	0.1474
* 126 Phenanthrene-d10	188	7.323	7.323	(1.000)	15157	0.10000	
* 182 Chrysene-d12	240	10.018	10.018	(1.000)	10131	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	10881	0.15000	0.1472(M)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	7987	0.10000	(M)
1 1,4-Dioxane	58	1.464	1.464	(0.468)	1980	0.15000	0.1507(QH)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

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

01194762

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D

Date : 16-JUN-2023 12:38

Client ID: 14DXICAL-0.15

Instrument: SV6.i

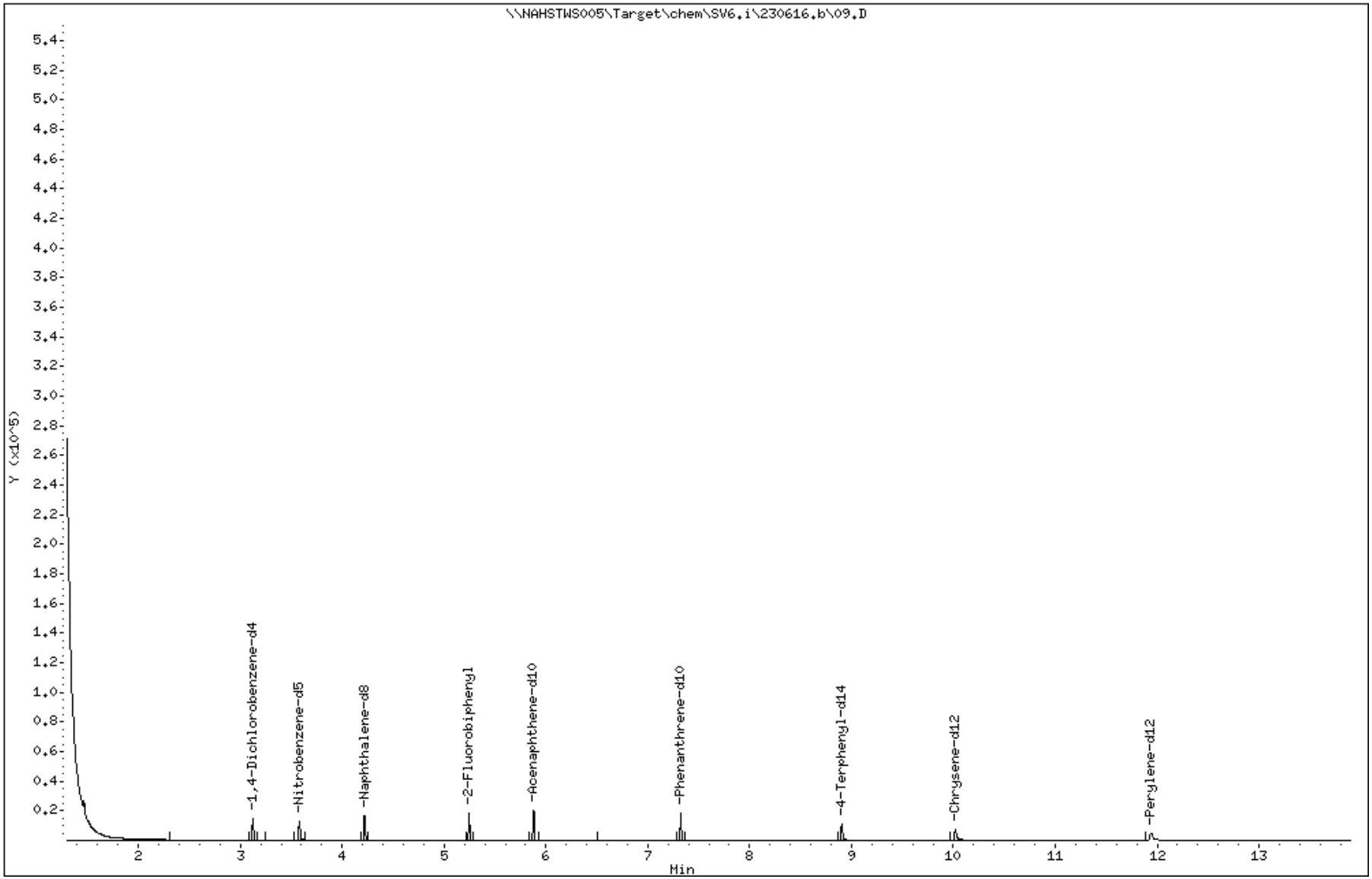
Sample Info: 14DXICAL-0.15

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



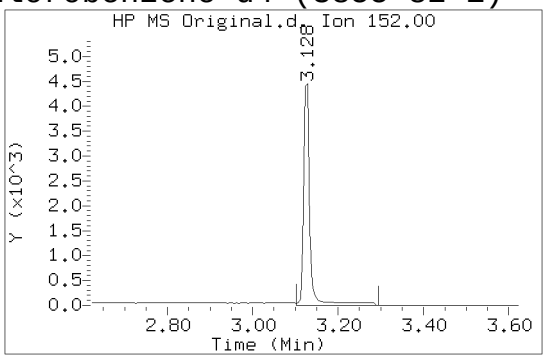
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

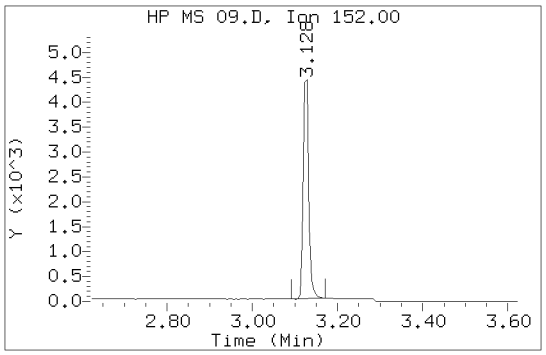
BEFORE

MASS
152
AREA
4505
HEIGHT
4453
16-Jun-2023
12:57
ALSHS
Server



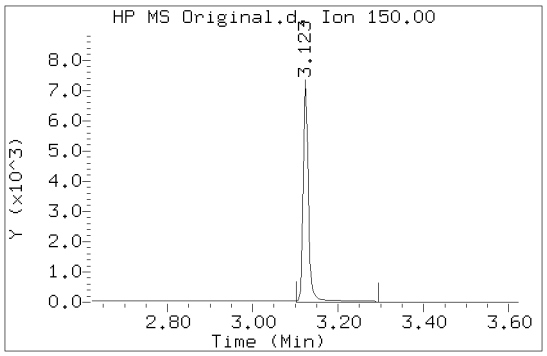
AFTER

MASS
152
AREA
3901
HEIGHT
4398
29-Jun-2023
14:27
ALSHS
Ser



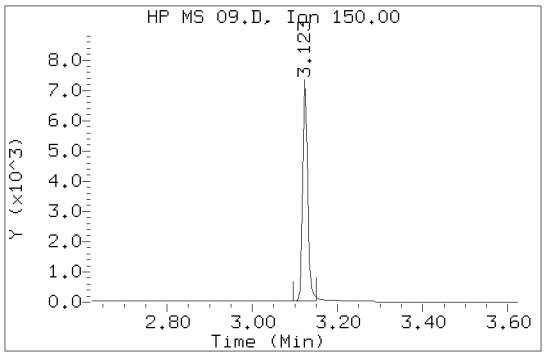
BEFORE

MASS
150
AREA
6326
HEIGHT
7351
16-Jun-2023
12:57
ALSHS
Server



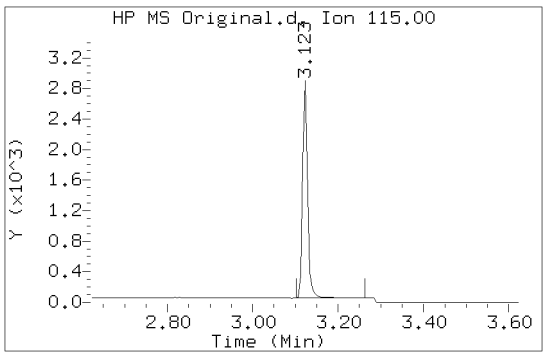
AFTER

MASS
150
AREA
5706
HEIGHT
7305
29-Jun-2023
14:27
ALSHS
Ser



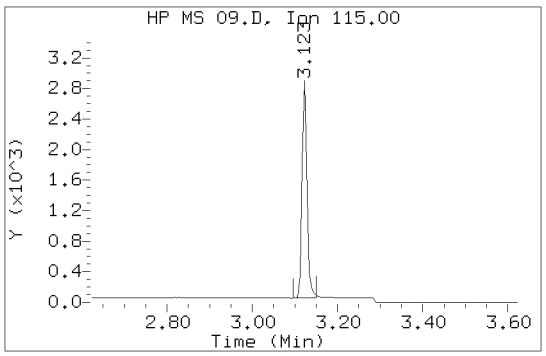
BEFORE

MASS
115
AREA
2255
HEIGHT
2847
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
115
AREA
2210
HEIGHT
2846
29-Jun-2023
14:27
ALSHS
Ser

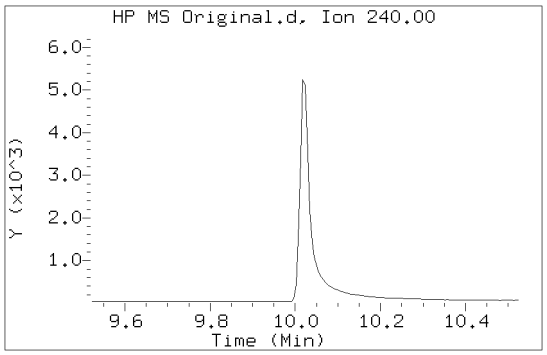


Chrysene-d12 (1719-03-5)

Reason Code:

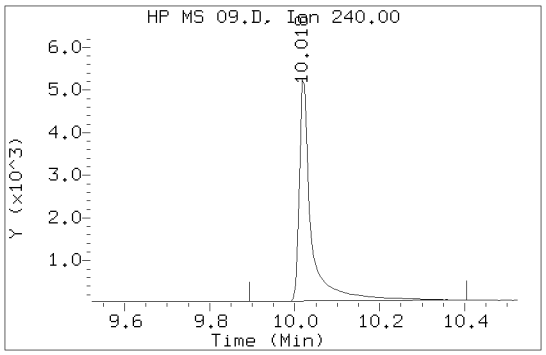
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
240
AREA
10131
HEIGHT
5190
29-Jun-2023
14:27
ALSHS
Ser



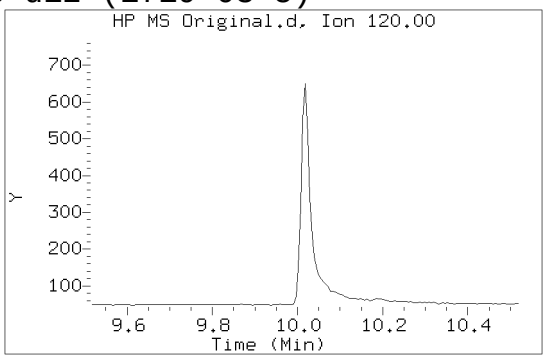
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

Chrysene-d12 (1719-03-5)

Reason Code:

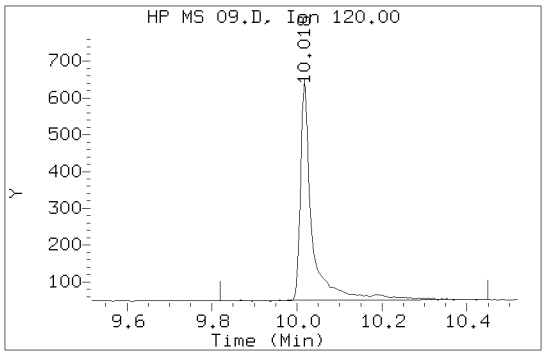
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



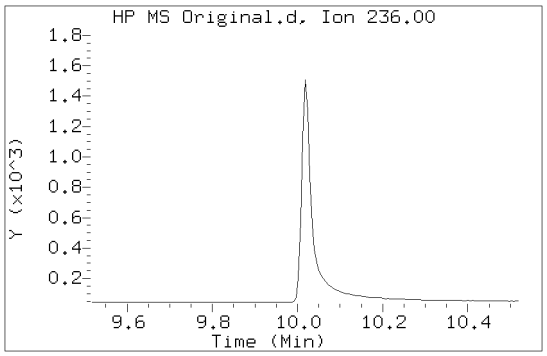
AFTER

MASS
120
AREA
1131
HEIGHT
600
29-Jun-2023
14:27
ALSHS
Ser



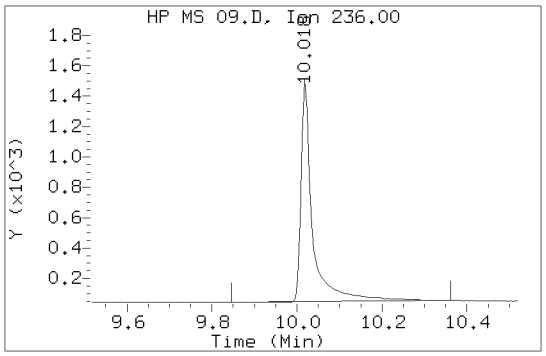
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
236
AREA
2695
HEIGHT
1458
29-Jun-2023
14:27
ALSHS
Ser

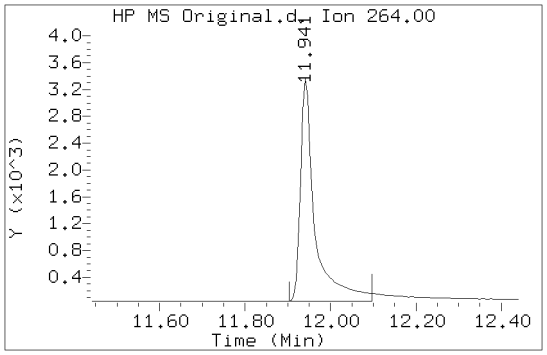


Perylene-d12 (1520-96-3)

Reason Code:

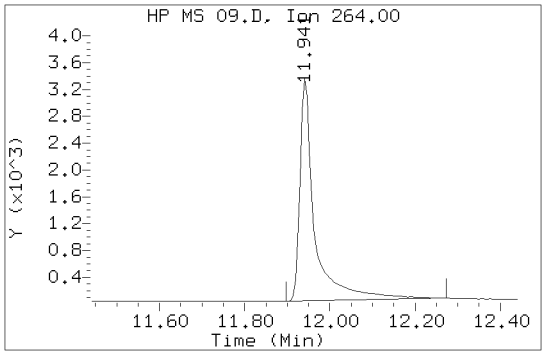
BEFORE

MASS
264
AREA
7735
HEIGHT
3310
16-Jun-2023
12:57
ALSHS
Server



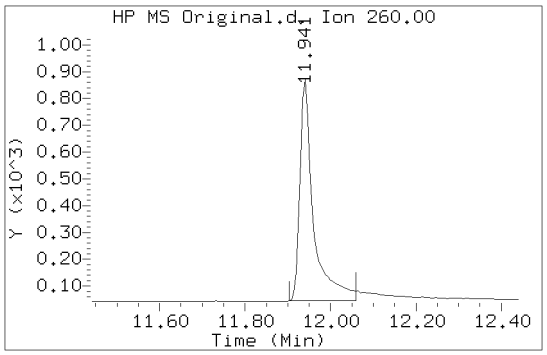
AFTER

MASS
264
AREA
7987
HEIGHT
3307
29-Jun-2023
14:27
ALSHS
Ser



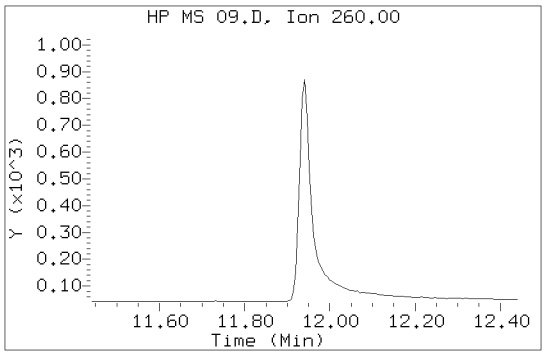
BEFORE

MASS
260
AREA
1816
HEIGHT
824
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
260
AREA
2012
HEIGHT
823
29-Jun-2023
14:27
ALSHS
Ser



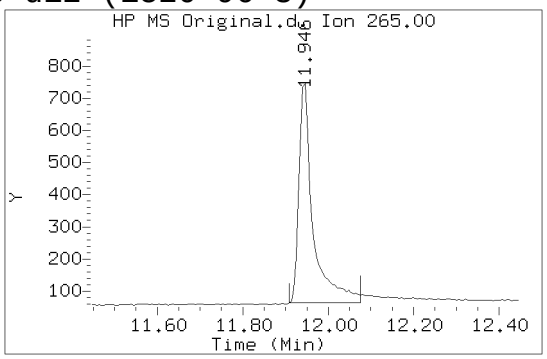
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

Perylene-d12 (1520-96-3)

Reason Code:

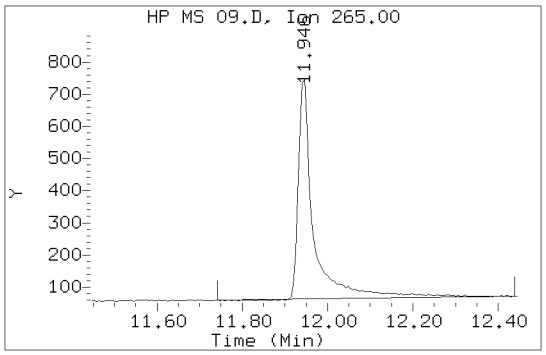
BEFORE

MASS
265
AREA
1571
HEIGHT
682
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
265
AREA
1706
HEIGHT
682
29-Jun-2023
14:27
ALSHS
Ser

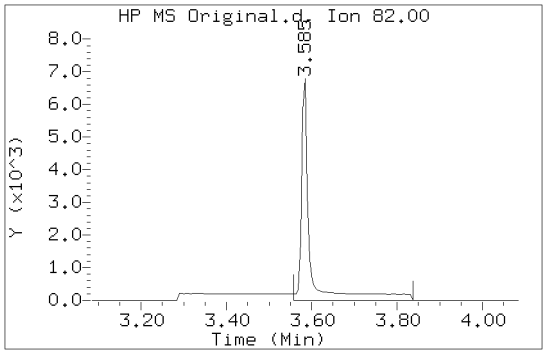


Nitrobenzene-d5 (4165-60-0)

Reason Code:

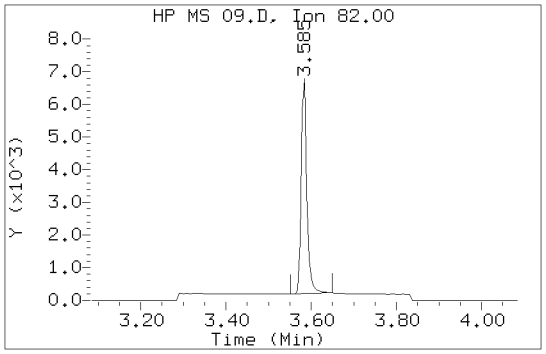
BEFORE

MASS
82
AREA
9487
HEIGHT
6787
16-Jun-2023
12:57
ALSHS
Server



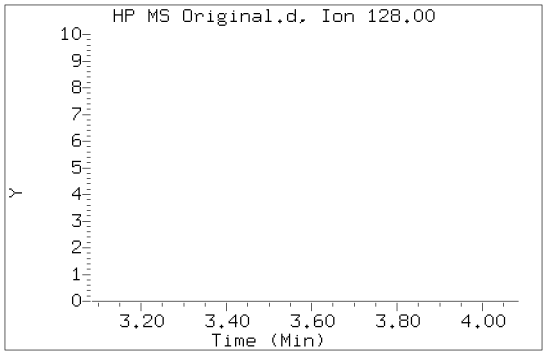
AFTER

MASS
82
AREA
6134
HEIGHT
6582
29-Jun-2023
14:27
ALSHS
Ser



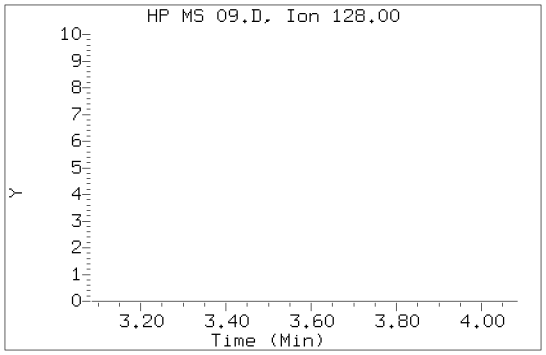
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



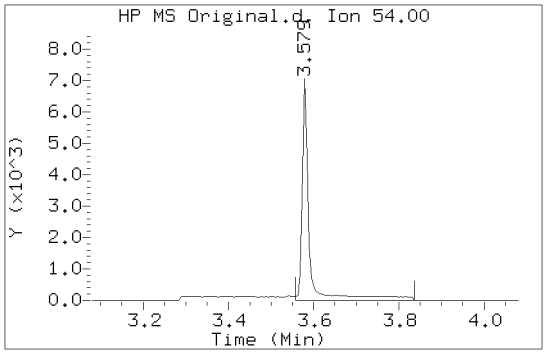
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



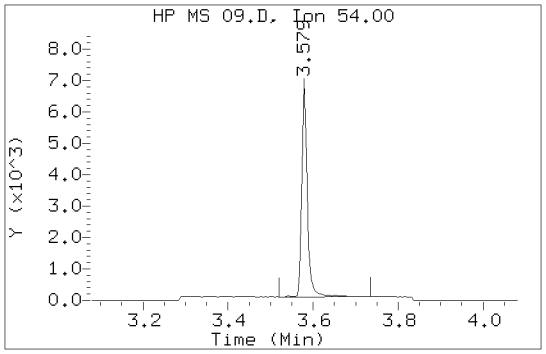
BEFORE

MASS
54
AREA
8200
HEIGHT
7059
16-Jun-2023
12:57
ALSHS
Server



AFTER

MASS
54
AREA
6294
HEIGHT
6945
29-Jun-2023
14:27
ALSHS
Ser

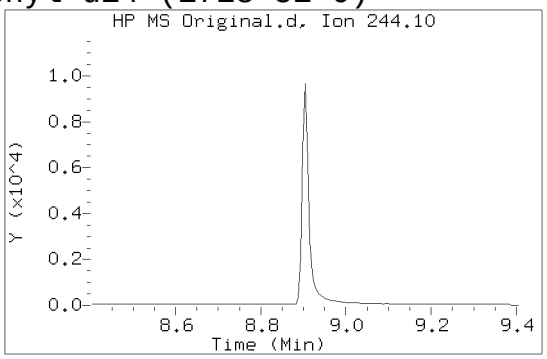


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\09.D
Inj Date : 16-JUN-2023 12:38
InstruID : SV6.i
LabSampID : 14DXICAL-0.15

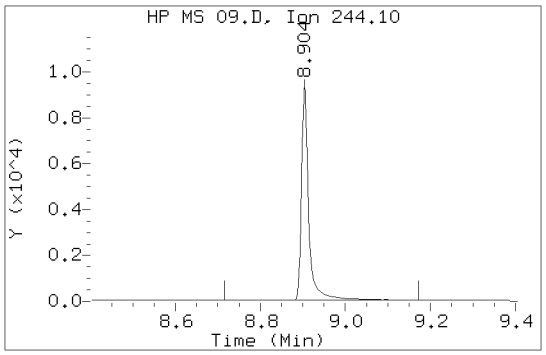
4-Terphenyl-d14 (1718-51-0)

Reason Code:

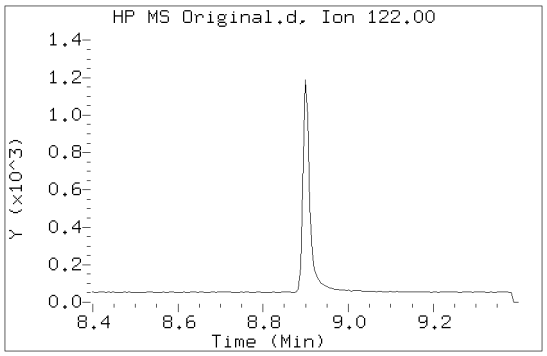
BEFORE
MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



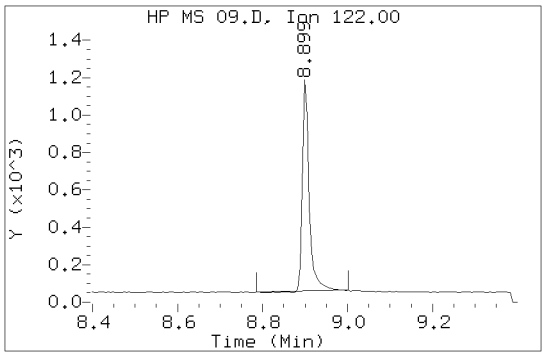
AFTER
MASS
244.1
AREA
10881
HEIGHT
9614
29-Jun-2023
14:27
ALSHS
Ser



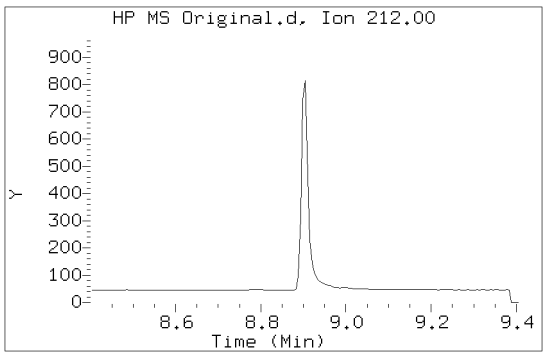
BEFORE
MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



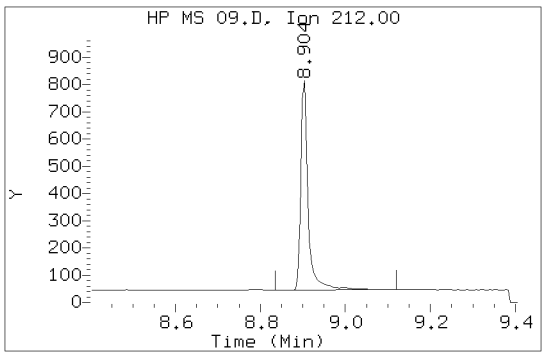
AFTER
MASS
122
AREA
1222
HEIGHT
1128
29-Jun-2023
14:27
ALSHS
Ser



BEFORE
MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
12:57
ALSHS
Server



AFTER
MASS
212
AREA
918
HEIGHT
769
29-Jun-2023
14:27
ALSHS
Ser



Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D Page 1
Report Date: 29-Jun-2023 15:48

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Lab Smp Id: 14DXICAL-0.1 Client Smp ID: 14DXICAL-0.1
Inj Date : 16-JUN-2023 14:15
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.1
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 15:48 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 12 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.128	(1.000)	4026	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	13383	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	4123	0.10000	0.1019(QM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	7945	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.248	5.248	(0.892)	7708	0.10000	0.09473(M)
* 126 Phenanthrene-d10	188	7.328	7.328	(1.000)	15519	0.10000	(M)
* 182 Chrysene-d12	240	10.028	10.028	(1.000)	9988	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.909	8.909	(0.888)	7529	0.10000	0.1033(M)
* 198 Perylene-d12	264	11.946	11.946	(1.000)	8963	0.10000	(M)
1 1,4-Dioxane	58	1.471	1.471	(0.470)	1445	0.10000	0.1066(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01194768

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D

Date : 16-JUN-2023 14:15

Client ID: 14DXICAL-0.1

Instrument: SV6.i

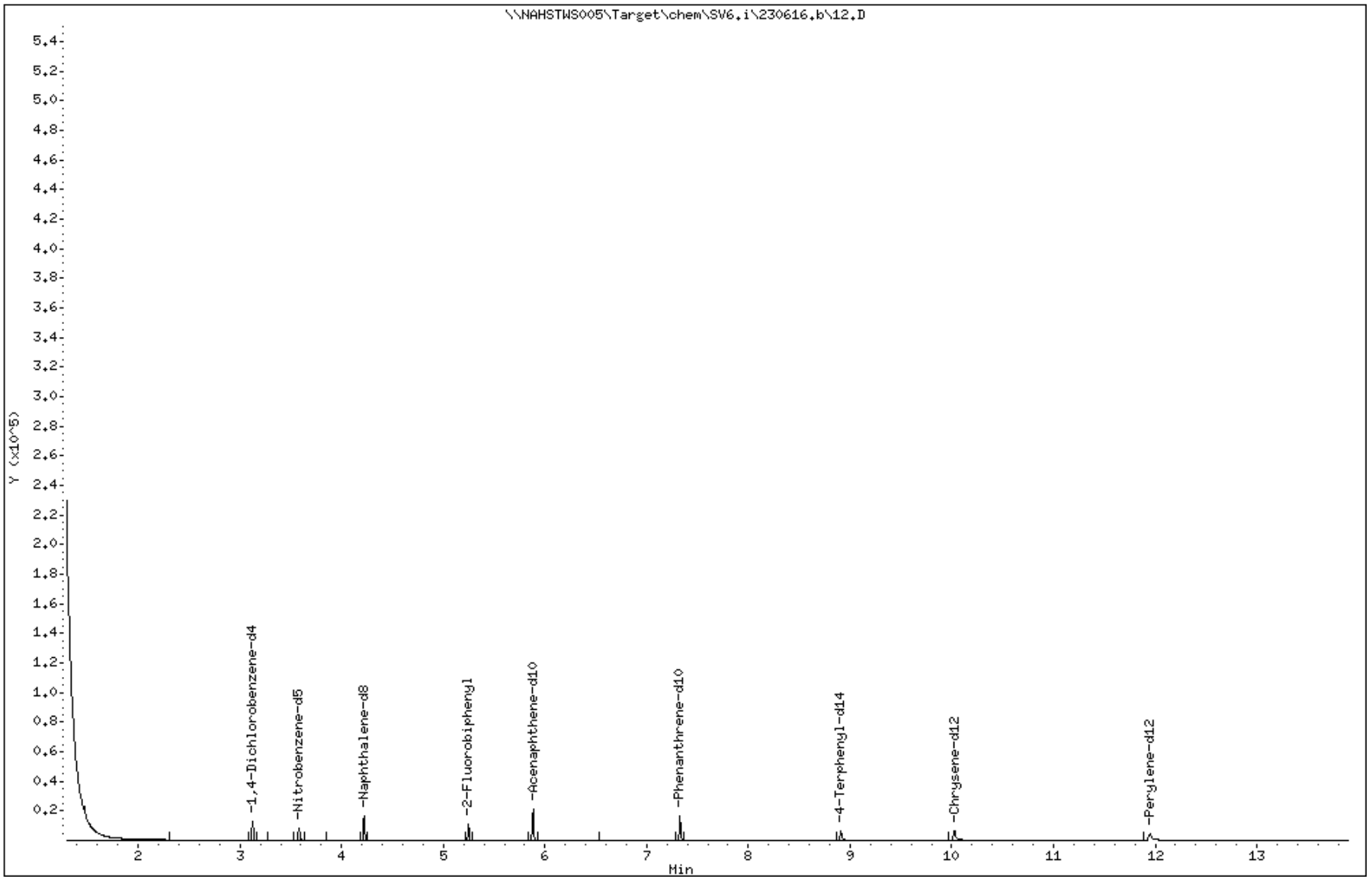
Sample Info: 14DXICAL-0.1

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

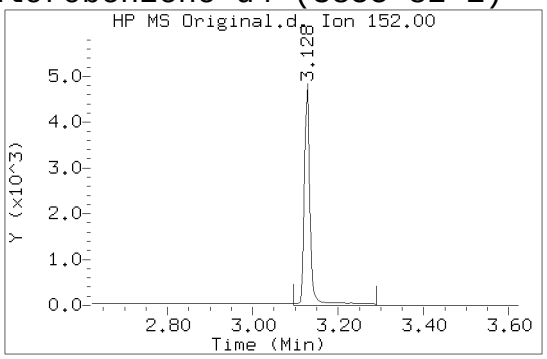


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

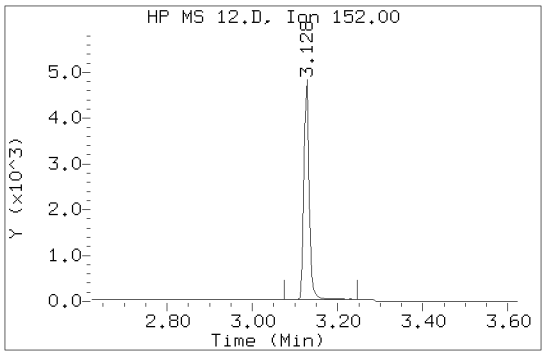
1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

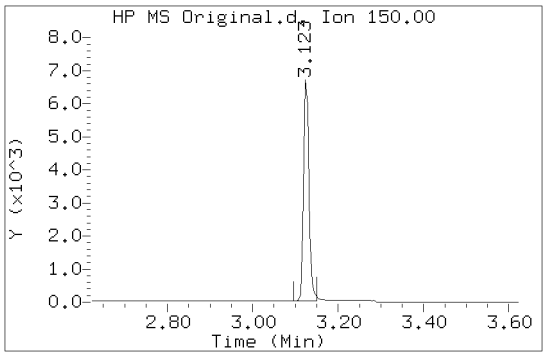
BEFORE
MASS
152
AREA
4570
HEIGHT
4842
16-Jun-2023
14:59
jiayi
lu



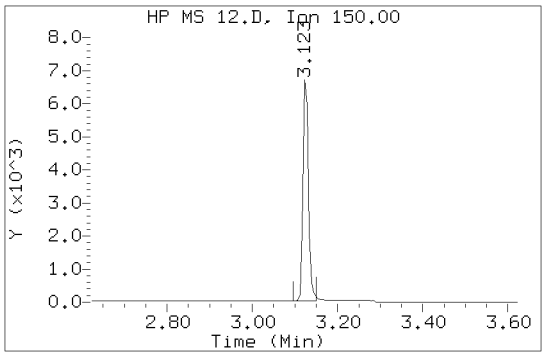
AFTER
MASS
152
AREA
4026
HEIGHT
4796
29-Jun-2023
15:48



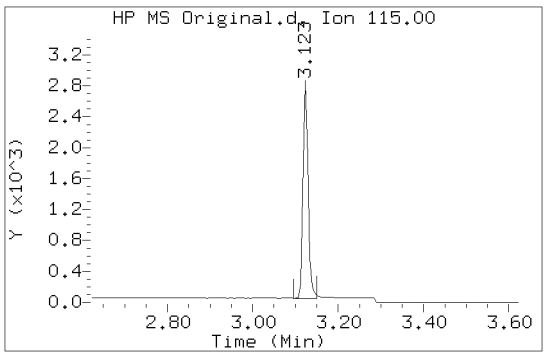
BEFORE
MASS
150
AREA
5752
HEIGHT
6676
16-Jun-2023
14:59
jiayi
lu



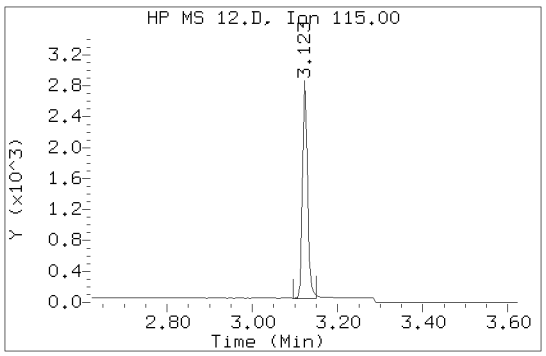
AFTER
MASS
150
AREA
5752
HEIGHT
6676
29-Jun-2023
15:48



BEFORE
MASS
115
AREA
2249
HEIGHT
2814
16-Jun-2023
14:59
jiayi
lu



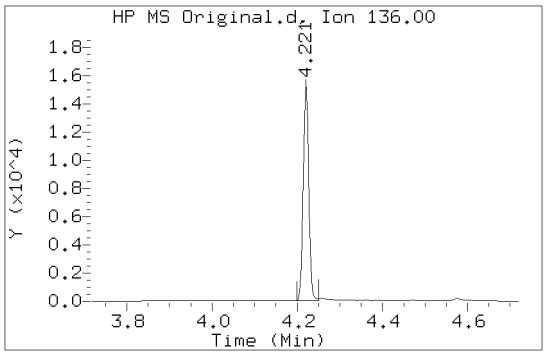
AFTER
MASS
115
AREA
2249
HEIGHT
2814
29-Jun-2023
15:48



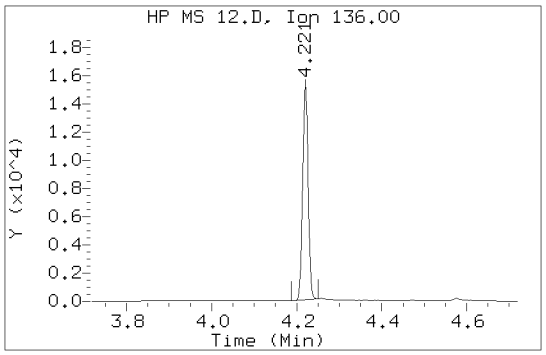
Naphthalene-d8 (1146-65-2)

Reason Code:

BEFORE
MASS
136
AREA
13619
HEIGHT
15676
16-Jun-2023
14:59
jiayi
lu



AFTER
MASS
136
AREA
13383
HEIGHT
15614
29-Jun-2023
15:48

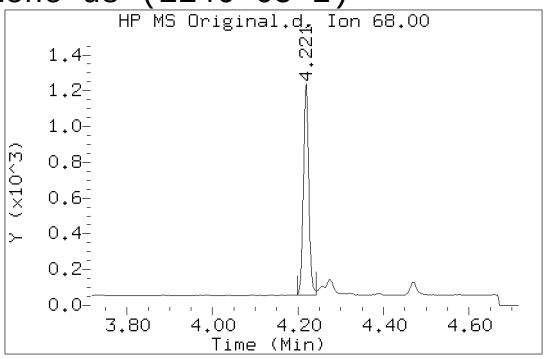


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

Naphthalene-d8 (1146-65-2)

BEFORE

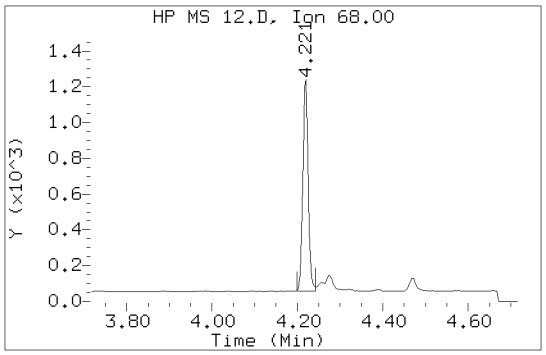
MASS
68
AREA
1062
HEIGHT
1182
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
68
AREA
1062
HEIGHT
1182
29-Jun-2023
15:48

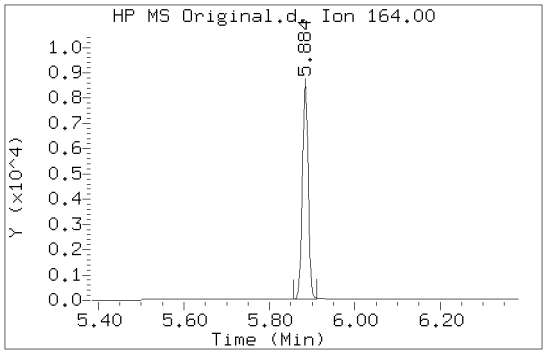
Reason Code:



Acenaphthene-d10 (15067-26-2)

BEFORE

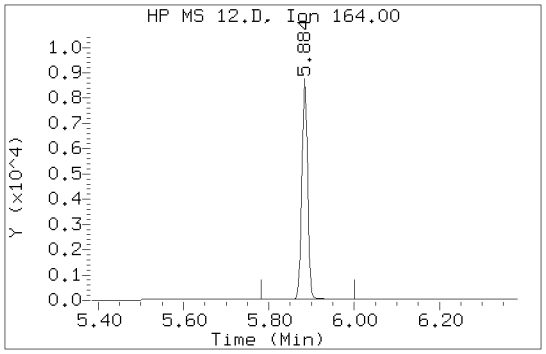
MASS
164
AREA
7893
HEIGHT
8717
16-Jun-2023
14:59
jiayi
lu



AFTER

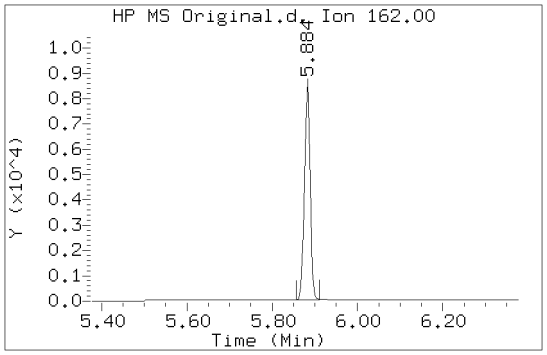
MASS
164
AREA
7945
HEIGHT
8719
29-Jun-2023
15:48

Reason Code:



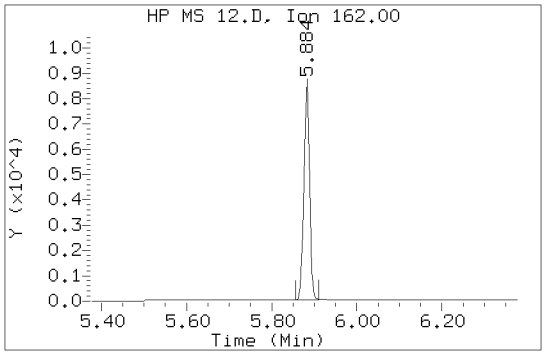
BEFORE

MASS
162
AREA
7978
HEIGHT
8729
16-Jun-2023
14:59
jiayi
lu



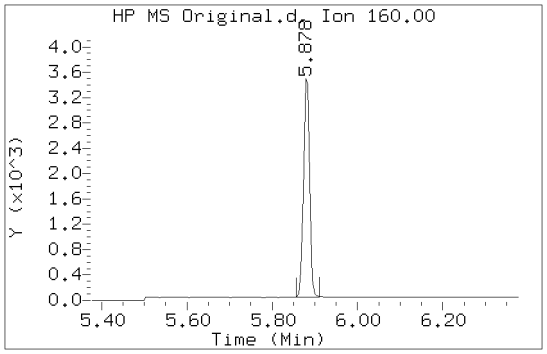
AFTER

MASS
162
AREA
7978
HEIGHT
8729
29-Jun-2023
15:48



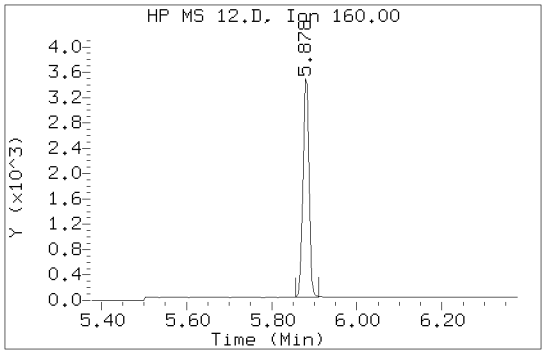
BEFORE

MASS
160
AREA
3420
HEIGHT
3449
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
160
AREA
3420
HEIGHT
3449
29-Jun-2023
15:48

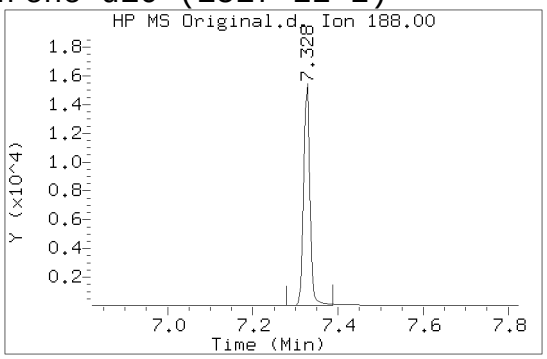


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

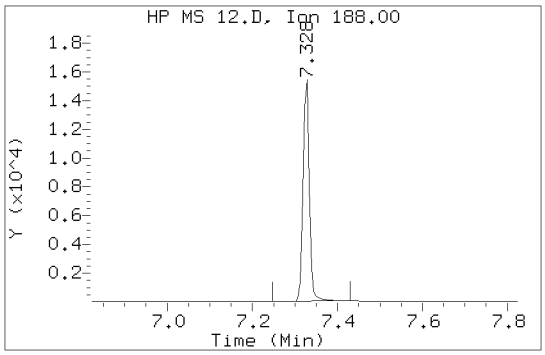
Phenanthrene-d10 (1517-22-2)

Reason Code:

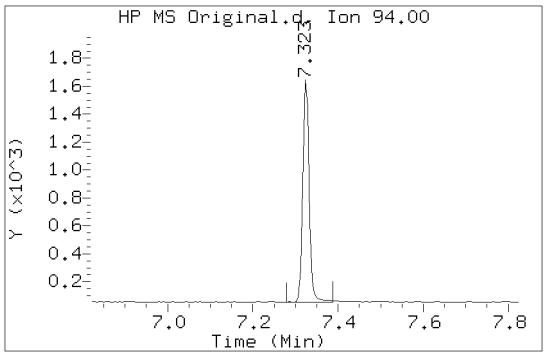
BEFORE
MASS
188
AREA
15580
HEIGHT
15412
16-Jun-2023
14:59
jiayi
lu



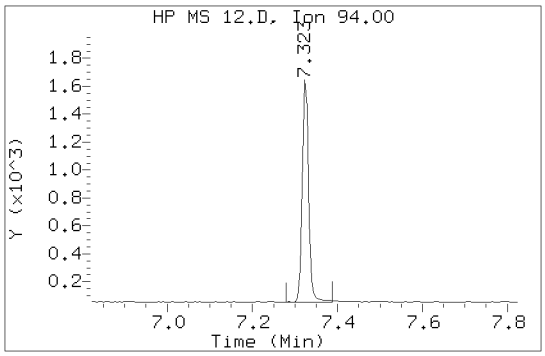
AFTER
MASS
188
AREA
15519
HEIGHT
15398
29-Jun-2023
15:48



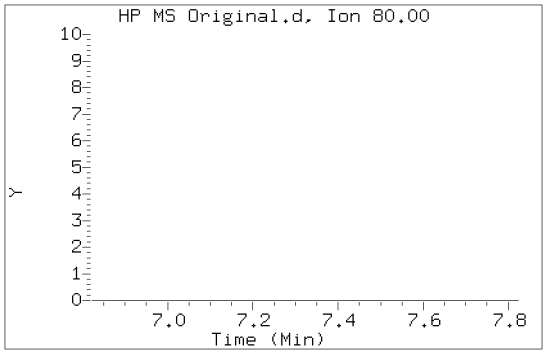
BEFORE
MASS
94
AREA
1615
HEIGHT
1589
16-Jun-2023
14:59
jiayi
lu



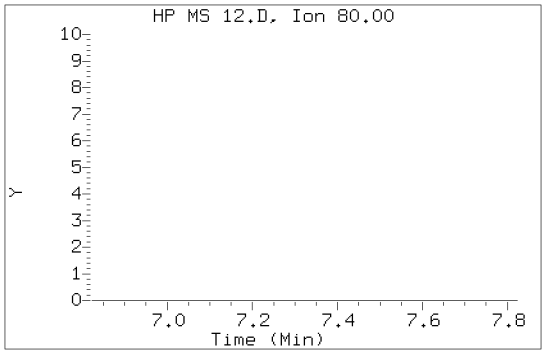
AFTER
MASS
94
AREA
1615
HEIGHT
1589
29-Jun-2023
15:48



BEFORE
MASS
80
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



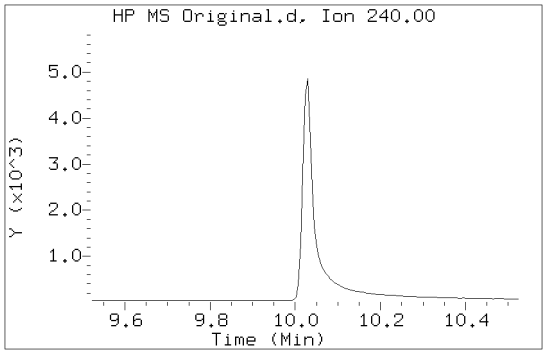
AFTER
MASS
80
AREA
0
HEIGHT
0
29-Jun-2023
15:48



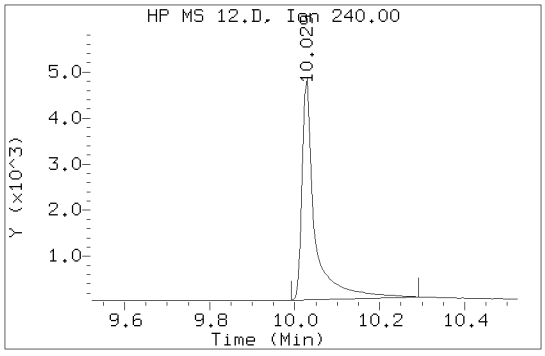
Chrysene-d12 (1719-03-5)

Reason Code:

BEFORE
MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



AFTER
MASS
240
AREA
9988
HEIGHT
4801
29-Jun-2023
15:48



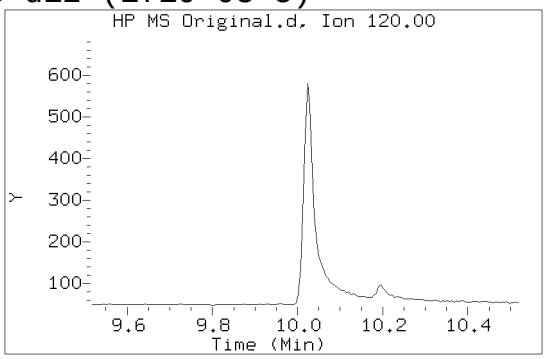
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

Chrysene-d12 (1719-03-5)

Reason Code:

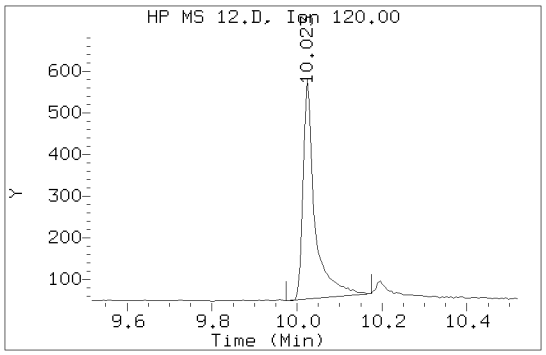
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



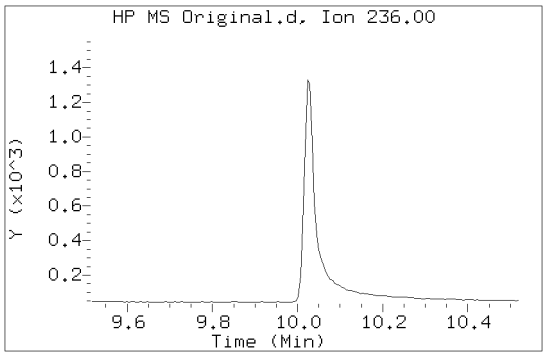
AFTER

MASS
120
AREA
998
HEIGHT
525
29-Jun-2023
15:48



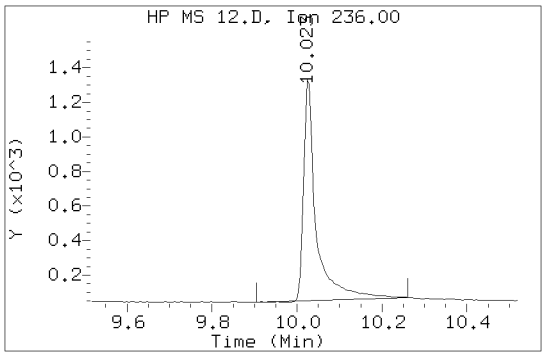
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
236
AREA
2622
HEIGHT
1277
29-Jun-2023
15:48

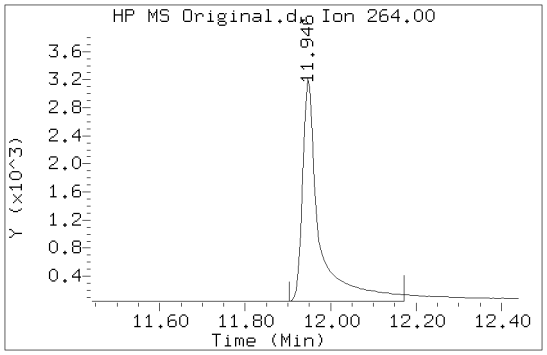


Perylene-d12 (1520-96-3)

Reason Code:

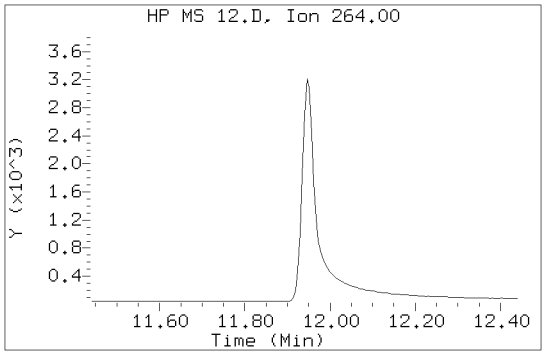
BEFORE

MASS
264
AREA
8613
HEIGHT
3164
16-Jun-2023
14:59
jiayi
lu



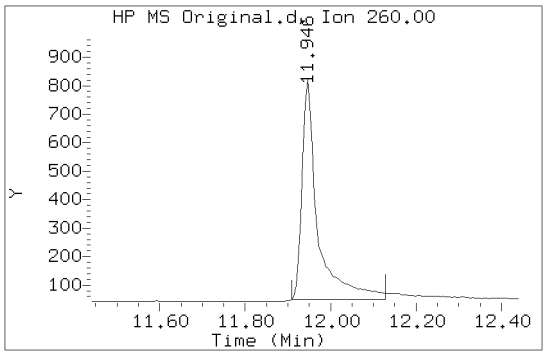
AFTER

MASS
264
AREA
8963
HEIGHT
3161
29-Jun-2023
15:48



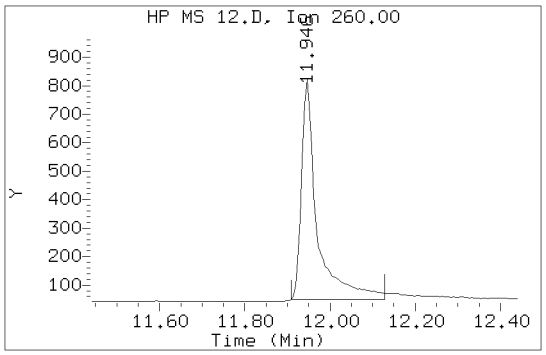
BEFORE

MASS
260
AREA
1977
HEIGHT
772
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
260
AREA
1977
HEIGHT
772
29-Jun-2023
15:48



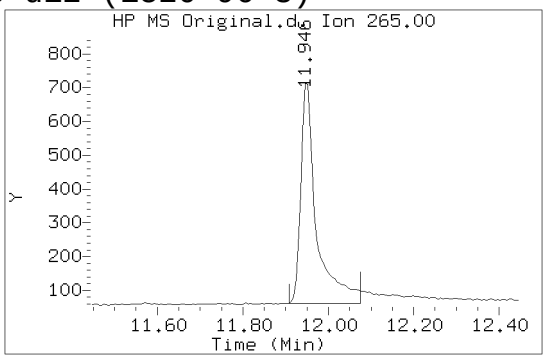
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

Perylene-d12 (1520-96-3)

Reason Code:

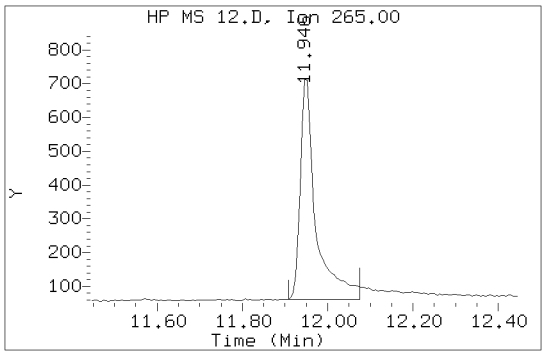
BEFORE

MASS
265
AREA
1666
HEIGHT
651
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
265
AREA
1666
HEIGHT
651
29-Jun-2023
15:48

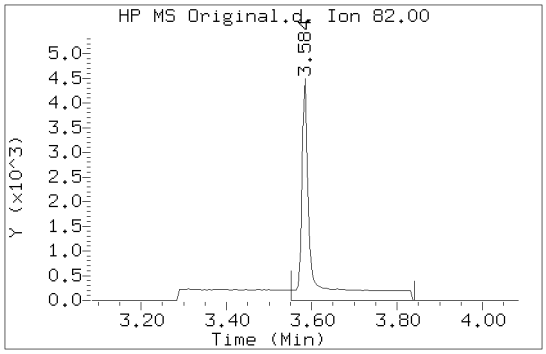


Nitrobenzene-d5 (4165-60-0)

Reason Code:

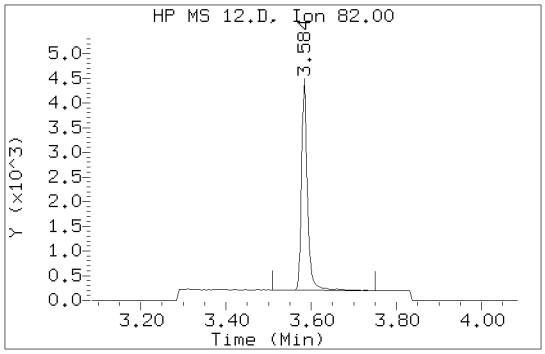
BEFORE

MASS
82
AREA
7524
HEIGHT
4492
16-Jun-2023
14:59
jiayi
lu



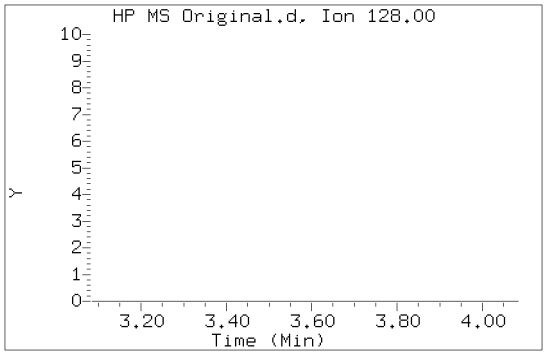
AFTER

MASS
82
AREA
4123
HEIGHT
4285
29-Jun-2023
15:48



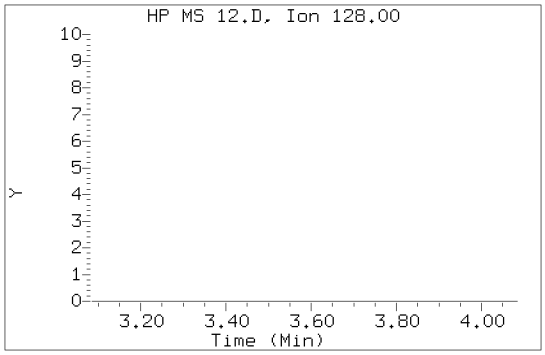
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



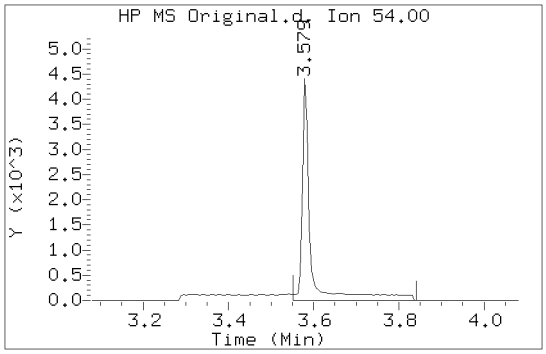
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
15:48



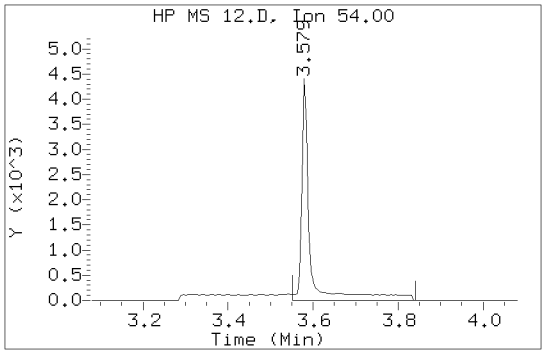
BEFORE

MASS
54
AREA
6015
HEIGHT
4407
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
54
AREA
6015
HEIGHT
4407
29-Jun-2023
15:48



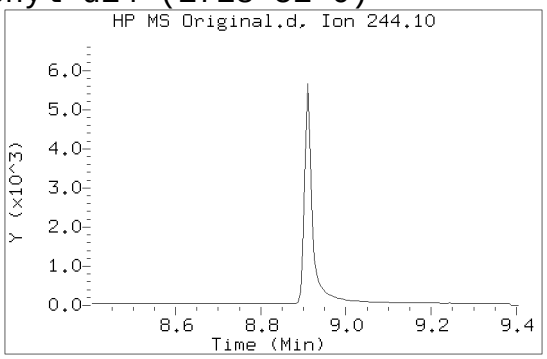
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

4-Terphenyl-d14 (1718-51-0)

Reason Code:

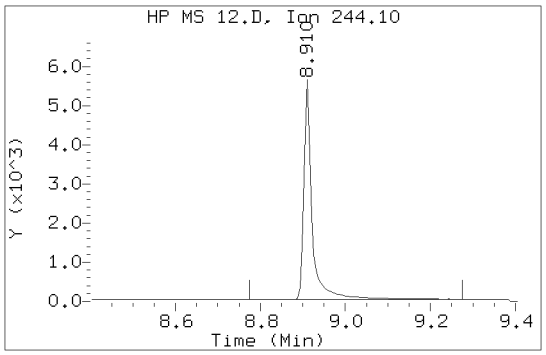
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



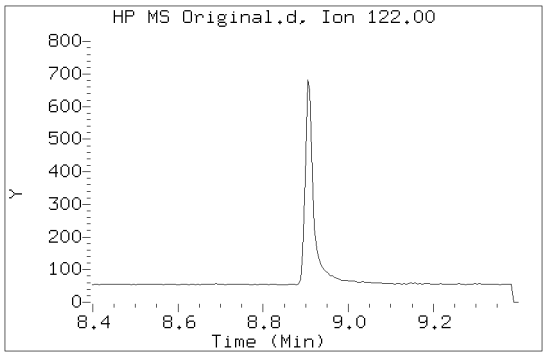
AFTER

MASS
244.1
AREA
7529
HEIGHT
5616
29-Jun-2023
15:48



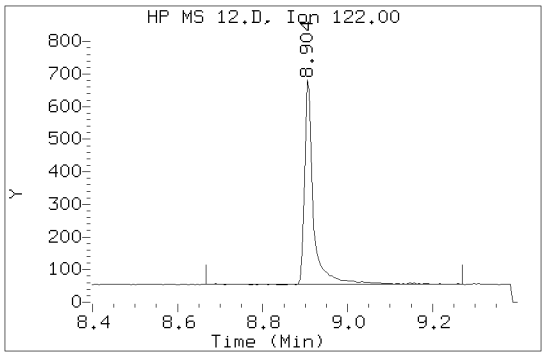
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



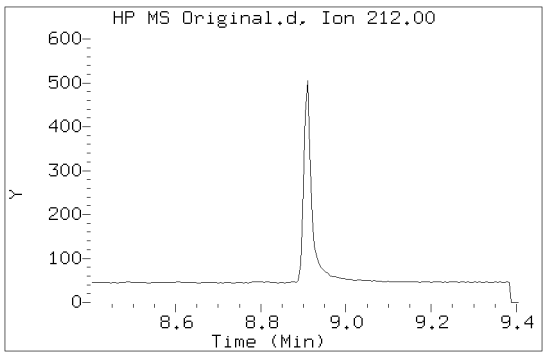
AFTER

MASS
122
AREA
918
HEIGHT
627
29-Jun-2023
15:48



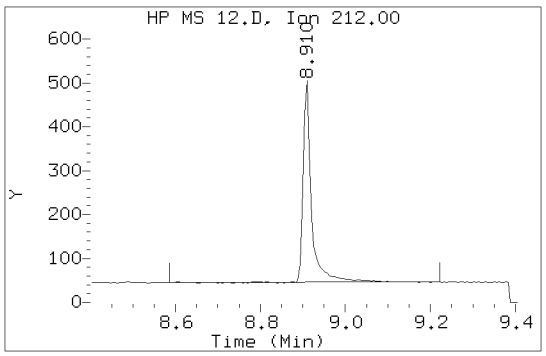
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
212
AREA
625
HEIGHT
459
29-Jun-2023
15:48

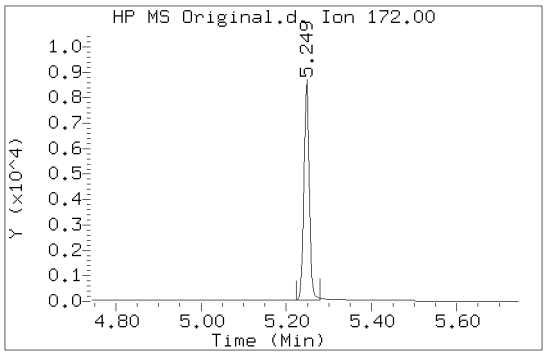


2-Fluorobiphenyl (321-60-8)

Reason Code:

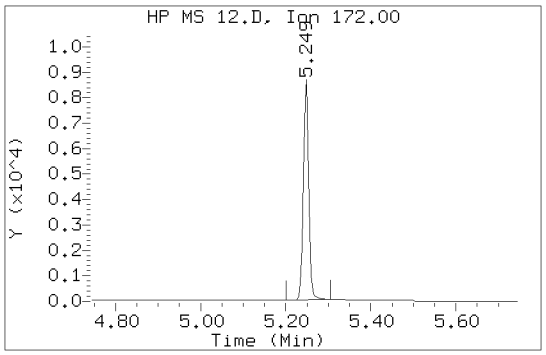
BEFORE

MASS
172
AREA
7733
HEIGHT
8663
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
172
AREA
7708
HEIGHT
8650
29-Jun-2023
15:48



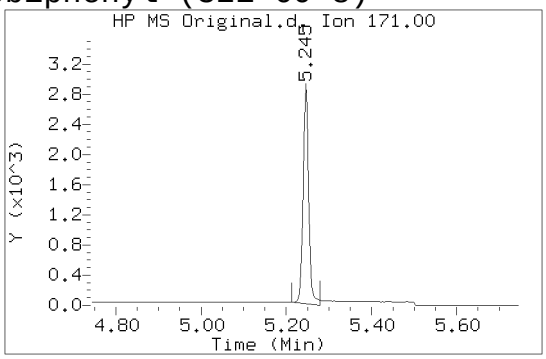
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\12.D
Inj Date : 16-JUN-2023 14:15
InstruID : SV6.i
LabSampID : 14DXICAL-0.1

2-Fluorobiphenyl (321-60-8)

Reason Code:

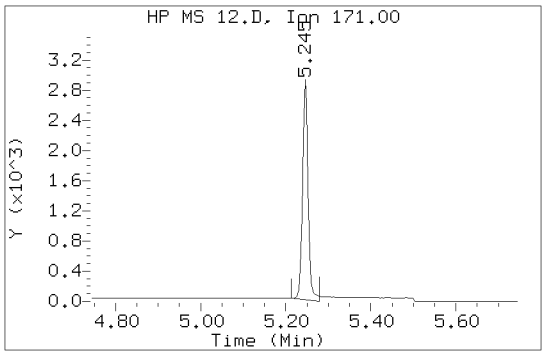
BEFORE

MASS
171
AREA
2685
HEIGHT
2917
16-Jun-2023
14:59
jiayi
lu



AFTER

MASS
171
AREA
2685
HEIGHT
2917
29-Jun-2023
15:48



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Lab Smp Id: 14DXICAL-0.5 Client Smp ID: 14DXICAL-0.5
Inj Date : 16-JUN-2023 14:51
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.5
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 12:38 Cal File: 09.D
Als bottle: 14 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.122	3.122	(1.000)	4165	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	13989	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.579	3.579	(0.848)	19311	0.50000	0.4566(AM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	8414	0.10000	
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	39708	0.50000	0.4608(AM)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	16472	0.10000	(M)
* 182 Chrysene-d12	240	10.017	10.017	(1.000)	10483	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.889)	39805	0.50000	0.5203(AM)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	8460	0.10000	(M)
1 1,4-Dioxane	58	1.452	1.452	(0.465)	6496	0.50000	0.4630(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

M - Compound response manually integrated.

01194778

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D

Date : 16-JUN-2023 14:51

Client ID: 14DXICAL-0.5

Instrument: SV6.i

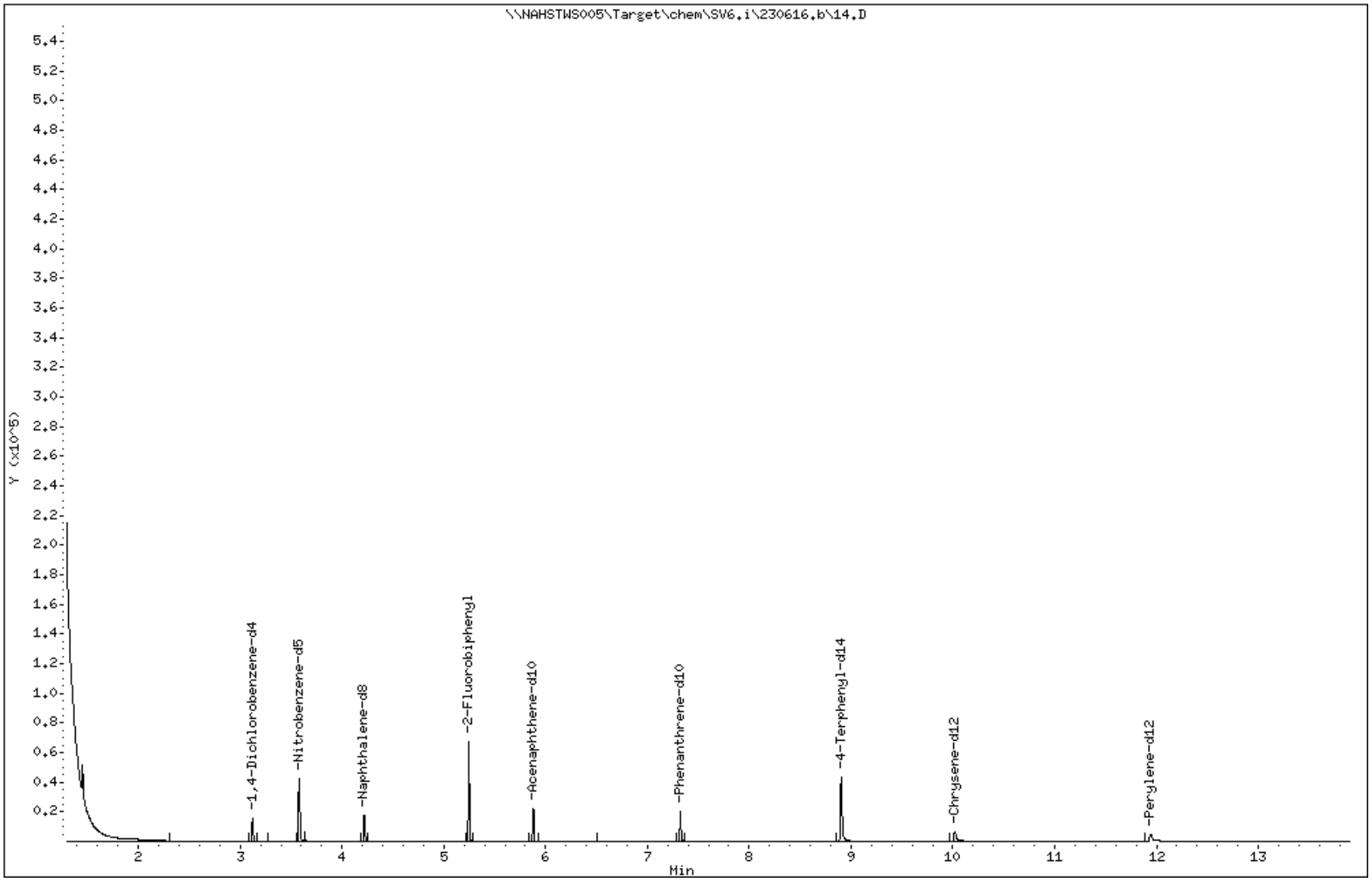
Sample Info: 14DXICAL-0.5

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



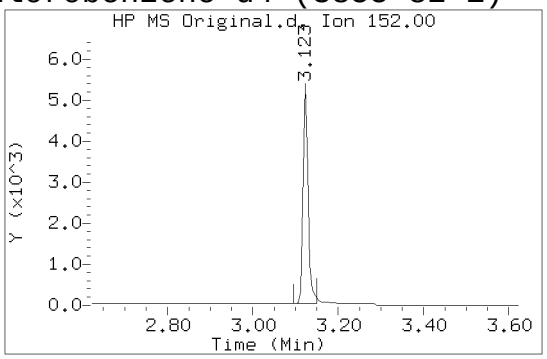
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

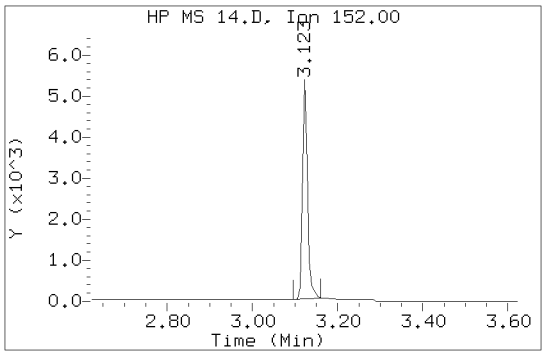
BEFORE

MASS
152
AREA
4211
HEIGHT
5358
16-Jun-2023
15:06
ALSHS
Server



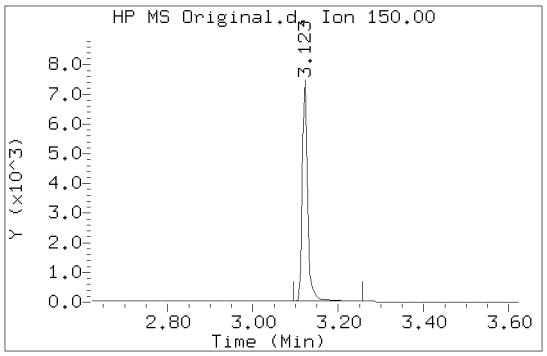
AFTER

MASS
152
AREA
4165
HEIGHT
5341
29-Jun-2023
14:27
ALSHS
Ser



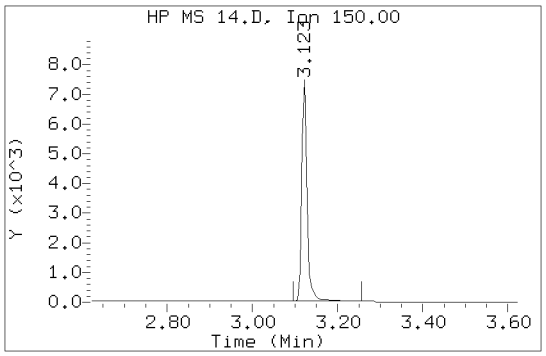
BEFORE

MASS
150
AREA
6228
HEIGHT
7441
16-Jun-2023
15:06
ALSHS
Server



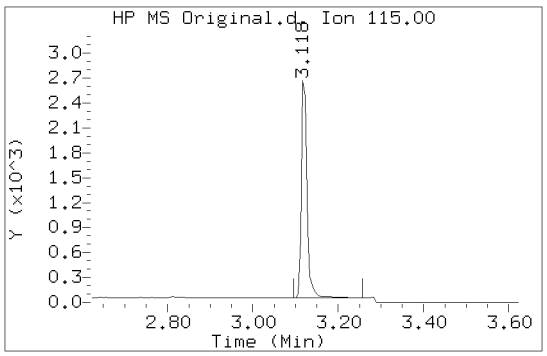
AFTER

MASS
150
AREA
6228
HEIGHT
7441
29-Jun-2023
14:27
ALSHS
Ser



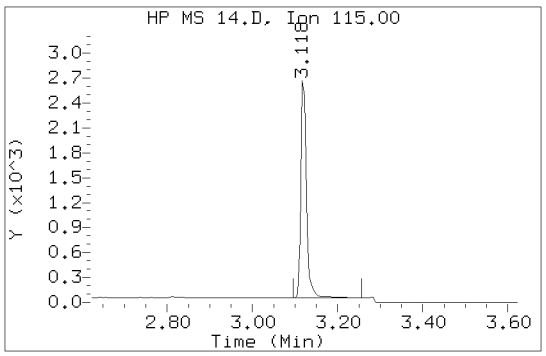
BEFORE

MASS
115
AREA
2367
HEIGHT
2615
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
115
AREA
2367
HEIGHT
2615
29-Jun-2023
14:27
ALSHS
Ser

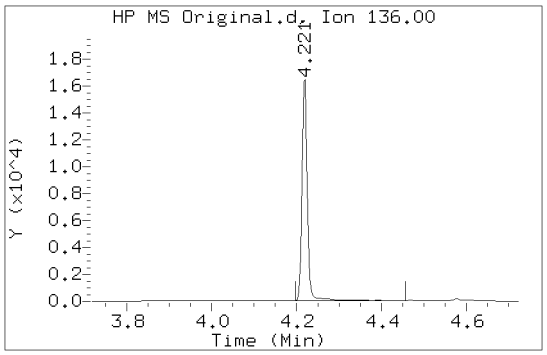


Naphthalene-d8 (1146-65-2)

Reason Code:

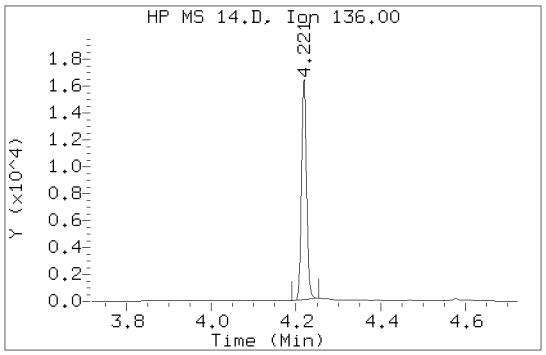
BEFORE

MASS
136
AREA
14856
HEIGHT
16448
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
136
AREA
13989
HEIGHT
16349
29-Jun-2023
14:27
ALSHS
Ser



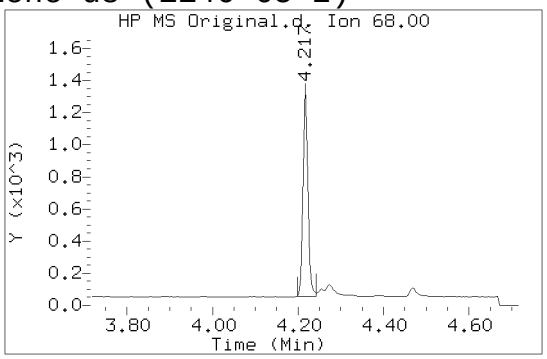
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

Naphthalene-d8 (1146-65-2)

Reason Code:

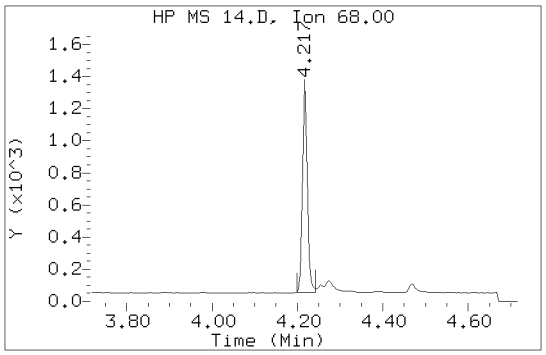
BEFORE

MASS
68
AREA
1074
HEIGHT
1326
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
68
AREA
1074
HEIGHT
1326
29-Jun-2023
14:27
ALSHS
Ser

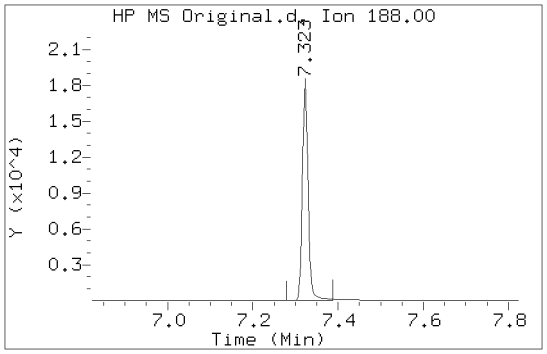


Phenanthrene-d10 (1517-22-2)

Reason Code:

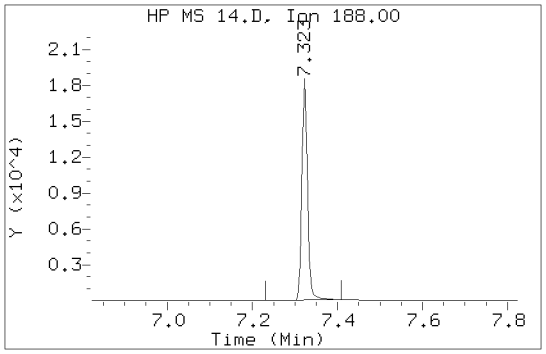
BEFORE

MASS
188
AREA
16664
HEIGHT
18523
16-Jun-2023
15:06
ALSHS
Server



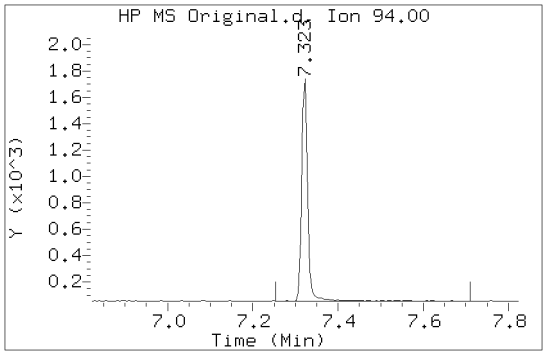
AFTER

MASS
188
AREA
16472
HEIGHT
18498
29-Jun-2023
14:27
ALSHS
Ser



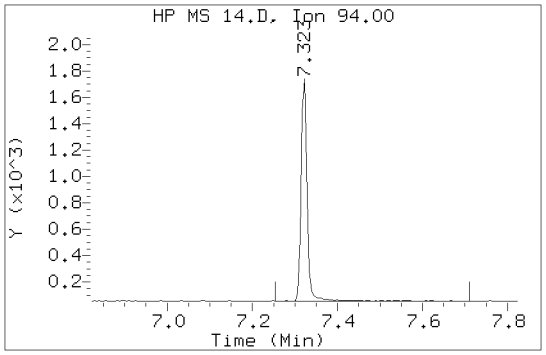
BEFORE

MASS
94
AREA
1634
HEIGHT
1685
16-Jun-2023
15:06
ALSHS
Server



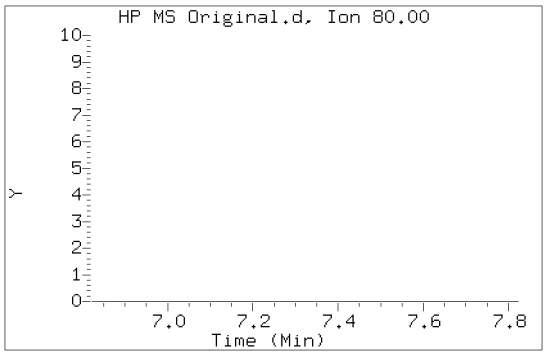
AFTER

MASS
94
AREA
1634
HEIGHT
1685
29-Jun-2023
14:27
ALSHS
Ser



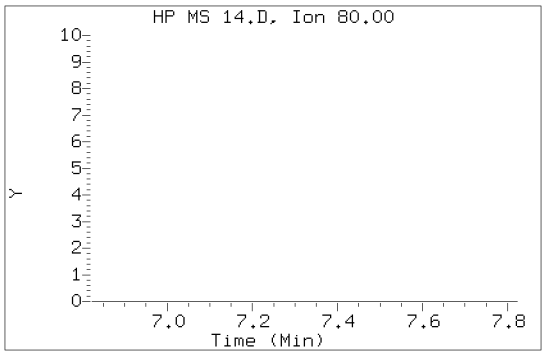
BEFORE

MASS
80
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
80
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



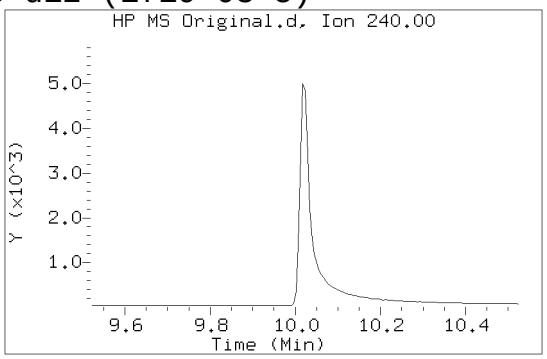
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

Chrysene-d12 (1719-03-5)

Reason Code:

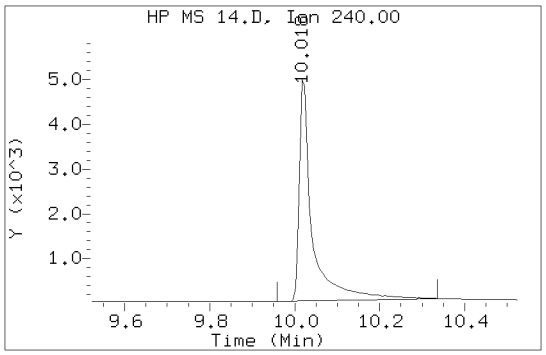
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



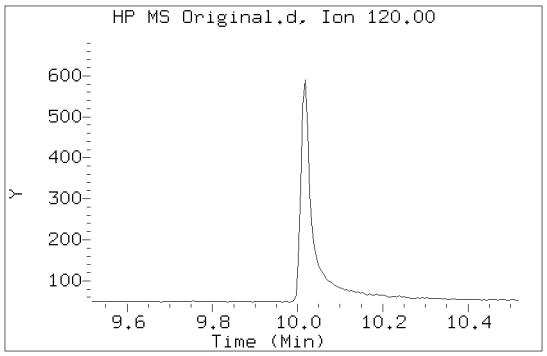
AFTER

MASS
240
AREA
10483
HEIGHT
4943
29-Jun-2023
14:27
ALSHS
Ser



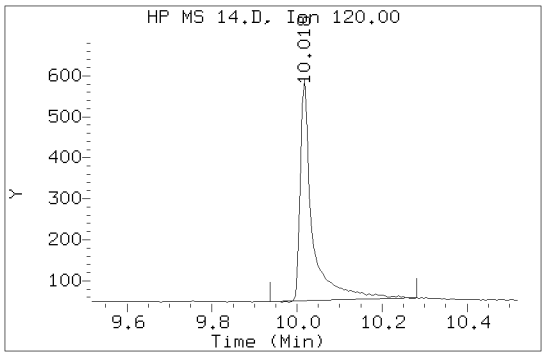
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



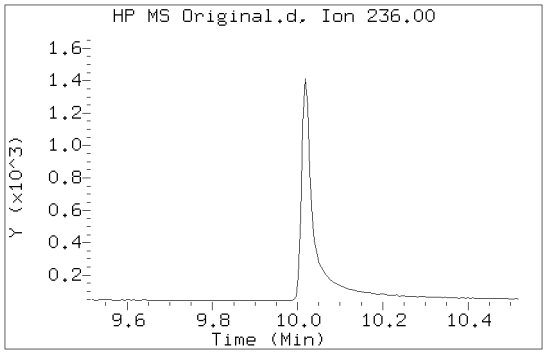
AFTER

MASS
120
AREA
1068
HEIGHT
538
29-Jun-2023
14:27
ALSHS
Ser



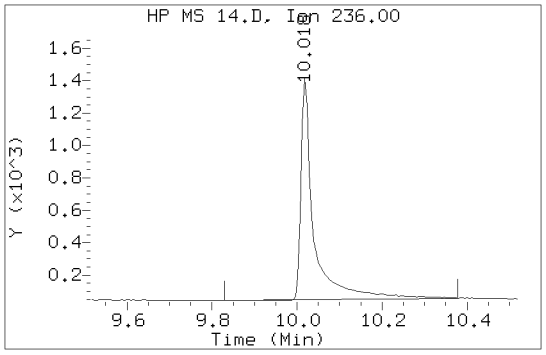
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
236
AREA
2872
HEIGHT
1362
29-Jun-2023
14:27
ALSHS
Ser

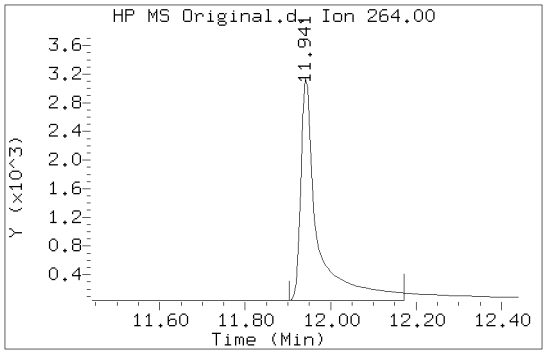


Perylene-d12 (1520-96-3)

Reason Code:

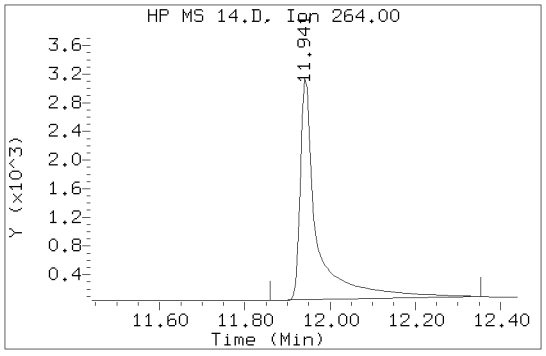
BEFORE

MASS
264
AREA
8406
HEIGHT
3088
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
264
AREA
8460
HEIGHT
3081
29-Jun-2023
14:27
ALSHS
Ser



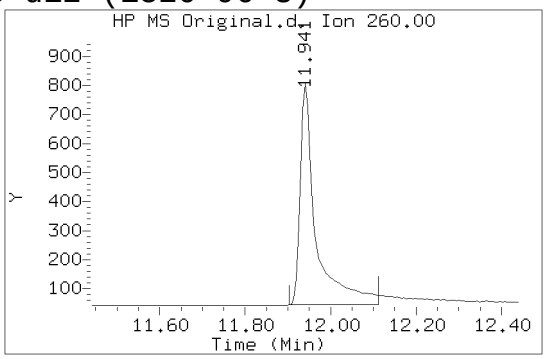
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

Perylene-d12 (1520-96-3)

Reason Code:

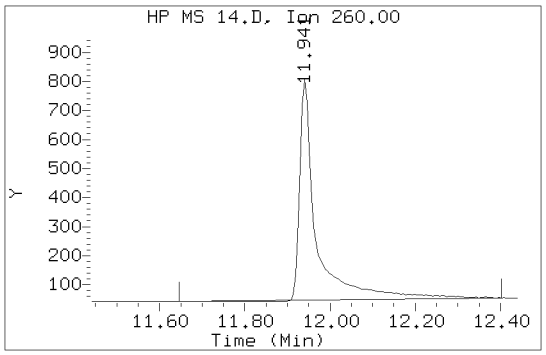
BEFORE

MASS
260
AREA
1950
HEIGHT
761
16-Jun-2023
15:06
ALSHS
Server



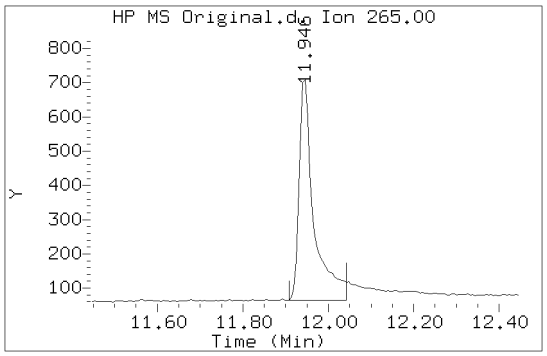
AFTER

MASS
260
AREA
2034
HEIGHT
757
29-Jun-2023
14:27
ALSHS
Ser



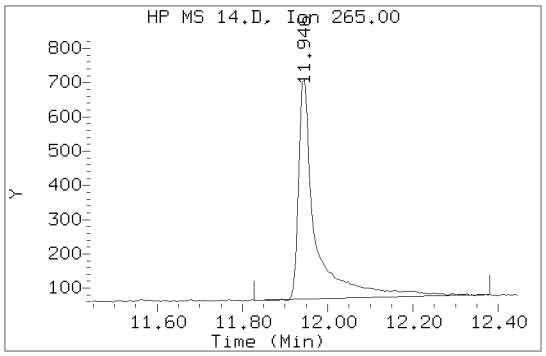
BEFORE

MASS
265
AREA
1539
HEIGHT
643
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
265
AREA
1765
HEIGHT
639
29-Jun-2023
14:27
ALSHS
Ser

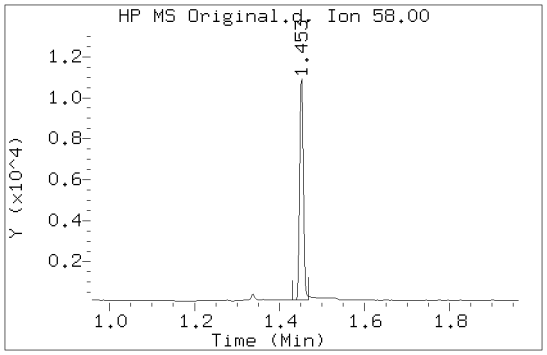


1,4-Dioxane ()

Reason Code:

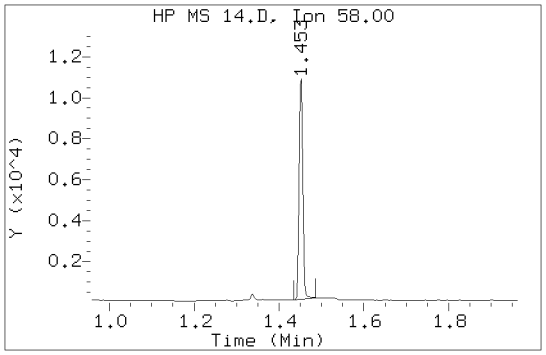
BEFORE

MASS
58
AREA
6535
HEIGHT
10789
16-Jun-2023
15:06
ALSHS
Server



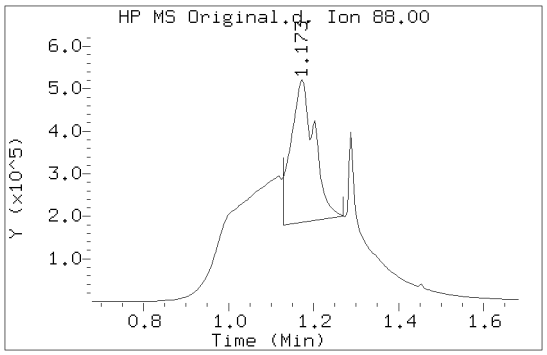
AFTER

MASS
58
AREA
6496
HEIGHT
10751
29-Jun-2023
14:27
ALSHS
Ser



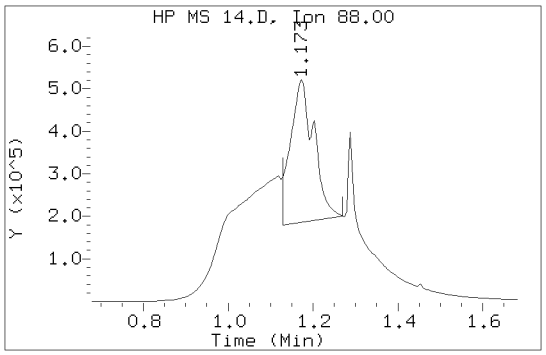
BEFORE

MASS
88
AREA
1285756
HEIGHT
334955
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
88
AREA
1285756
HEIGHT
334955
29-Jun-2023
14:27
ALSHS
Ser



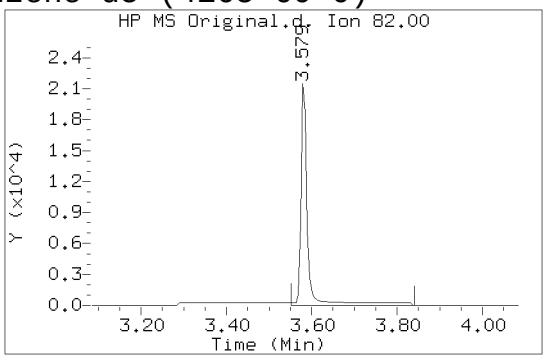
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

Nitrobenzene-d5 (4165-60-0)

Reason Code:

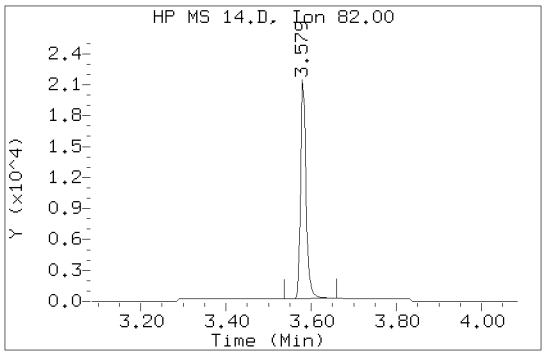
BEFORE

MASS
82
AREA
23560
HEIGHT
21488
16-Jun-2023
15:06
ALSHS
Server



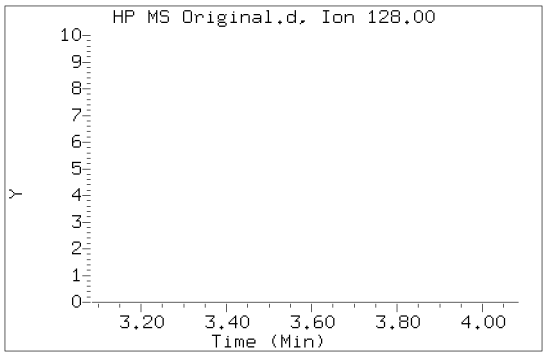
AFTER

MASS
82
AREA
19311
HEIGHT
21230
29-Jun-2023
14:27
ALSHS
Ser



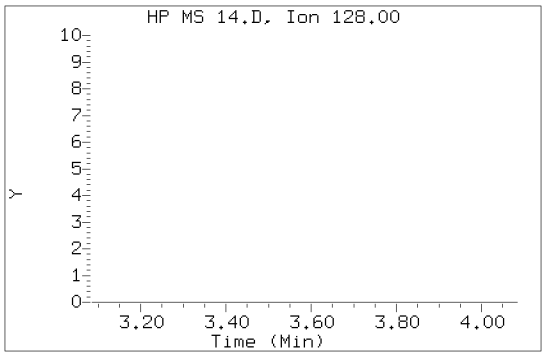
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



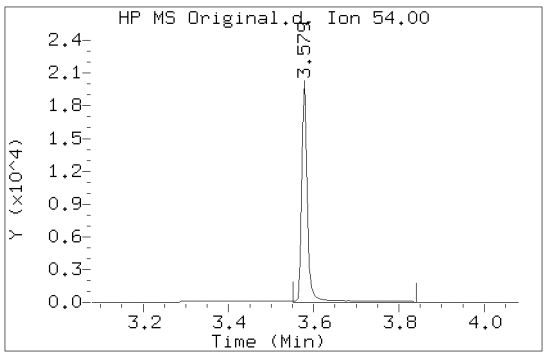
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



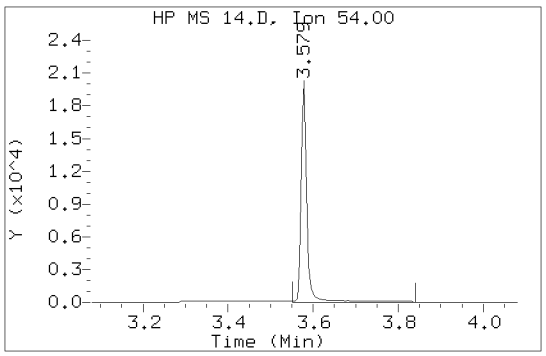
BEFORE

MASS
54
AREA
20065
HEIGHT
20304
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
54
AREA
20065
HEIGHT
20304
29-Jun-2023
14:27
ALSHS
Ser

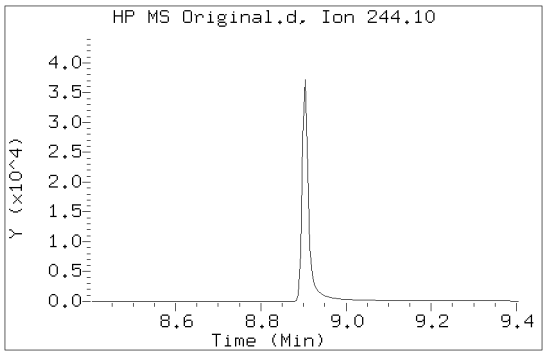


4-Terphenyl-d14 (1718-51-0)

Reason Code:

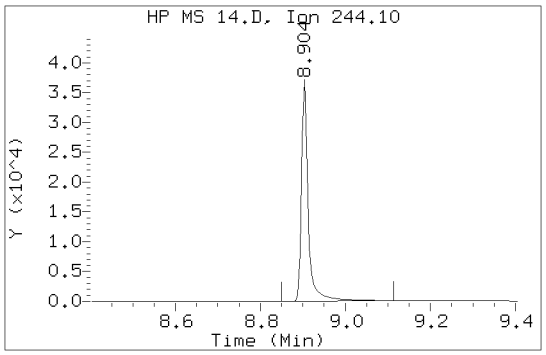
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
244.1
AREA
39805
HEIGHT
37107
29-Jun-2023
14:27
ALSHS
Ser



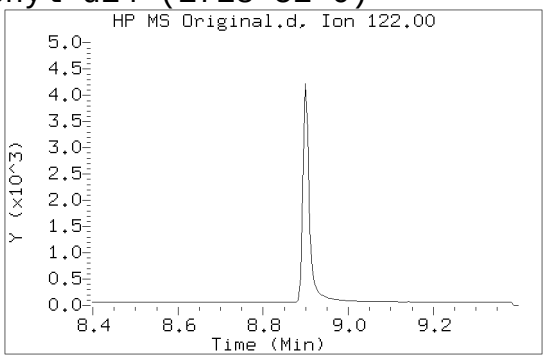
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\14.D
Inj Date : 16-JUN-2023 14:51
InstruID : SV6.i
LabSampID : 14DXICAL-0.5

4-Terphenyl-d14 (1718-51-0)

Reason Code:

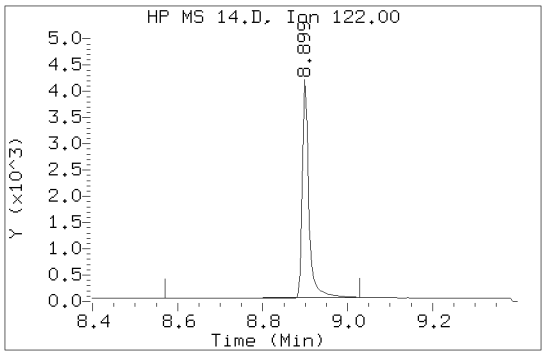
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



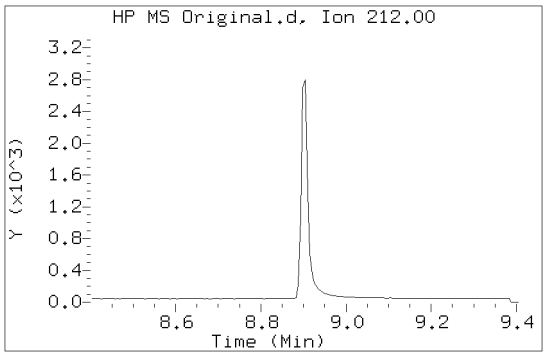
AFTER

MASS
122
AREA
4228
HEIGHT
4149
29-Jun-2023
14:27
ALSHS
Ser



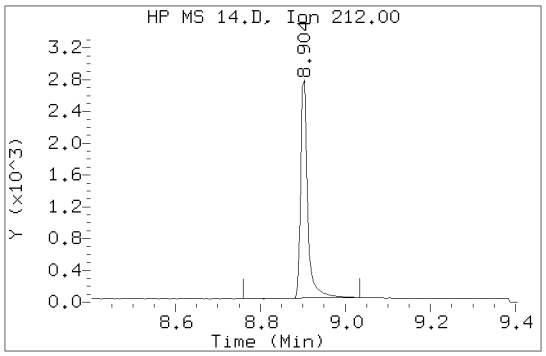
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
212
AREA
3105
HEIGHT
2745
29-Jun-2023
14:27
ALSHS
Ser

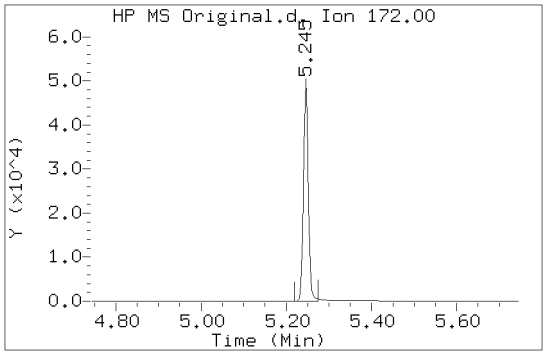


2-Fluorobiphenyl (321-60-8)

Reason Code:

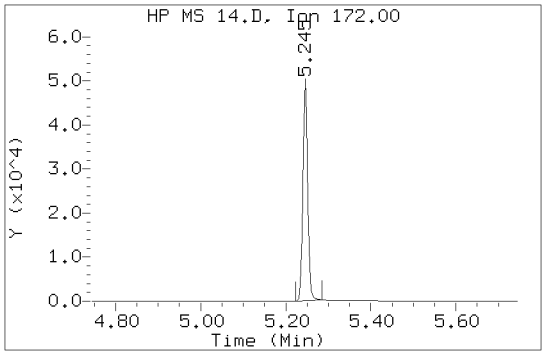
BEFORE

MASS
172
AREA
40002
HEIGHT
50410
16-Jun-2023
15:06
ALSHS
Server



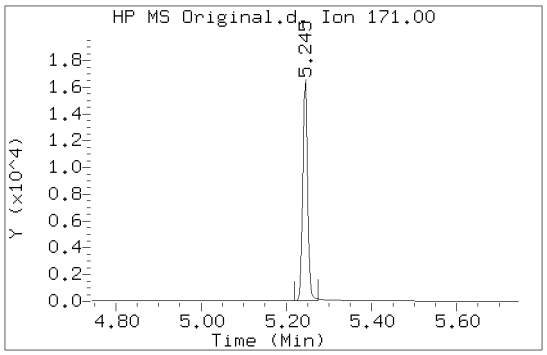
AFTER

MASS
172
AREA
39708
HEIGHT
50322
29-Jun-2023
14:27
ALSHS
Ser



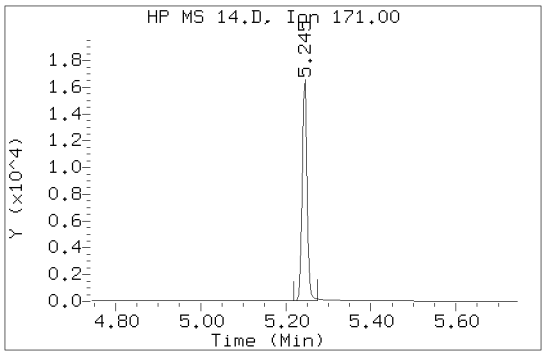
BEFORE

MASS
171
AREA
13389
HEIGHT
16514
16-Jun-2023
15:06
ALSHS
Server



AFTER

MASS
171
AREA
13389
HEIGHT
16514
29-Jun-2023
14:27
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Lab Smp Id: 14DXICAL-0.2 Client Smp ID: 14DXICAL-0.2
Inj Date : 16-JUN-2023 15:56
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICAL-0.2RR
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 14:51 Cal File: 14.D
Als bottle: 15 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.122	3.122	(1.000)	3731	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	12688	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	8839	0.20000	0.2304(AM)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	7256	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.245	5.245	(0.891)	18173	0.20000	0.2446(AM)
* 126 Phenanthrene-d10	188	7.322	7.322	(1.000)	14346	0.10000	
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	8796	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.904	8.904	(0.888)	17639	0.20000	0.2748(AM)
* 198 Perylene-d12	264	11.940	11.940	(1.000)	6565	0.10000	(M)
1 1,4-Dioxane	58	1.460	1.460	(0.468)	2996	0.20000	0.2384(Q)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

M - Compound response manually integrated.

01194787

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D

Date : 16-JUN-2023 15:56

Client ID: 14DXICAL-0.2

Instrument: SV6.i

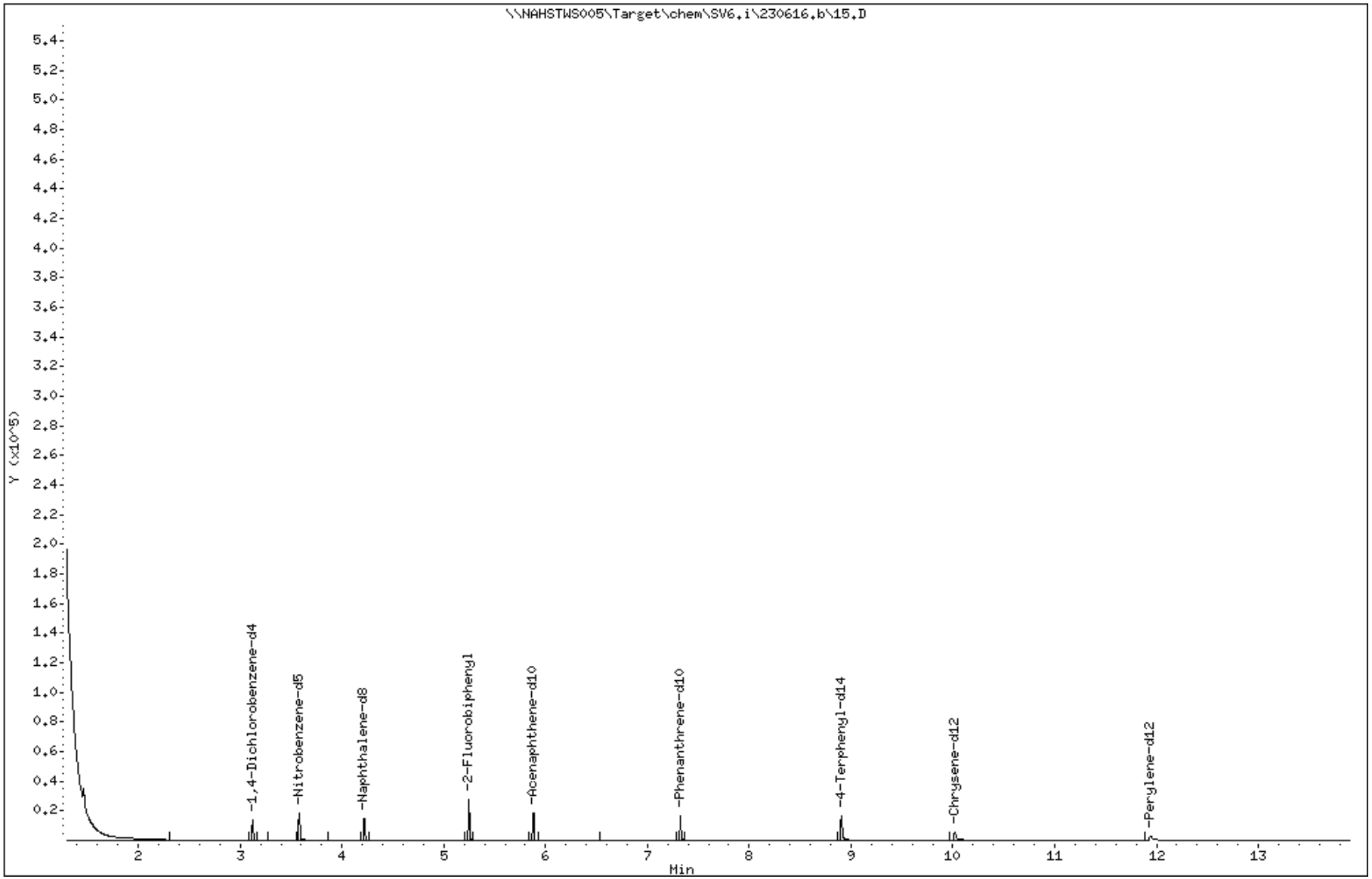
Sample Info: 14DXICAL-0.2RR

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



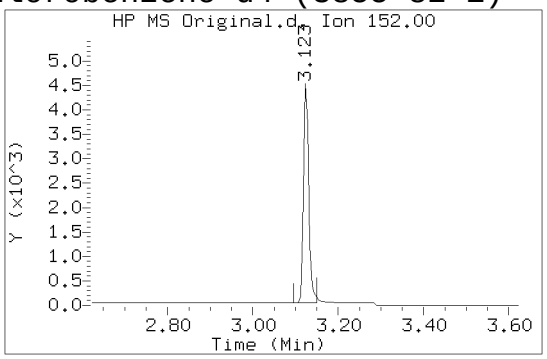
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

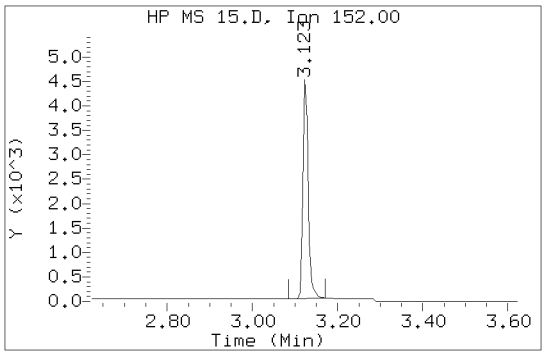
BEFORE

MASS
152
AREA
3749
HEIGHT
4489
16-Jun-2023
16:11
ALSHS
Server



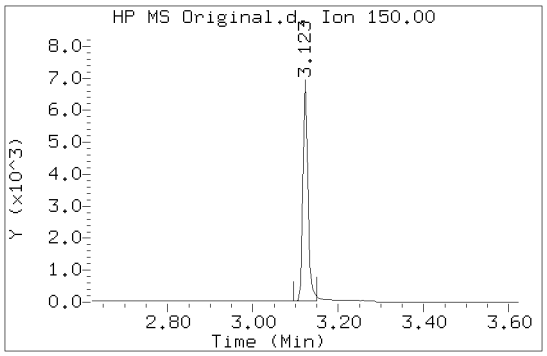
AFTER

MASS
152
AREA
3731
HEIGHT
4478
29-Jun-2023
14:27
ALSHS
Ser



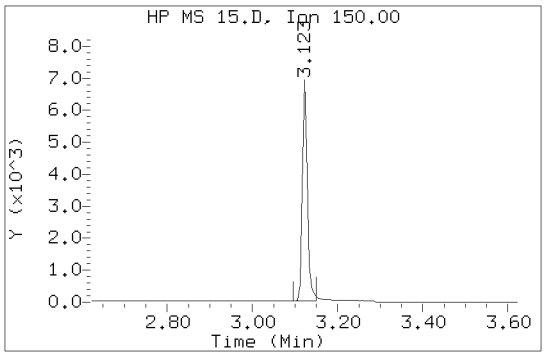
BEFORE

MASS
150
AREA
5426
HEIGHT
6903
16-Jun-2023
16:11
ALSHS
Server



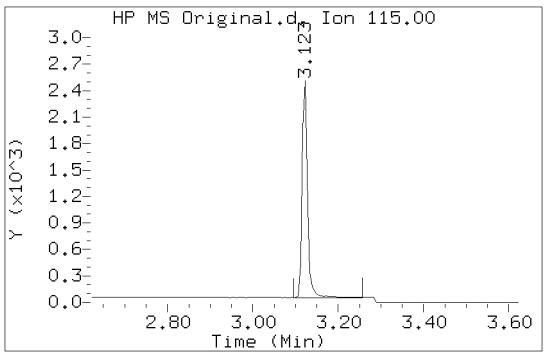
AFTER

MASS
150
AREA
5426
HEIGHT
6903
29-Jun-2023
14:27
ALSHS
Ser



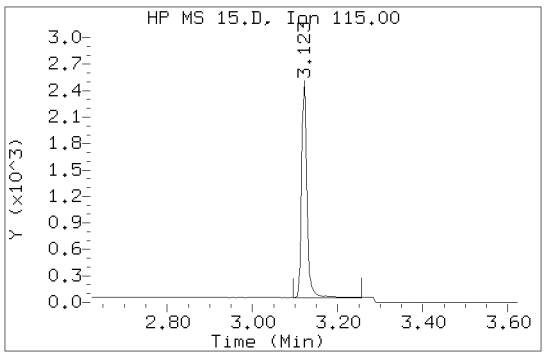
BEFORE

MASS
115
AREA
2094
HEIGHT
2459
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
115
AREA
2094
HEIGHT
2459
29-Jun-2023
14:27
ALSHS
Ser

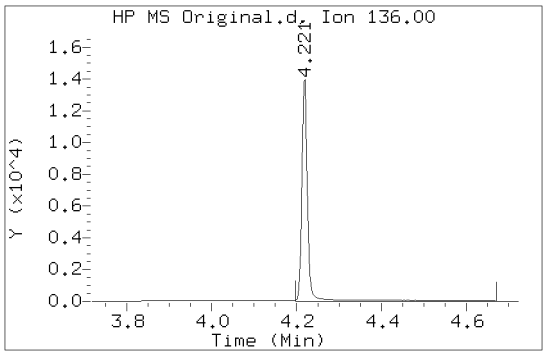


Naphthalene-d8 (1146-65-2)

Reason Code:

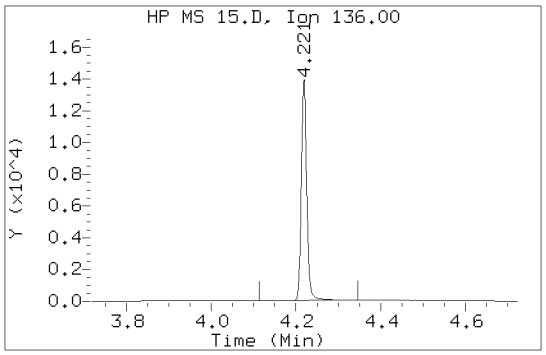
BEFORE

MASS
136
AREA
14465
HEIGHT
13959
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
136
AREA
12688
HEIGHT
13897
29-Jun-2023
14:27
ALSHS
Ser



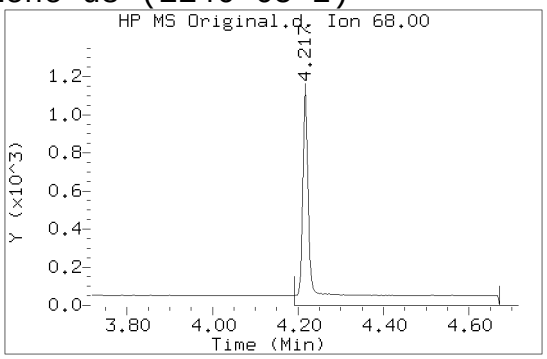
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

Naphthalene-d8 (1146-65-2)

Reason Code:

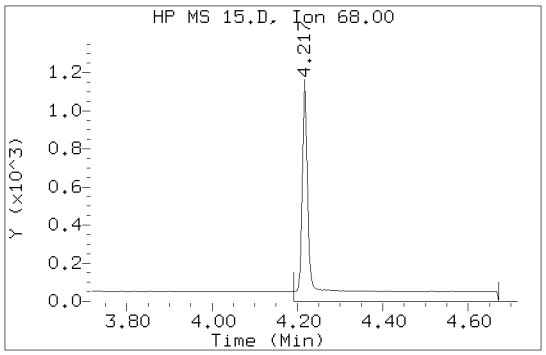
BEFORE

MASS
68
AREA
2461
HEIGHT
1163
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
68
AREA
2461
HEIGHT
1163
29-Jun-2023
14:27
ALSHS
Ser

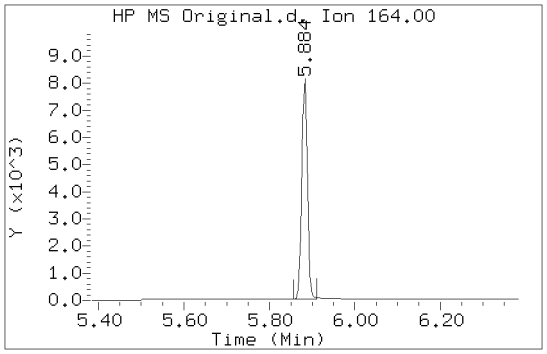


Acenaphthene-d10 (15067-26-2)

Reason Code:

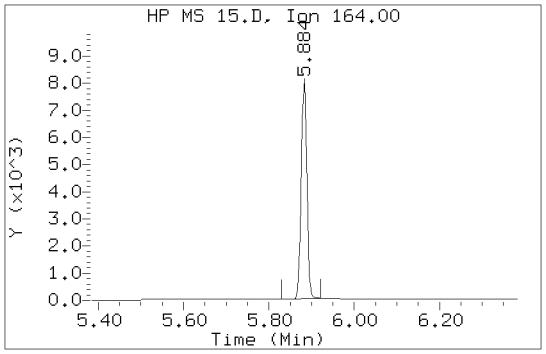
BEFORE

MASS
164
AREA
7305
HEIGHT
8114
16-Jun-2023
16:11
ALSHS
Server



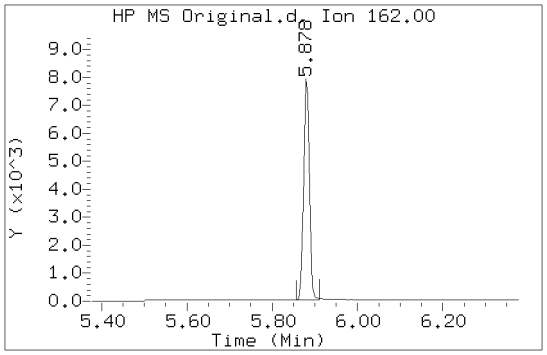
AFTER

MASS
164
AREA
7256
HEIGHT
8100
29-Jun-2023
14:27
ALSHS
Ser



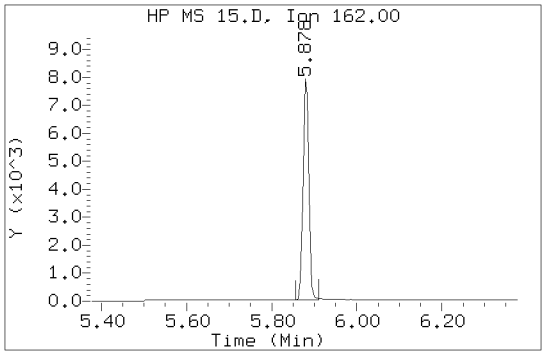
BEFORE

MASS
162
AREA
7389
HEIGHT
7893
16-Jun-2023
16:11
ALSHS
Server



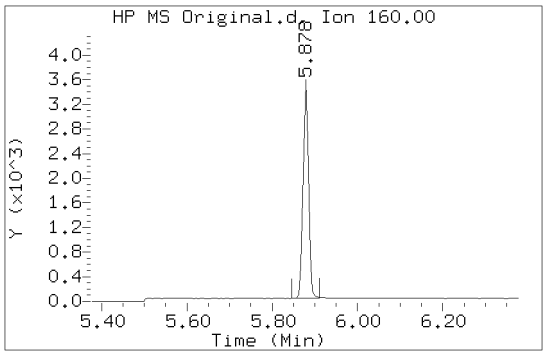
AFTER

MASS
162
AREA
7389
HEIGHT
7893
29-Jun-2023
14:27
ALSHS
Ser



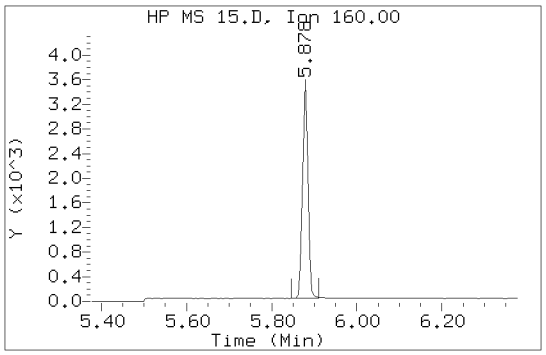
BEFORE

MASS
160
AREA
3110
HEIGHT
3554
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
160
AREA
3110
HEIGHT
3554
29-Jun-2023
14:27
ALSHS
Ser

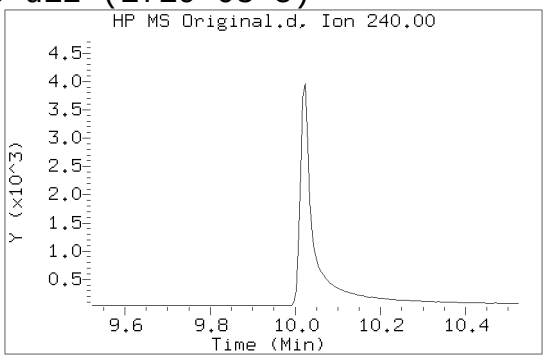


Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

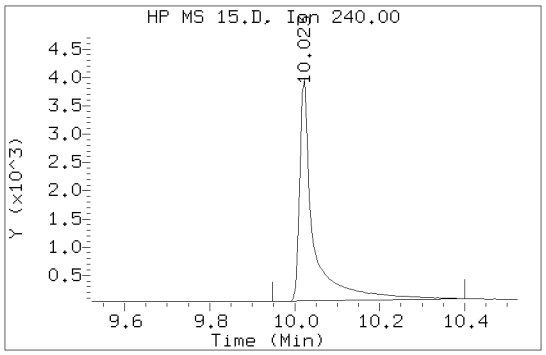
Chrysene-d12 (1719-03-5)

Reason Code:

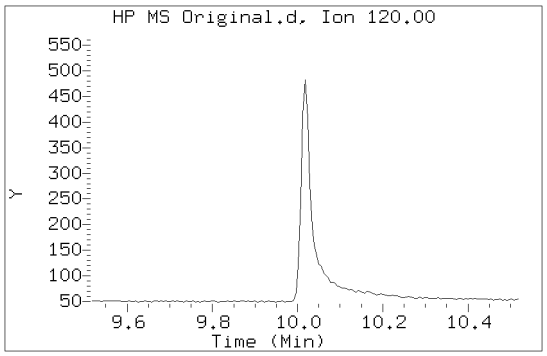
BEFORE
MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



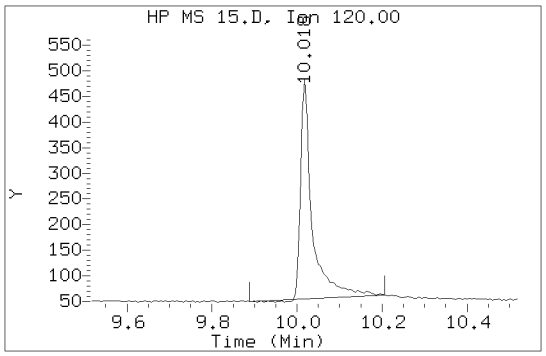
AFTER
MASS
240
AREA
8796
HEIGHT
3907
29-Jun-2023
14:27
ALSHS
Ser



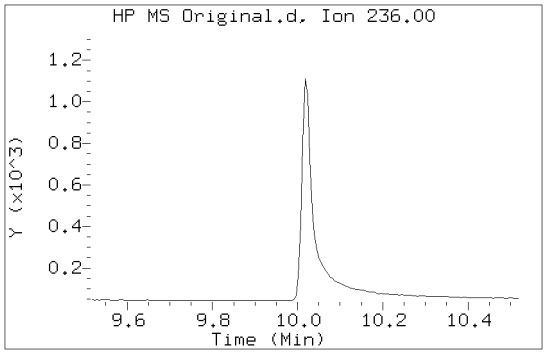
BEFORE
MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



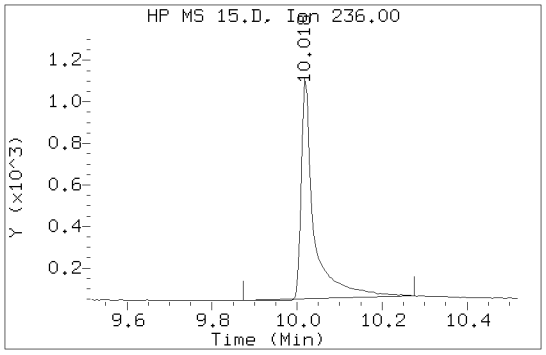
AFTER
MASS
120
AREA
798
HEIGHT
426
29-Jun-2023
14:27
ALSHS
Ser



BEFORE
MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



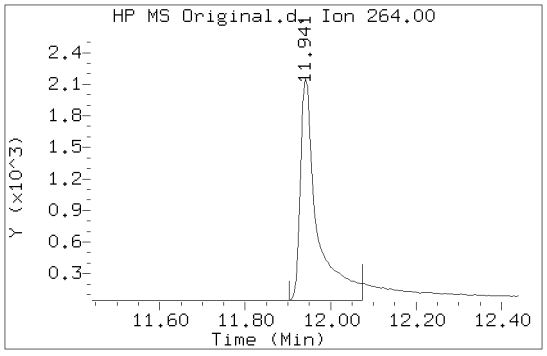
AFTER
MASS
236
AREA
2198
HEIGHT
1058
29-Jun-2023
14:27
ALSHS
Ser



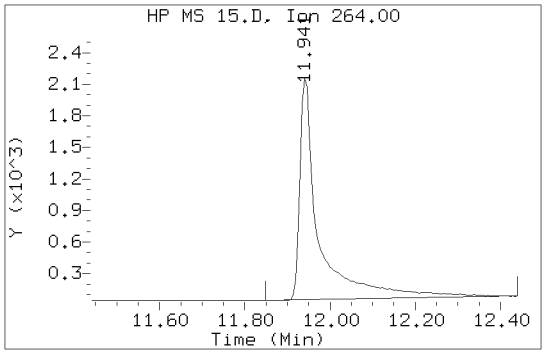
Perylene-d12 (1520-96-3)

Reason Code:

BEFORE
MASS
264
AREA
5713
HEIGHT
2106
16-Jun-2023
16:11
ALSHS
Server



AFTER
MASS
264
AREA
6565
HEIGHT
2100
29-Jun-2023
14:27
ALSHS
Ser



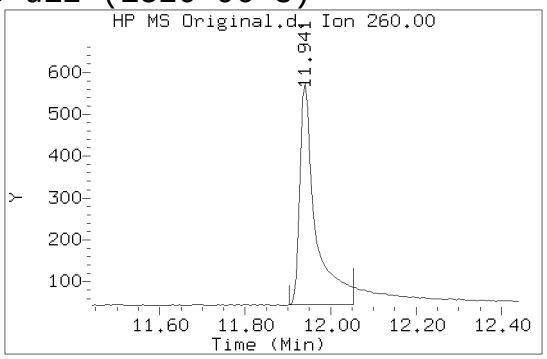
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

Perylene-d12 (1520-96-3)

Reason Code:

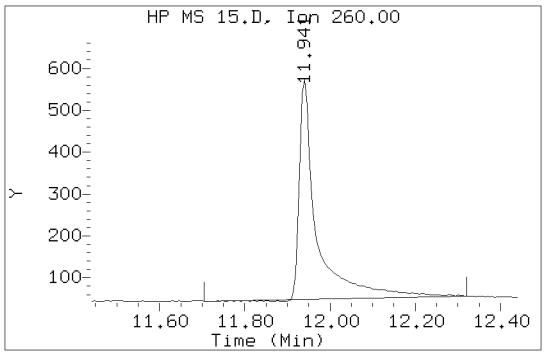
BEFORE

MASS
260
AREA
1348
HEIGHT
528
16-Jun-2023
16:11
ALSHS
Server



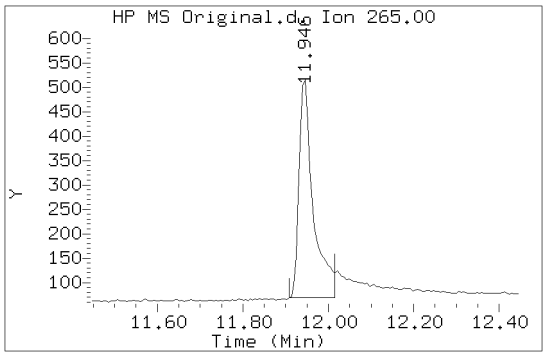
AFTER

MASS
260
AREA
1491
HEIGHT
524
29-Jun-2023
14:27
ALSHS
Ser



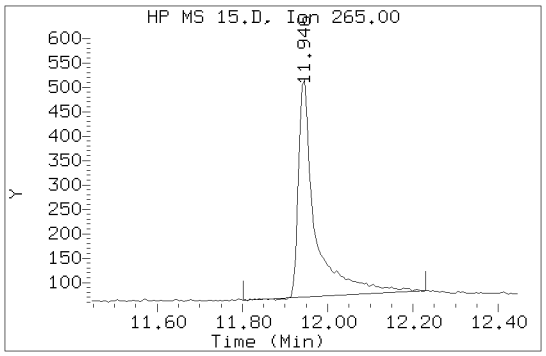
BEFORE

MASS
265
AREA
1037
HEIGHT
446
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
265
AREA
1210
HEIGHT
444
29-Jun-2023
14:27
ALSHS
Ser

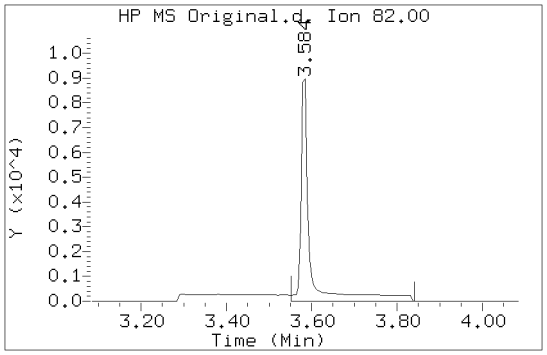


Nitrobenzene-d5 (4165-60-0)

Reason Code:

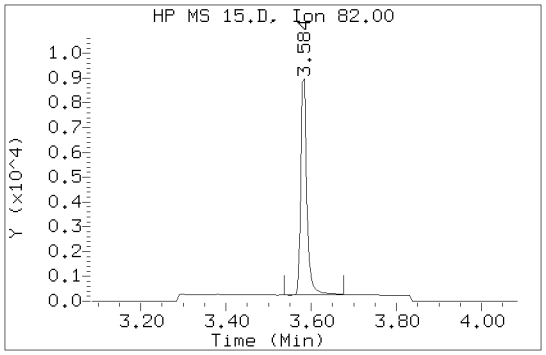
BEFORE

MASS
82
AREA
13113
HEIGHT
8968
16-Jun-2023
16:11
ALSHS
Server



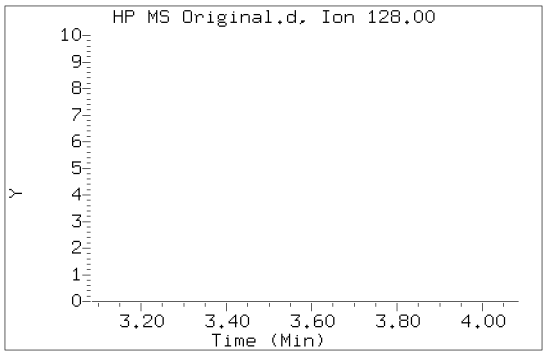
AFTER

MASS
82
AREA
8839
HEIGHT
8709
29-Jun-2023
14:27
ALSHS
Ser



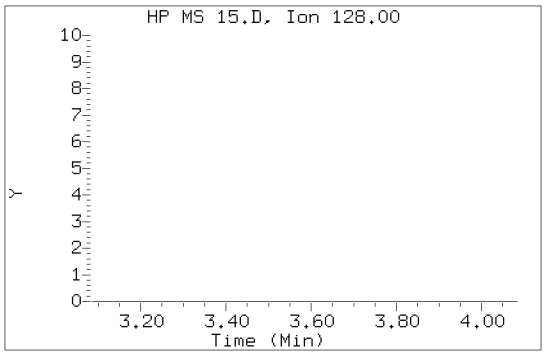
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



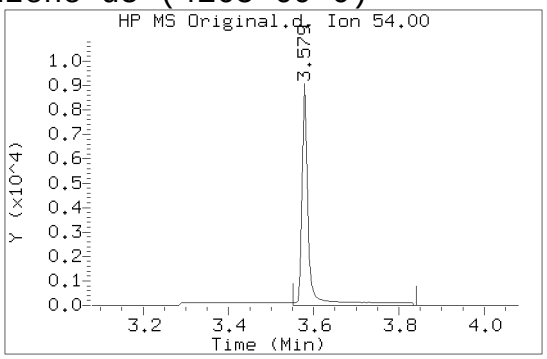
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

Nitrobenzene-d5 (4165-60-0)

Reason Code:

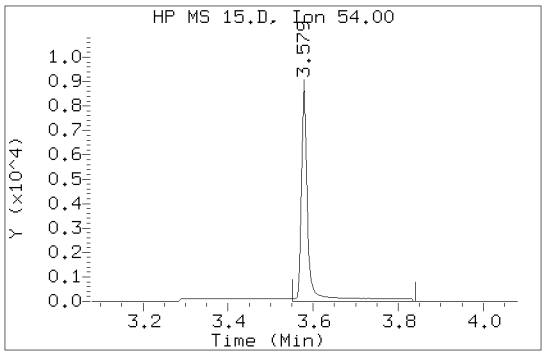
BEFORE

MASS
54
AREA
10106
HEIGHT
9078
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
54
AREA
10106
HEIGHT
9078
29-Jun-2023
14:27
ALSHS
Ser

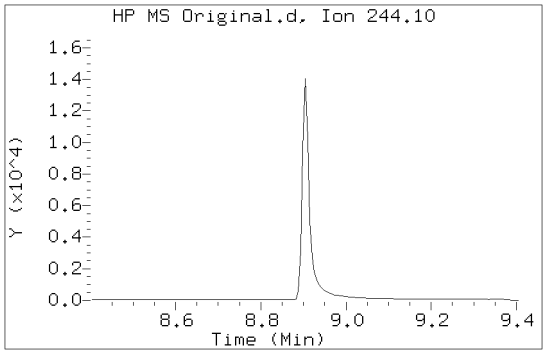


4-Terphenyl-d14 (1718-51-0)

Reason Code:

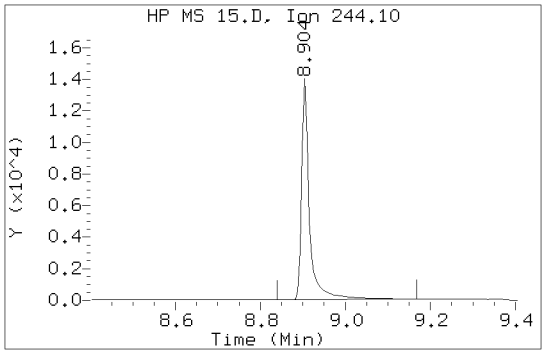
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



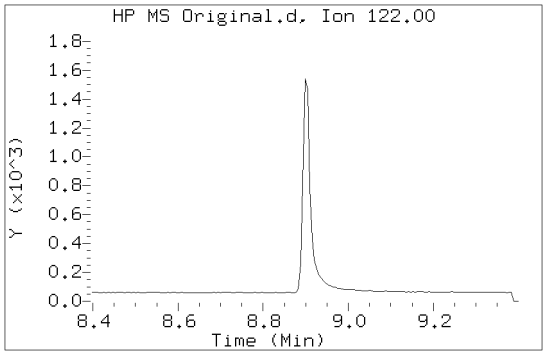
AFTER

MASS
244.1
AREA
17639
HEIGHT
13989
29-Jun-2023
14:27
ALSHS
Ser



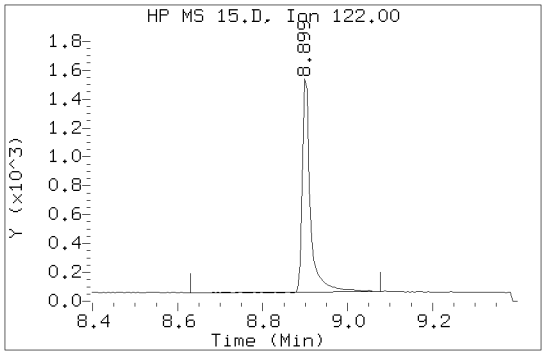
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



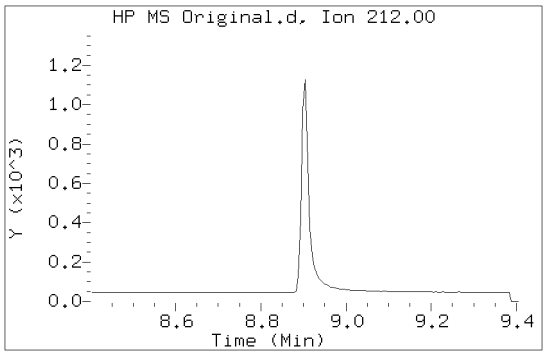
AFTER

MASS
122
AREA
1896
HEIGHT
1474
29-Jun-2023
14:27
ALSHS
Ser



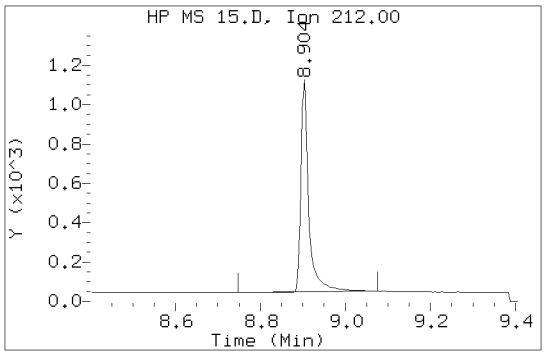
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
212
AREA
1371
HEIGHT
1079
29-Jun-2023
14:27
ALSHS
Ser



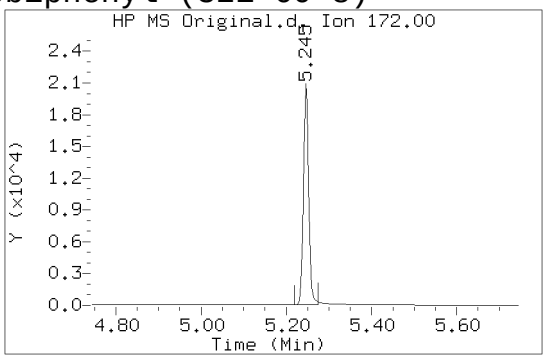
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\15.D
Inj Date : 16-JUN-2023 15:56
InstruID : SV6.i
LabSampID : 14DXICAL-0.2

2-Fluorobiphenyl (321-60-8)

Reason Code:

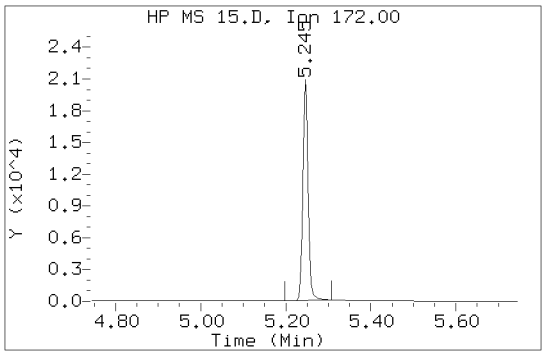
BEFORE

MASS
172
AREA
18197
HEIGHT
20880
16-Jun-2023
16:11
ALSHS
Server



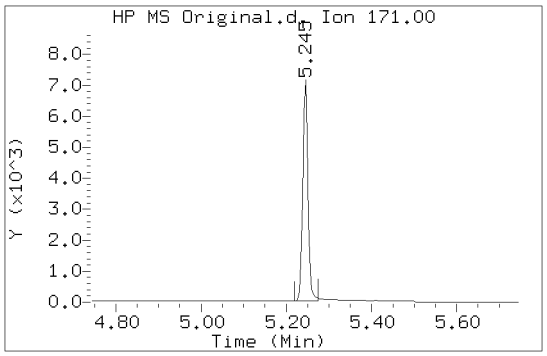
AFTER

MASS
172
AREA
18173
HEIGHT
20843
29-Jun-2023
14:27
ALSHS
Ser



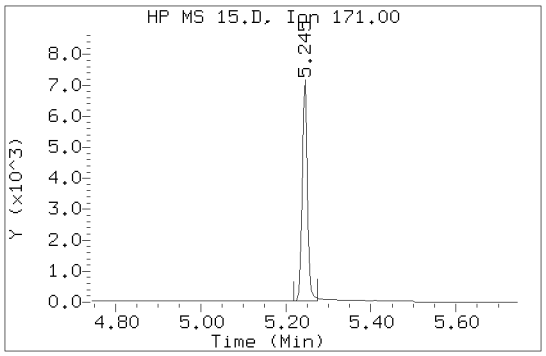
BEFORE

MASS
171
AREA
6120
HEIGHT
7129
16-Jun-2023
16:11
ALSHS
Server



AFTER

MASS
171
AREA
6120
HEIGHT
7129
29-Jun-2023
14:27
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Lab Smp Id: 14DXICV-0.08 Client Smp ID: 14DXICV-0.08
Inj Date : 16-JUN-2023 16:22
Operator : LG Inst ID: SV6.i
Smp Info : 14DXICV-0.08
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230616.b\DXSIM.m
Meth Date : 29-Jun-2023 14:27 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 16 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.128	3.122	(1.000)	5295	0.10000	(aM)
* 45 Naphthalene-d8	136	4.220	4.220	(1.000)	17725	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.584	3.584	(0.849)	3797	0.07086	0.07086(M)
* 86 Acenaphthene-d10	164	5.883	5.883	(1.000)	10379	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.248	5.245	(0.892)	8542	0.08036	0.08036(M)
* 126 Phenanthrene-d10	188	7.328	7.322	(1.000)	20505	0.10000	(M)
* 182 Chrysene-d12	240	10.023	10.023	(1.000)	12662	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.909	8.904	(0.889)	7743	0.08379	0.08379(M)
* 198 Perylene-d12	264	11.945	11.940	(1.000)	10635	0.10000	(M)
1 1,4-Dioxane	58	1.464	1.460	(0.468)	1261	0.07070	0.07070(M)

QC Flag Legend

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

01194795

Data File: \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D

Date : 16-JUN-2023 16:22

Client ID: 14DXICV-0.08

Instrument: SV6.i

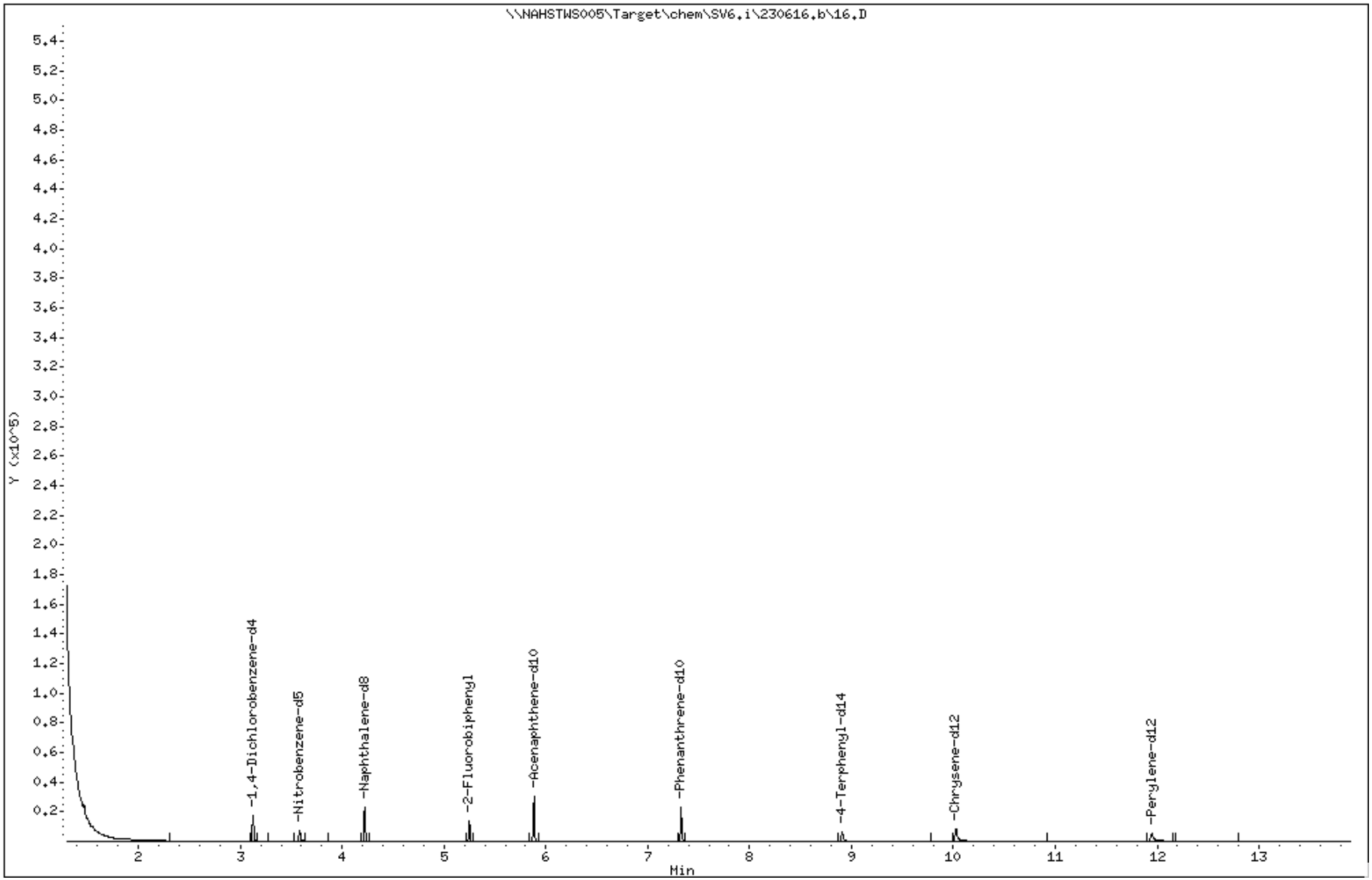
Sample Info: 14DXICV-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



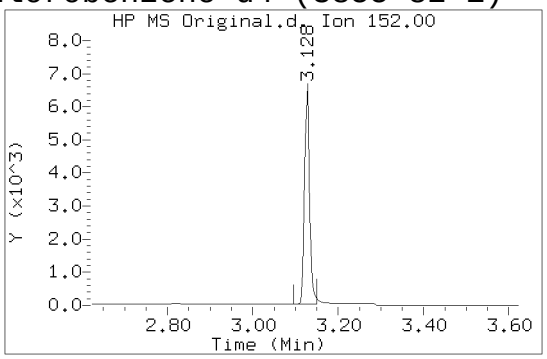
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

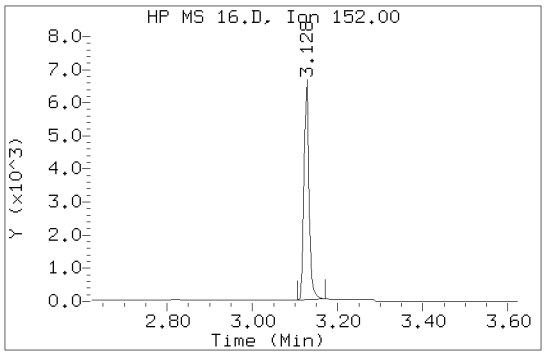
BEFORE

MASS
152
AREA
5292
HEIGHT
6650
16-Jun-2023
16:37
ALSHS
Server



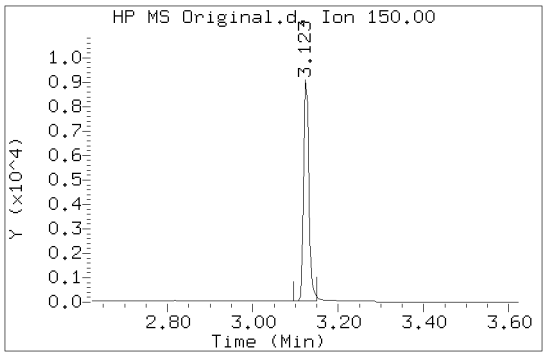
AFTER

MASS
152
AREA
5295
HEIGHT
6641
29-Jun-2023
14:27
ALSHS
Ser



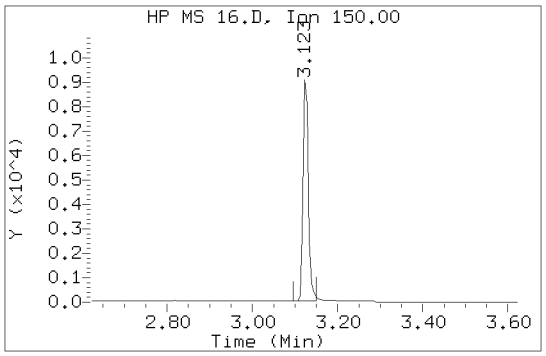
BEFORE

MASS
150
AREA
7668
HEIGHT
9050
16-Jun-2023
16:37
ALSHS
Server



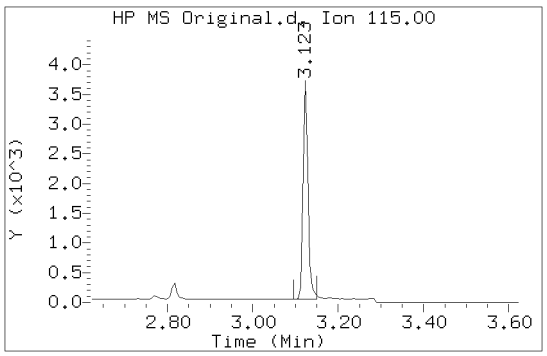
AFTER

MASS
150
AREA
7668
HEIGHT
9050
29-Jun-2023
14:27
ALSHS
Ser



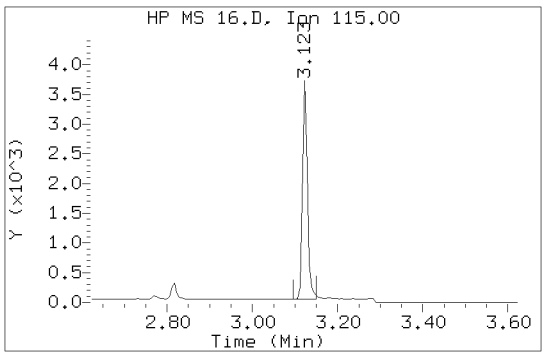
BEFORE

MASS
115
AREA
2824
HEIGHT
3676
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
115
AREA
2824
HEIGHT
3676
29-Jun-2023
14:27
ALSHS
Ser

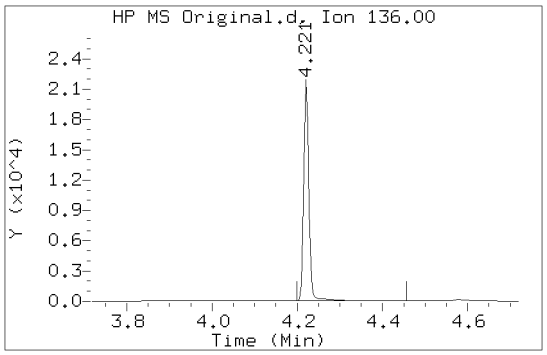


Naphthalene-d8 (1146-65-2)

Reason Code:

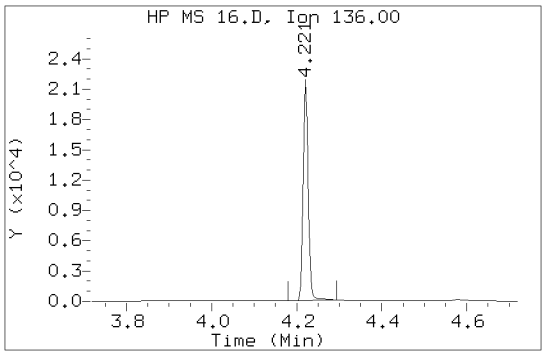
BEFORE

MASS
136
AREA
18147
HEIGHT
21880
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
136
AREA
17725
HEIGHT
21858
29-Jun-2023
14:27
ALSHS
Ser



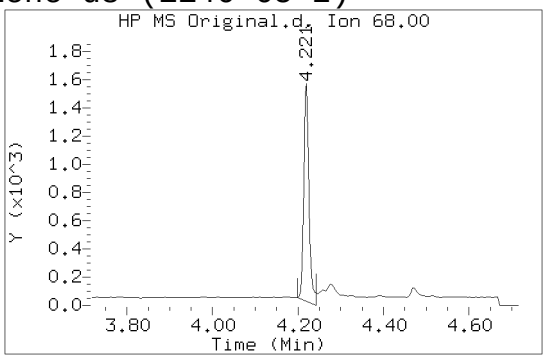
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Naphthalene-d8 (1146-65-2)

Reason Code:

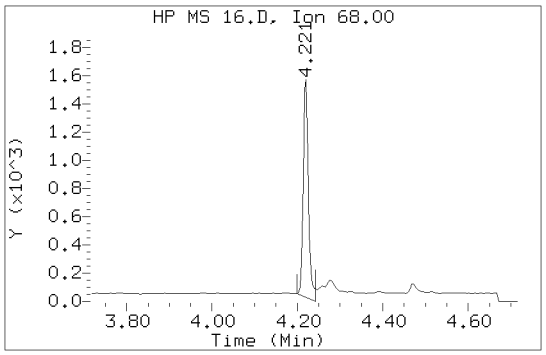
BEFORE

MASS
68
AREA
1351
HEIGHT
1544
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
68
AREA
1351
HEIGHT
1544
29-Jun-2023
14:27
ALSHS
Ser

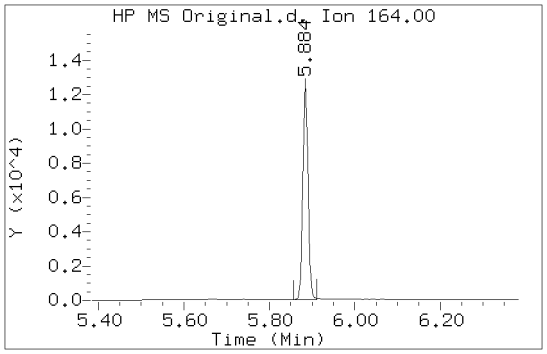


Acenaphthene-d10 (15067-26-2)

Reason Code:

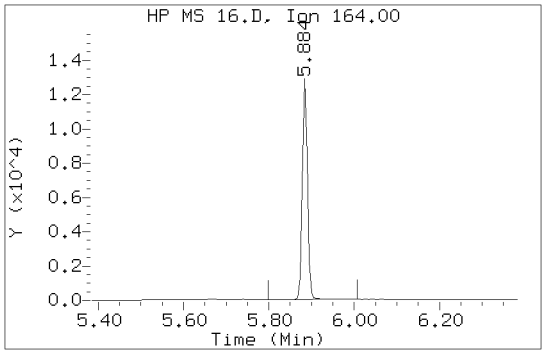
BEFORE

MASS
164
AREA
10322
HEIGHT
12879
16-Jun-2023
16:37
ALSHS
Server



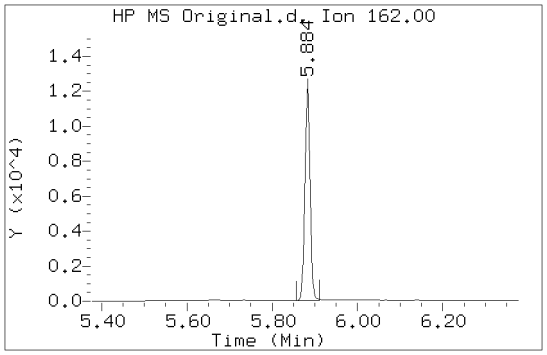
AFTER

MASS
164
AREA
10379
HEIGHT
12877
29-Jun-2023
14:27
ALSHS
Ser



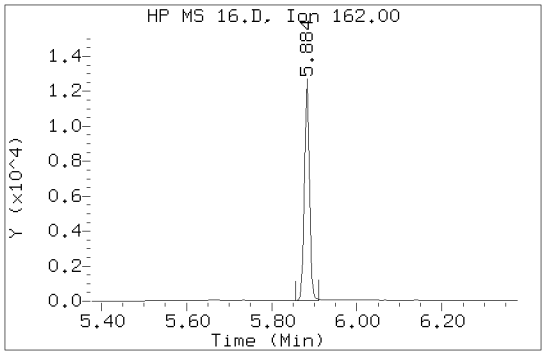
BEFORE

MASS
162
AREA
10387
HEIGHT
12657
16-Jun-2023
16:37
ALSHS
Server



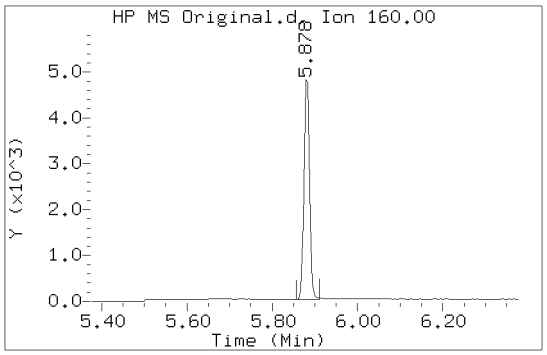
AFTER

MASS
162
AREA
10387
HEIGHT
12657
29-Jun-2023
14:27
ALSHS
Ser



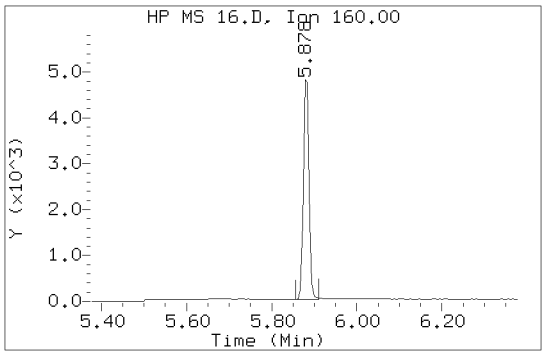
BEFORE

MASS
160
AREA
4356
HEIGHT
4785
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
160
AREA
4356
HEIGHT
4785
29-Jun-2023
14:27
ALSHS
Ser



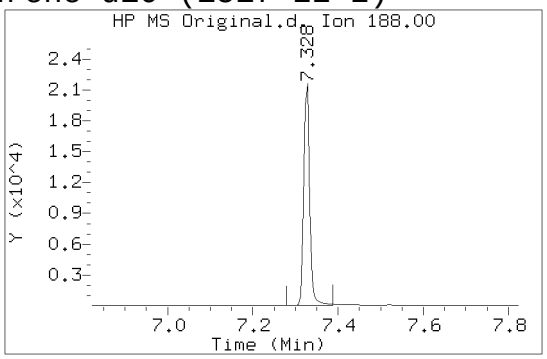
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Phenanthrene-d10 (1517-22-2)

Reason Code:

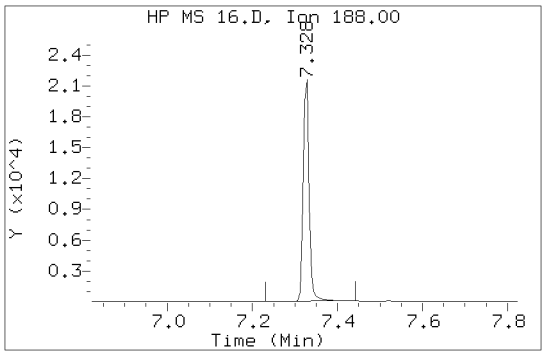
BEFORE

MASS
188
AREA
20554
HEIGHT
21579
16-Jun-2023
16:37
ALSHS
Server



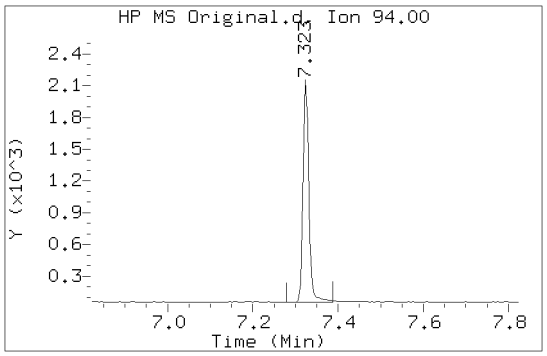
AFTER

MASS
188
AREA
20505
HEIGHT
21562
29-Jun-2023
14:27
ALSHS
Ser



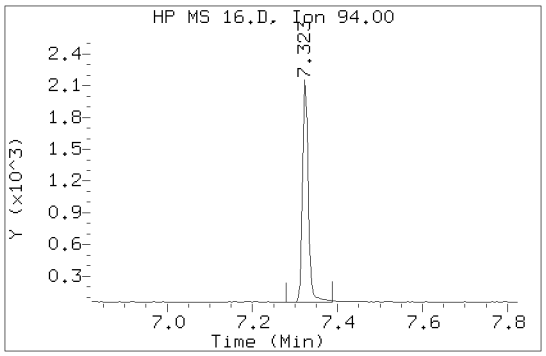
BEFORE

MASS
94
AREA
1950
HEIGHT
2099
16-Jun-2023
16:37
ALSHS
Server



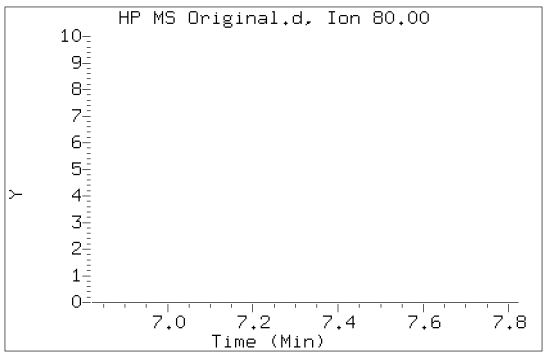
AFTER

MASS
94
AREA
1950
HEIGHT
2099
29-Jun-2023
14:27
ALSHS
Ser



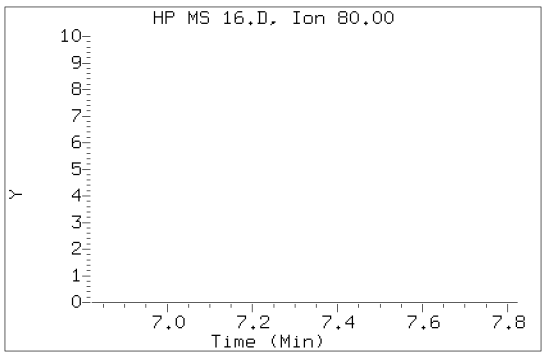
BEFORE

MASS
80
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
80
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser

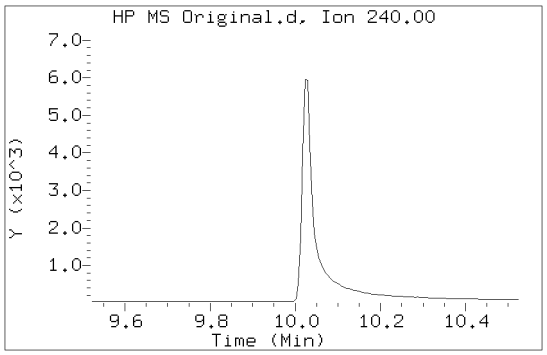


Chrysene-d12 (1719-03-5)

Reason Code:

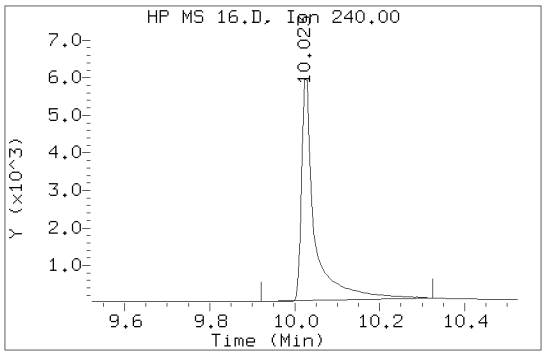
BEFORE

MASS
240
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
240
AREA
12662
HEIGHT
5881
29-Jun-2023
14:27
ALSHS
Ser



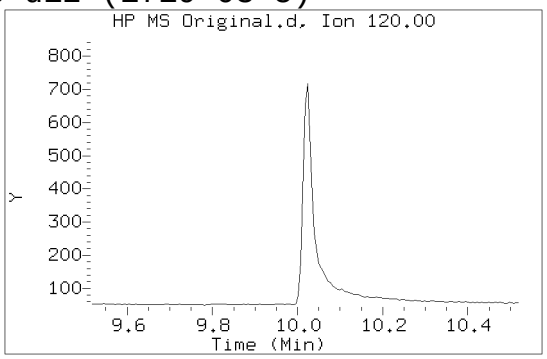
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Chrysene-d12 (1719-03-5)

Reason Code:

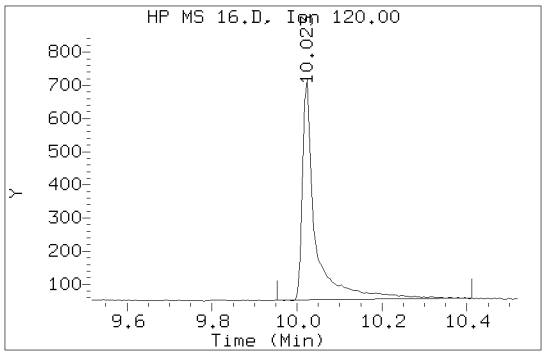
BEFORE

MASS
120
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



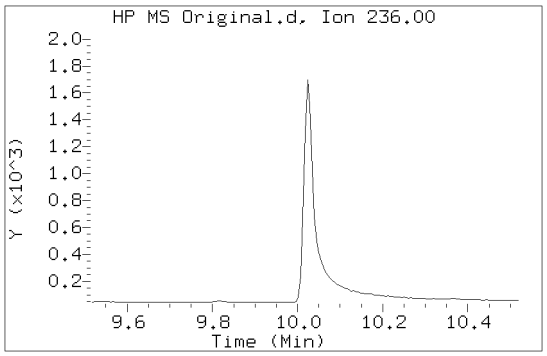
AFTER

MASS
120
AREA
1417
HEIGHT
664
29-Jun-2023
14:27
ALSHS
Ser



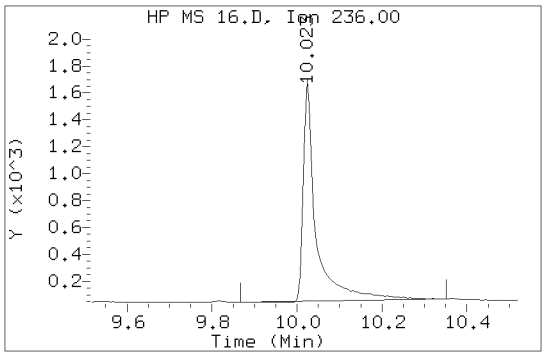
BEFORE

MASS
236
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
236
AREA
3367
HEIGHT
1641
29-Jun-2023
14:27
ALSHS
Ser

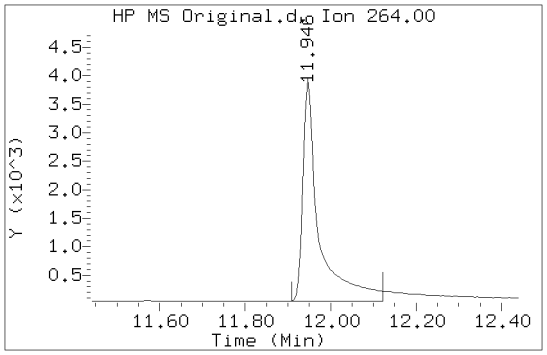


Perylene-d12 (1520-96-3)

Reason Code:

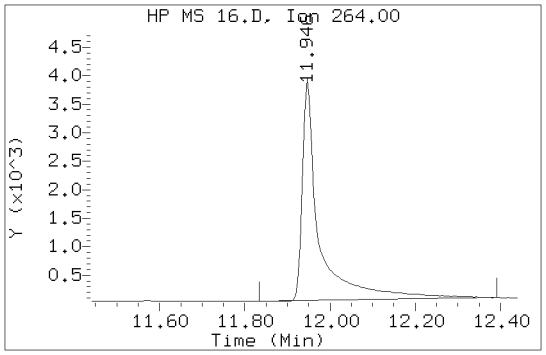
BEFORE

MASS
264
AREA
10066
HEIGHT
3896
16-Jun-2023
16:37
ALSHS
Server



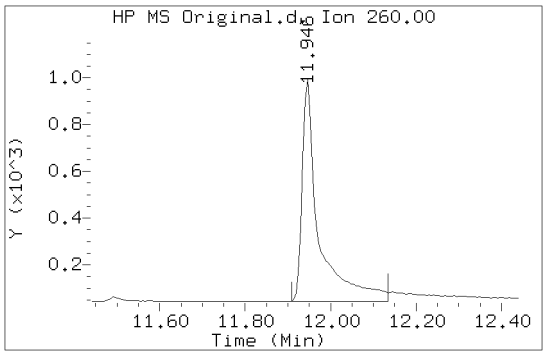
AFTER

MASS
264
AREA
10635
HEIGHT
3885
29-Jun-2023
14:27
ALSHS
Ser



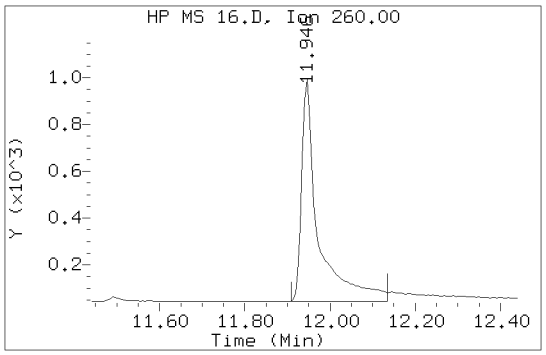
BEFORE

MASS
260
AREA
2544
HEIGHT
947
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
260
AREA
2544
HEIGHT
947
29-Jun-2023
14:27
ALSHS
Ser



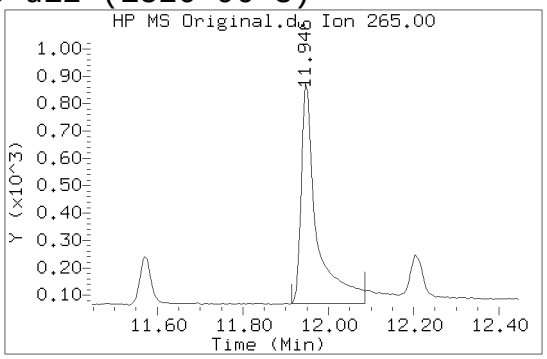
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Perylene-d12 (1520-96-3)

Reason Code:

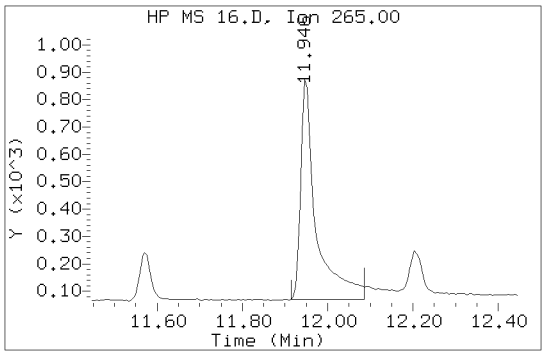
BEFORE

MASS
265
AREA
2015
HEIGHT
803
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
265
AREA
2015
HEIGHT
803
29-Jun-2023
14:27
ALSHS
Ser

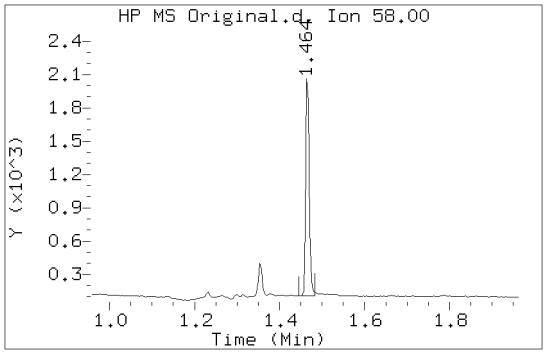


1,4-Dioxane ()

Reason Code:

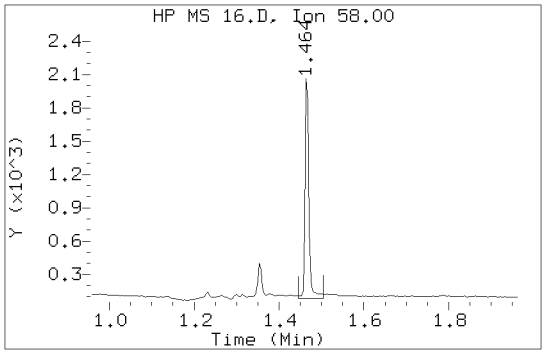
BEFORE

MASS
58
AREA
1149
HEIGHT
1956
16-Jun-2023
16:37
ALSHS
Server



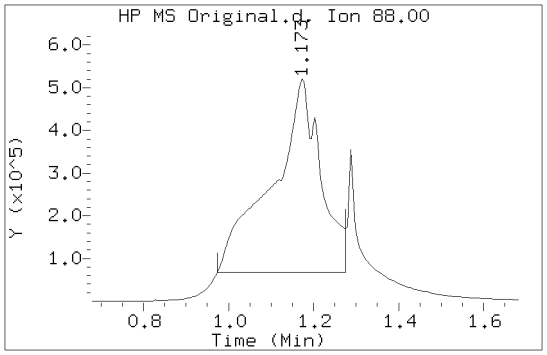
AFTER

MASS
58
AREA
1261
HEIGHT
1979
29-Jun-2023
14:27
ALSHS
Ser



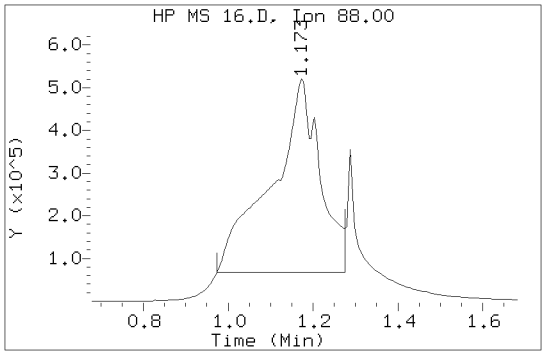
BEFORE

MASS
88
AREA
3609729
HEIGHT
452352
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
88
AREA
3609729
HEIGHT
452352
29-Jun-2023
14:27
ALSHS
Ser

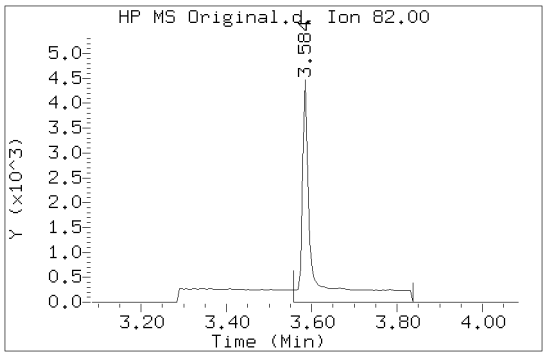


Nitrobenzene-d5 (4165-60-0)

Reason Code:

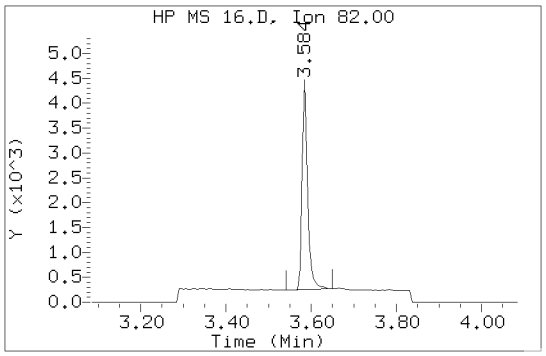
BEFORE

MASS
82
AREA
8001
HEIGHT
4469
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
82
AREA
3797
HEIGHT
4214
29-Jun-2023
14:27
ALSHS
Ser



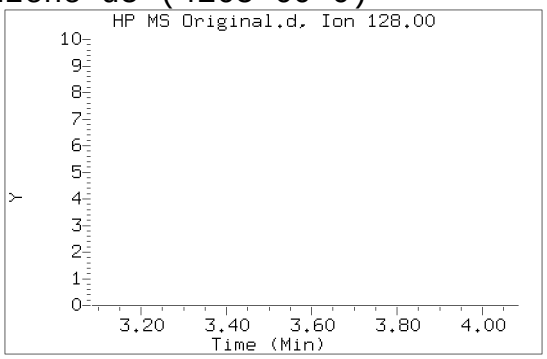
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

Nitrobenzene-d5 (4165-60-0)

Reason Code:

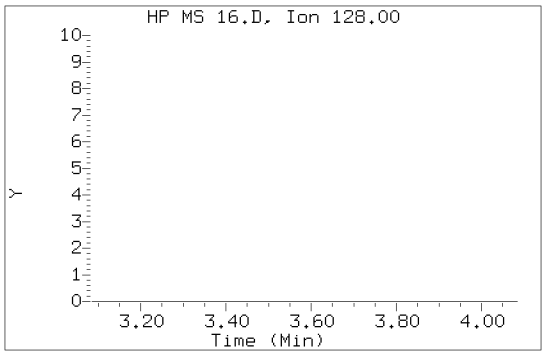
BEFORE

MASS
128
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



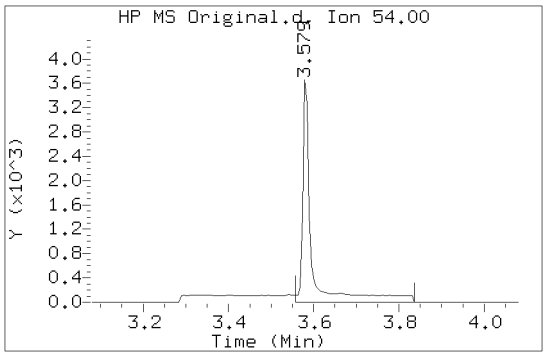
AFTER

MASS
128
AREA
0
HEIGHT
0
29-Jun-2023
14:27
ALSHS
Ser



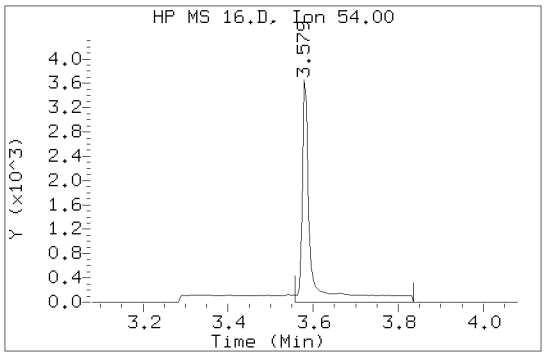
BEFORE

MASS
54
AREA
5382
HEIGHT
3655
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
54
AREA
5382
HEIGHT
3655
29-Jun-2023
14:27
ALSHS
Ser

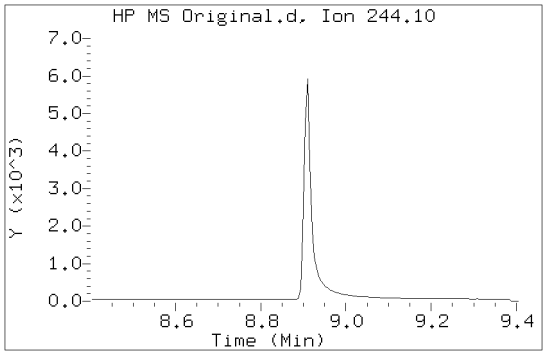


4-Terphenyl-d14 (1718-51-0)

Reason Code:

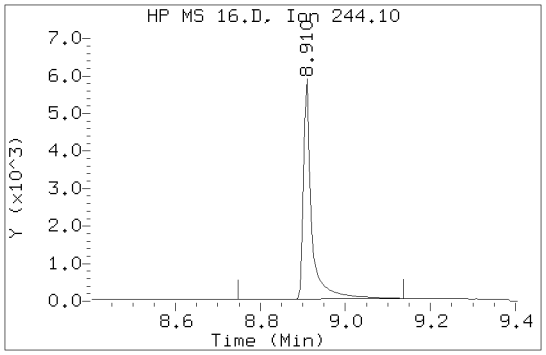
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



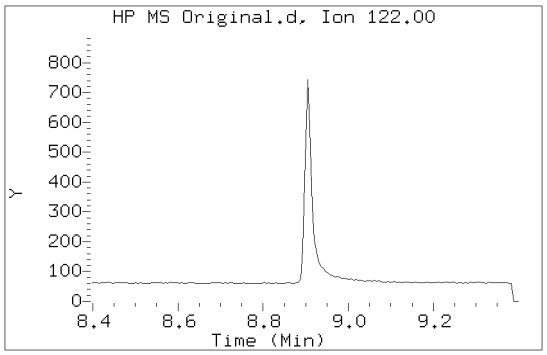
AFTER

MASS
244.1
AREA
7743
HEIGHT
5864
29-Jun-2023
14:27
ALSHS
Ser



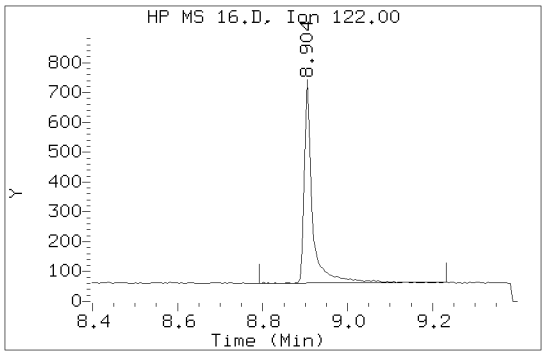
BEFORE

MASS
122
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
122
AREA
889
HEIGHT
681
29-Jun-2023
14:27
ALSHS
Ser



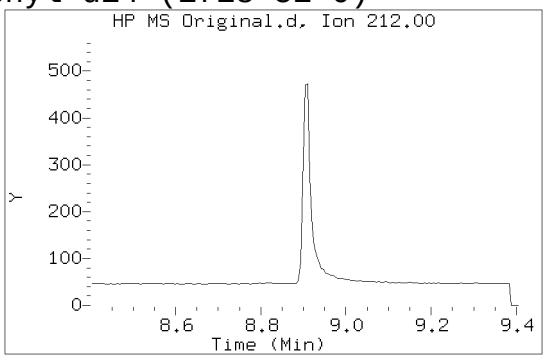
Data File : \\NAHSTWS005\Target\chem\SV6.i\230616.b\16.D
Inj Date : 16-JUN-2023 16:22
InstruID : SV6.i
LabSampID : 14DXICV-0.08

4-Terphenyl-d14 (1718-51-0)

Reason Code:

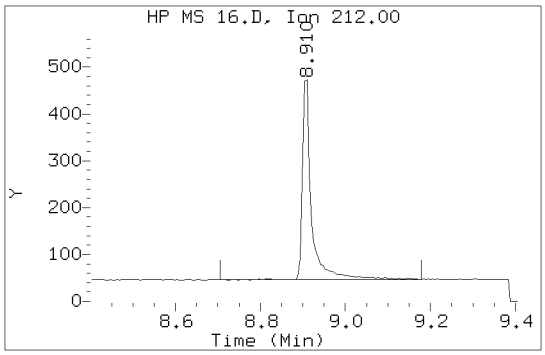
BEFORE

MASS
212
AREA
0
HEIGHT
0
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
212
AREA
632
HEIGHT
426
29-Jun-2023
14:27
ALSHS
Ser

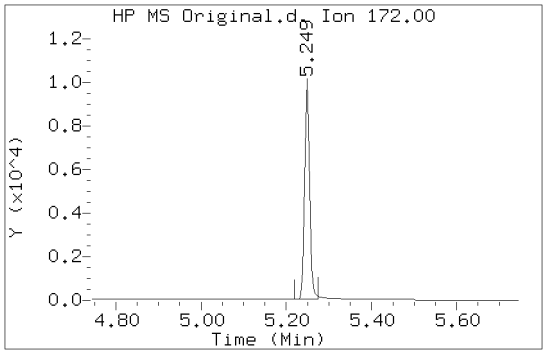


2-Fluorobiphenyl (321-60-8)

Reason Code:

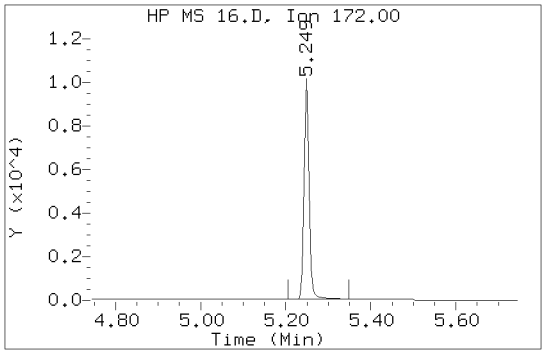
BEFORE

MASS
172
AREA
8416
HEIGHT
10125
16-Jun-2023
16:37
ALSHS
Server



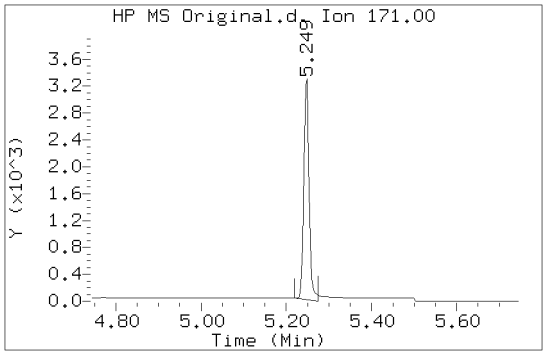
AFTER

MASS
172
AREA
8542
HEIGHT
10120
29-Jun-2023
14:27
ALSHS
Ser



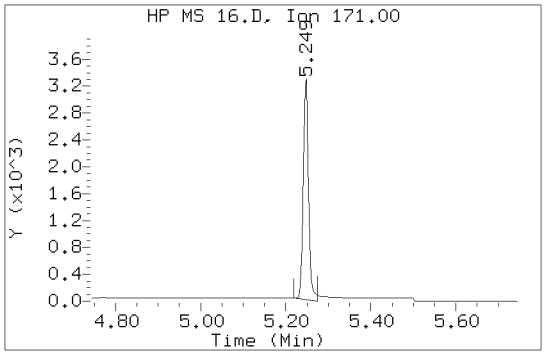
BEFORE

MASS
171
AREA
2911
HEIGHT
3286
16-Jun-2023
16:37
ALSHS
Server



AFTER

MASS
171
AREA
2911
HEIGHT
3286
29-Jun-2023
14:27
ALSHS
Ser



01194803

right solutions.
right partner.

Raw Data SV 6 439307

Semi-Volatiles by EPA 8270SIM

Workorder

HS23060739

Client

Bhate Environmental Associates, Inc.

Project

LHAAP 18 24

07/03/2023

ALS Environmental–Houston Laboratory

10450 Stancliff Road, Suite 210, Houston, TX 77099

Phone (281) 530-5656 Fax (281) 530-5887

www.alsglobal.com

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\91A.D Page 1
Report Date: 19-Jun-2023 10:58

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\91A.D
Lab Smp Id: DFTPP Client Smp ID: DFTPP
Inj Date : 19-JUN-2023 10:35
Operator : smith Inst ID: SV6.i
Smp Info : DFTPP;DFTPP;3;;DFTPP
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DFTPP.m
Meth Date : 14-Mar-2023 15:59 Linh.Pham Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: DFTPP
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: None
Processing Host: NAHSTW7015

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/L)	TARGET RANGE	RATIO
1 dftpp						CAS #: 5074-71-5		
4.945	6.357	-1.412	198	96144			0.00- 100.00	85.16
4.945	6.357	-1.412	51	43888			10.00- 80.00	45.65
4.945	6.357	-1.412	68	425			0.00- 2.00	1.27
4.945	6.357	-1.412	69	33584			0.00- 0.00	34.93
4.945	6.357	-1.412	70	179			0.00- 2.00	0.53
4.945	6.357	-1.412	127	38192			10.00- 80.00	39.72
4.945	6.357	-1.412	197	612			0.00- 2.00	0.64
4.945	6.357	-1.412	199	5790			5.00- 9.00	6.02
4.945	6.357	-1.412	275	24824			10.00- 60.00	25.82
4.945	6.357	-1.412	365	3694			1.00- 100.00	3.84
4.945	6.357	-1.412	441	16992			0.01- 99.99	77.07
4.945	6.357	-1.412	442	112896			50.00- 150.00	117.42
4.945	6.357	-1.412	443	22048			15.00- 24.00	19.53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	45.65
68	Less than 2.00% of mass 69	0.44 (1.27)
69	Mass 69 relative abundance	34.93
70	Less than 2.00% of mass 69	0.19 (0.53)
127	10.00 - 80.00% of mass 198	39.72
197	Less than 2.00% of mass 198	0.64
199	5.00 - 9.00% of mass 198	6.02
275	10.00 - 60.00% of mass 198	25.82
365	1.00 - 100.00% of mass 198	3.84
441	Present, but less than mass 443	17.67
442	50.00 - 150.00% of mass 198	117.42
443	15.00 - 24.00% of mass 442	22.93 (19.53)

Data File: 91A.D
Spectrum: HP ChemStation MS 91A.D, Scan 442: 4.951 min.
Location of Maximum: 442.00
Number of points: 237

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	712	117.90	635	187.10	3166	258.00	3324
36.90	157	119.00	180	188.00	358	259.00	601
38.00	516	120.10	167	189.00	632	265.00	1237
39.00	2674	122.00	757	190.00	171	265.90	225
39.90	487	123.00	1219	191.00	264	271.80	209
40.90	217	124.00	574	192.00	1062	273.00	1777
44.00	667	125.00	335	193.00	1172	274.00	4745
49.00	928	126.20	259	194.00	224	275.00	24824
50.00	9965	127.00	38192	195.10	226	276.00	3146
51.00	43888	128.00	2986	196.00	2663	277.00	1973
52.00	2405	129.00	14970	196.90	612	277.90	355
55.00	168	130.00	1364	198.00	96144	283.00	275
56.00	1288	131.10	239	199.00	5790	284.00	209
57.00	3420	131.90	150	200.00	683	285.00	503
58.00	194	133.90	364	201.40	445	292.10	162
61.00	391	135.00	1138	202.90	759	293.00	555
61.90	573	136.00	468	204.00	3449	294.90	199
63.00	1428	137.10	623	205.00	5448	296.00	7483
63.90	173	138.10	152	206.10	23496	297.00	1134
65.00	704	139.80	176	207.00	3291	301.90	184
68.00	425	141.00	1827	208.00	638	303.00	899
69.00	33584	141.90	503	208.90	226	304.00	233
69.90	179	142.90	407	210.10	262	313.90	409
73.00	286	146.00	279	211.00	836	314.90	698
74.00	3371	147.00	942	213.00	175	316.00	362
75.00	4871	148.00	2165	215.00	301	321.00	265
76.00	1540	148.90	513	215.90	452	323.00	2268
77.10	38856	149.90	154	217.00	6984	324.00	582
78.10	2737	151.00	295	218.00	613	326.90	490
79.00	2280	151.70	202	221.00	5013	327.90	259
80.00	1481	153.00	593	222.00	894	332.00	178
81.00	2730	153.90	444	223.00	1210	333.00	176
82.00	683	155.00	965	224.00	14128	334.00	1730
83.00	706	156.00	1820	225.00	3221	335.00	283
84.00	332	157.00	352	226.00	443	341.00	232
85.00	460	158.00	508	227.00	5648	345.90	481
86.00	821	159.00	293	228.00	864	351.90	824
87.00	409	160.00	524	229.00	1099	353.00	544
88.00	199	161.00	1013	231.00	460	354.00	781
91.00	625	162.10	306	234.00	398	365.00	3694
92.00	489	165.00	671	234.90	225	365.90	471
93.00	3808	166.00	572	236.00	261	370.90	262
93.90	294	167.00	4031	237.00	400	372.00	1823
96.00	167	168.00	1654	238.90	204	373.10	297
98.00	2671	169.00	425	240.00	264	383.00	374

99.00	2178	170.90	179	240.90	356	390.00	231
100.00	252	171.90	312	242.00	856	402.00	825
101.00	1459	173.00	421	243.00	710	403.00	887
103.00	423	174.00	672	244.10	11102	404.00	318
104.00	928	175.00	1705	245.10	1574	420.90	662
105.00	1286	176.00	448	246.00	2194	422.00	991
106.00	338	177.00	568	247.00	342	423.00	5592
107.00	12747	178.00	253	248.00	150	424.00	1218
108.00	1857	179.00	3154	249.00	335	441.00	16992
109.00	284	180.00	2693	252.10	152	442.00	112896
110.00	20744	181.00	975	253.10	334	443.00	22048
111.00	3303	182.10	210	254.00	447	444.00	2373
112.00	534	184.00	240	255.00	60960		
116.00	686	185.00	1421	256.00	9087		
117.00	8768	186.00	12055	257.00	687		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\03.D
Lab Smp Id: 14DX-0.08 Client Smp ID: 14DX-0.08
Inj Date : 19-JUN-2023 11:32
Operator : LG Inst ID: SV6.i
Smp Info : 14DX-0.08
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 19-Jun-2023 12:08 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	5324	0.10000	(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	17757	0.10000	
$ 33 Nitrobenzene-d5	82	3.530	3.530	(0.848)	3962	0.08000	0.07344(M)
* 86 Acenaphthene-d10	164	5.827	5.827	(1.000)	10139	0.10000	
$ 69 2-Fluorobiphenyl	172	5.193	5.193	(0.891)	8699	0.08000	0.08390
* 126 Phenanthrene-d10	188	7.266	7.266	(1.000)	20149	0.10000	
* 182 Chrysene-d12	240	9.950	9.950	(1.000)	15207	0.10000	
$ 158 4-Terphenyl-d14	244	8.848	8.848	(0.889)	8457	0.08000	0.07538(M)
* 198 Perylene-d12	264	11.846	11.846	(1.000)	11919	0.10000	
1 1,4-Dioxane	58	1.427	1.427	(0.464)	1416	0.08000	0.07839(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01194809

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\03.D

Page 1

Date : 19-JUN-2023 11:32

Client ID: 14DX-0.08

Instrument: SV6.i

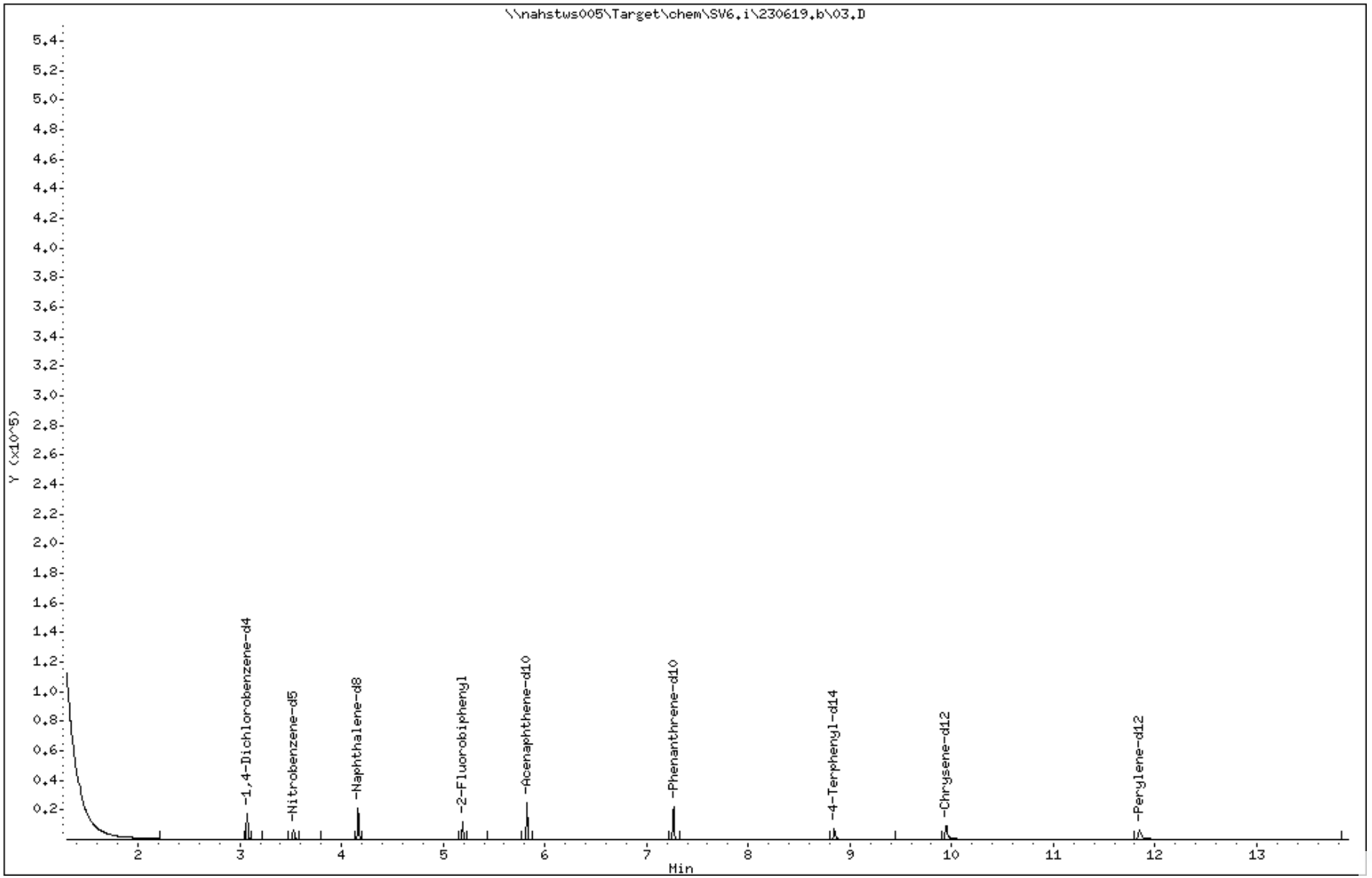
Sample Info: 14DX-0.08

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



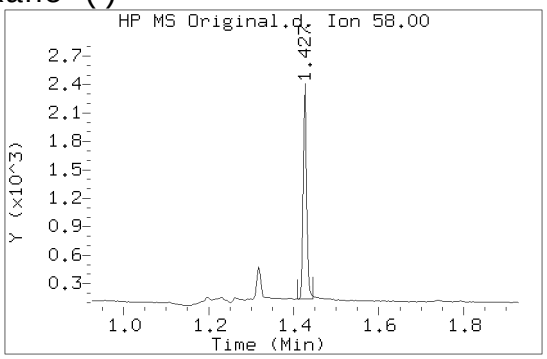
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\03.D
Inj Date : 19-JUN-2023 11:32
InstruID : SV6.i
LabSampID : 14DX-0.08

1,4-Dioxane ()

Reason Code:

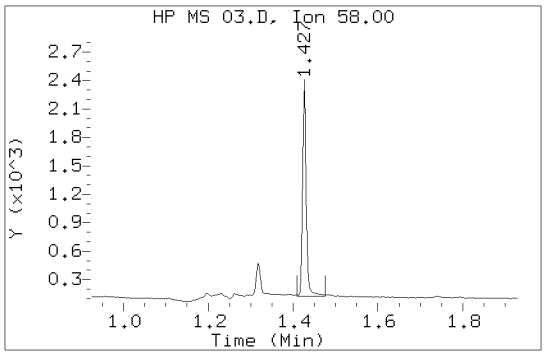
BEFORE

MASS
58
AREA
1336
HEIGHT
2273
19-Jun-2023
11:48
ALSHS
Server



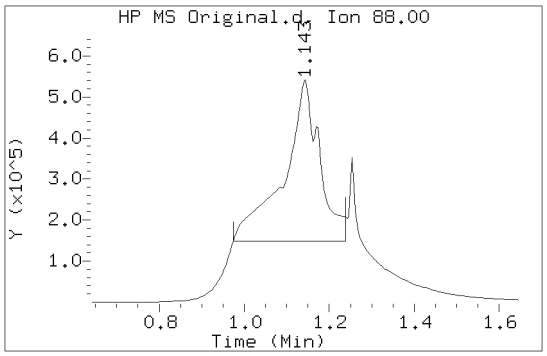
AFTER

MASS
58
AREA
1416
HEIGHT
2287
19-Jun-2023
12:08
ALSHS
Se



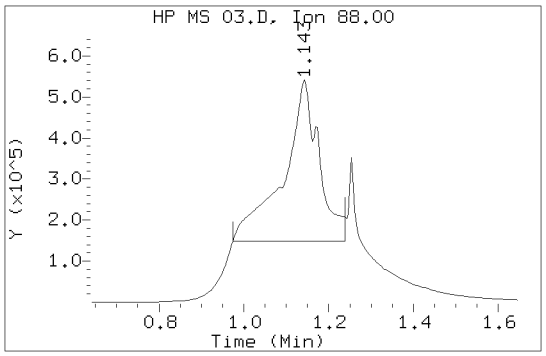
BEFORE

MASS
88
AREA
2295284
HEIGHT
393088
19-Jun-2023
11:48
ALSHS
Server



AFTER

MASS
88
AREA
2295284
HEIGHT
393088
19-Jun-2023
12:08
ALSHS
Se

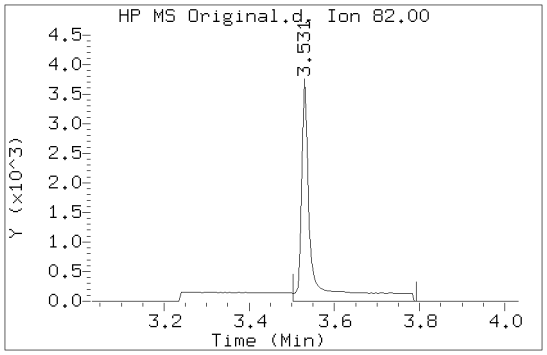


Nitrobenzene-d5 (4165-60-0)

Reason Code:

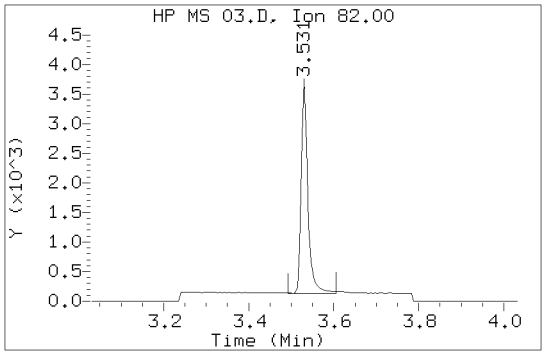
BEFORE

MASS
82
AREA
6234
HEIGHT
3755
19-Jun-2023
11:48
ALSHS
Server



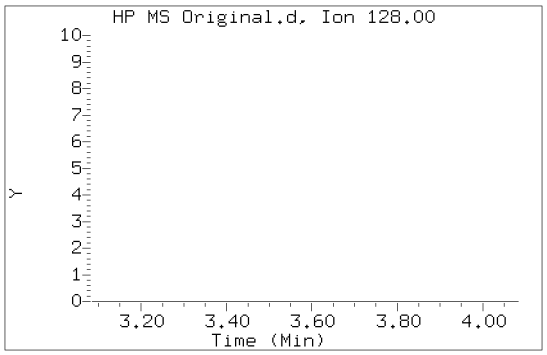
AFTER

MASS
82
AREA
3962
HEIGHT
3625
19-Jun-2023
12:08
ALSHS
Se



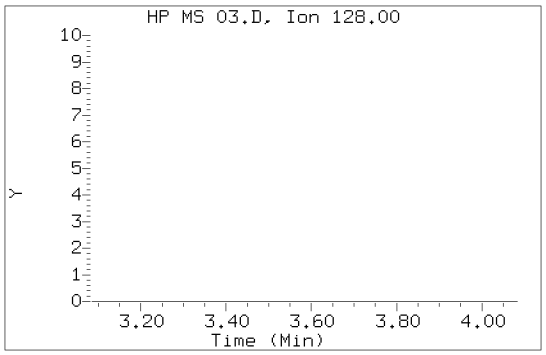
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
11:48
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
12:08
ALSHS
Se

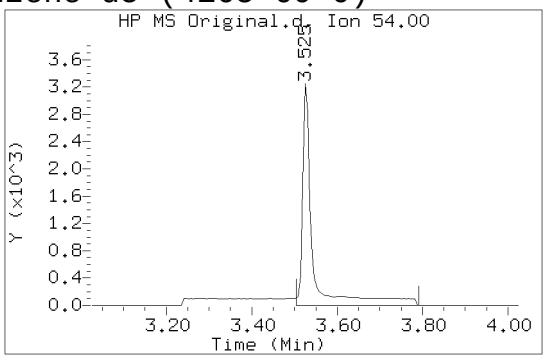


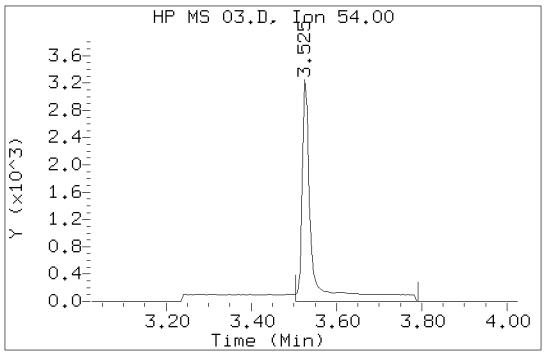
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\03.D
Inj Date : 19-JUN-2023 11:32
InstruID : SV6.i
LabSampID : 14DX-0.08

Nitrobenzene-d5 (4165-60-0)

Reason Code:

BEFORE		AFTER	
MASS		MASS	
54		54	
AREA		AREA	
5223		5223	
HEIGHT		HEIGHT	
3248		3248	
19-Jun-2023		19-Jun-2023	
11:48		12:08	
ALSHS		ALSHS	
Server		Se	

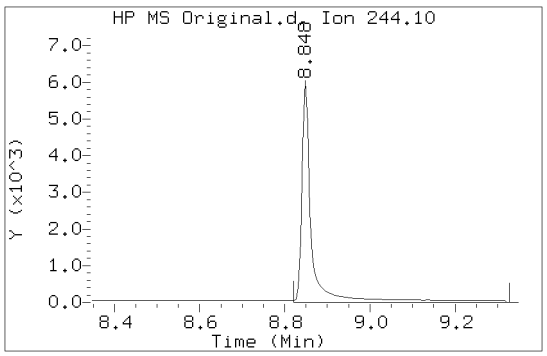


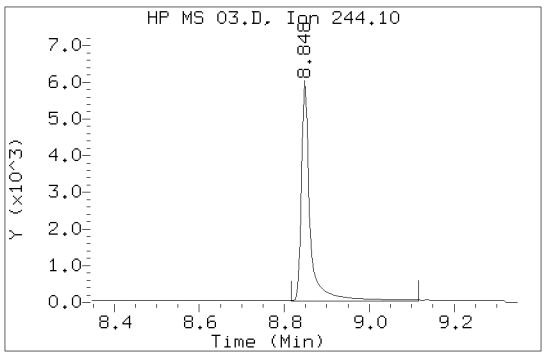


4-Terphenyl-d14 (1718-51-0)

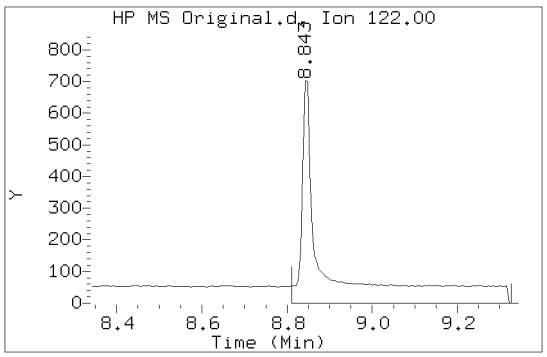
Reason Code:

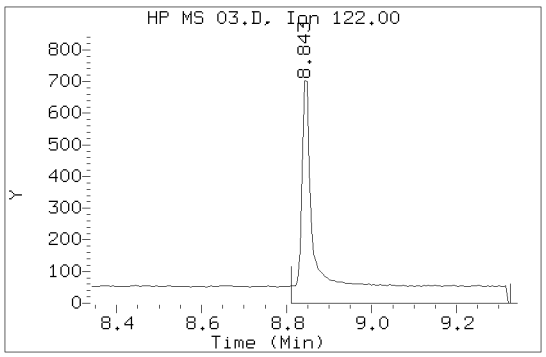
BEFORE		AFTER	
MASS		MASS	
244.1		244.1	
AREA		AREA	
9888		8457	
HEIGHT		HEIGHT	
6043		6001	
19-Jun-2023		19-Jun-2023	
11:48		12:08	
ALSHS		ALSHS	
Server		Se	



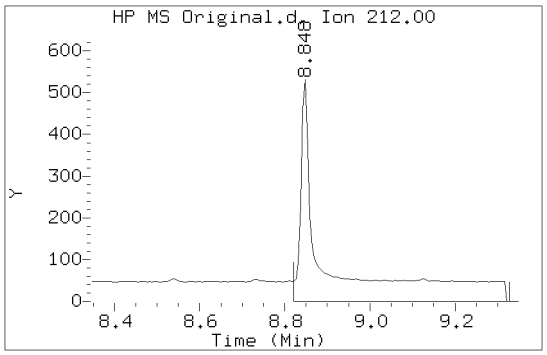


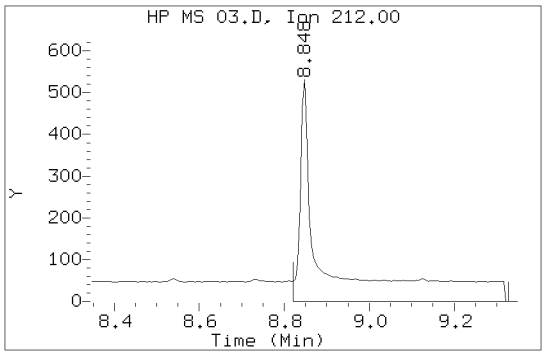
BEFORE		AFTER	
MASS		MASS	
122		122	
AREA		AREA	
2598		2598	
HEIGHT		HEIGHT	
702		702	
19-Jun-2023		19-Jun-2023	
11:48		12:08	
ALSHS		ALSHS	
Server		Se	





BEFORE		AFTER	
MASS		MASS	
212		212	
AREA		AREA	
2097		2097	
HEIGHT		HEIGHT	
531		531	
19-Jun-2023		19-Jun-2023	
11:48		12:08	
ALSHS		ALSHS	
Server		Se	





Data File: \\nahstws005\Target\chem\SV6.i\230619.b\05.D Page 1
Report Date: 20-Jun-2023 09:53

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\05.D
Lab Smp Id: MBLK-195305 Client Smp ID: MBLK-195305
Inj Date : 19-JUN-2023 12:38
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-195305
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 20-Jun-2023 09:42 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	5382	0.10000		(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	17034	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.530	3.530	(0.848)	4249	0.08210	0.08210	(M)
* 86 Acenaphthene-d10	164	5.825	5.825	(1.000)	10678	0.10000		(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.196	(0.891)	9648	0.08836	0.08836	
* 126 Phenanthrene-d10	188	7.264	7.270	(1.000)	19433	0.10000		(M)
* 182 Chrysene-d12	240	9.949	9.954	(1.000)	16340	0.10000		(M)
$ 158 4-Terphenyl-d14	244	8.846	8.851	(0.889)	10446	0.08665	0.08665	(M)
* 198 Perylene-d12	264	11.844	11.855	(1.000)	11318	0.10000		

QC Flag Legend

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

01194813

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\05.D

Date : 19-JUN-2023 12:38

Client ID: MBLK-195305

Instrument: SV6.i

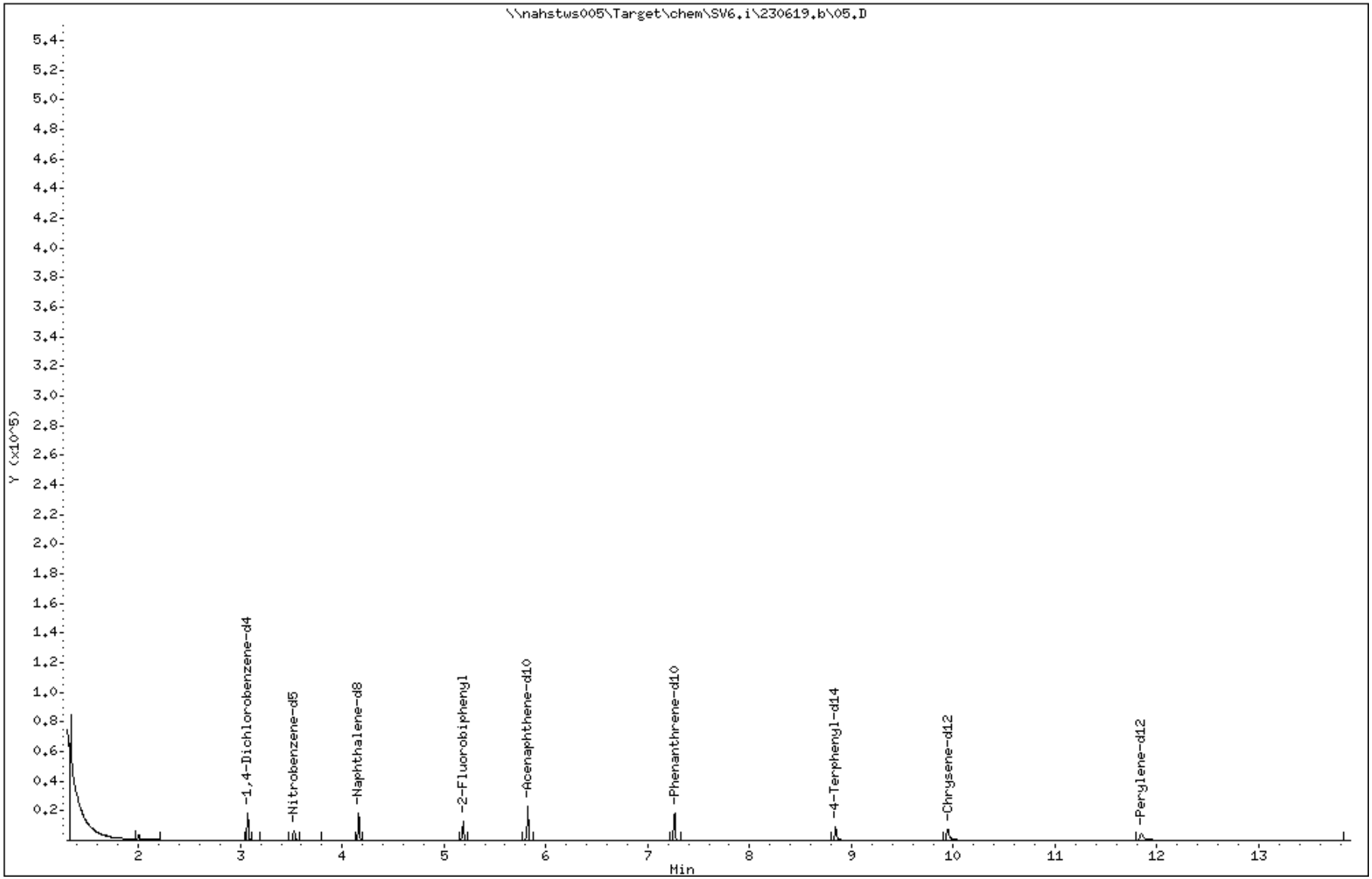
Sample Info: MBLK-195305

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



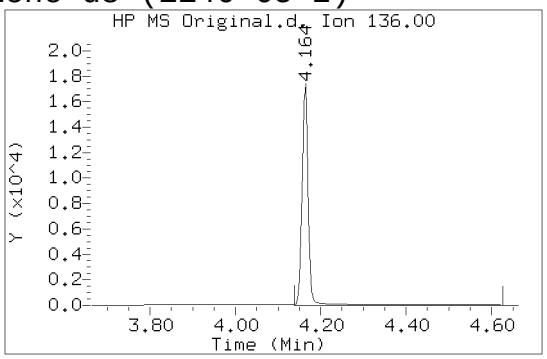
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\05.D
Inj Date : 19-JUN-2023 12:38
InstruID : SV6.i
LabSampID : MBLK-195305

Naphthalene-d8 (1146-65-2)

Reason Code:

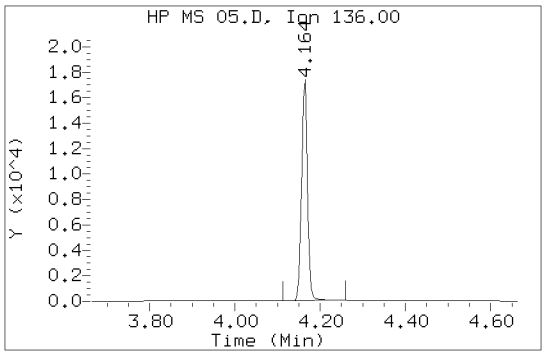
BEFORE

MASS
136
AREA
18825
HEIGHT
17416
19-Jun-2023
12:55
ALSHS
Server



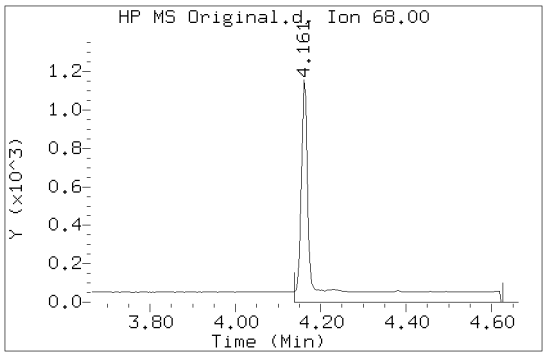
AFTER

MASS
136
AREA
17034
HEIGHT
17355
20-Jun-2023
09:53
ALSHS
Se



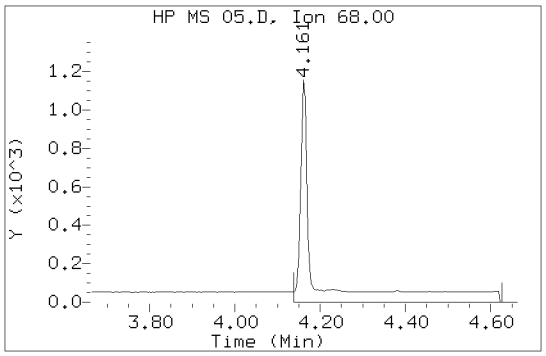
BEFORE

MASS
68
AREA
2670
HEIGHT
1157
19-Jun-2023
12:55
ALSHS
Server



AFTER

MASS
68
AREA
2670
HEIGHT
1157
20-Jun-2023
09:53
ALSHS
Se

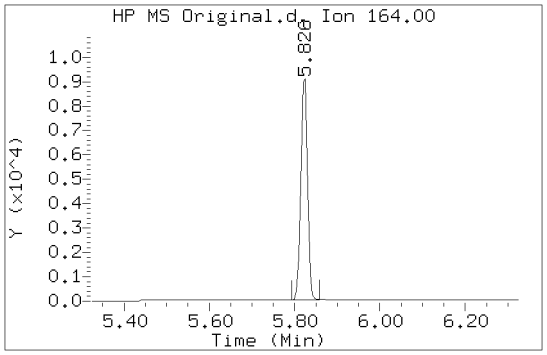


Acenaphthene-d10 (15067-26-2)

Reason Code:

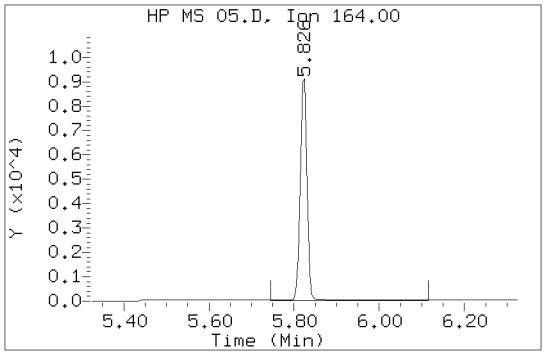
BEFORE

MASS
164
AREA
9920
HEIGHT
9068
19-Jun-2023
12:55
ALSHS
Server



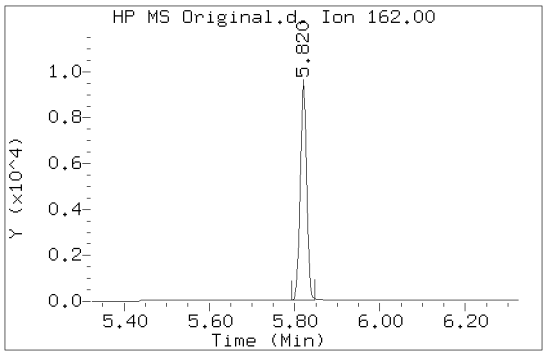
AFTER

MASS
164
AREA
10678
HEIGHT
9098
20-Jun-2023
09:53
ALSHS
Se



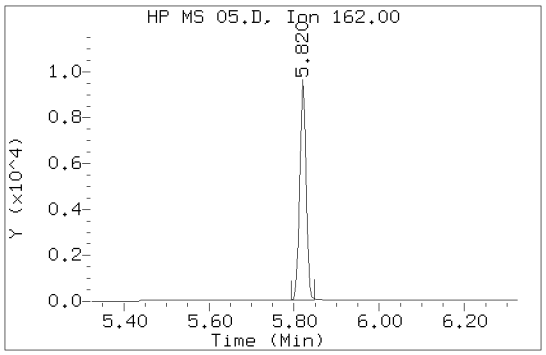
BEFORE

MASS
162
AREA
9952
HEIGHT
9601
19-Jun-2023
12:55
ALSHS
Server



AFTER

MASS
162
AREA
9952
HEIGHT
9601
20-Jun-2023
09:53
ALSHS
Se



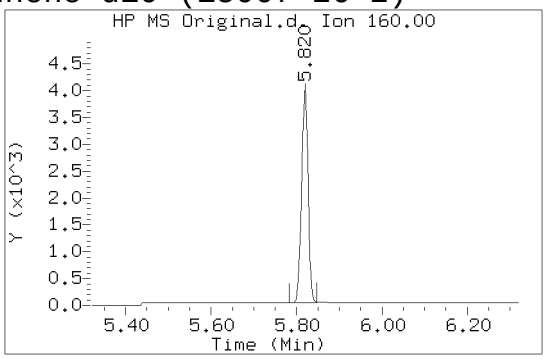
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\05.D
Inj Date : 19-JUN-2023 12:38
InstruID : SV6.i
LabSampID : MBLK-195305

Acenaphthene-d10 (15067-26-2)

Reason Code:

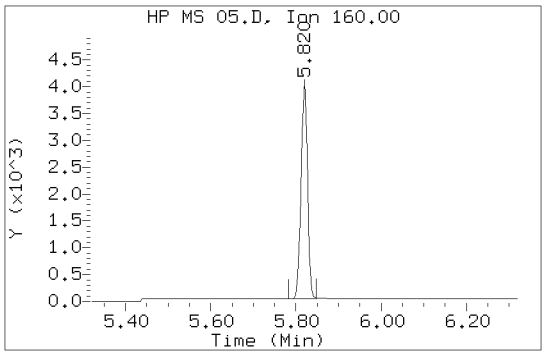
BEFORE

MASS
160
AREA
4154
HEIGHT
4084
19-Jun-2023
12:55
ALSHS
Server



AFTER

MASS
160
AREA
4154
HEIGHT
4084
20-Jun-2023
09:53
ALSHS
Se

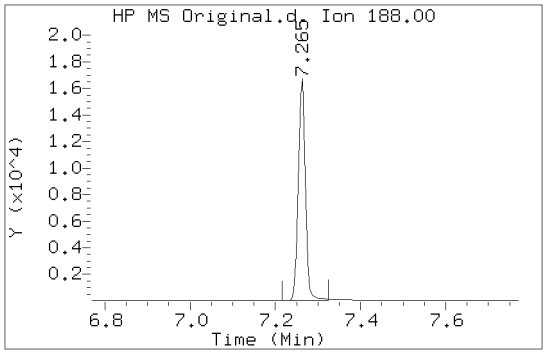


Phenanthrene-d10 (1517-22-2)

Reason Code:

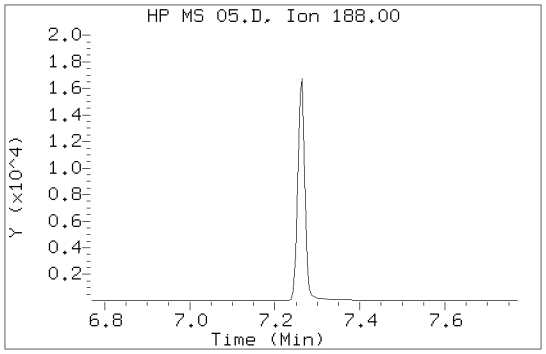
BEFORE

MASS
188
AREA
19246
HEIGHT
16682
19-Jun-2023
12:55
ALSHS
Server



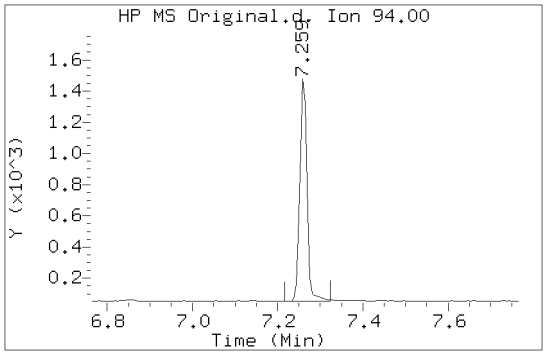
AFTER

MASS
188
AREA
19433
HEIGHT
16680
20-Jun-2023
09:53
ALSHS
Se



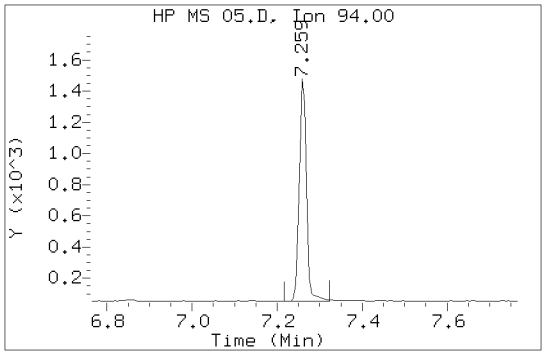
BEFORE

MASS
94
AREA
1642
HEIGHT
1423
19-Jun-2023
12:55
ALSHS
Server



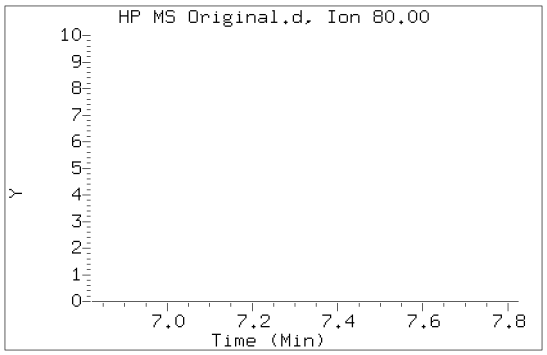
AFTER

MASS
94
AREA
1642
HEIGHT
1423
20-Jun-2023
09:53
ALSHS
Se



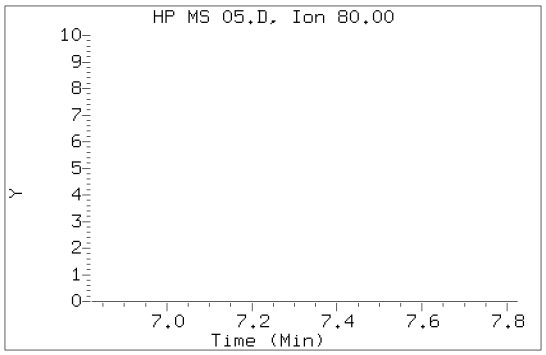
BEFORE

MASS
80
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



AFTER

MASS
80
AREA
0
HEIGHT
0
20-Jun-2023
09:53
ALSHS
Se

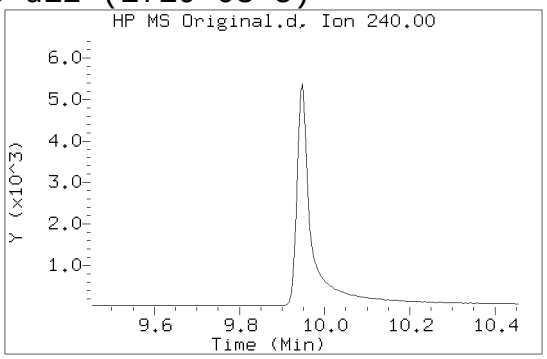


Data File : \\nahstws005\Target\chem\SV6.i\230619.b\05.D
Inj Date : 19-JUN-2023 12:38
InstruID : SV6.i
LabSampID : MBLK-195305

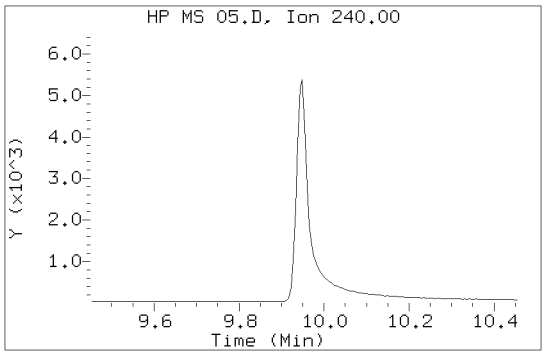
Chrysene-d12 (1719-03-5)

Reason Code:

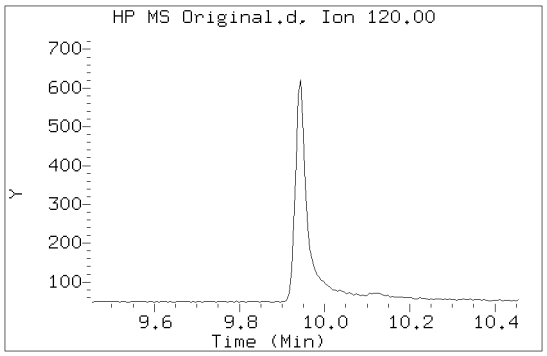
BEFORE
MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



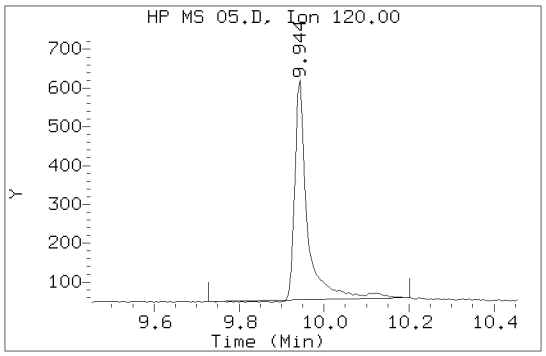
AFTER
MASS
240
AREA
16340
HEIGHT
5360
20-Jun-2023
09:53
ALSHS
Se



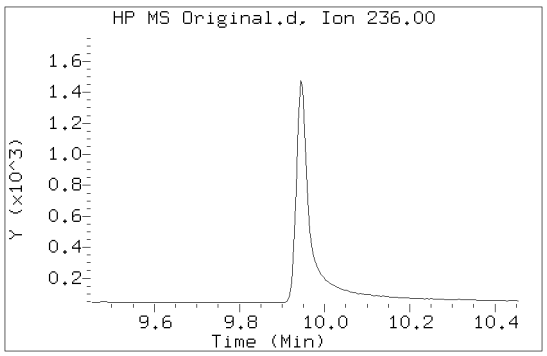
BEFORE
MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



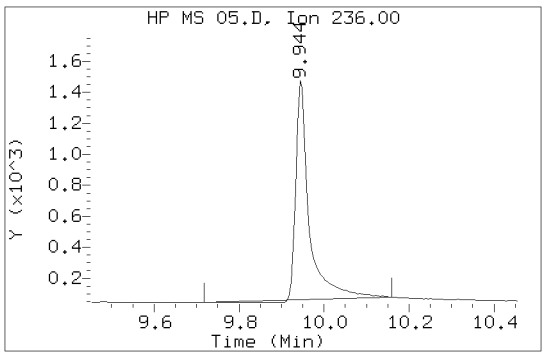
AFTER
MASS
120
AREA
1165
HEIGHT
566
20-Jun-2023
09:53
ALSHS
Se



BEFORE
MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



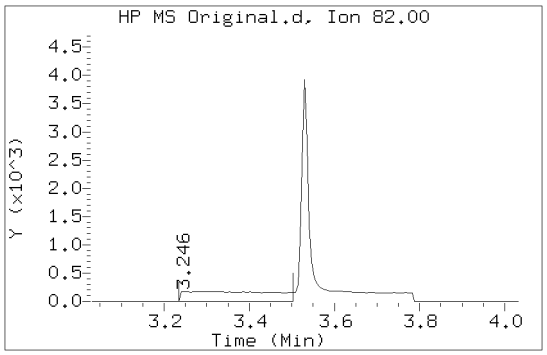
AFTER
MASS
236
AREA
3026
HEIGHT
1412
20-Jun-2023
09:53
ALSHS
Se



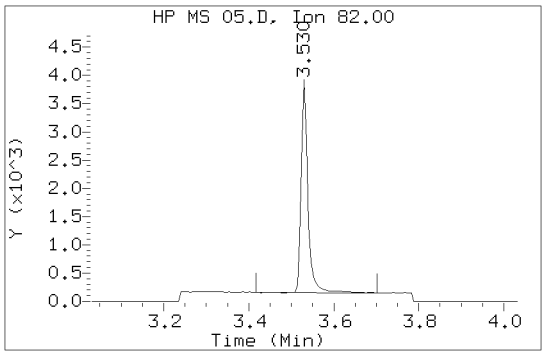
Nitrobenzene-d5 (4165-60-0)

Reason Code:

BEFORE
MASS
82
AREA
2613
HEIGHT
174
19-Jun-2023
12:55
ALSHS
Server



AFTER
MASS
82
AREA
4249
HEIGHT
3769
20-Jun-2023
09:53
ALSHS
Se



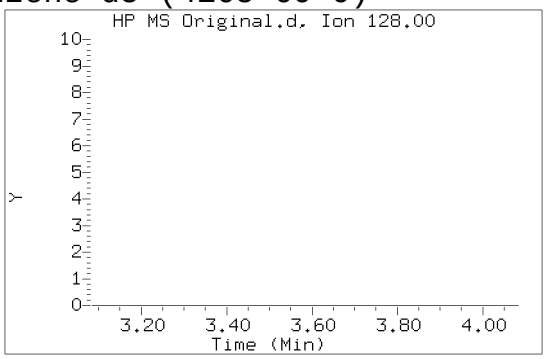
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\05.D
Inj Date : 19-JUN-2023 12:38
InstruID : SV6.i
LabSampID : MBLK-195305

Nitrobenzene-d5 (4165-60-0)

Reason Code:

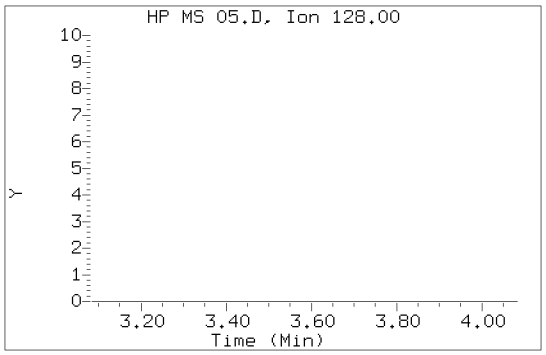
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



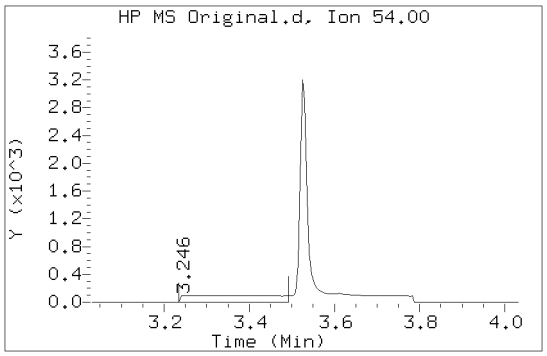
AFTER

MASS
128
AREA
0
HEIGHT
0
20-Jun-2023
09:53
ALSHS
Se



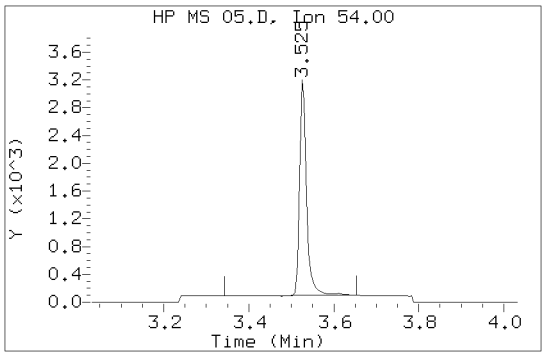
BEFORE

MASS
54
AREA
1415
HEIGHT
96
19-Jun-2023
12:55
ALSHS
Server



AFTER

MASS
54
AREA
3547
HEIGHT
3103
20-Jun-2023
09:53
ALSHS
Se

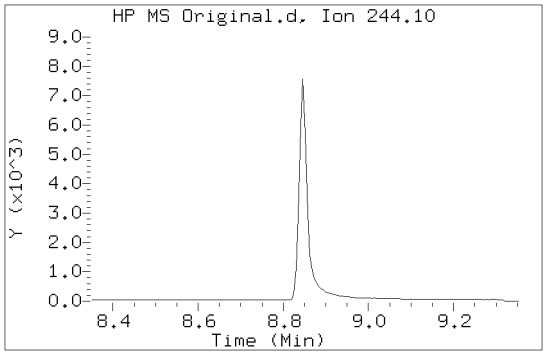


4-Terphenyl-d14 (1718-51-0)

Reason Code:

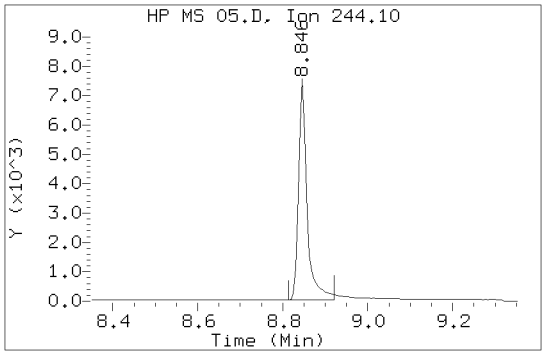
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



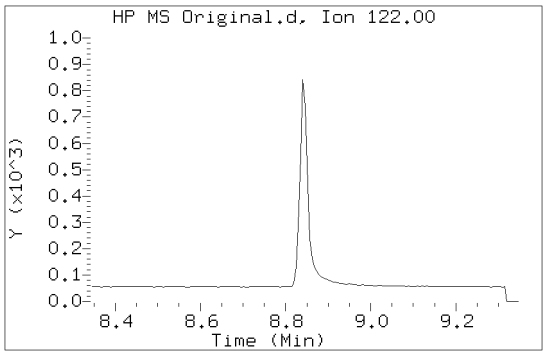
AFTER

MASS
244.1
AREA
10446
HEIGHT
7527
20-Jun-2023
09:53
ALSHS
Se



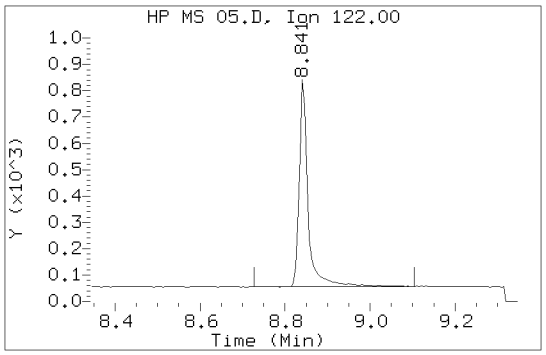
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



AFTER

MASS
122
AREA
1102
HEIGHT
785
20-Jun-2023
09:53
ALSHS
Se



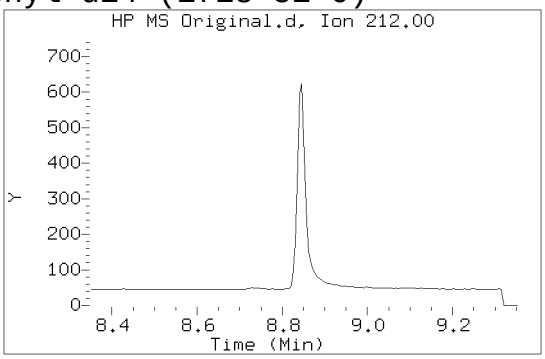
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\05.D
Inj Date : 19-JUN-2023 12:38
InstruID : SV6.i
LabSampID : MBLK-195305

4-Terphenyl-d14 (1718-51-0)

Reason Code:

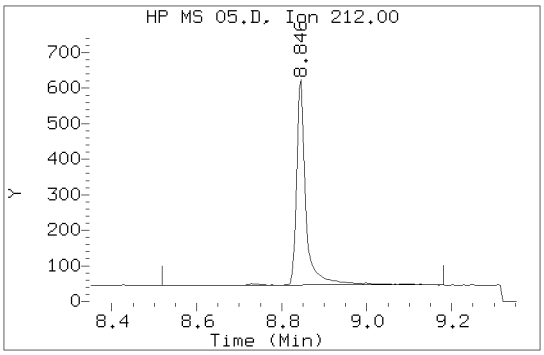
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
12:55
ALSHS
Server



AFTER

MASS
212
AREA
880
HEIGHT
578
20-Jun-2023
09:53
ALSHS
Se



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\06.D
Lab Smp Id: LCS1-195305 Client Smp ID: LCS1-195305
Inj Date : 19-JUN-2023 12:56
Operator : LG Inst ID: SV6.i
Smp Info : LCS1-195305
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 6 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	4438	0.10000	(aM)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	14217	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.251	(0.848)	3344	0.07742	0.07742(M)
* 86 Acenaphthene-d10	164	5.825	5.827	(1.000)	8877	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.193	(0.891)	7922	0.08727	0.08727
* 126 Phenanthrene-d10	188	7.264	7.261	(1.000)	16522	0.10000	
* 182 Chrysene-d12	240	9.943	9.950	(1.000)	13087	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.846	8.848	(0.890)	8069	0.08357	0.08357(M)
* 198 Perylene-d12	264	11.844	11.846	(1.000)	8919	0.10000	
1 1,4-Dioxane	58	1.430	1.283	(0.465)	1166	0.07743	0.07743(M)

QC Flag Legend

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

01194820

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\06.D

Date : 19-JUN-2023 12:56

Client ID: LCS1-195305

Instrument: SV6.i

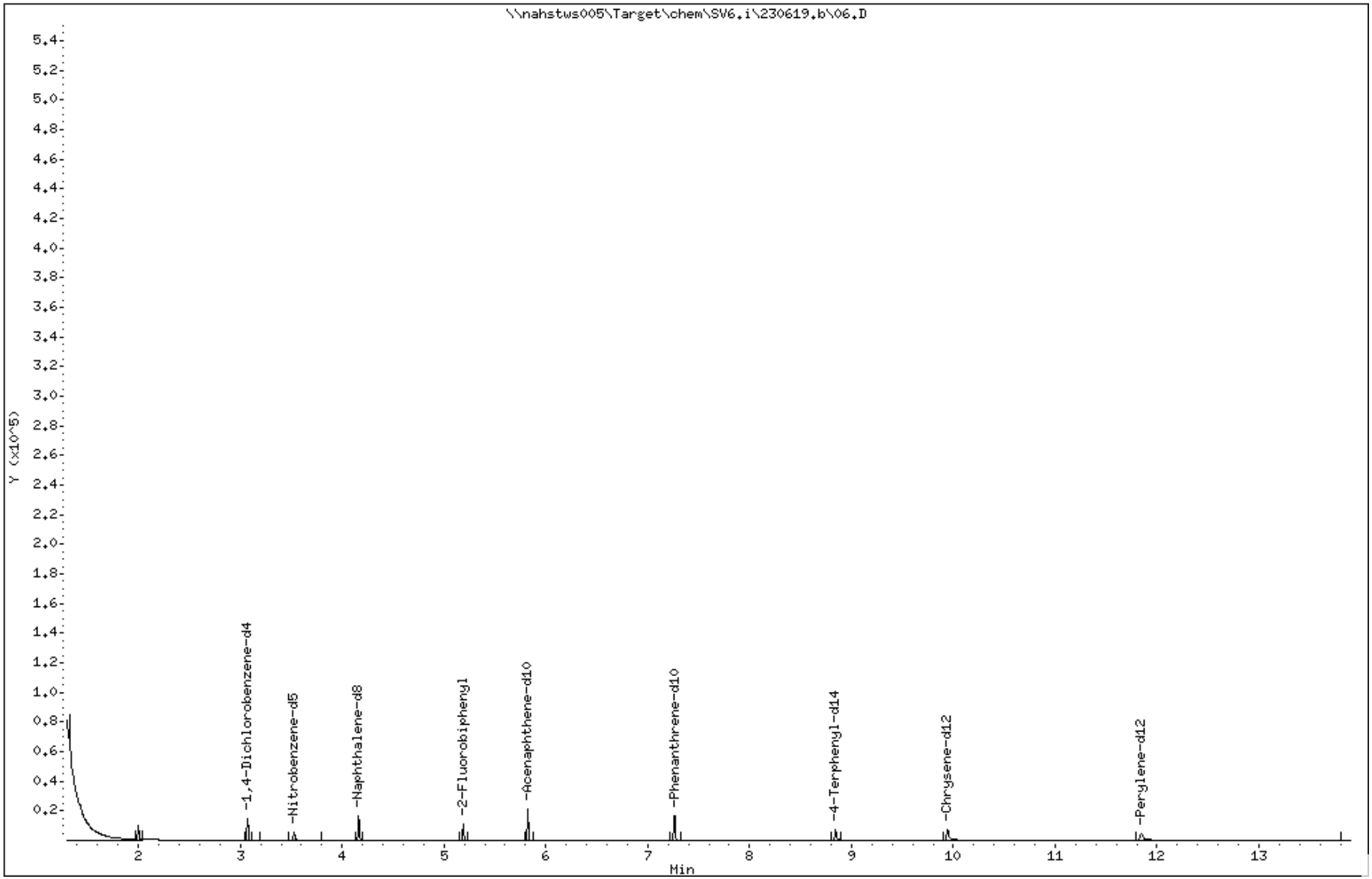
Sample Info: LCS1-195305

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



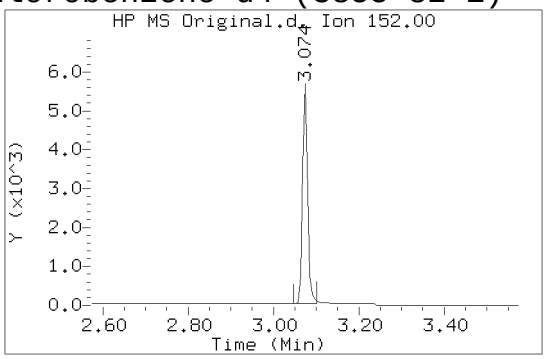
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\06.D
Inj Date : 19-JUN-2023 12:56
InstruID : SV6.i
LabSampID : LCS1-195305

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

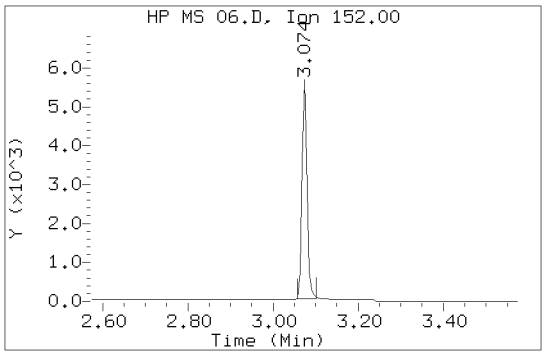
BEFORE

MASS
152
AREA
4489
HEIGHT
5653
19-Jun-2023
13:11
ALSHS
Server



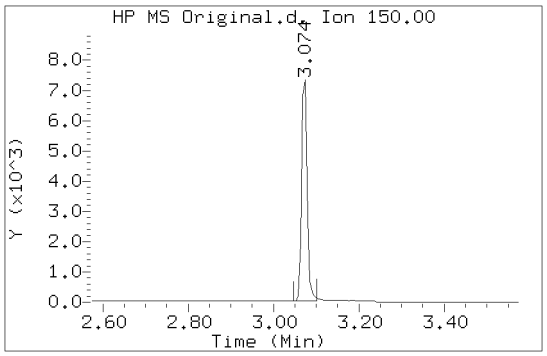
AFTER

MASS
152
AREA
4438
HEIGHT
5636
19-Jun-2023
16:21
ALSHS
Se



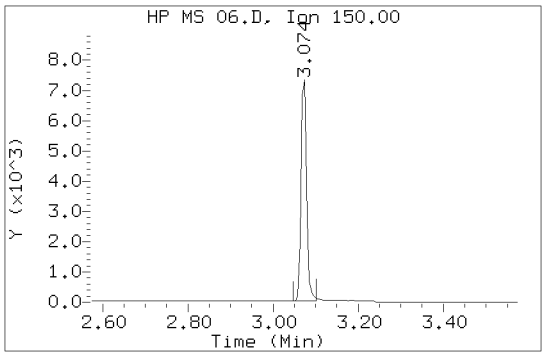
BEFORE

MASS
150
AREA
6467
HEIGHT
7300
19-Jun-2023
13:11
ALSHS
Server



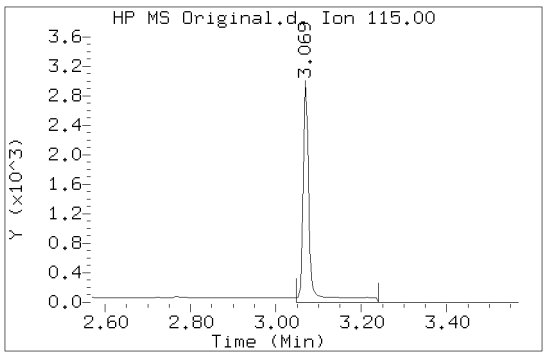
AFTER

MASS
150
AREA
6467
HEIGHT
7300
19-Jun-2023
16:21
ALSHS
Se



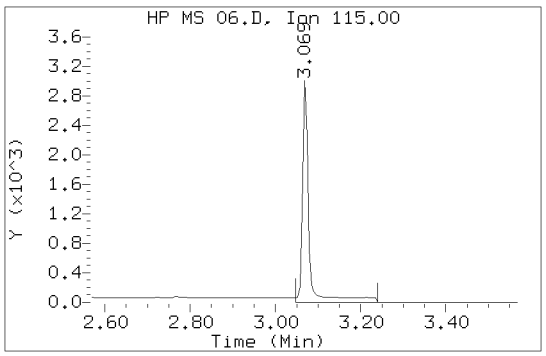
BEFORE

MASS
115
AREA
3154
HEIGHT
3007
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
115
AREA
3154
HEIGHT
3007
19-Jun-2023
16:21
ALSHS
Se

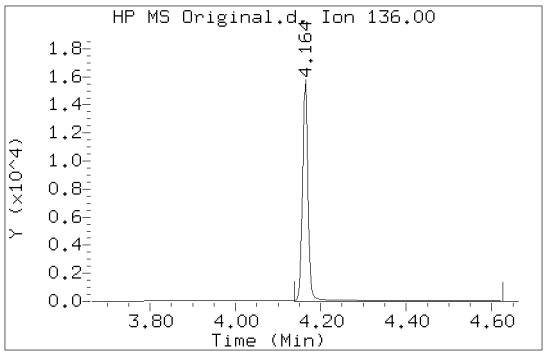


Naphthalene-d8 (1146-65-2)

Reason Code:

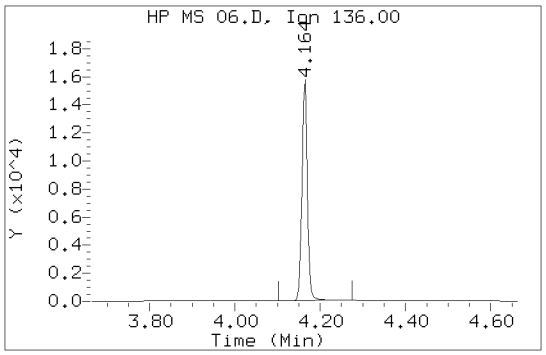
BEFORE

MASS
136
AREA
15945
HEIGHT
15796
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
136
AREA
14217
HEIGHT
15738
19-Jun-2023
16:21
ALSHS
Se



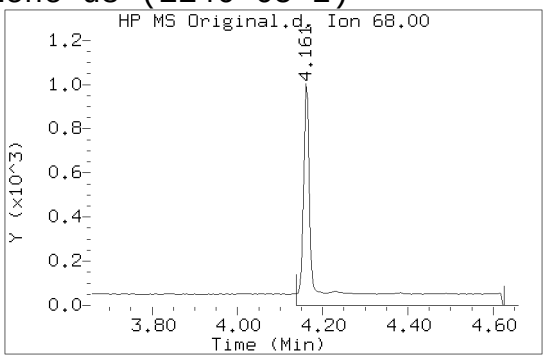
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\06.D
Inj Date : 19-JUN-2023 12:56
InstruID : SV6.i
LabSampID : LCS1-195305

Naphthalene-d8 (1146-65-2)

Reason Code:

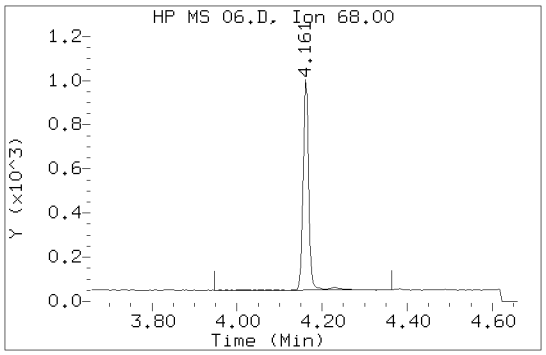
BEFORE

MASS
68
AREA
2391
HEIGHT
1004
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
68
AREA
881
HEIGHT
952
19-Jun-2023
16:21
ALSHS
Se

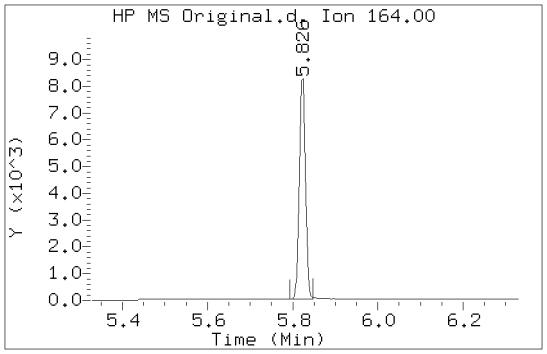


Acenaphthene-d10 (15067-26-2)

Reason Code:

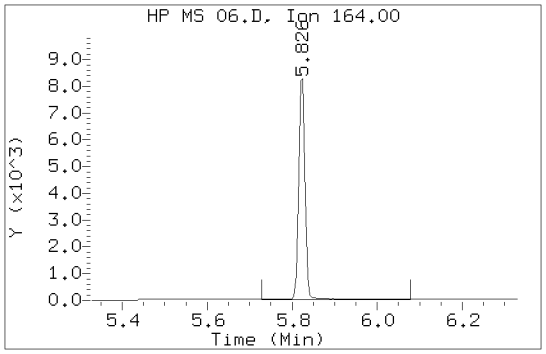
BEFORE

MASS
164
AREA
8316
HEIGHT
8232
19-Jun-2023
13:11
ALSHS
Server



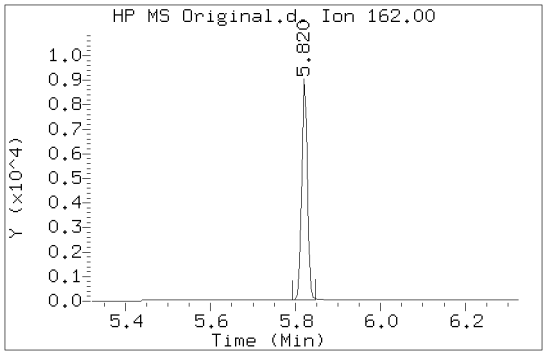
AFTER

MASS
164
AREA
8877
HEIGHT
8254
19-Jun-2023
16:21
ALSHS
Se



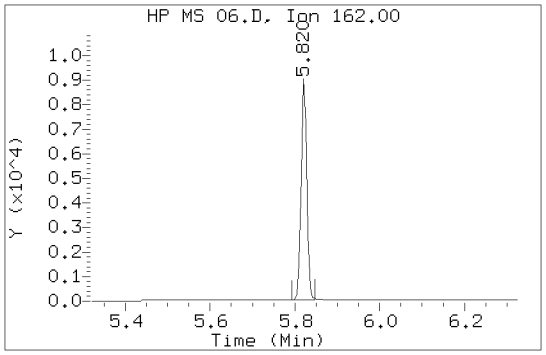
BEFORE

MASS
162
AREA
8459
HEIGHT
9003
19-Jun-2023
13:11
ALSHS
Server



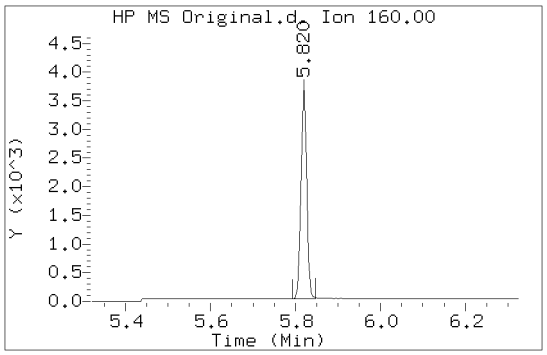
AFTER

MASS
162
AREA
8459
HEIGHT
9003
19-Jun-2023
16:21
ALSHS
Se



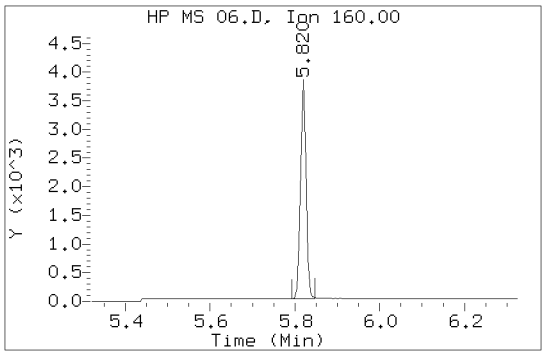
BEFORE

MASS
160
AREA
3519
HEIGHT
3821
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
160
AREA
3519
HEIGHT
3821
19-Jun-2023
16:21
ALSHS
Se



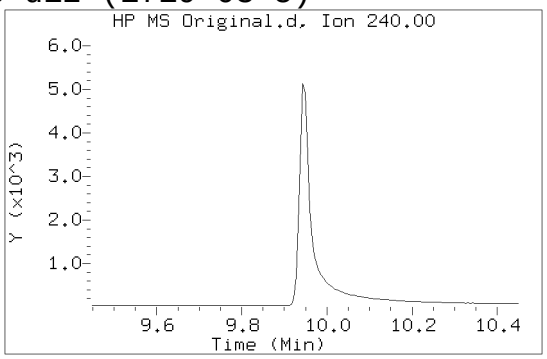
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\06.D
Inj Date : 19-JUN-2023 12:56
InstruID : SV6.i
LabSampID : LCS1-195305

Chrysene-d12 (1719-03-5)

Reason Code:

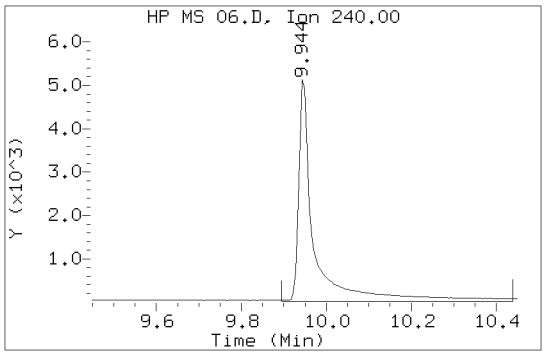
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
13:11
ALSHS
Server



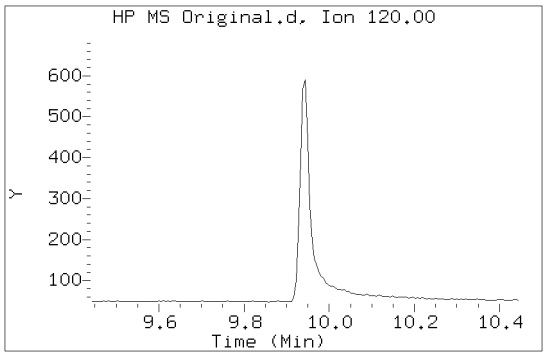
AFTER

MASS
240
AREA
13087
HEIGHT
5108
19-Jun-2023
16:21
ALSHS
Se



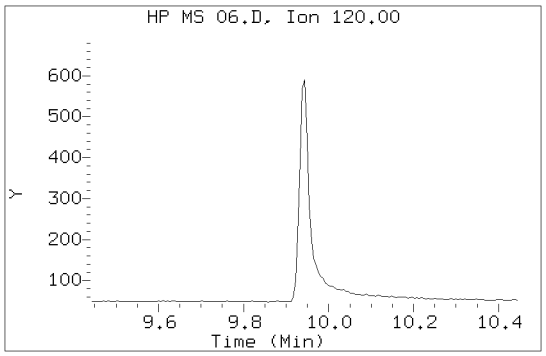
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
13:11
ALSHS
Server



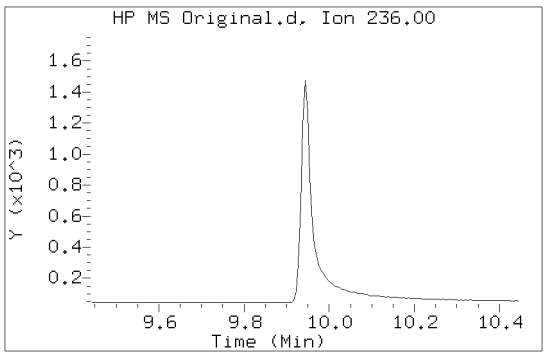
AFTER

MASS
120
AREA
1149
HEIGHT
539
19-Jun-2023
16:21
ALSHS
Se



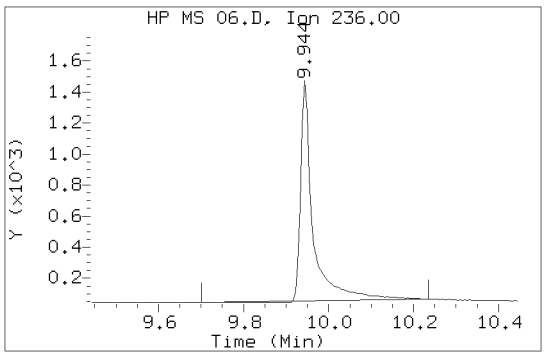
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
236
AREA
2811
HEIGHT
1417
19-Jun-2023
16:21
ALSHS
Se

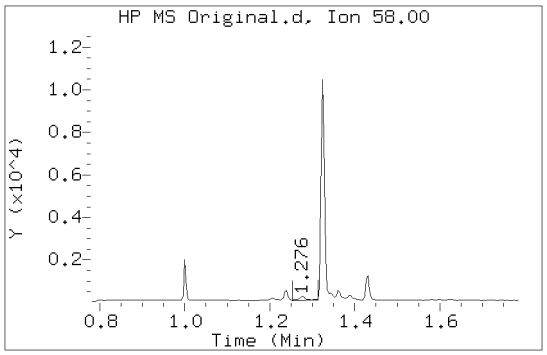


1,4-Dioxane ()

Reason Code:

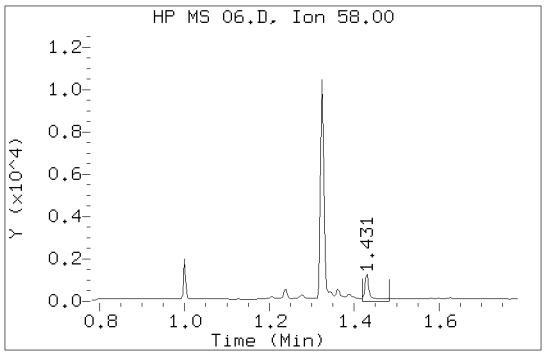
BEFORE

MASS
58
AREA
257
HEIGHT
204
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
58
AREA
1166
HEIGHT
1273
19-Jun-2023
16:21
ALSHS
Se



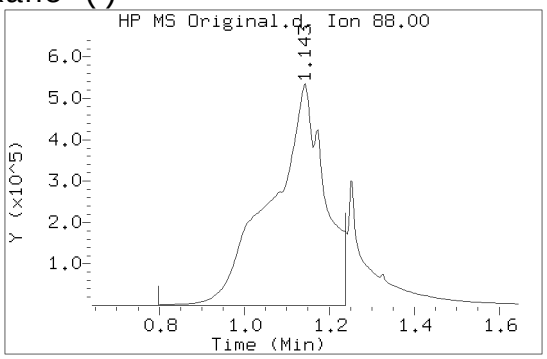
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\06.D
Inj Date : 19-JUN-2023 12:56
InstruID : SV6.i
LabSampID : LCS1-195305

1,4-Dioxane ()

Reason Code:

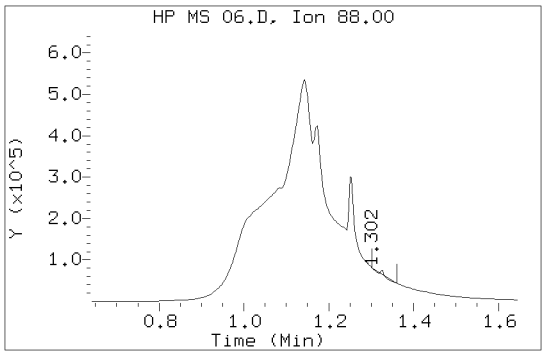
BEFORE

MASS
88
AREA
4653900
HEIGHT
534805
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
88
AREA
2008
HEIGHT
0
19-Jun-2023
16:21
ALSHS
Se

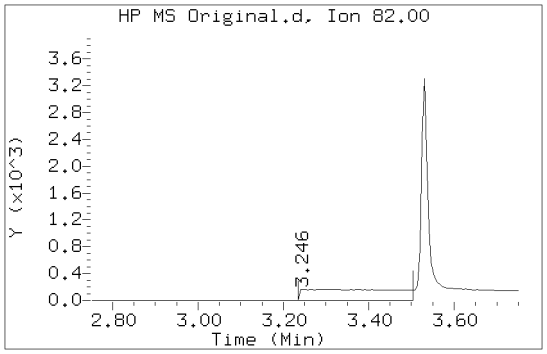


Nitrobenzene-d5 (4165-60-0)

Reason Code:

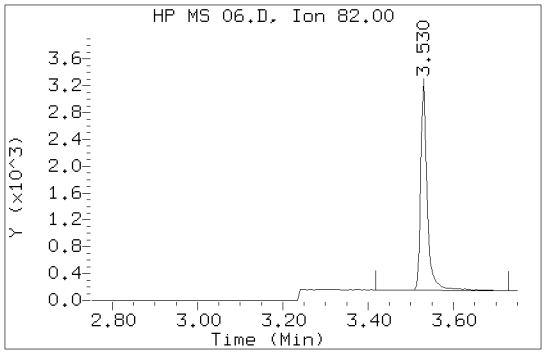
BEFORE

MASS
82
AREA
2526
HEIGHT
164
19-Jun-2023
13:11
ALSHS
Server



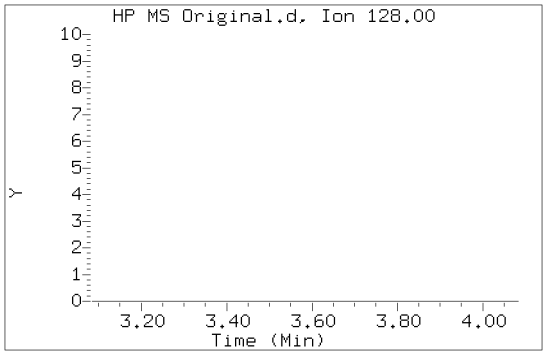
AFTER

MASS
82
AREA
3344
HEIGHT
3153
19-Jun-2023
16:21
ALSHS
Se



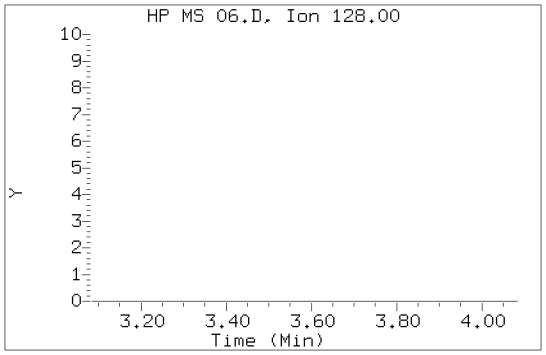
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
13:11
ALSHS
Server



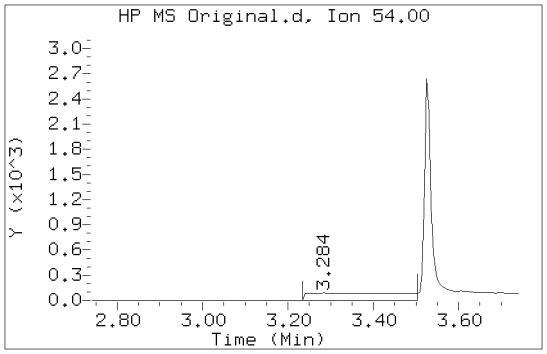
AFTER

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
16:21
ALSHS
Se



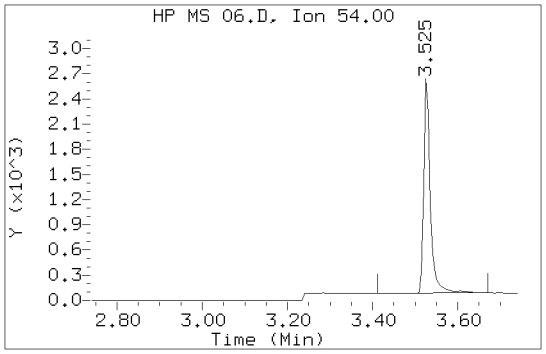
BEFORE

MASS
54
AREA
1359
HEIGHT
89
19-Jun-2023
13:11
ALSHS
Server



AFTER

MASS
54
AREA
2757
HEIGHT
2554
19-Jun-2023
16:21
ALSHS
Se

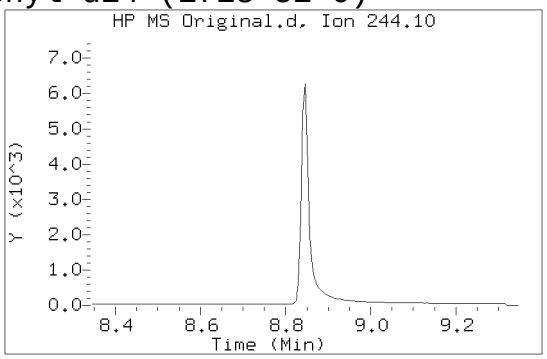


Data File : \\nahstws005\Target\chem\SV6.i\230619.b\06.D
Inj Date : 19-JUN-2023 12:56
InstruID : SV6.i
LabSampID : LCS1-195305

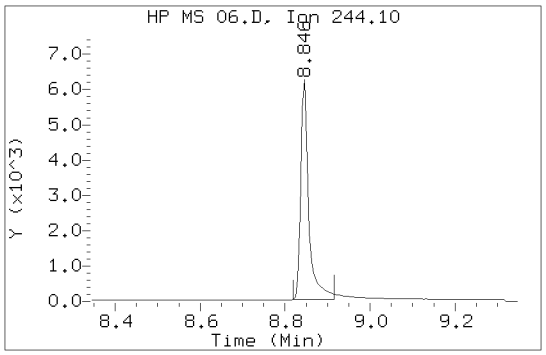
4-Terphenyl-d14 (1718-51-0)

Reason Code:

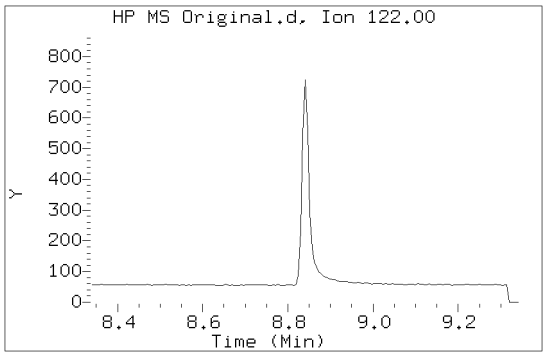
BEFORE
MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
13:11
ALSHS
Server



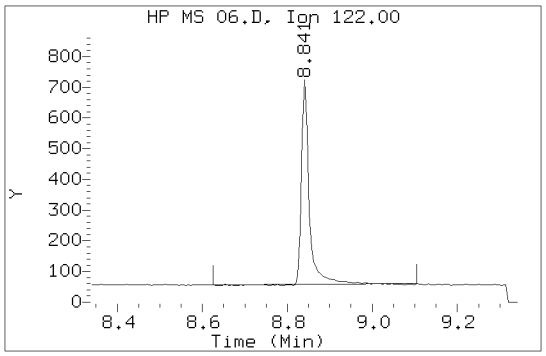
AFTER
MASS
244.1
AREA
8069
HEIGHT
6228
19-Jun-2023
16:21
ALSHS
Se



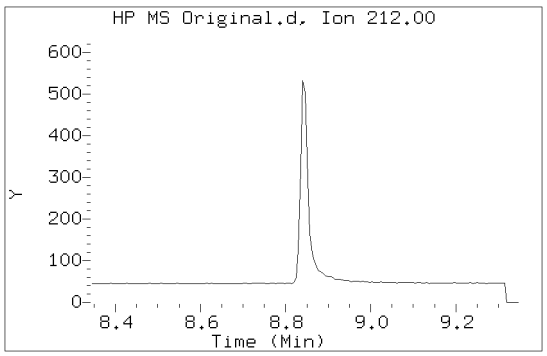
BEFORE
MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
13:11
ALSHS
Server



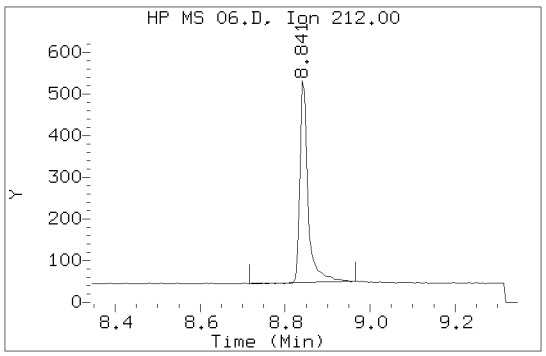
AFTER
MASS
122
AREA
824
HEIGHT
666
19-Jun-2023
16:21
ALSHS
Se



BEFORE
MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
13:11
ALSHS
Server



AFTER
MASS
212
AREA
638
HEIGHT
484
19-Jun-2023
16:21
ALSHS
Se



Data File: \\NAHSTWS005\Target\chem\SV6.i\230619.b\07.D Page 1
Report Date: 23-Jun-2023 17:51

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230619.b\07.D
Lab Smp Id: LCSD1-195305 Client Smp ID: LCSD1-195305
Inj Date : 19-JUN-2023 13:14
Operator : LG Inst ID: SV6.i
Smp Info : LCSD1-195305
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 20-Jun-2023 09:42 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 7 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	3870	0.10000	(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	12828	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.530	(0.848)	3074	0.07887	0.07887(M)
* 86 Acenaphthene-d10	164	5.825	5.825	(1.000)	8131	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.196	(0.891)	7445	0.08954	0.08954
* 126 Phenanthrene-d10	188	7.264	7.270	(1.000)	14950	0.10000	
* 182 Chrysene-d12	240	9.943	9.954	(1.000)	12394	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.846	8.851	(0.890)	8017	0.08768	0.08768(M)
* 198 Perylene-d12	264	11.844	11.855	(1.000)	8799	0.10000	
1 1,4-Dioxane	58	1.423	1.434	(0.463)	1041	0.07928	0.07928(M)

QC Flag Legend

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

01194827

Data File: \\NAHSTWS005\Target\chem\SV6.i\230619.b\07.D

Date : 19-JUN-2023 13:14

Client ID: LCSD1-195305

Instrument: SV6.i

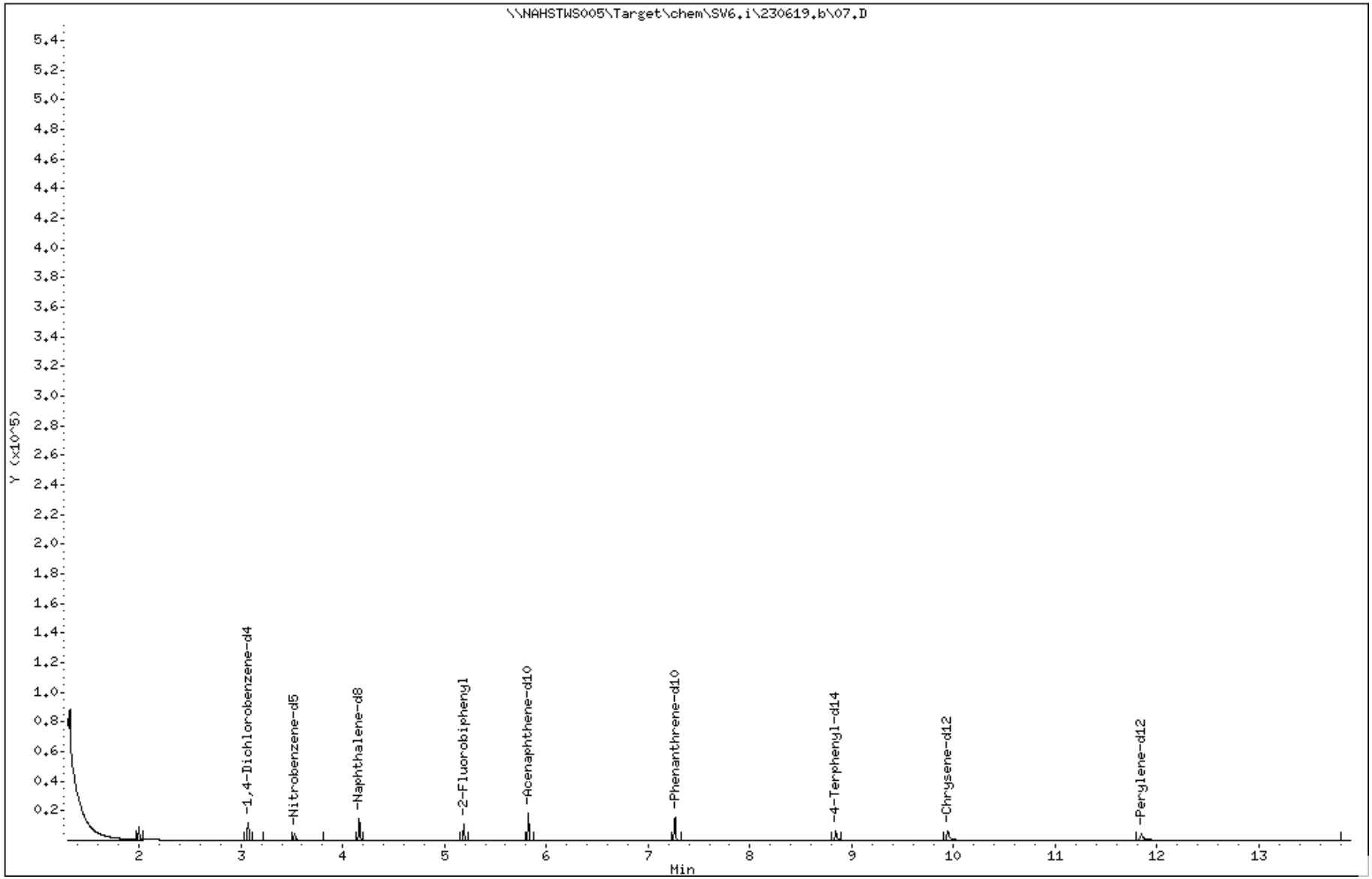
Sample Info: LCSD1-195305

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



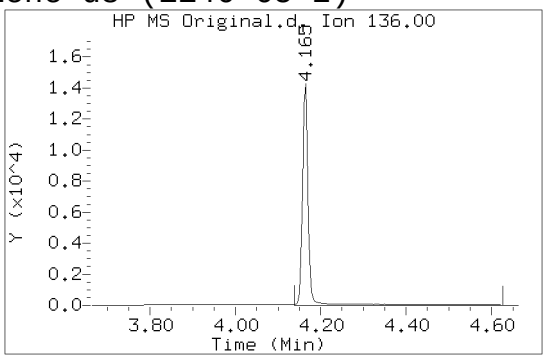
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\07.D
Inj Date : 19-JUN-2023 13:14
InstruID : SV6.i
LabSampID : LCSD1-195305

Naphthalene-d8 (1146-65-2)

Reason Code:

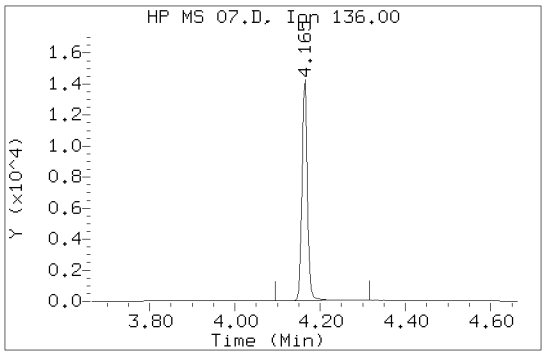
BEFORE

MASS
136
AREA
14469
HEIGHT
14277
19-Jun-2023
13:28
ALSHS
Server



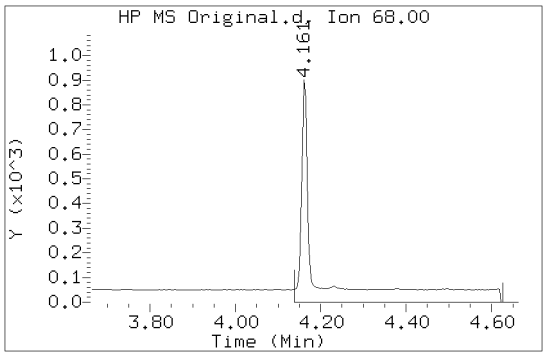
AFTER

MASS
136
AREA
12828
HEIGHT
14223
23-Jun-2023
17:51
ALSHS
Ser



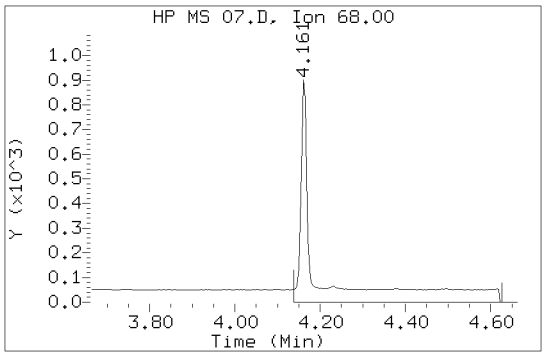
BEFORE

MASS
68
AREA
2278
HEIGHT
901
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
68
AREA
2278
HEIGHT
901
23-Jun-2023
17:51
ALSHS
Ser

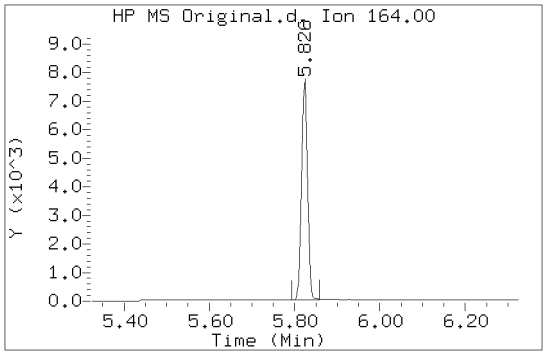


Acenaphthene-d10 (15067-26-2)

Reason Code:

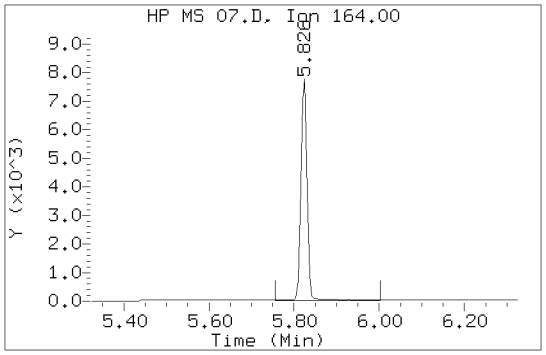
BEFORE

MASS
164
AREA
7505
HEIGHT
7730
19-Jun-2023
13:28
ALSHS
Server



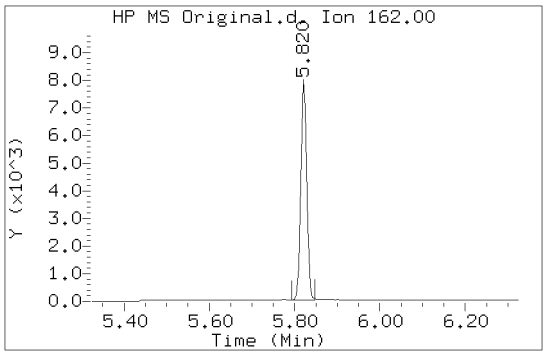
AFTER

MASS
164
AREA
8131
HEIGHT
7768
23-Jun-2023
17:51
ALSHS
Ser



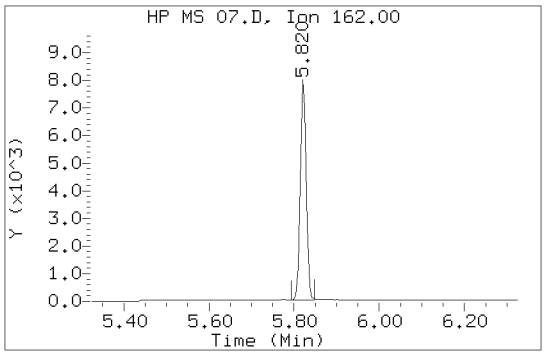
BEFORE

MASS
162
AREA
7654
HEIGHT
7973
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
162
AREA
7654
HEIGHT
7973
23-Jun-2023
17:51
ALSHS
Ser



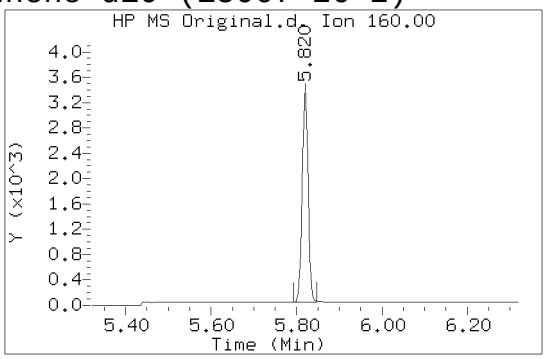
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\07.D
Inj Date : 19-JUN-2023 13:14
InstruID : SV6.i
LabSampID : LCSD1-195305

Acenaphthene-d10 (15067-26-2)

Reason Code:

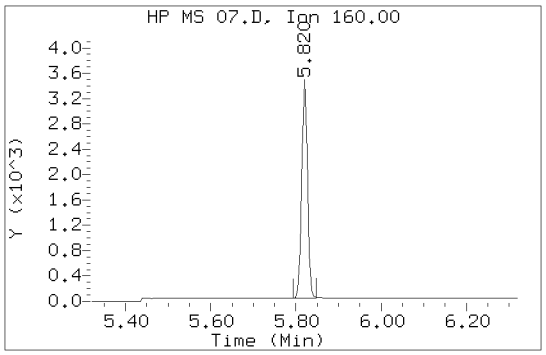
BEFORE

MASS
160
AREA
3158
HEIGHT
3450
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
160
AREA
3158
HEIGHT
3450
23-Jun-2023
17:51
ALSHS
Ser

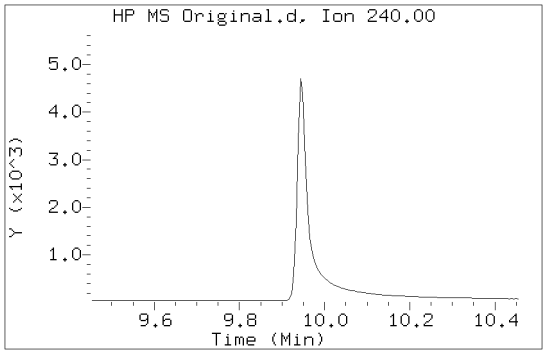


Chrysene-d12 (1719-03-5)

Reason Code:

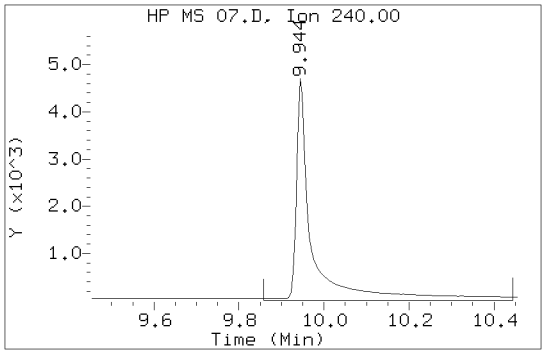
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
13:28
ALSHS
Server



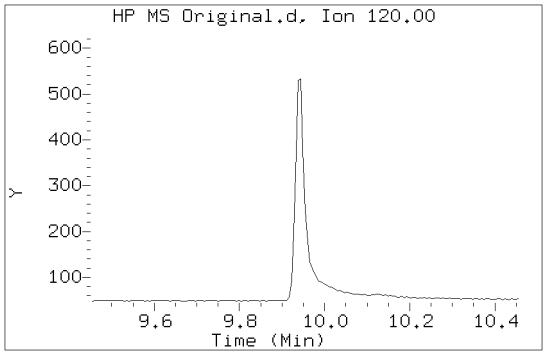
AFTER

MASS
240
AREA
12394
HEIGHT
4694
23-Jun-2023
17:51
ALSHS
Ser



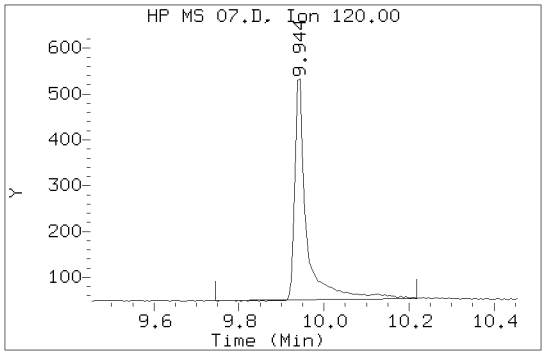
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
13:28
ALSHS
Server



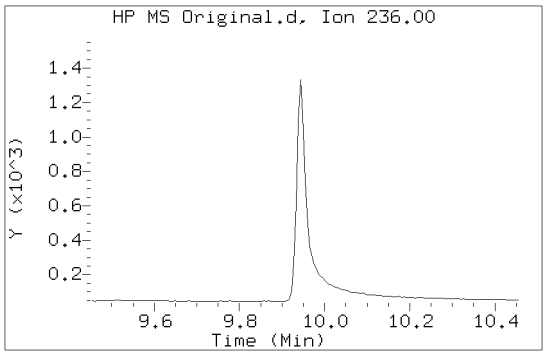
AFTER

MASS
120
AREA
937
HEIGHT
481
23-Jun-2023
17:51
ALSHS
Ser



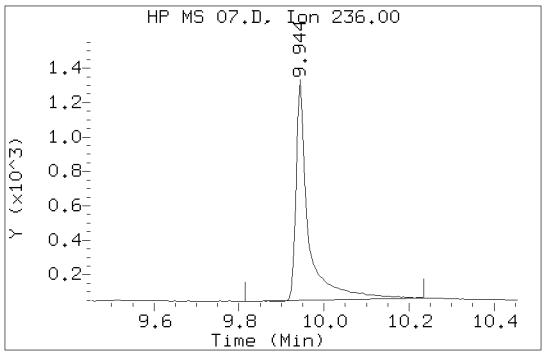
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
236
AREA
2580
HEIGHT
1281
23-Jun-2023
17:51
ALSHS
Ser



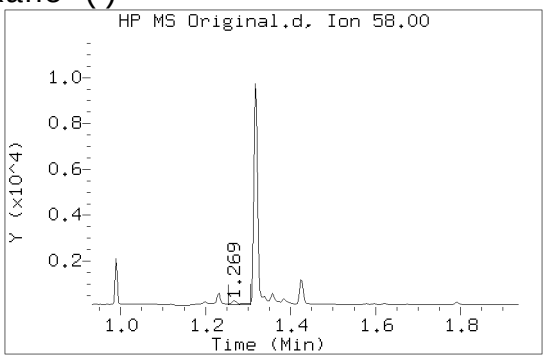
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\07.D
Inj Date : 19-JUN-2023 13:14
InstruID : SV6.i
LabSampID : LCSD1-195305

1,4-Dioxane ()

Reason Code:

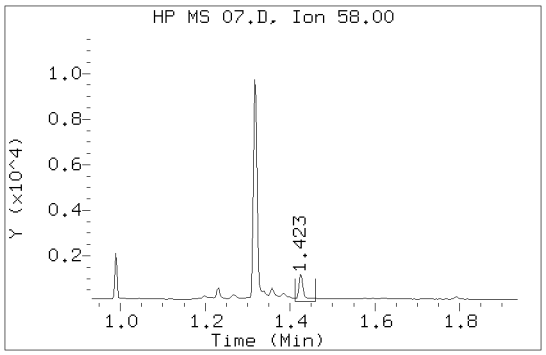
BEFORE

MASS
58
AREA
237
HEIGHT
175
19-Jun-2023
13:28
ALSHS
Server



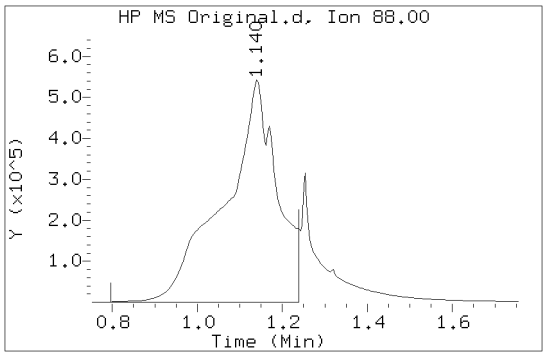
AFTER

MASS
58
AREA
1041
HEIGHT
1189
23-Jun-2023
17:51
ALSHS
Ser



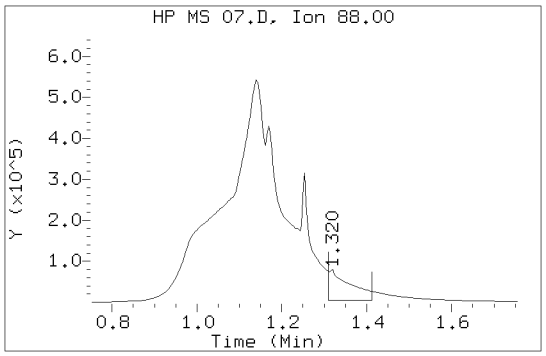
BEFORE

MASS
88
AREA
4666329
HEIGHT
542012
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
88
AREA
270665
HEIGHT
74266
23-Jun-2023
17:51
ALSHS
Ser

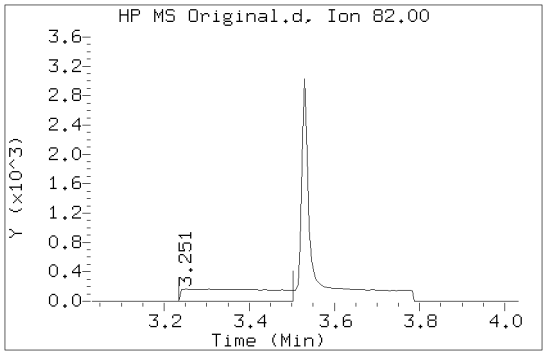


Nitrobenzene-d5 (4165-60-0)

Reason Code:

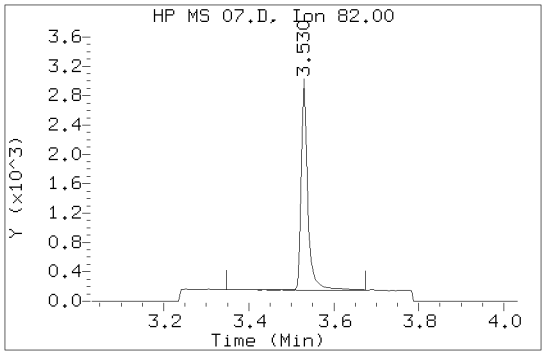
BEFORE

MASS
82
AREA
2518
HEIGHT
167
19-Jun-2023
13:28
ALSHS
Server



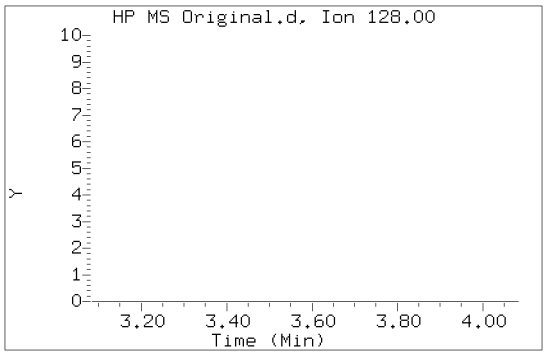
AFTER

MASS
82
AREA
3074
HEIGHT
2875
23-Jun-2023
17:51
ALSHS
Ser



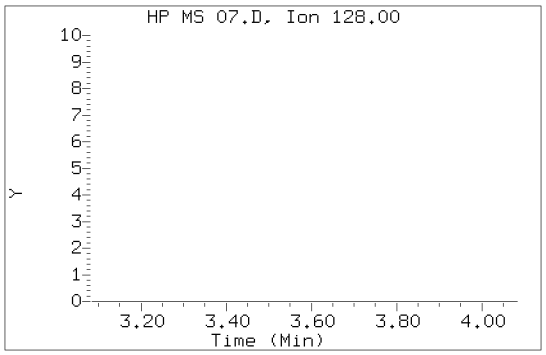
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
23-Jun-2023
17:51
ALSHS
Ser



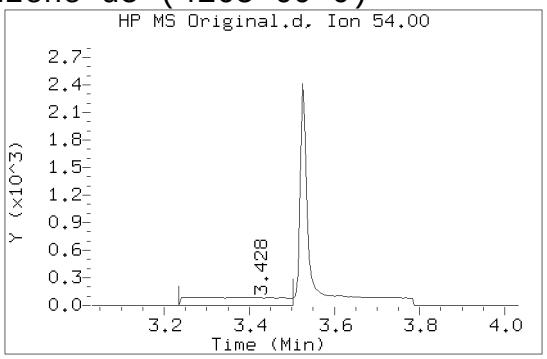
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\07.D
Inj Date : 19-JUN-2023 13:14
InstruID : SV6.i
LabSampID : LCSD1-195305

Nitrobenzene-d5 (4165-60-0)

Reason Code:

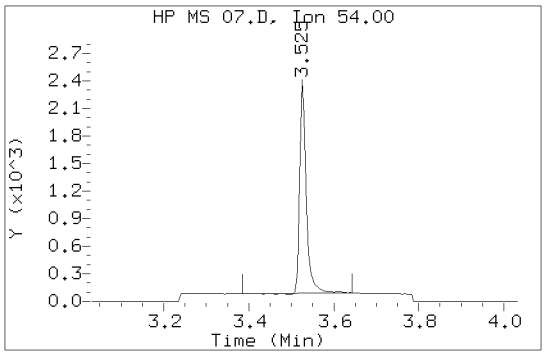
BEFORE

MASS
54
AREA
1315
HEIGHT
86
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
54
AREA
2517
HEIGHT
2325
23-Jun-2023
17:51
ALSHS
Ser

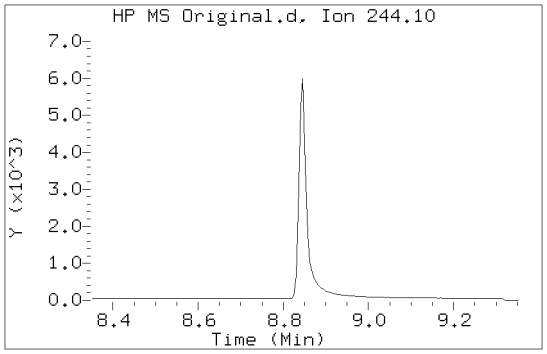


4-Terphenyl-d14 (1718-51-0)

Reason Code:

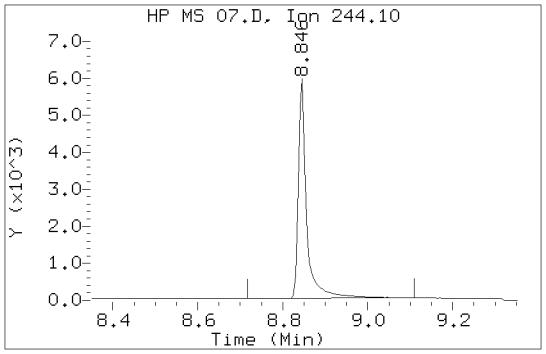
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
13:28
ALSHS
Server



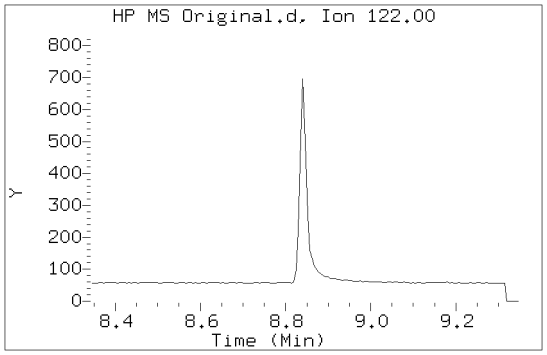
AFTER

MASS
244.1
AREA
8017
HEIGHT
5939
23-Jun-2023
17:51
ALSHS
Ser



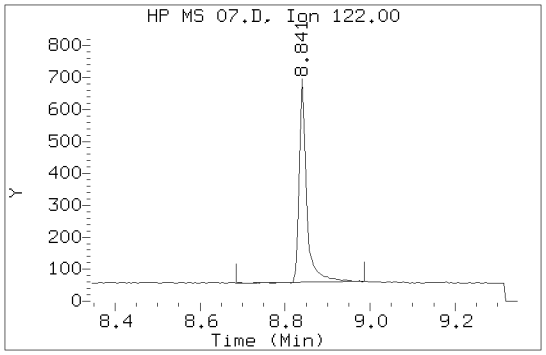
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
13:28
ALSHS
Server



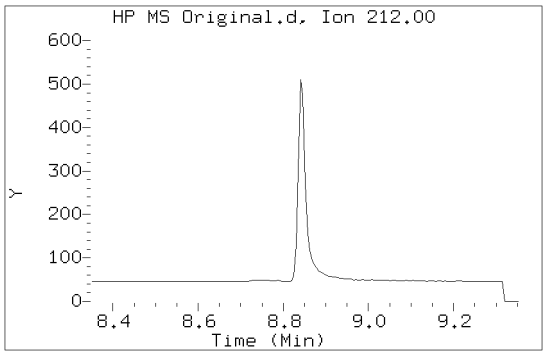
AFTER

MASS
122
AREA
761
HEIGHT
636
23-Jun-2023
17:51
ALSHS
Ser



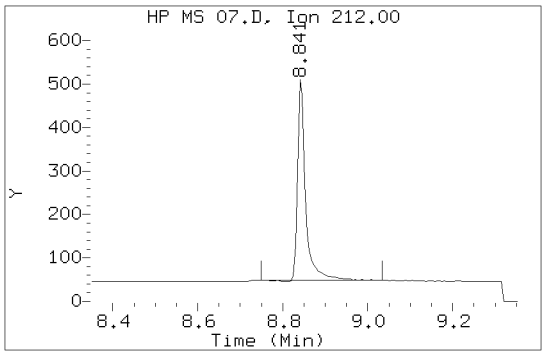
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
13:28
ALSHS
Server



AFTER

MASS
212
AREA
596
HEIGHT
461
23-Jun-2023
17:51
ALSHS
Ser



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\08.D
Lab Smp Id: HS23060739-01 Client Smp ID: HS23060739-01
Inj Date : 19-JUN-2023 13:32
Operator : LG Inst ID: SV6.i
Smp Info : HS23060739-01
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	3854	0.10000	(a)
* 45 Naphthalene-d8	136	4.160	4.164	(1.000)	12110	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.251	(0.848)	2748	0.07469	0.07469(M)
* 86 Acenaphthene-d10	164	5.822	5.827	(1.000)	7120	0.10000	
$ 69 2-Fluorobiphenyl	172	5.189	5.193	(0.891)	6439	0.08844	0.08844
* 126 Phenanthrene-d10	188	7.261	7.261	(1.000)	14201	0.10000	
* 182 Chrysene-d12	240	9.945	9.950	(1.000)	10936	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.842	8.848	(0.889)	6895	0.08546	0.08546(M)
* 198 Perylene-d12	264	11.846	11.846	(1.000)	8555	0.10000	
1 1,4-Dioxane	58	1.427	1.283	(0.464)	728	0.05567	0.05567(M)

QC Flag Legend

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

01194833

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\08.D

Date : 19-JUN-2023 13:32

Client ID: HS23060739-01

Instrument: SV6.i

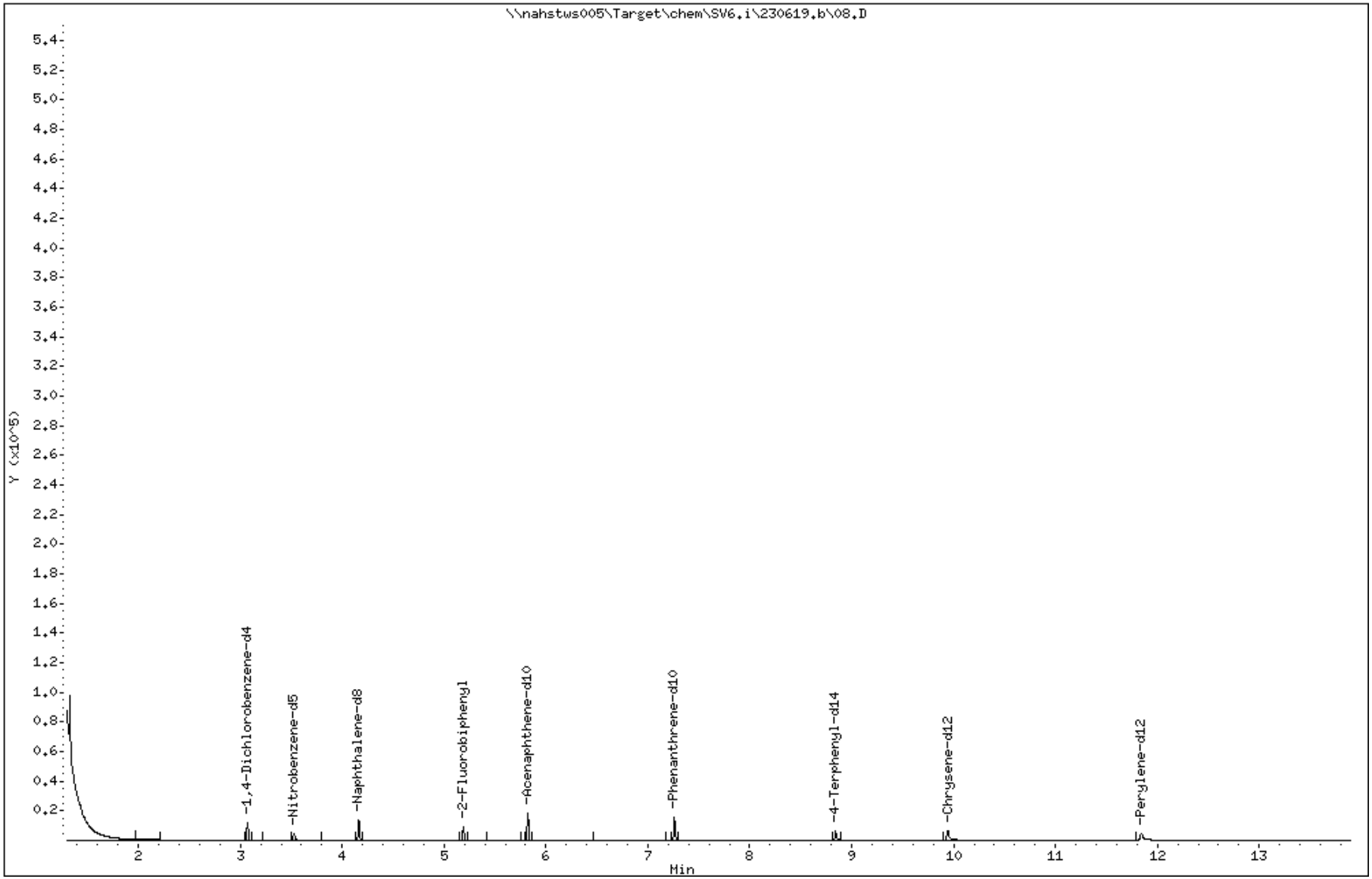
Sample Info: HS23060739-01

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\08.D

Date : 19-JUN-2023 13:32

Client ID: HS23060739-01

Instrument: SV6.i

Sample Info: HS23060739-01

Purge Volume: 1000.0

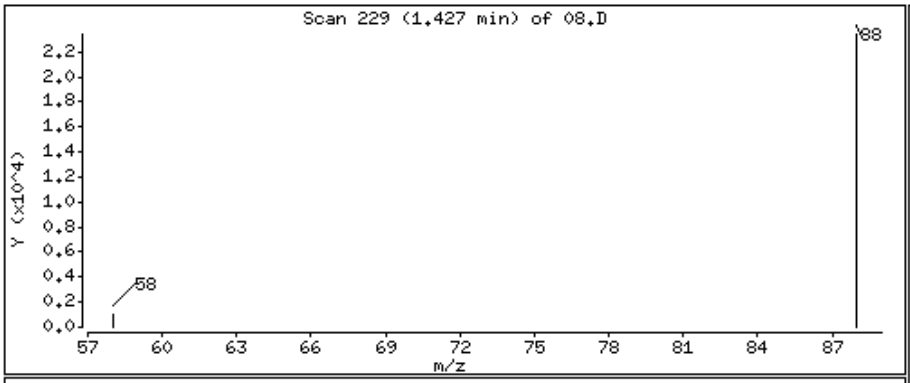
Operator: LG

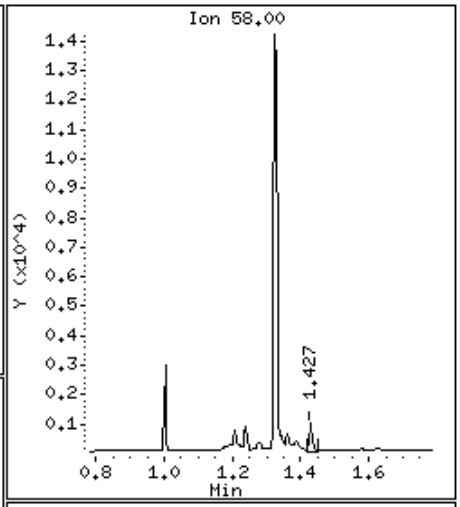
Column phase: RTX-5SIL MS

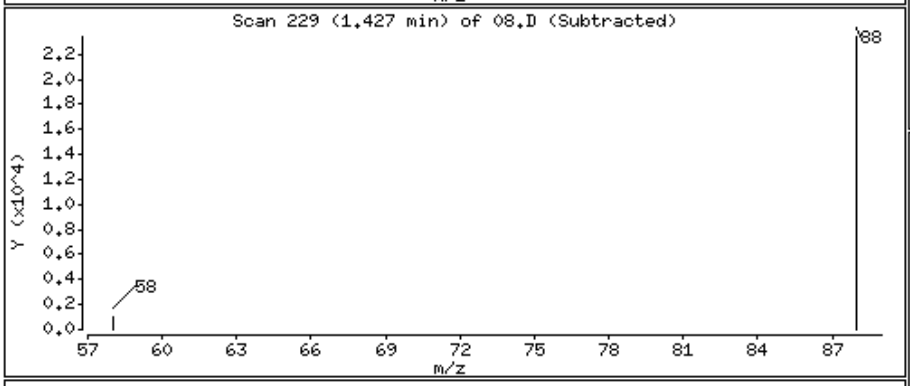
Column diameter: 0.28

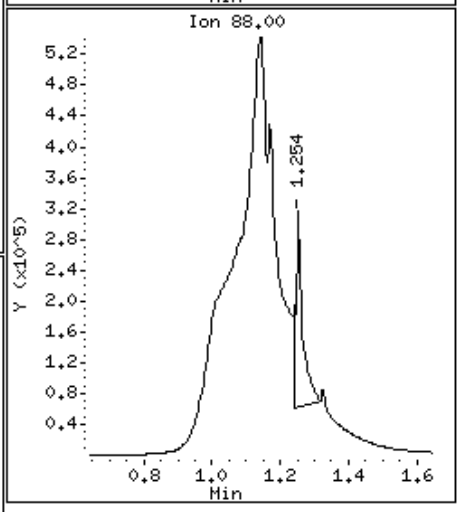
1 1,4-Dioxane

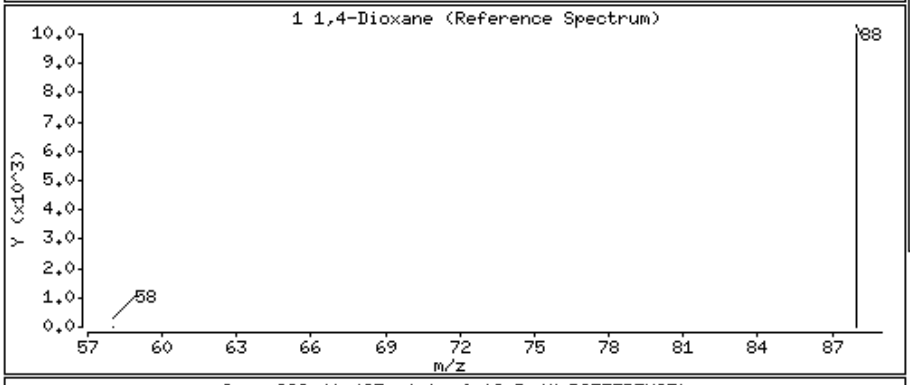
Concentration: 0.05567 ug/L

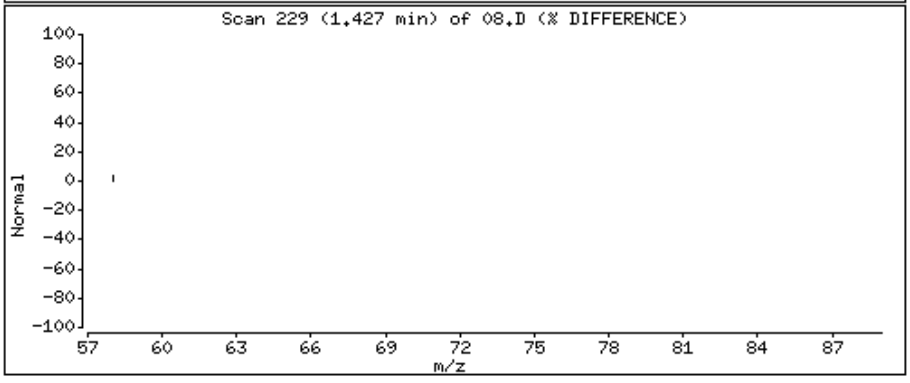












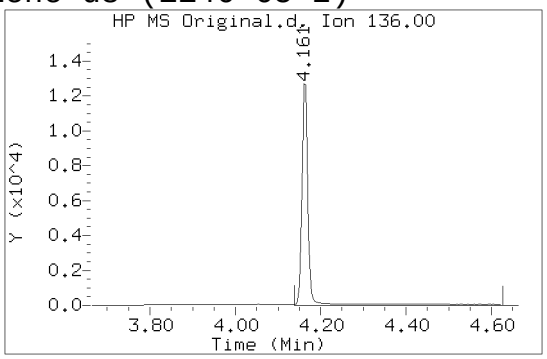
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\08.D
Inj Date : 19-JUN-2023 13:32
InstruID : SV6.i
LabSampID : HS23060739-01

Naphthalene-d8 (1146-65-2)

Reason Code:

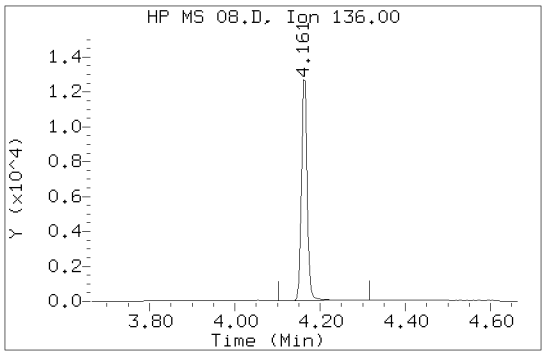
BEFORE

MASS
136
AREA
13771
HEIGHT
12703
19-Jun-2023
13:48
ALSHS
Server



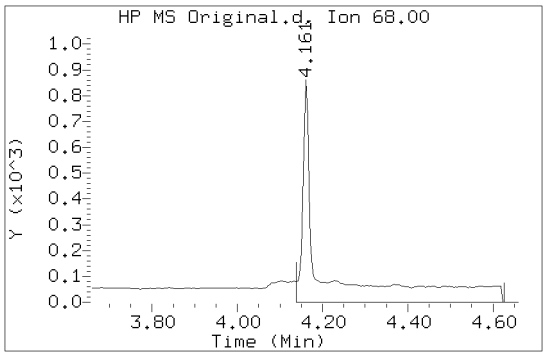
AFTER

MASS
136
AREA
12110
HEIGHT
12648
19-Jun-2023
15:04
ALSHS
Se



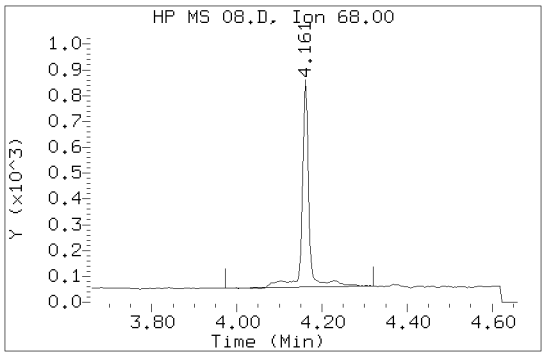
BEFORE

MASS
68
AREA
2585
HEIGHT
861
19-Jun-2023
13:48
ALSHS
Server



AFTER

MASS
68
AREA
898
HEIGHT
802
19-Jun-2023
15:04
ALSHS
Se

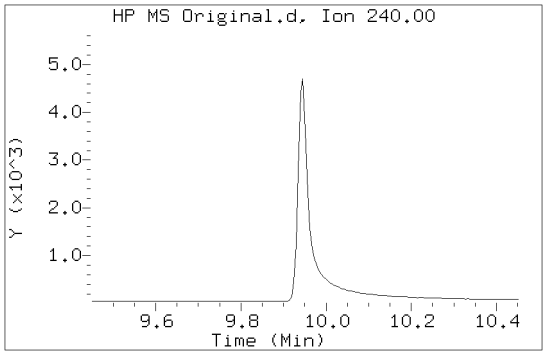


Chrysene-d12 (1719-03-5)

Reason Code:

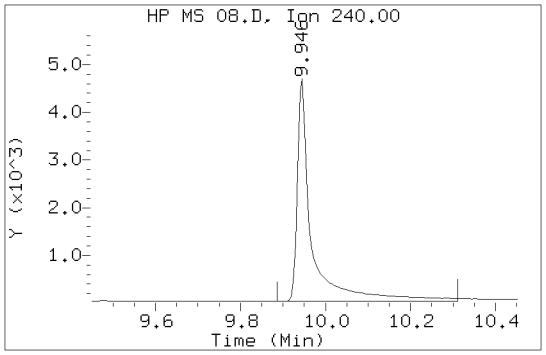
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
13:48
ALSHS
Server



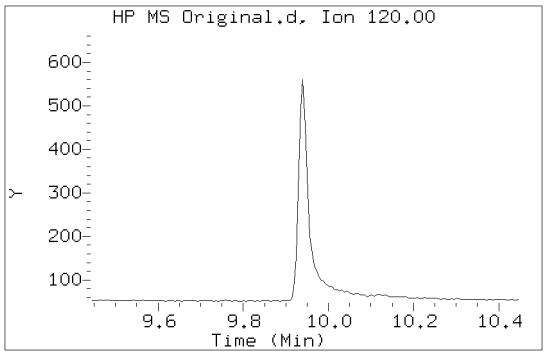
AFTER

MASS
240
AREA
10936
HEIGHT
4656
19-Jun-2023
15:04
ALSHS
Se



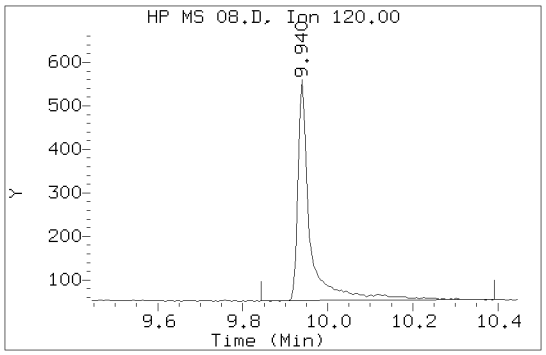
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
13:48
ALSHS
Server



AFTER

MASS
120
AREA
1010
HEIGHT
506
19-Jun-2023
15:04
ALSHS
Se



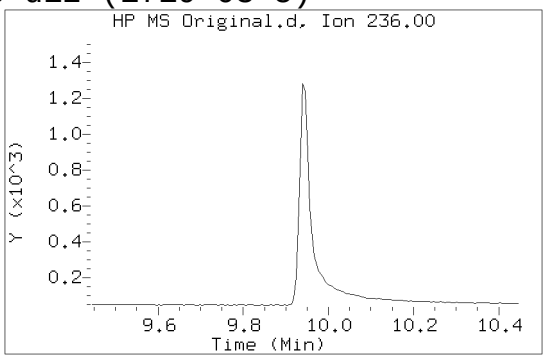
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\08.D
Inj Date : 19-JUN-2023 13:32
InstruID : SV6.i
LabSampID : HS23060739-01

Chrysene-d12 (1719-03-5)

Reason Code:

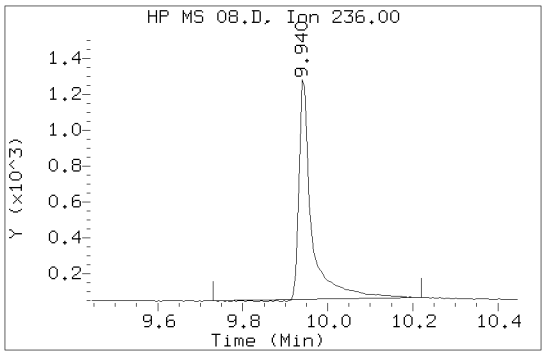
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
13:48
ALSHS
Server



AFTER

MASS
236
AREA
2531
HEIGHT
1225
19-Jun-2023
15:04
ALSHS
Se

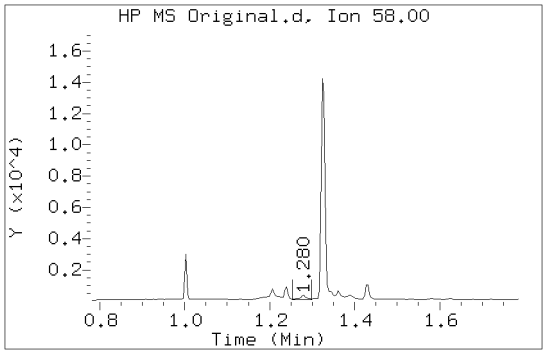


1,4-Dioxane ()

Reason Code:

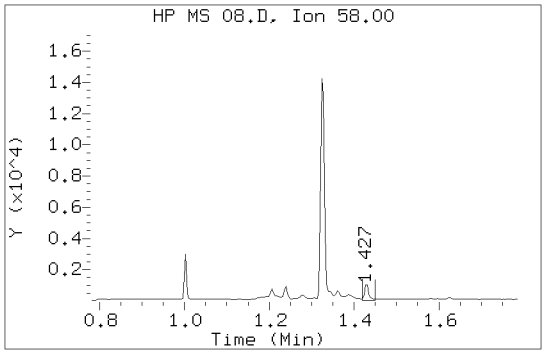
BEFORE

MASS
58
AREA
306
HEIGHT
280
19-Jun-2023
13:48
ALSHS
Server



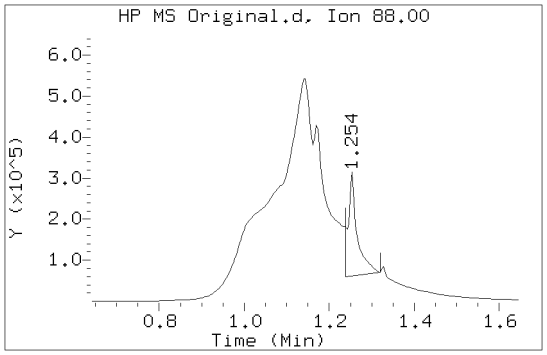
AFTER

MASS
58
AREA
728
HEIGHT
988
19-Jun-2023
15:04
ALSHS
Se



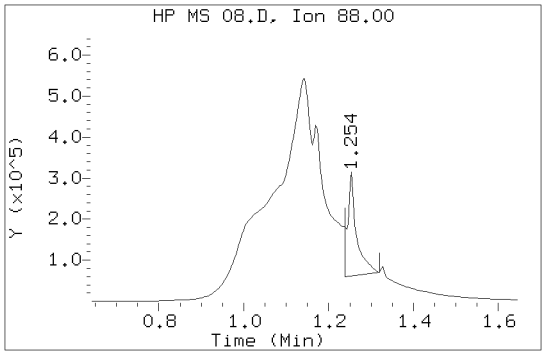
BEFORE

MASS
88
AREA
365923
HEIGHT
253392
19-Jun-2023
13:48
ALSHS
Server



AFTER

MASS
88
AREA
365923
HEIGHT
253392
19-Jun-2023
15:04
ALSHS
Se

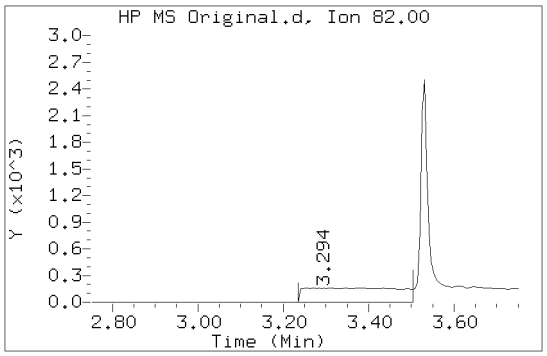


Nitrobenzene-d5 (4165-60-0)

Reason Code:

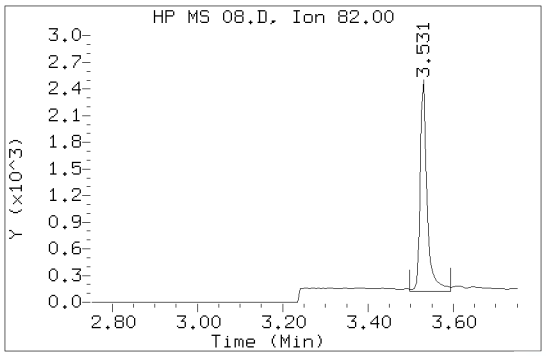
BEFORE

MASS
82
AREA
2473
HEIGHT
161
19-Jun-2023
13:48
ALSHS
Server



AFTER

MASS
82
AREA
2748
HEIGHT
2381
19-Jun-2023
15:04
ALSHS
Se

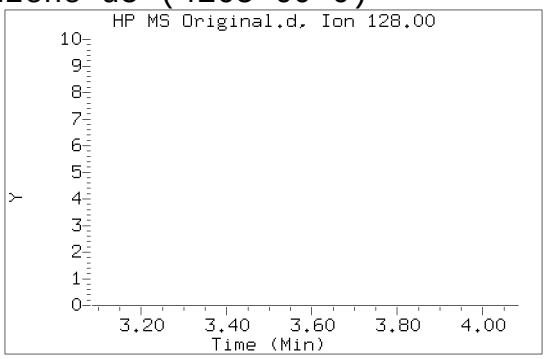


Data File : \\nahstws005\Target\chem\SV6.i\230619.b\08.D
Inj Date : 19-JUN-2023 13:32
InstruID : SV6.i
LabSampID : HS23060739-01

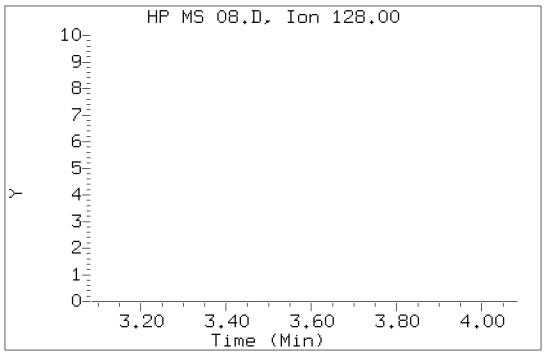
Nitrobenzene-d5 (4165-60-0)

Reason Code:

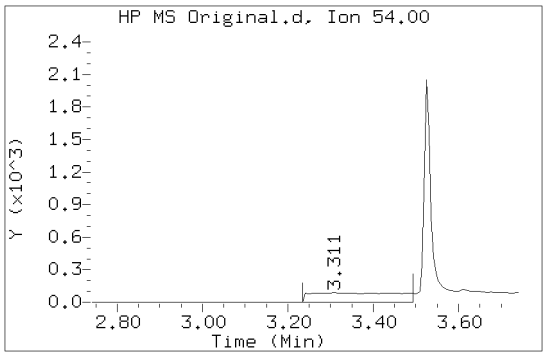
BEFORE
MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
13:48
ALSHS
Server



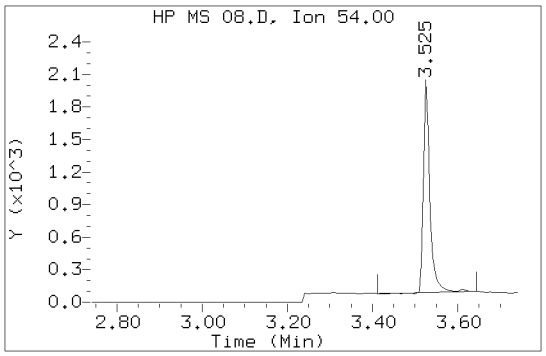
AFTER
MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
15:04
ALSHS
Se



BEFORE
MASS
54
AREA
1271
HEIGHT
87
19-Jun-2023
13:48
ALSHS
Server



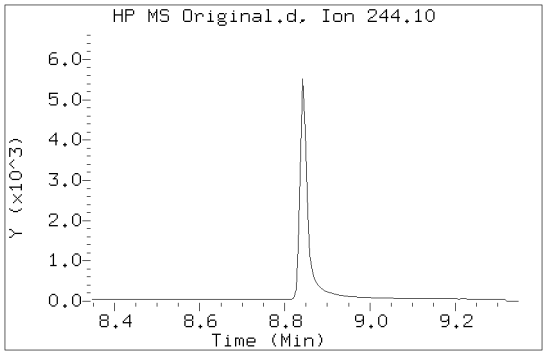
AFTER
MASS
54
AREA
2092
HEIGHT
1961
19-Jun-2023
15:04
ALSHS
Se



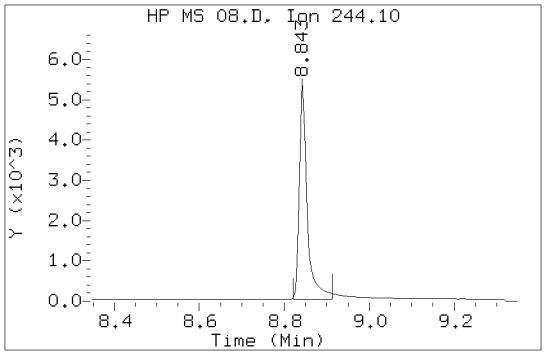
4-Terphenyl-d14 (1718-51-0)

Reason Code:

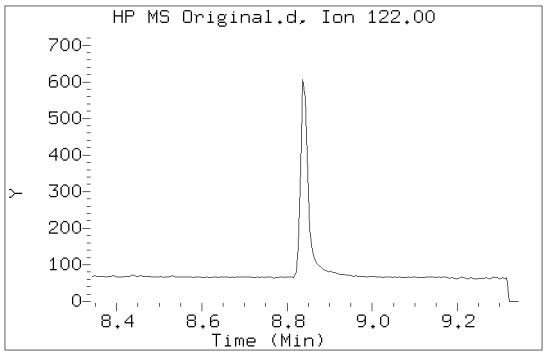
BEFORE
MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
13:48
ALSHS
Server



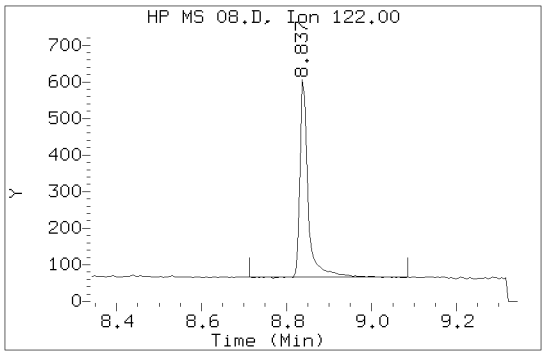
AFTER
MASS
244.1
AREA
6895
HEIGHT
5472
19-Jun-2023
15:04
ALSHS
Se



BEFORE
MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
13:48
ALSHS
Server



AFTER
MASS
122
AREA
704
HEIGHT
539
19-Jun-2023
15:04
ALSHS
Se



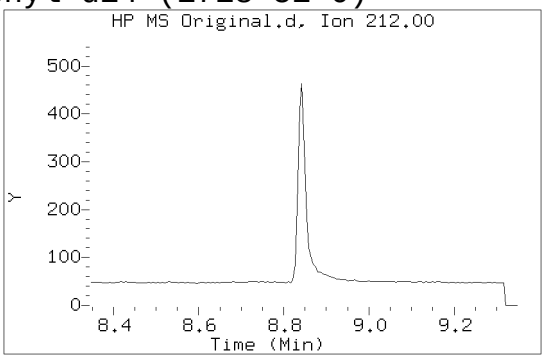
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\08.D
Inj Date : 19-JUN-2023 13:32
InstruID : SV6.i
LabSampID : HS23060739-01

4-Terphenyl-d14 (1718-51-0)

Reason Code:

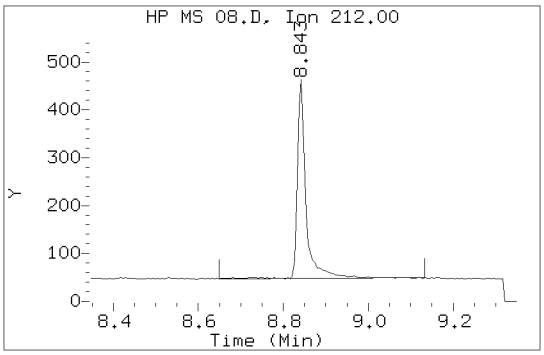
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
13:48
ALSHS
Server



AFTER

MASS
212
AREA
581
HEIGHT
415
19-Jun-2023
15:04
ALSHS
Se



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\09.D Page 1
Report Date: 19-Jun-2023 15:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\09.D
Lab Smp Id: HS23060739-02 Client Smp ID: HS23060739-02
Inj Date : 19-JUN-2023 13:50
Operator : LG Inst ID: SV6.i
Smp Info : HS23060739-02
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	4040	0.10000	(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	13005	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.251	(0.848)	2982	0.07547	0.07547(M)
* 86 Acenaphthene-d10	164	5.822	5.827	(1.000)	7726	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.193	(0.891)	7033	0.08902	0.08902
* 126 Phenanthrene-d10	188	7.261	7.261	(1.000)	14857	0.10000	
* 182 Chrysene-d12	240	9.945	9.950	(1.000)	11016	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.842	8.848	(0.889)	7247	0.08917	0.08917(M)
* 198 Perylene-d12	264	11.846	11.846	(1.000)	8514	0.10000	
1 1,4-Dioxane	58	1.423	1.283	(0.463)	291	0.02123	0.02123(M)

QC Flag Legend

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

01194840

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\09.D

Date : 19-JUN-2023 13:50

Client ID: HS23060739-02

Instrument: SV6.i

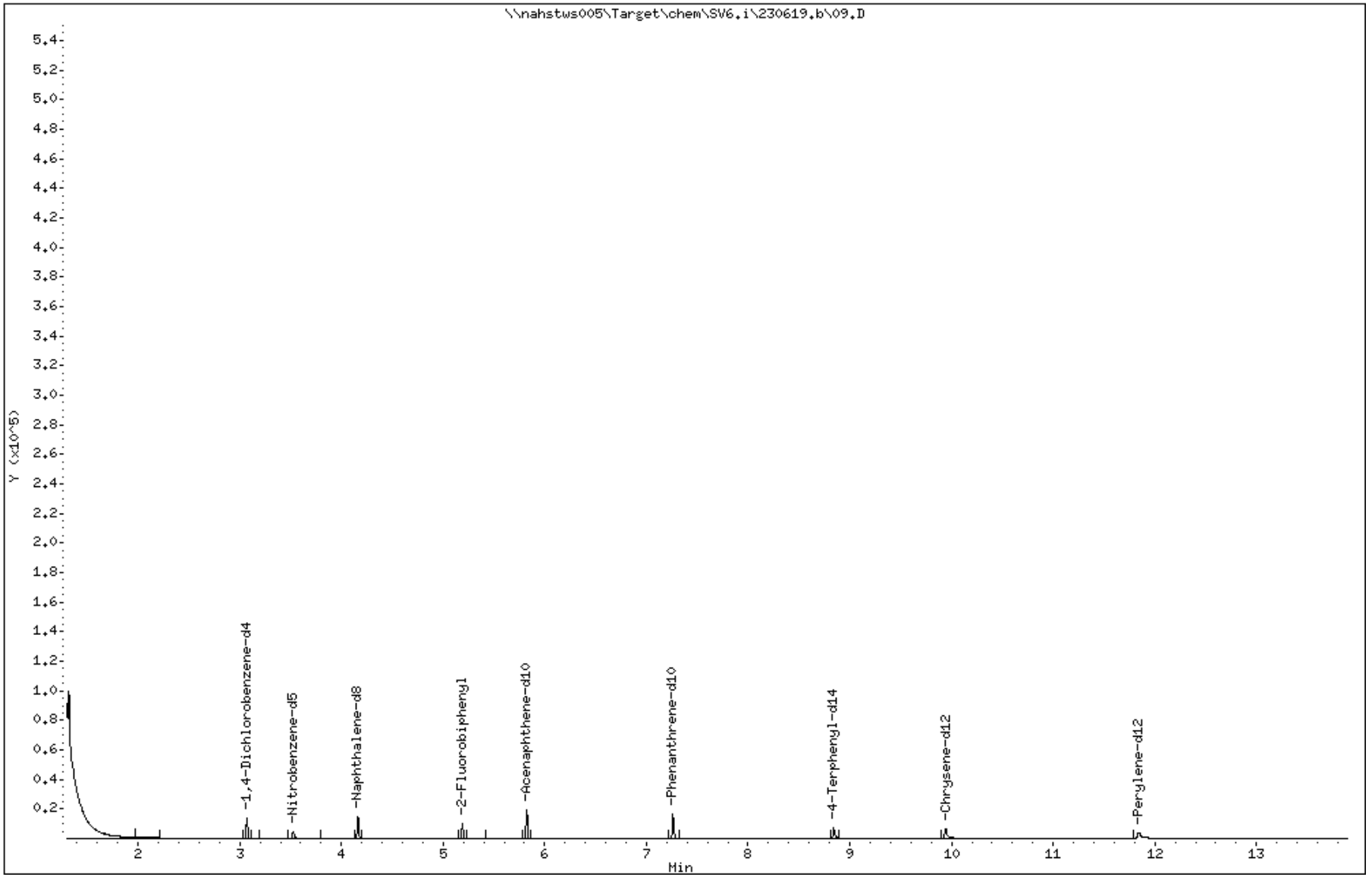
Sample Info: HS23060739-02

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\09.D

Date : 19-JUN-2023 13:50

Client ID: HS23060739-02

Instrument: SV6.i

Sample Info: HS23060739-02

Purge Volume: 1000.0

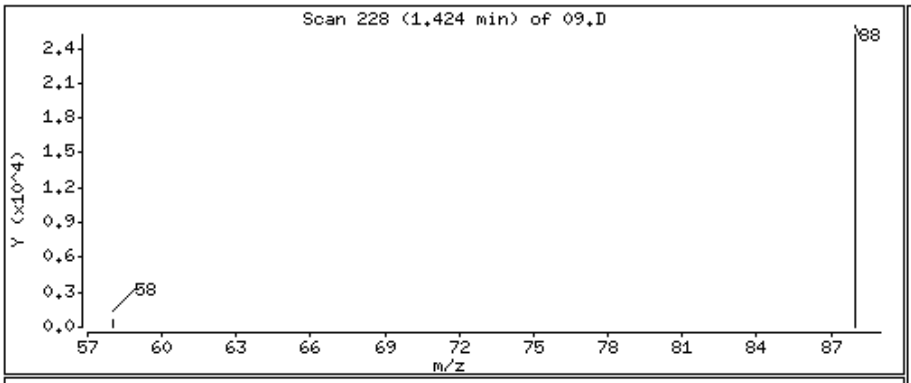
Operator: LG

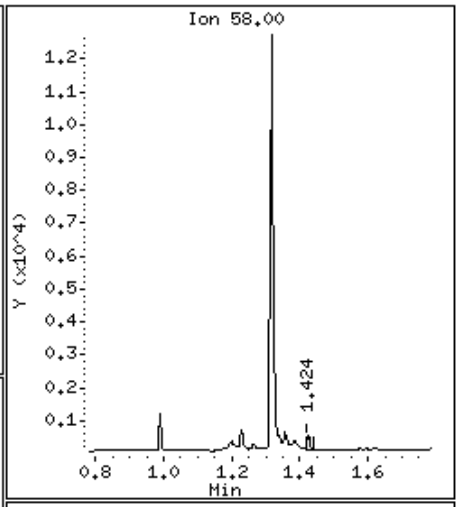
Column phase: RTX-5SIL MS

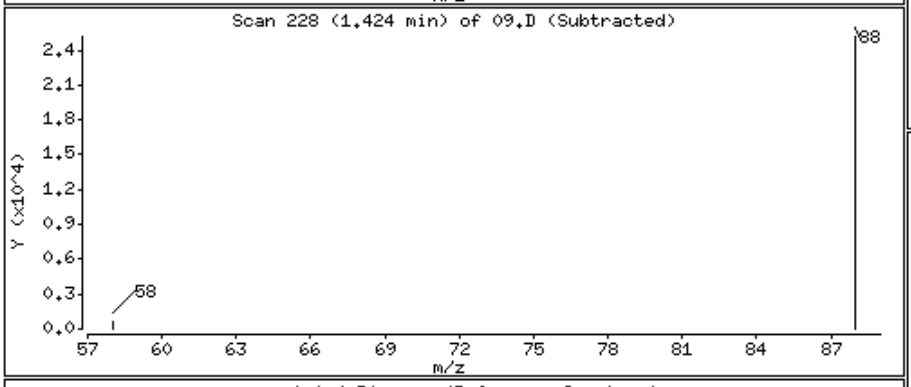
Column diameter: 0.28

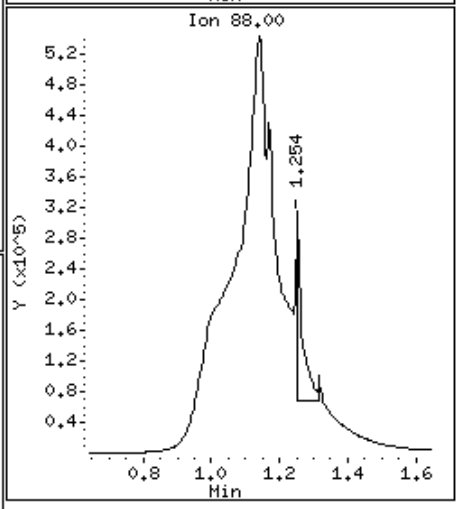
1 1,4-Dioxane

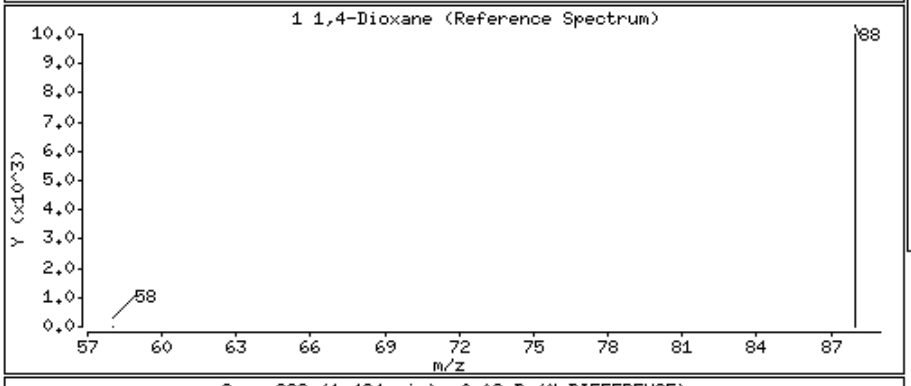
Concentration: 0.02123 ug/L

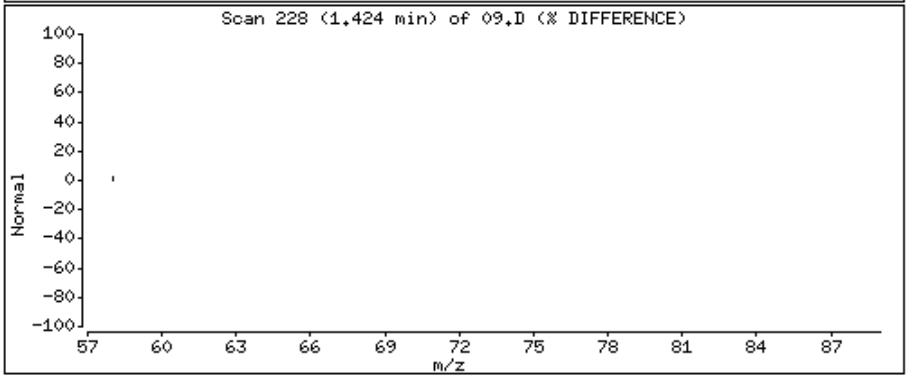












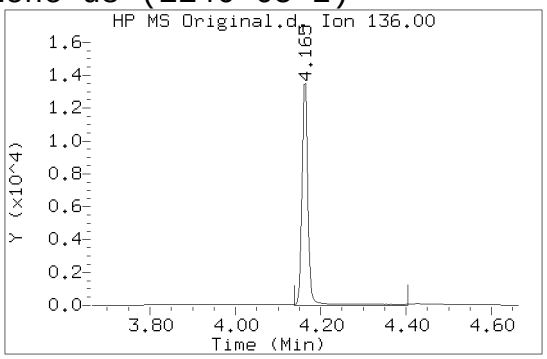
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\09.D
Inj Date : 19-JUN-2023 13:50
InstruID : SV6.i
LabSampID : HS23060739-02

Naphthalene-d8 (1146-65-2)

Reason Code:

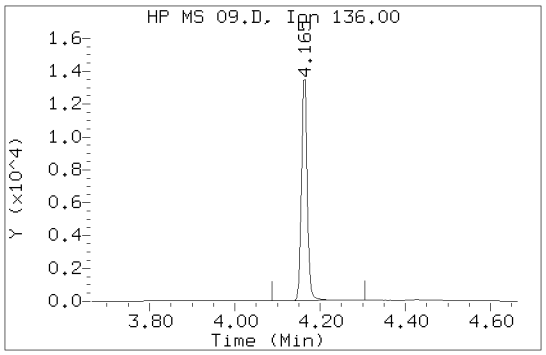
BEFORE

MASS
136
AREA
13949
HEIGHT
13488
19-Jun-2023
14:05
ALSHS
Server



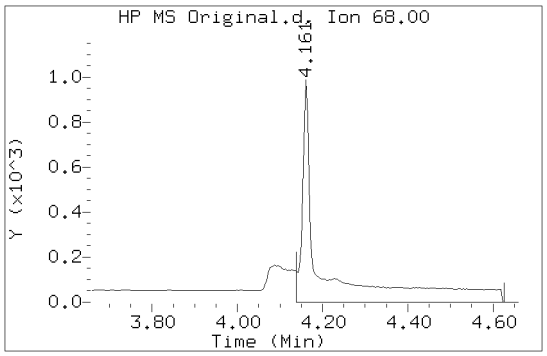
AFTER

MASS
136
AREA
13005
HEIGHT
13433
19-Jun-2023
15:04
ALSHS
Se



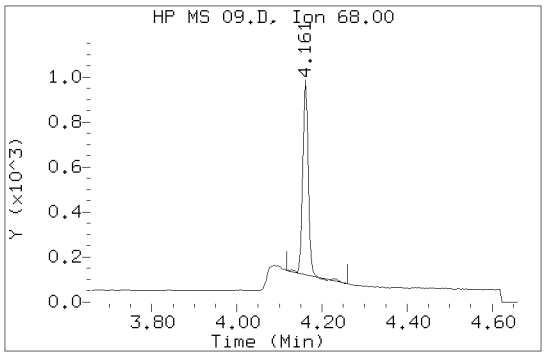
BEFORE

MASS
68
AREA
2934
HEIGHT
988
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
68
AREA
780
HEIGHT
865
19-Jun-2023
15:04
ALSHS
Se

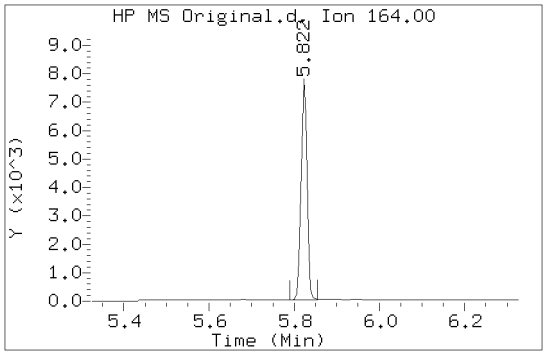


Acenaphthene-d10 (15067-26-2)

Reason Code:

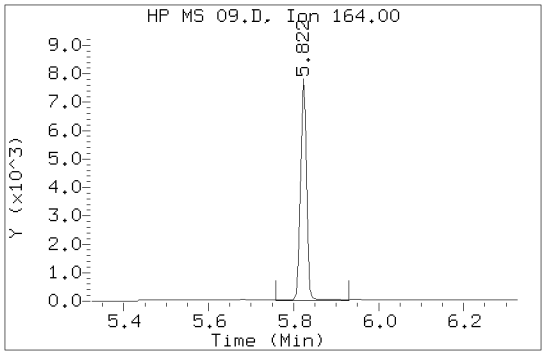
BEFORE

MASS
164
AREA
7474
HEIGHT
7768
19-Jun-2023
14:05
ALSHS
Server



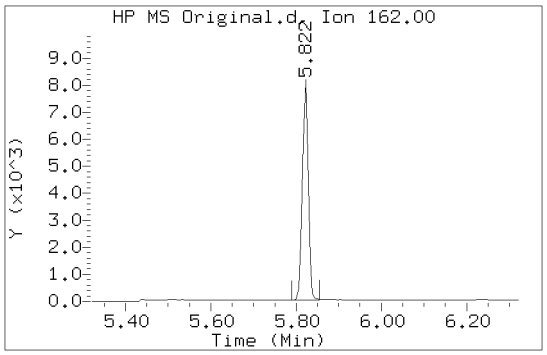
AFTER

MASS
164
AREA
7726
HEIGHT
7788
19-Jun-2023
15:04
ALSHS
Se



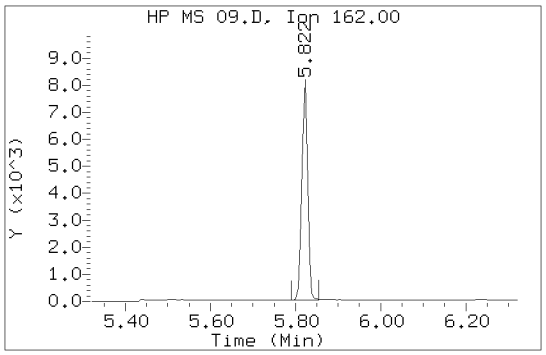
BEFORE

MASS
162
AREA
7638
HEIGHT
8154
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
162
AREA
7638
HEIGHT
8154
19-Jun-2023
15:04
ALSHS
Se



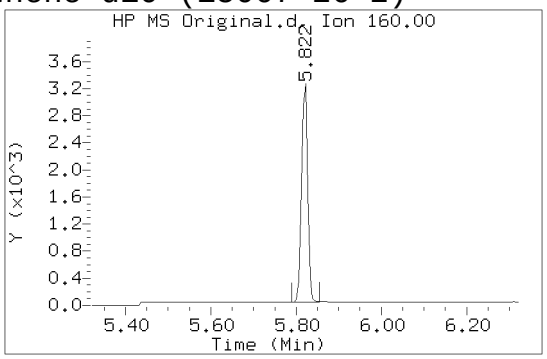
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\09.D
Inj Date : 19-JUN-2023 13:50
InstruID : SV6.i
LabSampID : HS23060739-02

Acenaphthene-d10 (15067-26-2)

Reason Code:

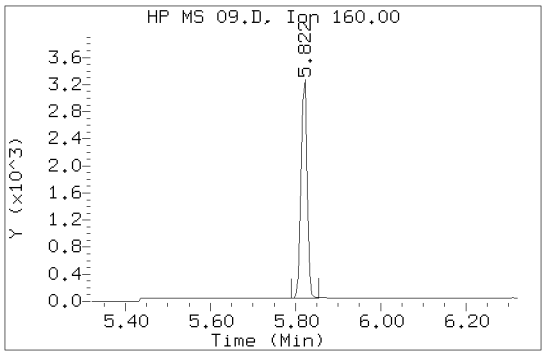
BEFORE

MASS
160
AREA
3166
HEIGHT
3225
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
160
AREA
3166
HEIGHT
3225
19-Jun-2023
15:04
ALSHS
Se

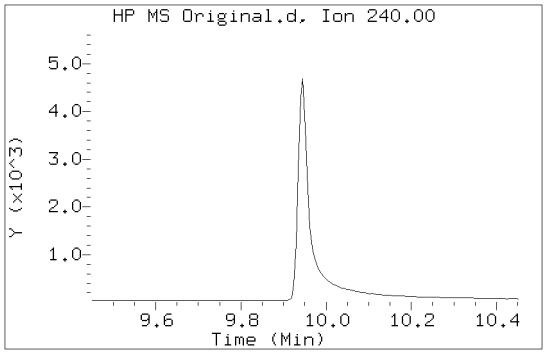


Chrysene-d12 (1719-03-5)

Reason Code:

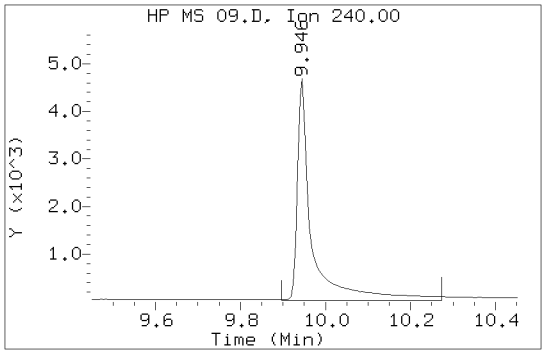
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
14:05
ALSHS
Server



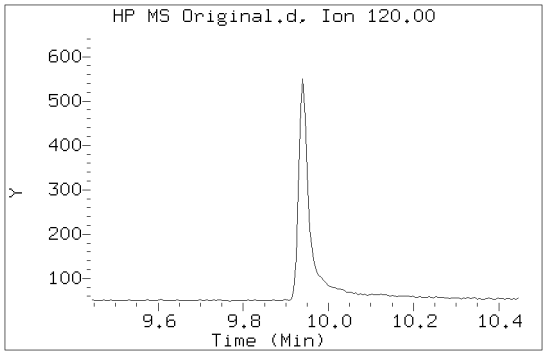
AFTER

MASS
240
AREA
11016
HEIGHT
4657
19-Jun-2023
15:04
ALSHS
Se



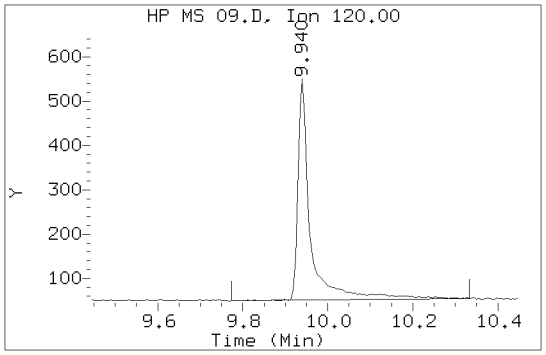
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
14:05
ALSHS
Server



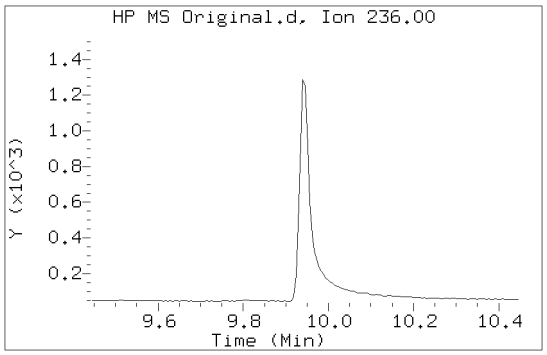
AFTER

MASS
120
AREA
1017
HEIGHT
498
19-Jun-2023
15:04
ALSHS
Se



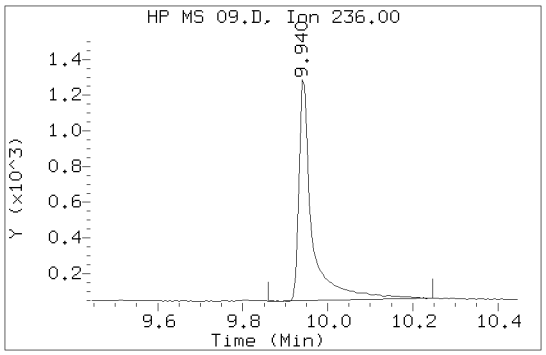
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
236
AREA
2661
HEIGHT
1237
19-Jun-2023
15:04
ALSHS
Se



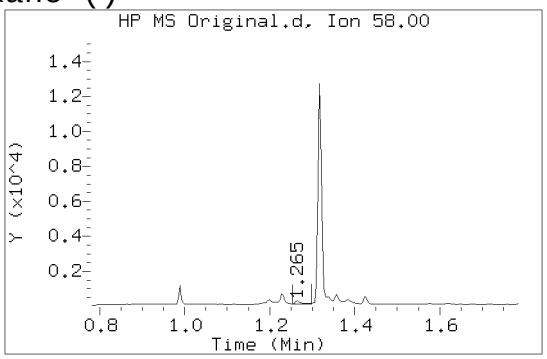
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\09.D
Inj Date : 19-JUN-2023 13:50
InstruID : SV6.i
LabSampID : HS23060739-02

1,4-Dioxane ()

Reason Code:

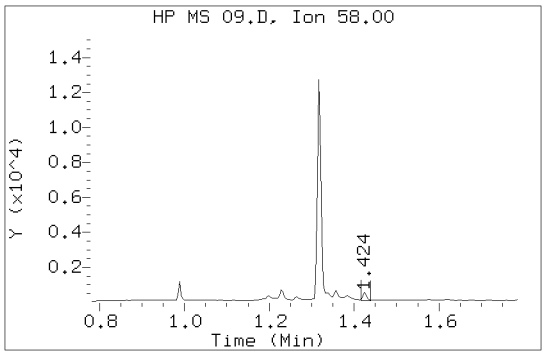
BEFORE

MASS
58
AREA
221
HEIGHT
184
19-Jun-2023
14:05
ALSHS
Server



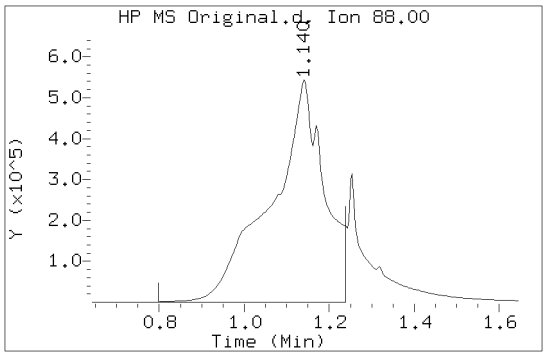
AFTER

MASS
58
AREA
291
HEIGHT
448
19-Jun-2023
15:04
ALSHS
Se



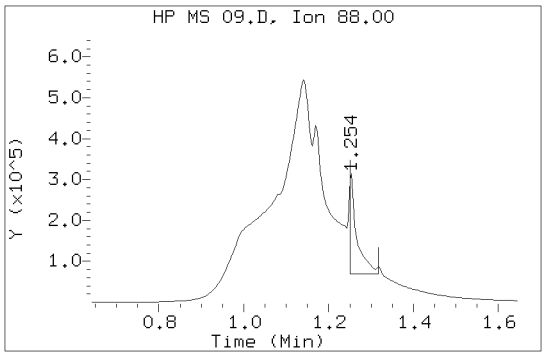
BEFORE

MASS
88
AREA
4704759
HEIGHT
543022
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
88
AREA
293233
HEIGHT
245395
19-Jun-2023
15:04
ALSHS
Se

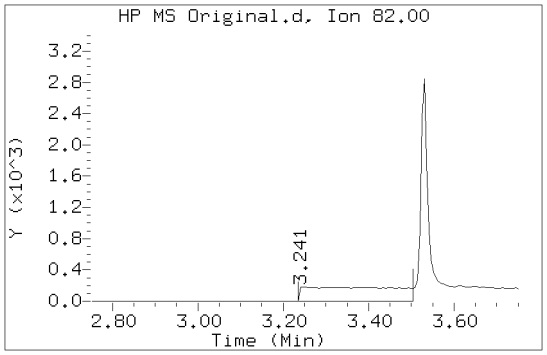


Nitrobenzene-d5 (4165-60-0)

Reason Code:

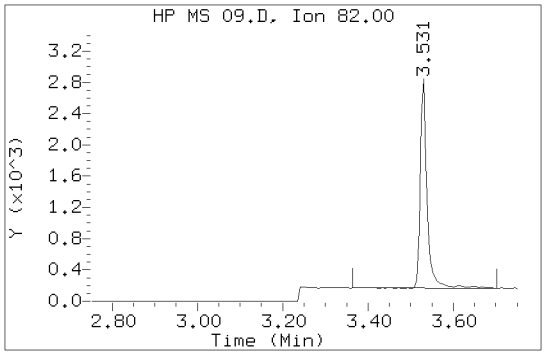
BEFORE

MASS
82
AREA
2754
HEIGHT
184
19-Jun-2023
14:05
ALSHS
Server



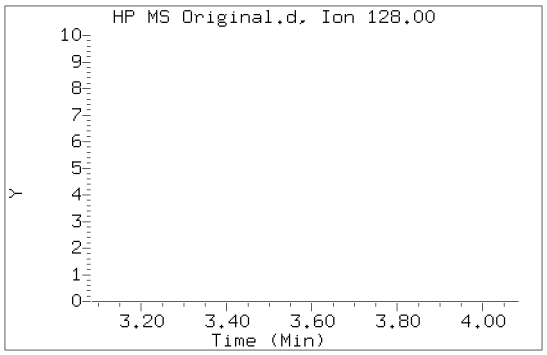
AFTER

MASS
82
AREA
2982
HEIGHT
2674
19-Jun-2023
15:04
ALSHS
Se



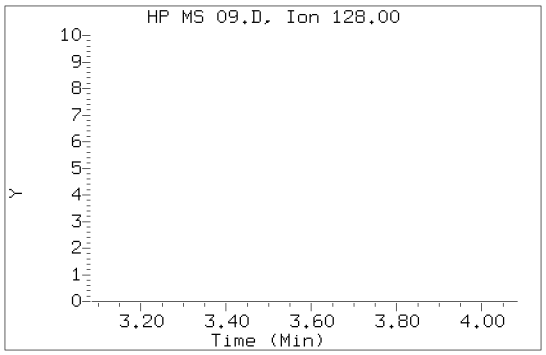
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
15:04
ALSHS
Se



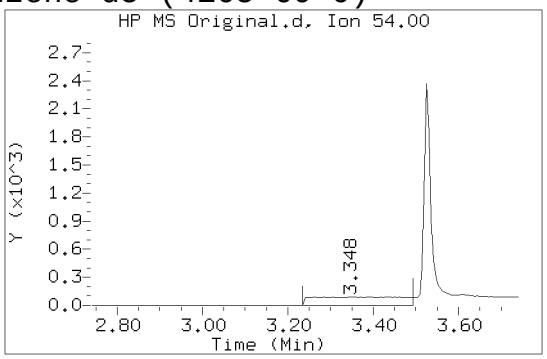
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\09.D
Inj Date : 19-JUN-2023 13:50
InstruID : SV6.i
LabSampID : HS23060739-02

Nitrobenzene-d5 (4165-60-0)

Reason Code:

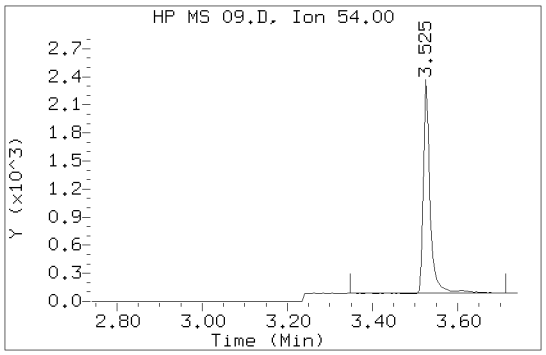
BEFORE

MASS
54
AREA
1314
HEIGHT
88
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
54
AREA
2492
HEIGHT
2280
19-Jun-2023
15:04
ALSHS
Se

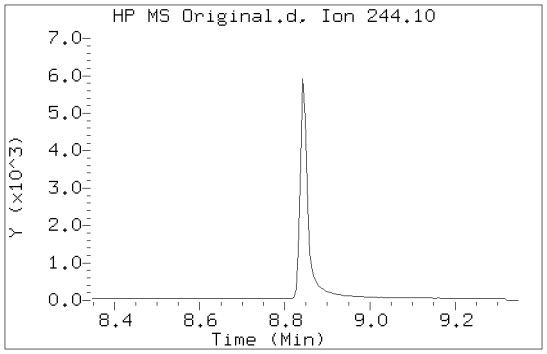


4-Terphenyl-d14 (1718-51-0)

Reason Code:

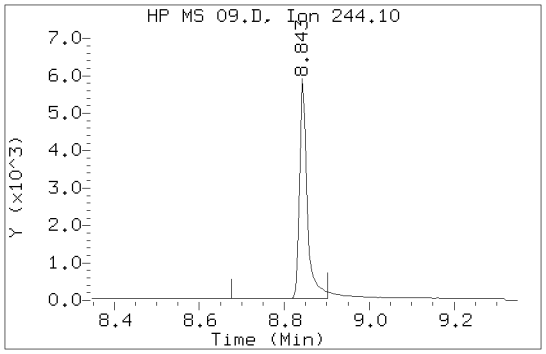
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
14:05
ALSHS
Server



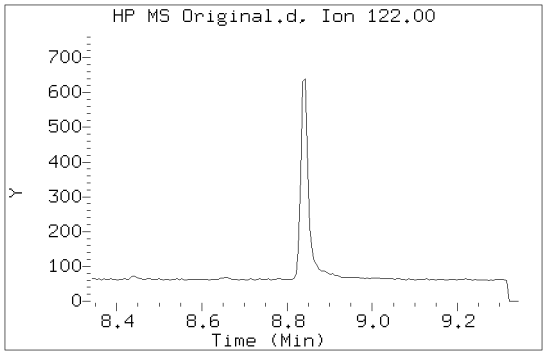
AFTER

MASS
244.1
AREA
7247
HEIGHT
5875
19-Jun-2023
15:04
ALSHS
Se



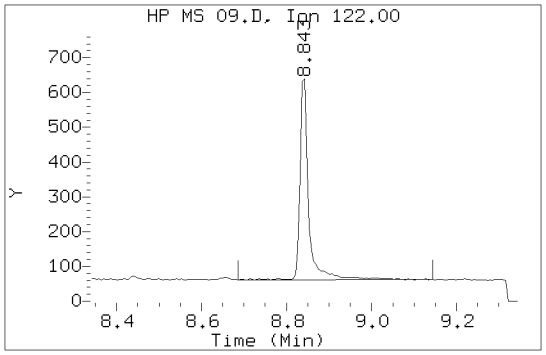
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
14:05
ALSHS
Server



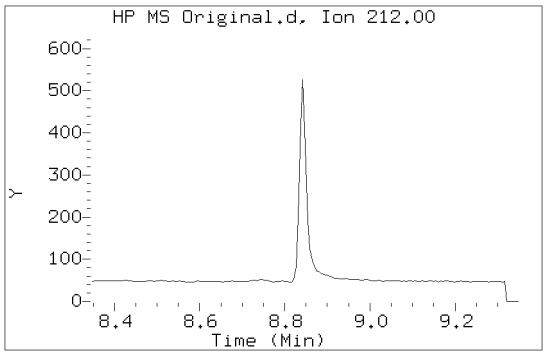
AFTER

MASS
122
AREA
807
HEIGHT
577
19-Jun-2023
15:04
ALSHS
Se



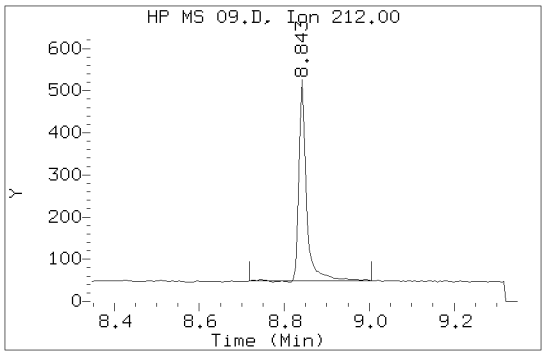
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
14:05
ALSHS
Server



AFTER

MASS
212
AREA
591
HEIGHT
477
19-Jun-2023
15:04
ALSHS
Se



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D
Lab Smp Id: HS23060739-03 Client Smp ID: HS23060739-03
Inj Date : 19-JUN-2023 14:08
Operator : LG Inst ID: SV6.i
Smp Info : HS23060739-03
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 20-Jun-2023 09:42 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.068	3.074	(1.000)	3866	0.10000	(aM)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	12267	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.530	(0.848)	2912	0.07813	0.07813(M)
* 86 Acenaphthene-d10	164	5.822	5.825	(1.000)	8041	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.196	(0.891)	7386	0.08983	0.08982
* 126 Phenanthrene-d10	188	7.261	7.270	(1.000)	14402	0.10000	(M)
* 182 Chrysene-d12	240	9.945	9.954	(1.000)	11245	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.842	8.851	(0.889)	7398	0.08917	0.08917(M)
* 198 Perylene-d12	264	11.846	11.855	(1.000)	7572	0.10000	
1 1,4-Dioxane	58	1.419	1.434	(0.463)	453	0.03453	0.03453(M)

QC Flag Legend

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

01194847

Data File: \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D

Date : 19-JUN-2023 14:08

Client ID: HS23060739-03

Instrument: SV6.i

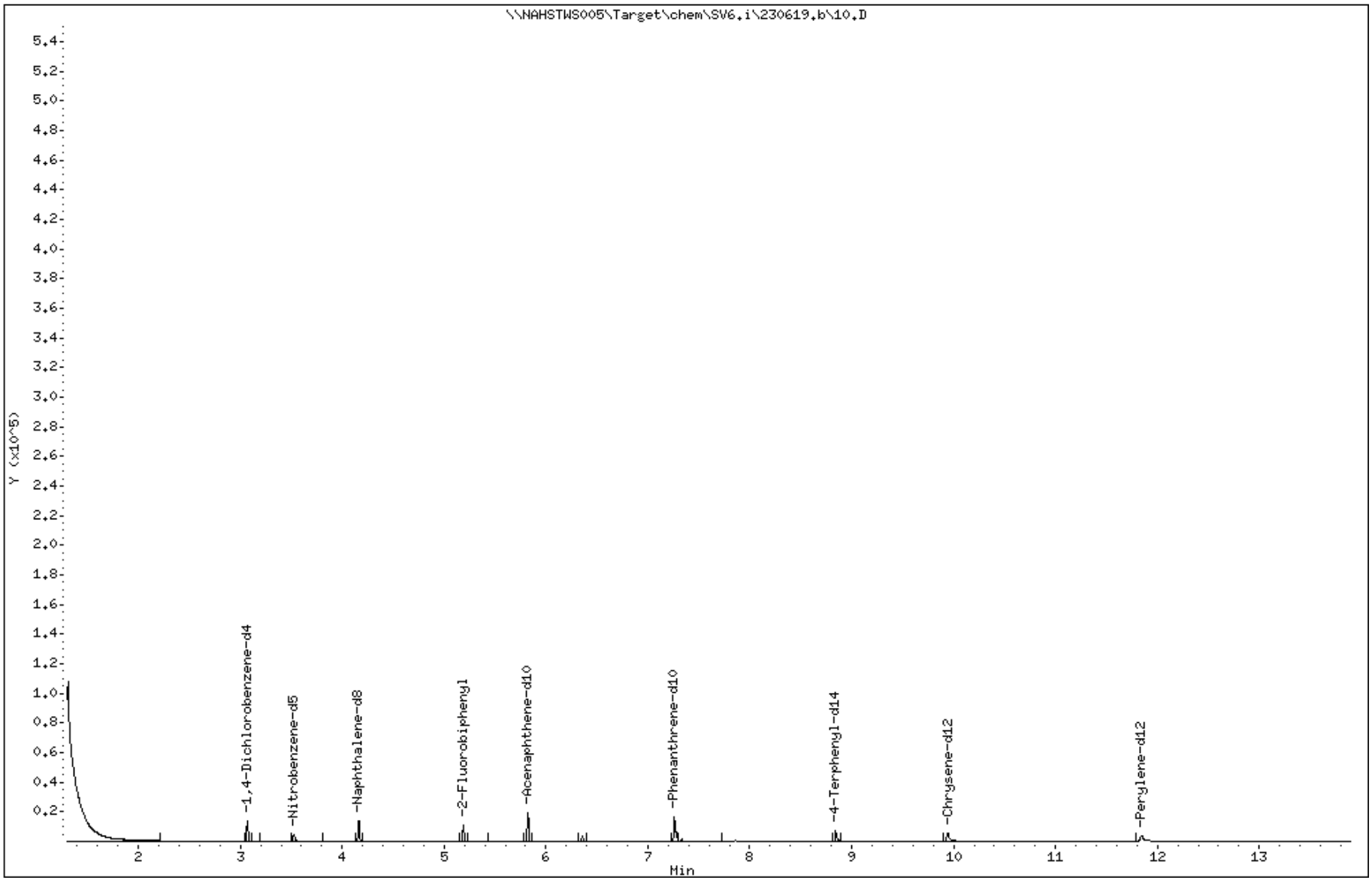
Sample Info: HS23060739-03

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D

Date : 19-JUN-2023 14:08

Client ID: HS23060739-03

Instrument: SV6.i

Sample Info: HS23060739-03

Purge Volume: 1000.0

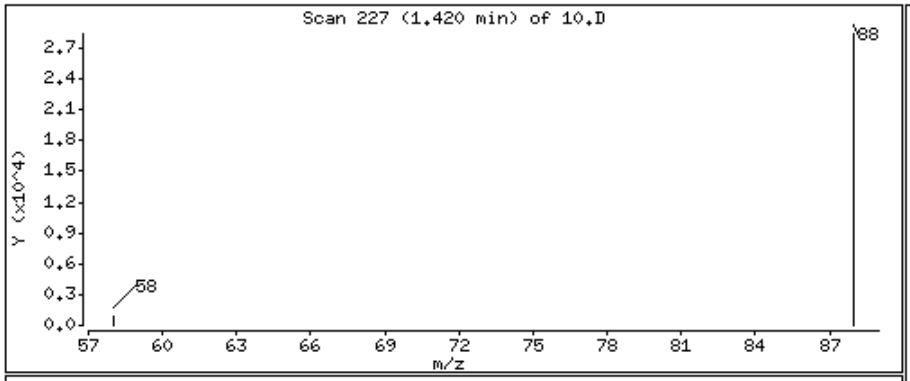
Operator: LG

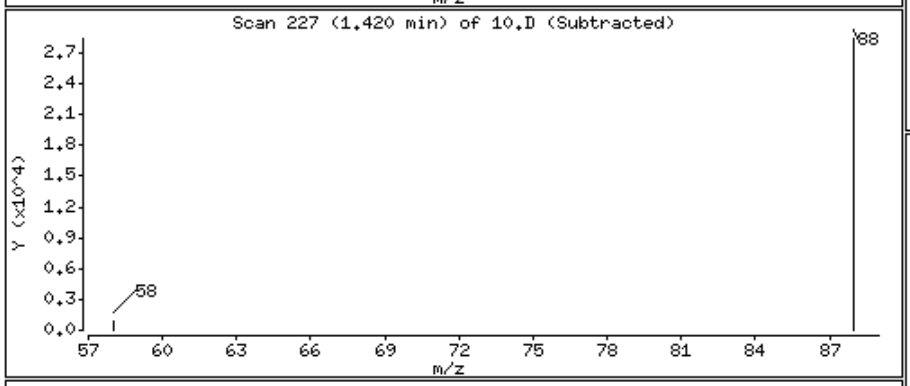
Column phase: RTX-5SIL MS

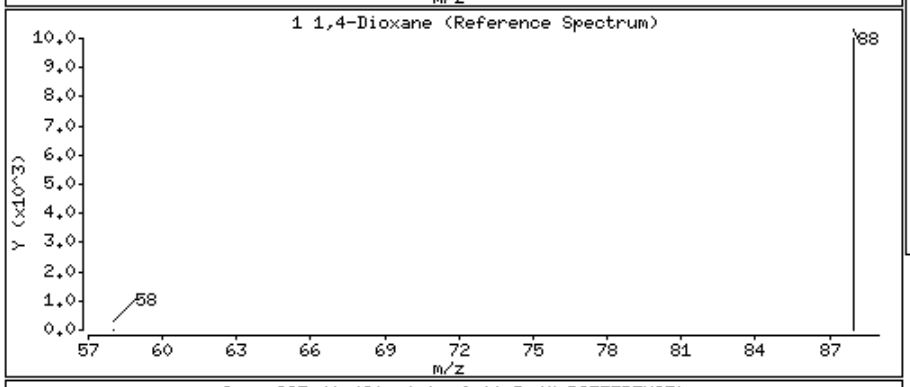
Column diameter: 0.28

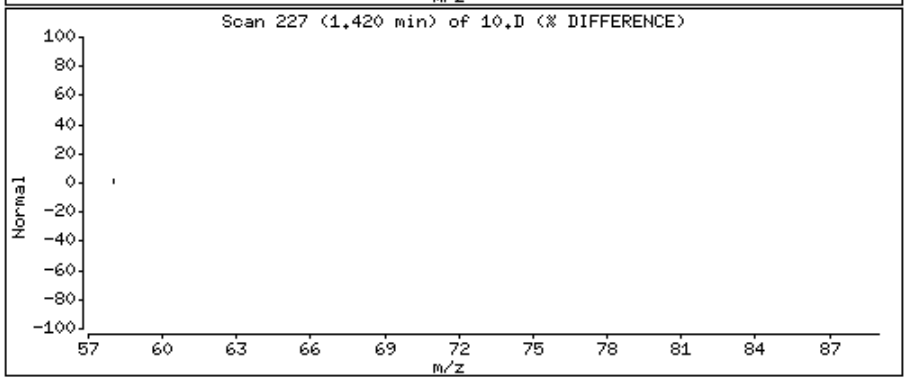
1 1,4-Dioxane

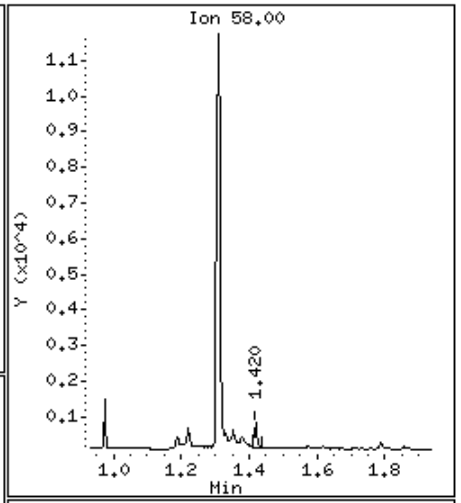
Concentration: 0.03453 ug/L

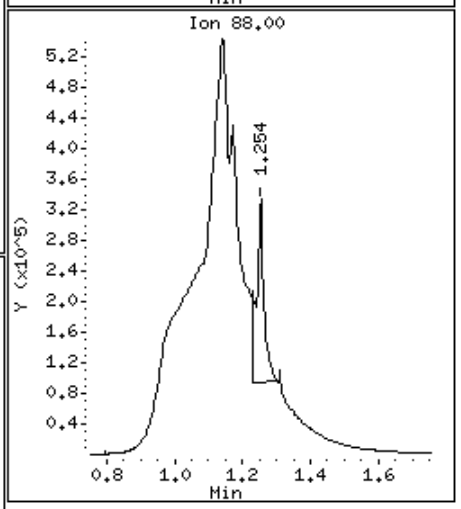












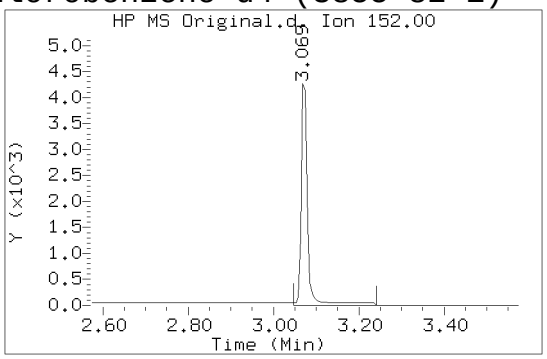
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D
Inj Date : 19-JUN-2023 14:08
InstruID : SV6.i
LabSampID : HS23060739-03

1,4-Dichlorobenzene-d4 (3855-82-1)

Reason Code:

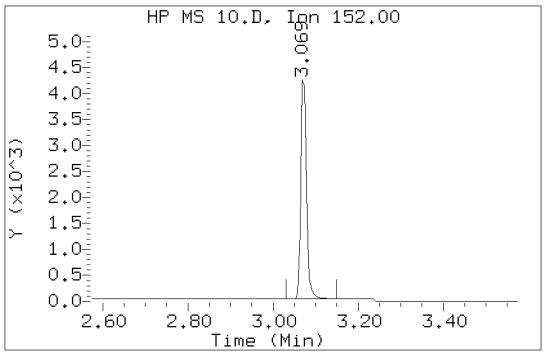
BEFORE

MASS
152
AREA
4428
HEIGHT
4267
19-Jun-2023
14:25
ALSHS
Server



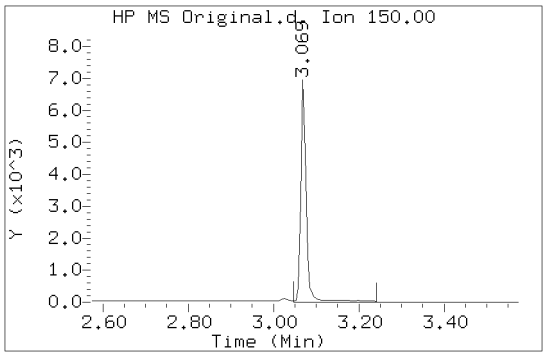
AFTER

MASS
152
AREA
3866
HEIGHT
4220
03-Jul-2023
10:58
ALSHS
Ser



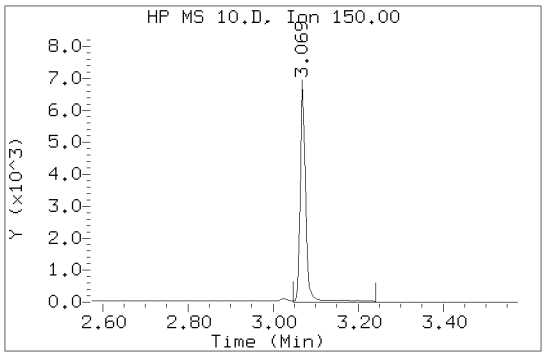
BEFORE

MASS
150
AREA
6183
HEIGHT
6952
19-Jun-2023
14:25
ALSHS
Server



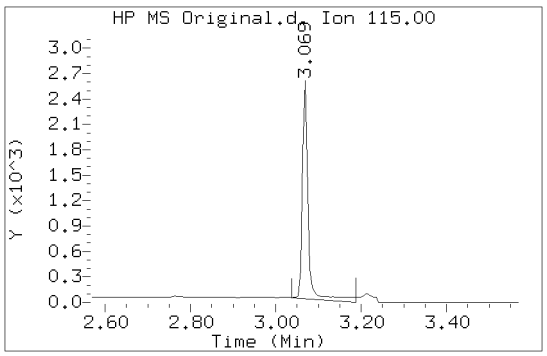
AFTER

MASS
150
AREA
6183
HEIGHT
6952
03-Jul-2023
10:58
ALSHS
Ser



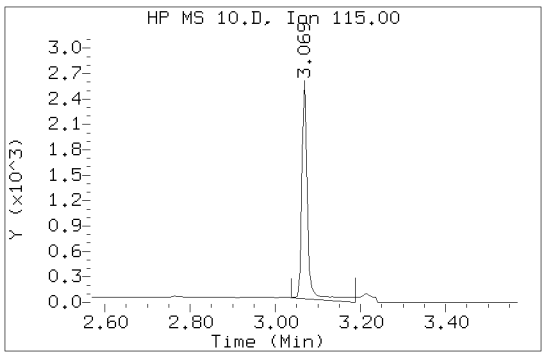
BEFORE

MASS
115
AREA
2377
HEIGHT
2572
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
115
AREA
2377
HEIGHT
2572
03-Jul-2023
10:58
ALSHS
Ser

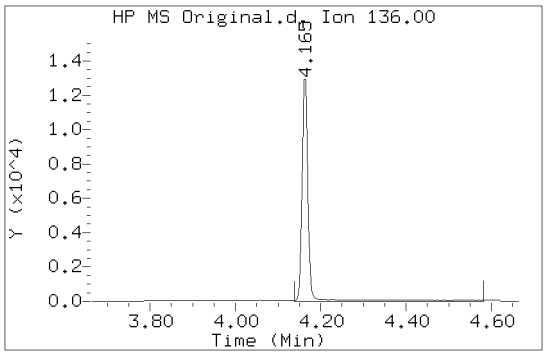


Naphthalene-d8 (1146-65-2)

Reason Code:

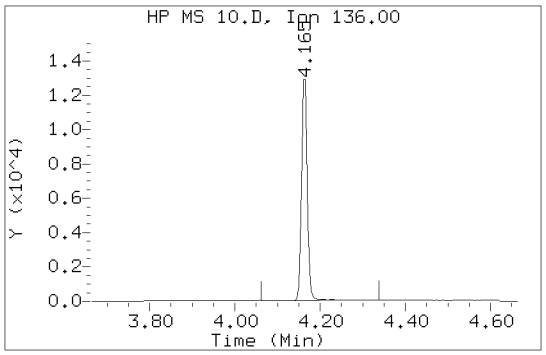
BEFORE

MASS
136
AREA
13826
HEIGHT
12910
19-Jun-2023
14:25
ALSHS
Server



AFTER

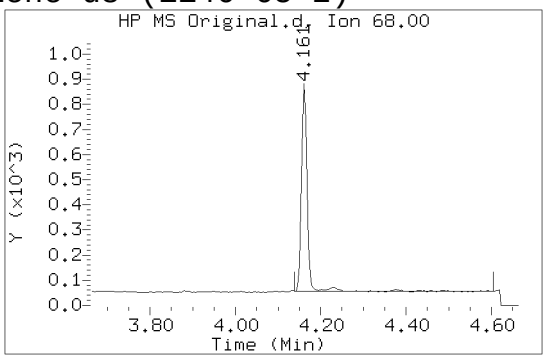
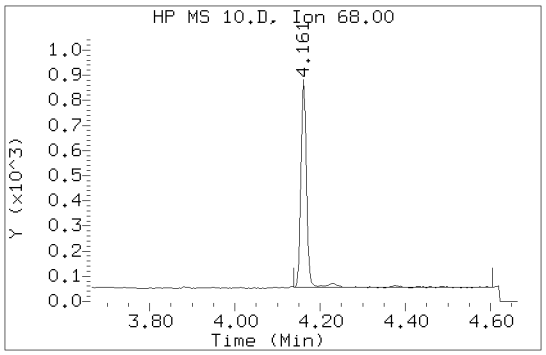
MASS
136
AREA
12267
HEIGHT
12853
03-Jul-2023
10:58
ALSHS
Ser



Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D
Inj Date : 19-JUN-2023 14:08
InstruID : SV6.i
LabSampID : HS23060739-03

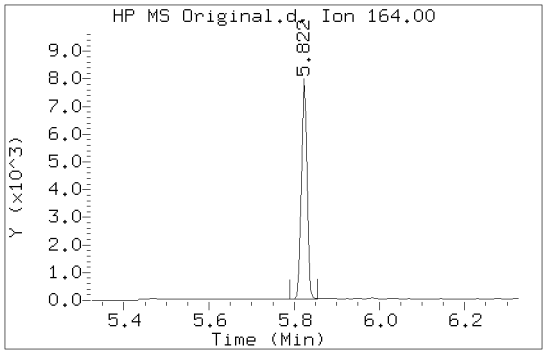
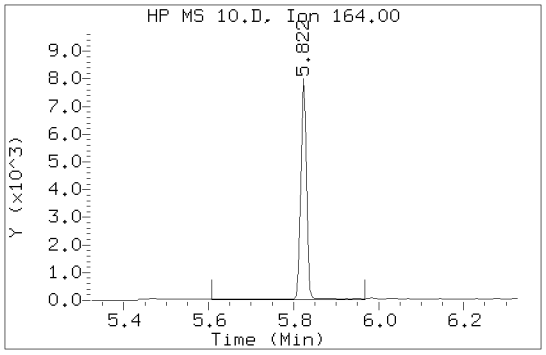
Naphthalene-d8 (1146-65-2)

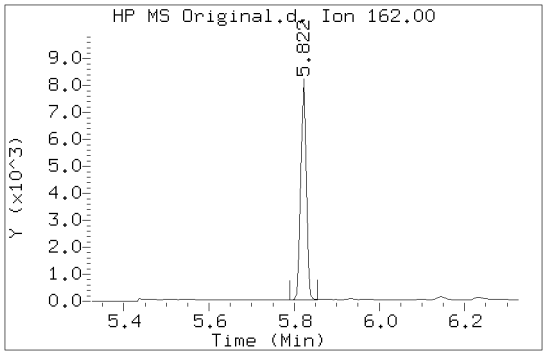
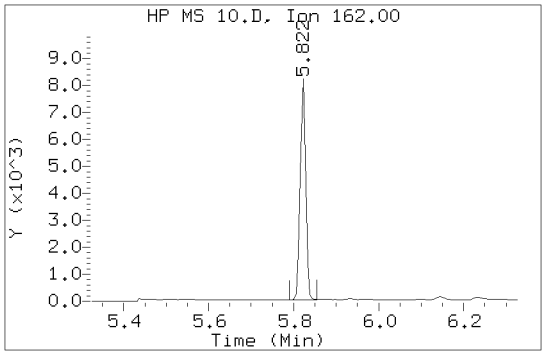
Reason Code:

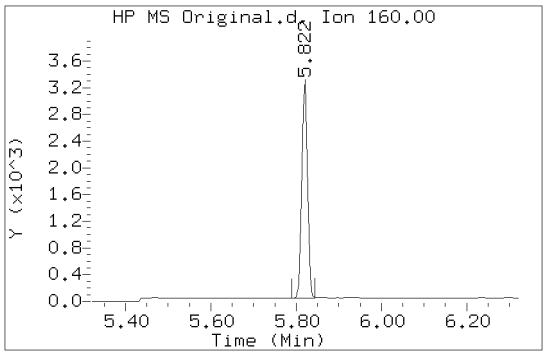
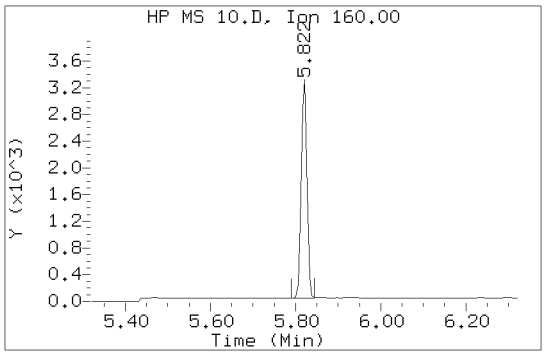
BEFORE		AFTER	
MASS		MASS	
68		68	
AREA		AREA	
778		778	
HEIGHT		HEIGHT	
826		826	
19-Jun-2023		03-Jul-2023	
14:25		10:58	
ALSHS		ALSHS	
Server		Ser	

Acenaphthene-d10 (15067-26-2)

Reason Code:

BEFORE		AFTER	
MASS		MASS	
164		164	
AREA		AREA	
7245		8041	
HEIGHT		HEIGHT	
7954		7988	
19-Jun-2023		03-Jul-2023	
14:25		10:58	
ALSHS		ALSHS	
Server		Ser	

BEFORE		AFTER	
MASS		MASS	
162		162	
AREA		AREA	
7272		7272	
HEIGHT		HEIGHT	
8189		8189	
19-Jun-2023		03-Jul-2023	
14:25		10:58	
ALSHS		ALSHS	
Server		Ser	

BEFORE		AFTER	
MASS		MASS	
160		160	
AREA		AREA	
3026		3026	
HEIGHT		HEIGHT	
3271		3271	
19-Jun-2023		03-Jul-2023	
14:25		10:58	
ALSHS		ALSHS	
Server		Ser	

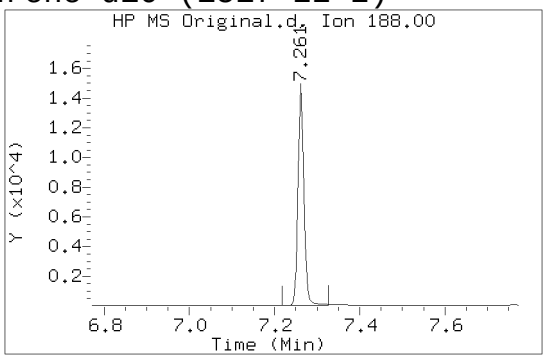
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D
Inj Date : 19-JUN-2023 14:08
InstruID : SV6.i
LabSampID : HS23060739-03

Phenanthrene-d10 (1517-22-2)

Reason Code:

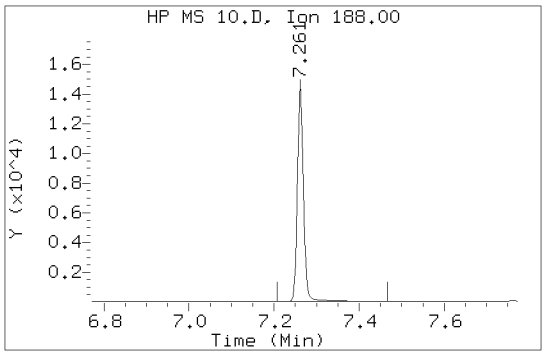
BEFORE

MASS
188
AREA
14323
HEIGHT
14916
19-Jun-2023
14:25
ALSHS
Server



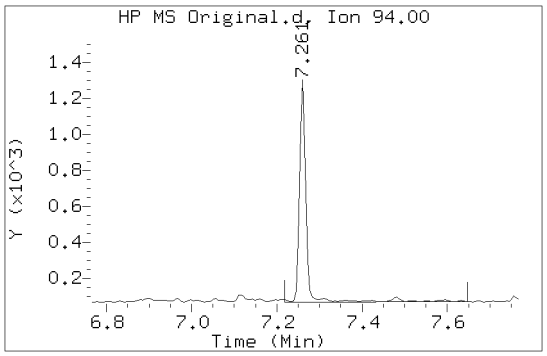
AFTER

MASS
188
AREA
14402
HEIGHT
14914
03-Jul-2023
10:58
ALSHS
Ser



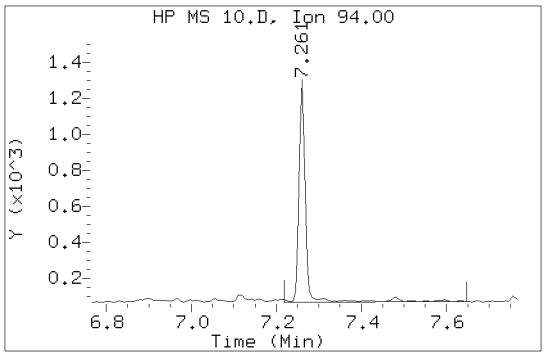
BEFORE

MASS
94
AREA
1328
HEIGHT
1232
19-Jun-2023
14:25
ALSHS
Server



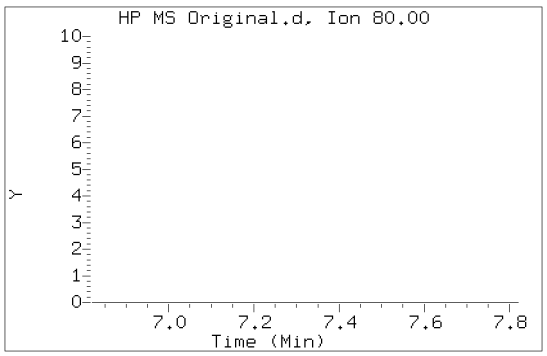
AFTER

MASS
94
AREA
1328
HEIGHT
1232
03-Jul-2023
10:58
ALSHS
Ser



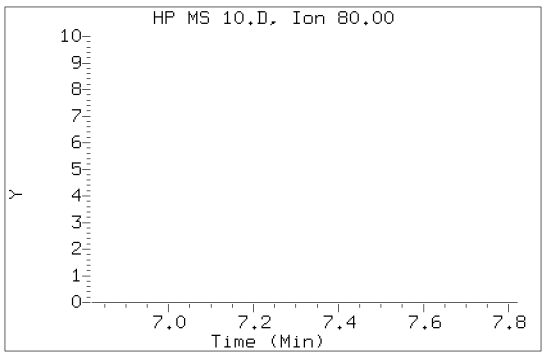
BEFORE

MASS
80
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
80
AREA
0
HEIGHT
0
03-Jul-2023
10:58
ALSHS
Ser

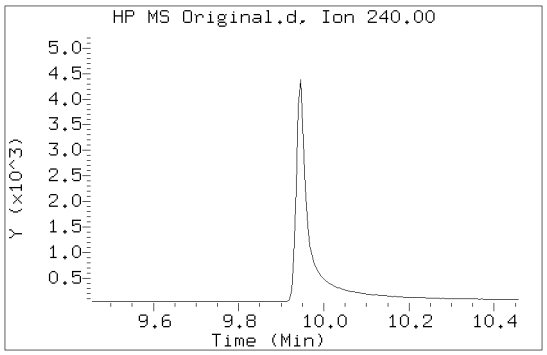


Chrysene-d12 (1719-03-5)

Reason Code:

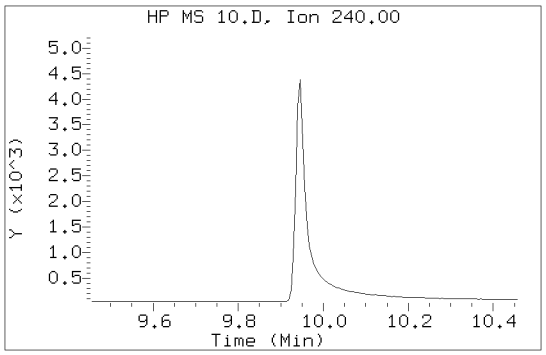
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
240
AREA
11245
HEIGHT
4358
03-Jul-2023
10:58
ALSHS
Ser



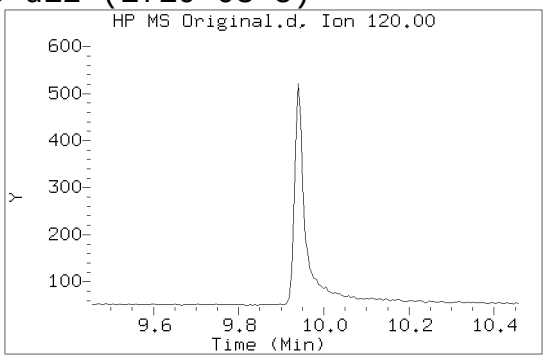
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D
Inj Date : 19-JUN-2023 14:08
InstruID : SV6.i
LabSampID : HS23060739-03

Chrysene-d12 (1719-03-5)

Reason Code:

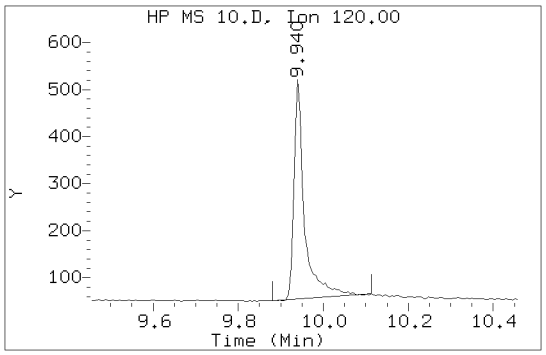
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



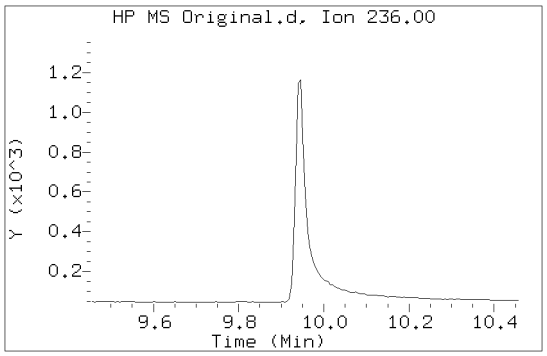
AFTER

MASS
120
AREA
793
HEIGHT
465
03-Jul-2023
10:58
ALSHS
Ser



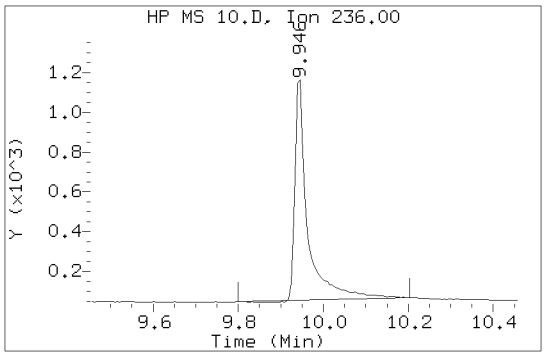
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
236
AREA
2323
HEIGHT
1107
03-Jul-2023
10:58
ALSHS
Ser

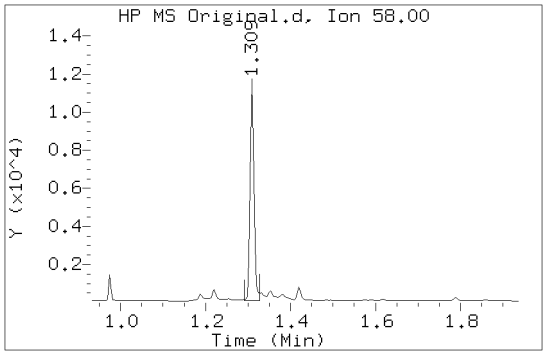


1,4-Dioxane ()

Reason Code:

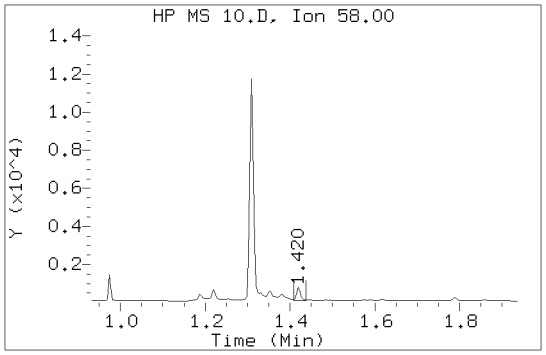
BEFORE

MASS
58
AREA
7790
HEIGHT
11636
19-Jun-2023
14:25
ALSHS
Server



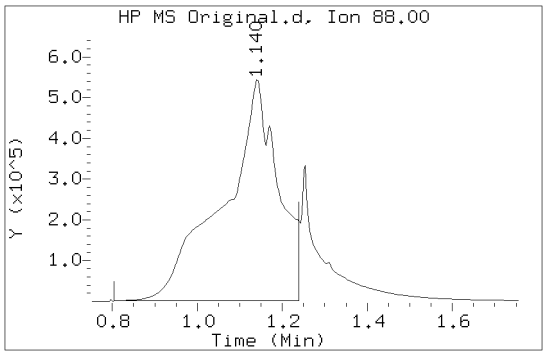
AFTER

MASS
58
AREA
453
HEIGHT
719
03-Jul-2023
10:58
ALSHS
Ser



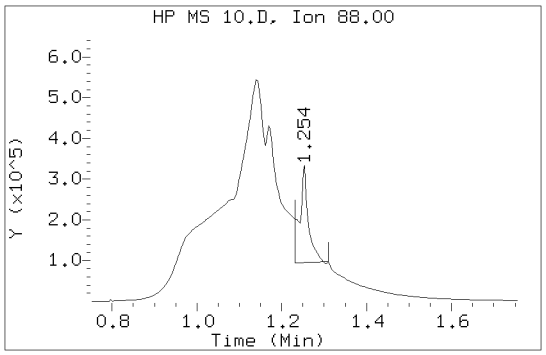
BEFORE

MASS
88
AREA
4869002
HEIGHT
543250
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
88
AREA
346167
HEIGHT
238999
03-Jul-2023
10:58
ALSHS
Ser



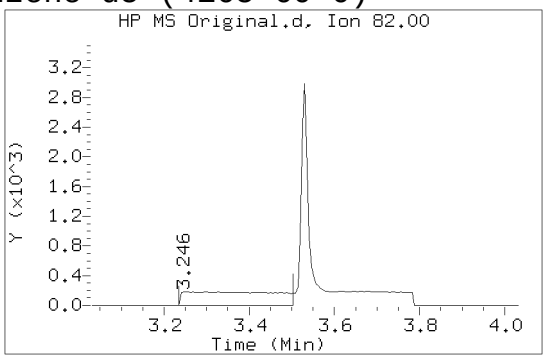
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D
Inj Date : 19-JUN-2023 14:08
InstruID : SV6.i
LabSampID : HS23060739-03

Nitrobenzene-d5 (4165-60-0)

Reason Code:

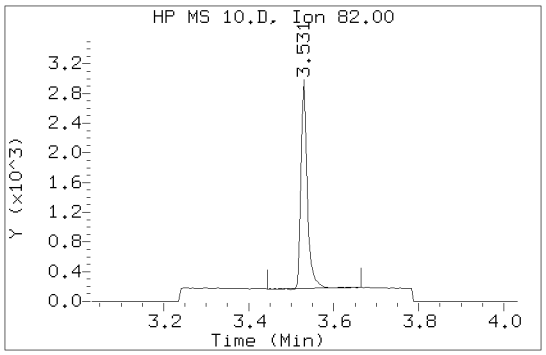
BEFORE

MASS
82
AREA
2785
HEIGHT
181
19-Jun-2023
14:25
ALSHS
Server



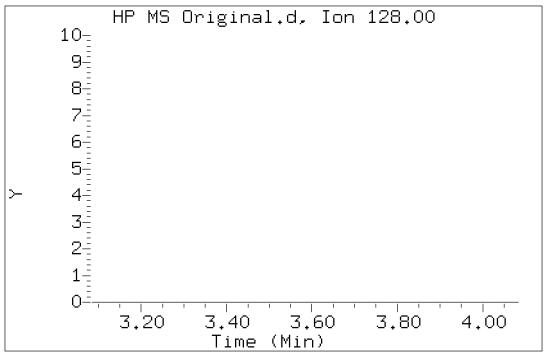
AFTER

MASS
82
AREA
2912
HEIGHT
2809
03-Jul-2023
10:58
ALSHS
Ser



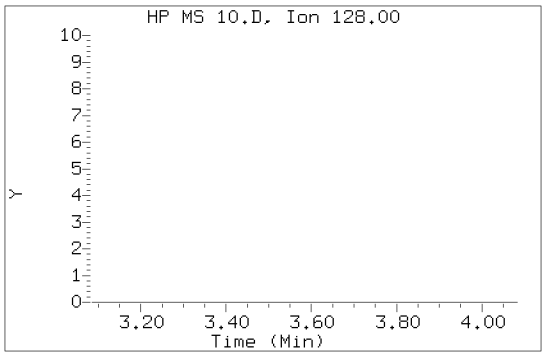
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



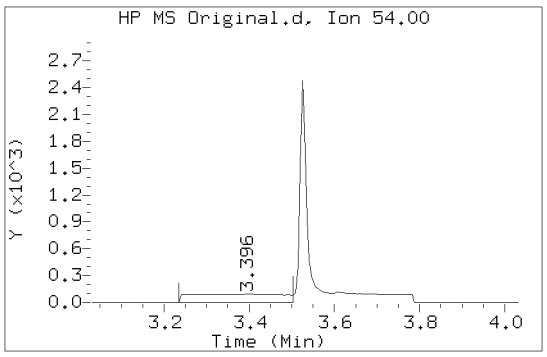
AFTER

MASS
128
AREA
0
HEIGHT
0
03-Jul-2023
10:58
ALSHS
Ser



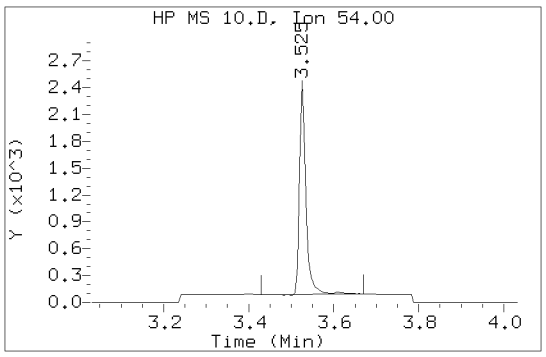
BEFORE

MASS
54
AREA
1384
HEIGHT
93
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
54
AREA
2511
HEIGHT
2388
03-Jul-2023
10:58
ALSHS
Ser

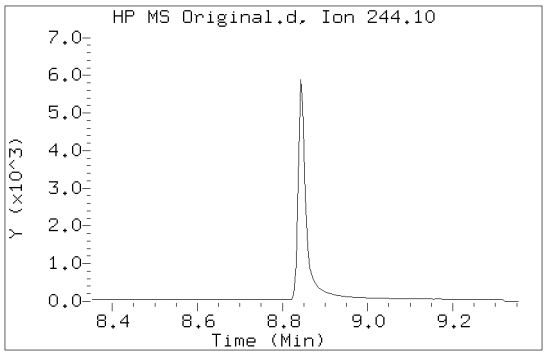


4-Terphenyl-d14 (1718-51-0)

Reason Code:

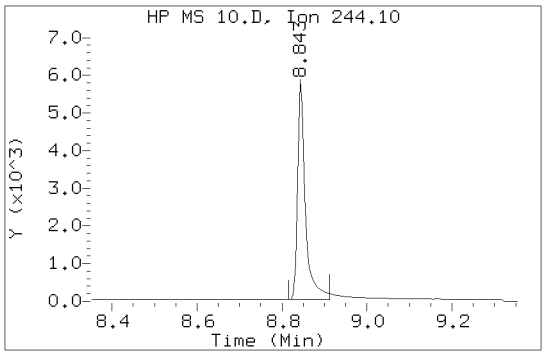
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
244.1
AREA
7398
HEIGHT
5831
03-Jul-2023
10:58
ALSHS
Ser



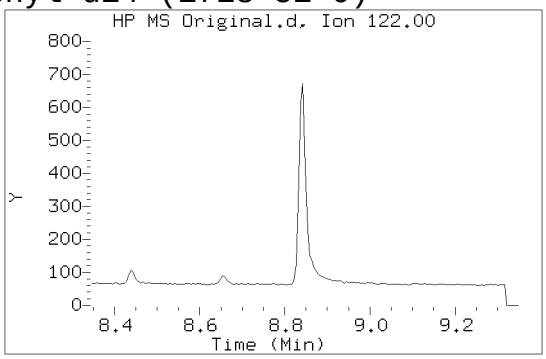
Data File : \\NAHSTWS005\Target\chem\SV6.i\230619.b\10.D
Inj Date : 19-JUN-2023 14:08
InstruID : SV6.i
LabSampID : HS23060739-03

4-Terphenyl-d14 (1718-51-0)

Reason Code:

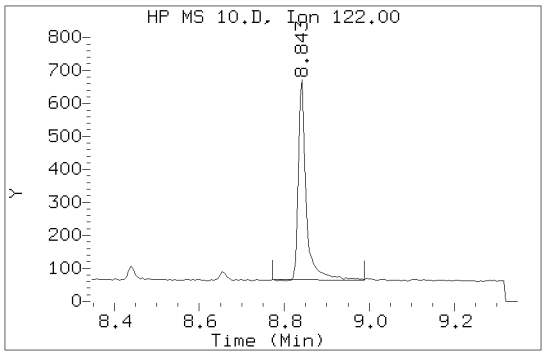
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



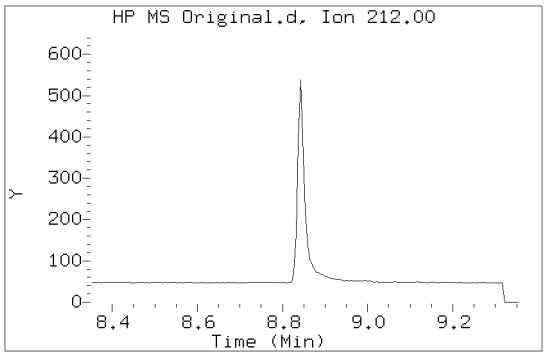
AFTER

MASS
122
AREA
761
HEIGHT
605
03-Jul-2023
10:58
ALSHS
Ser



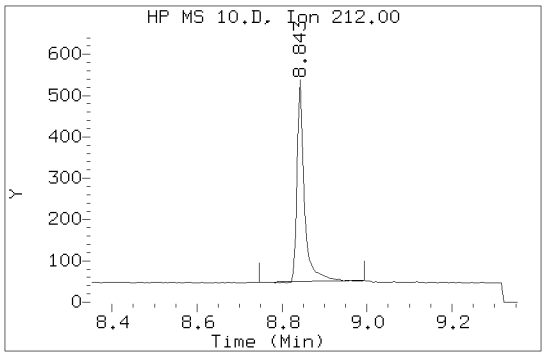
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
14:25
ALSHS
Server



AFTER

MASS
212
AREA
578
HEIGHT
488
03-Jul-2023
10:58
ALSHS
Ser



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\11.D Page 1
Report Date: 19-Jun-2023 15:04

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\11.D
Lab Smp Id: HS23060739-04 Client Smp ID: HS23060739-04
Inj Date : 19-JUN-2023 14:26
Operator : LG Inst ID: SV6.i
Smp Info : HS23060739-04
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	5208	0.10000	(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	16788	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.251	(0.848)	3803	0.07456	0.07456(M)
* 86 Acenaphthene-d10	164	5.822	5.827	(1.000)	9989	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.193	(0.891)	9188	0.08995	0.08995
* 126 Phenanthrene-d10	188	7.261	7.261	(1.000)	19354	0.10000	
* 182 Chrysene-d12	240	9.945	9.950	(1.000)	14362	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.842	8.848	(0.889)	9456	0.08924	0.08924(M)
* 198 Perylene-d12	264	11.841	11.846	(1.000)	11714	0.10000	
1 1,4-Dioxane	58	1.438	1.283	(0.468)	141	0.00798	0.007979(aM)

QC Flag Legend

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

01194856

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\11.D

Page 1

Date : 19-JUN-2023 14:26

Client ID: HS23060739-04

Instrument: SV6.i

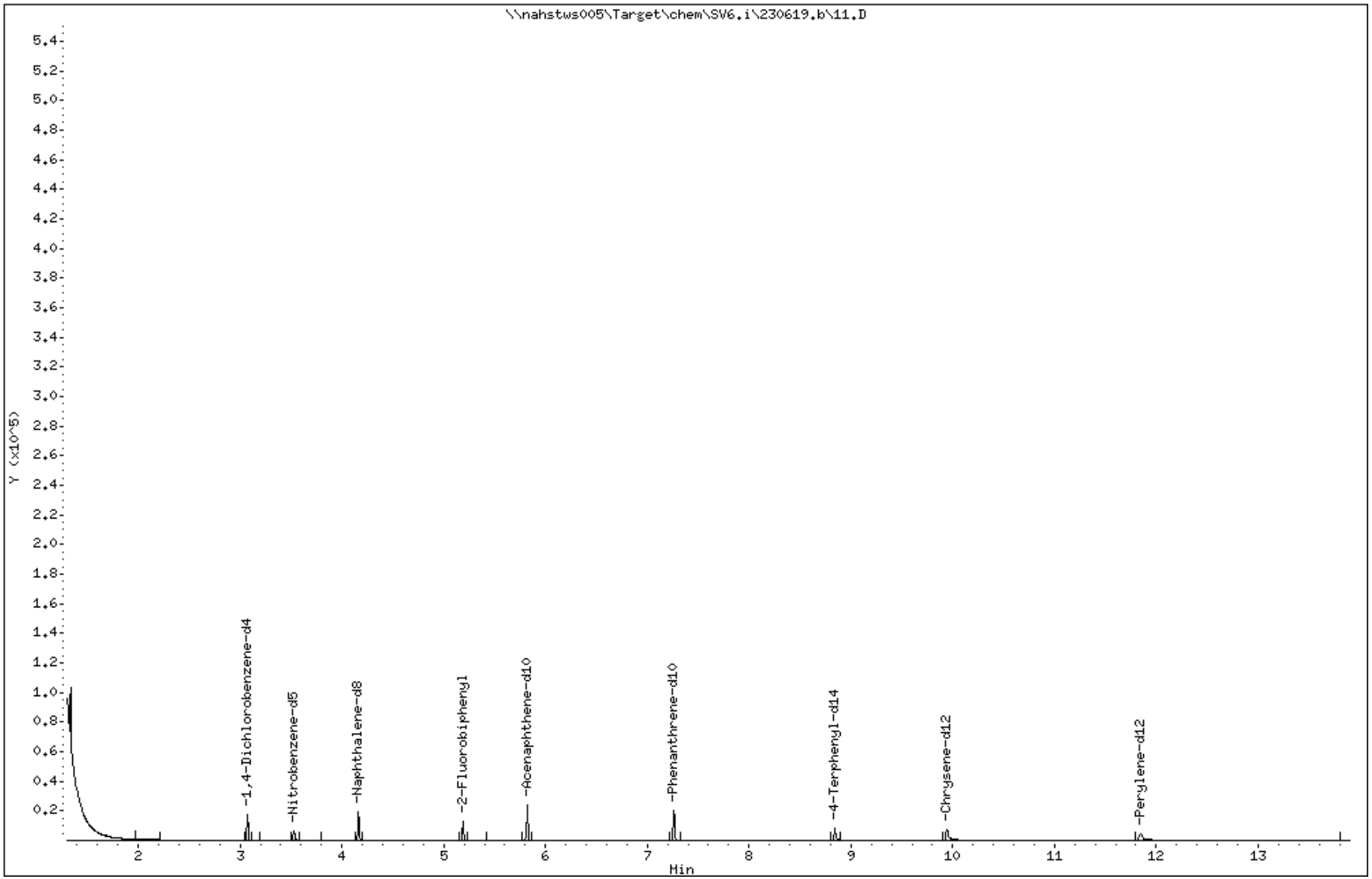
Sample Info: HS23060739-04

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\11.D

Date : 19-JUN-2023 14:26

Client ID: HS23060739-04

Instrument: SV6.i

Sample Info: HS23060739-04

Purge Volume: 1000.0

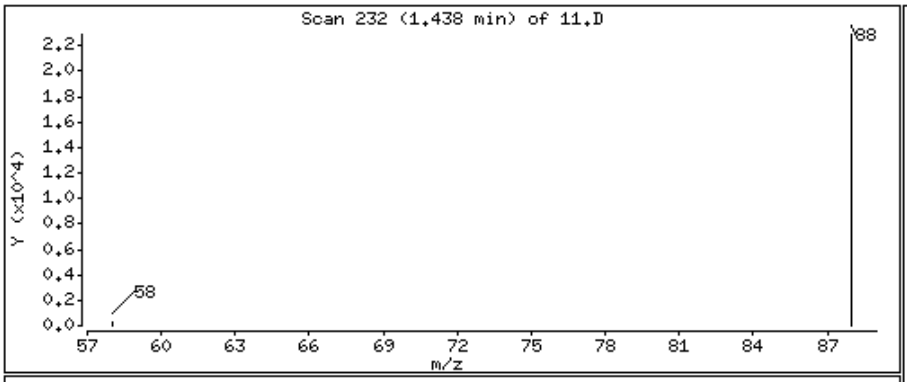
Operator: LG

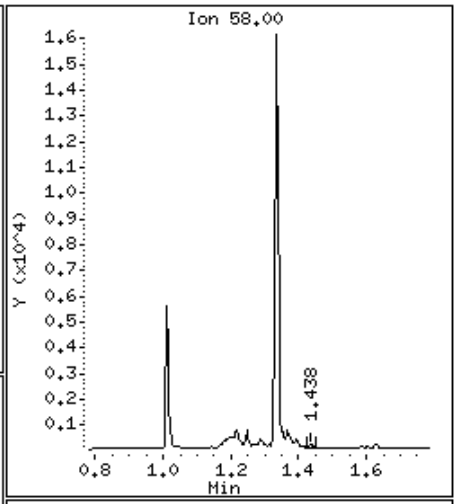
Column phase: RTX-5SIL MS

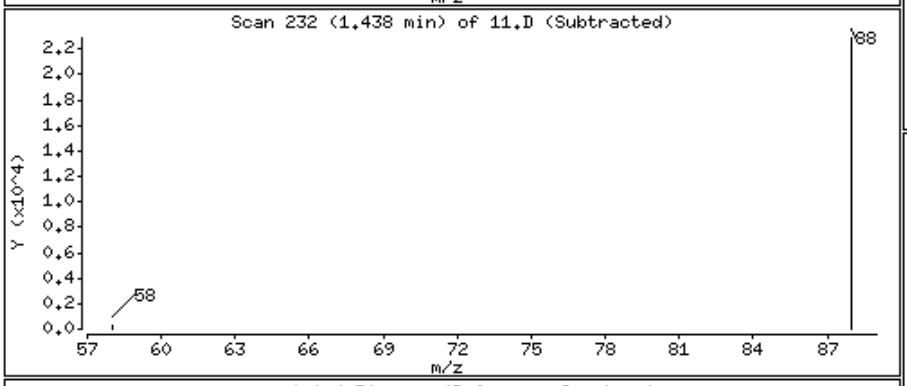
Column diameter: 0.28

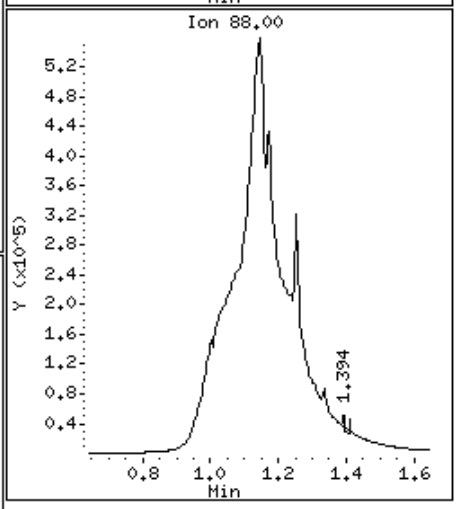
1 1,4-Dioxane

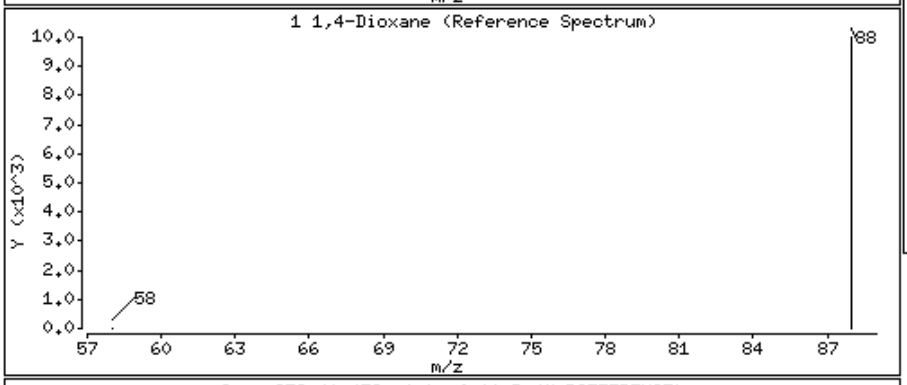
Concentration: 0.007979 ug/L

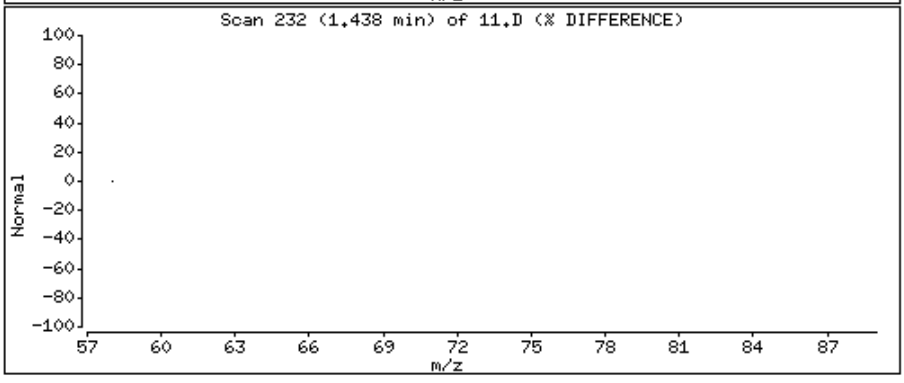












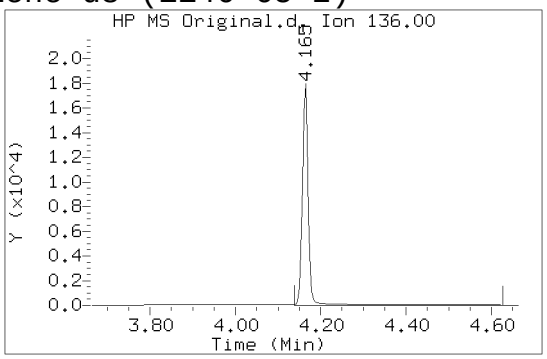
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\11.D
Inj Date : 19-JUN-2023 14:26
InstruID : SV6.i
LabSampID : HS23060739-04

Naphthalene-d8 (1146-65-2)

Reason Code:

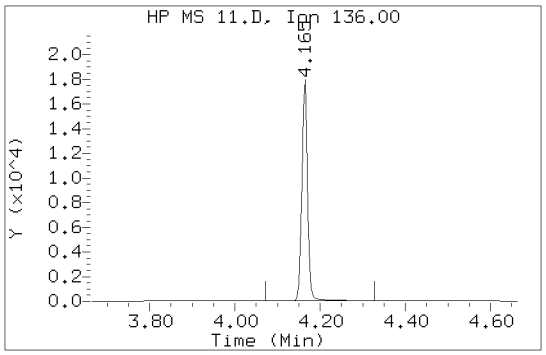
BEFORE

MASS
136
AREA
18515
HEIGHT
17968
19-Jun-2023
14:42
ALSHS
Server



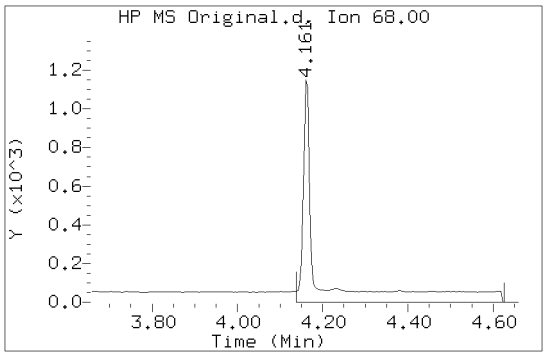
AFTER

MASS
136
AREA
16788
HEIGHT
17911
19-Jun-2023
15:04
ALSHS
Se



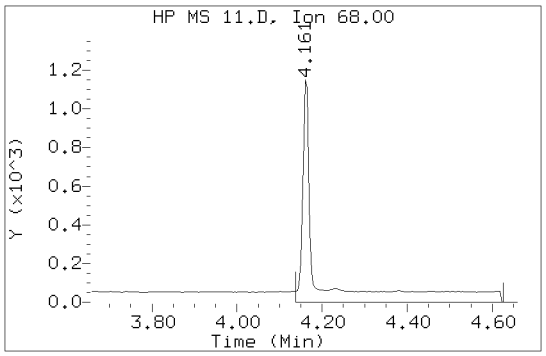
BEFORE

MASS
68
AREA
2653
HEIGHT
1150
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
68
AREA
2653
HEIGHT
1150
19-Jun-2023
15:04
ALSHS
Se

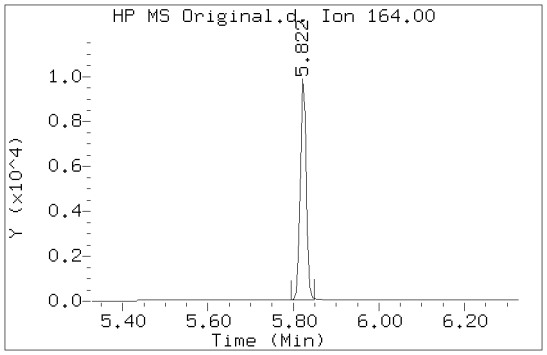


Acenaphthene-d10 (15067-26-2)

Reason Code:

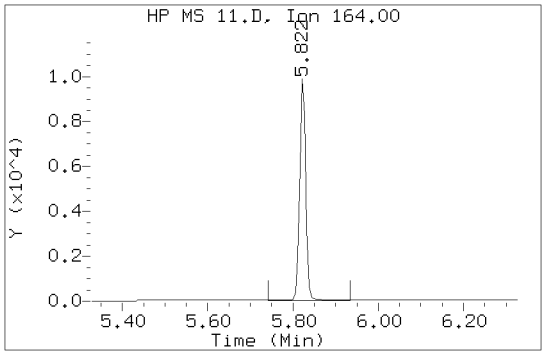
BEFORE

MASS
164
AREA
9738
HEIGHT
9846
19-Jun-2023
14:42
ALSHS
Server



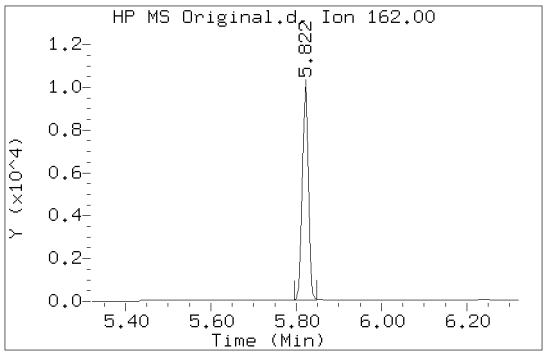
AFTER

MASS
164
AREA
9989
HEIGHT
9861
19-Jun-2023
15:04
ALSHS
Se



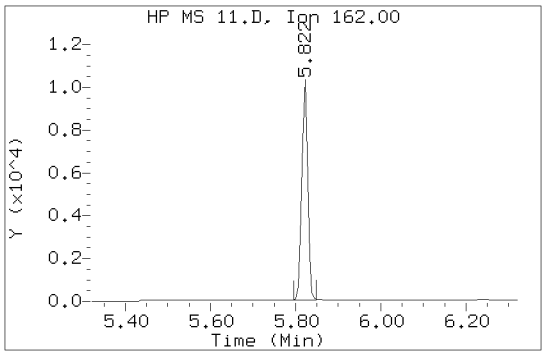
BEFORE

MASS
162
AREA
9884
HEIGHT
10295
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
162
AREA
9884
HEIGHT
10295
19-Jun-2023
15:04
ALSHS
Se



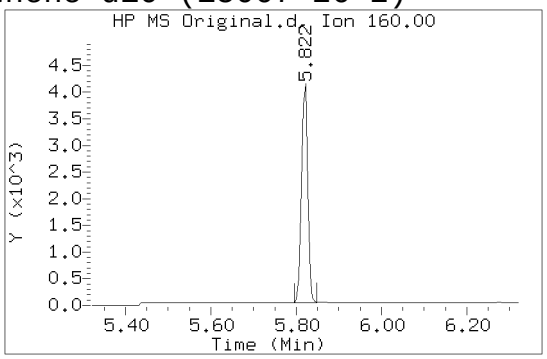
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\11.D
Inj Date : 19-JUN-2023 14:26
InstruID : SV6.i
LabSampID : HS23060739-04

Acenaphthene-d10 (15067-26-2)

Reason Code:

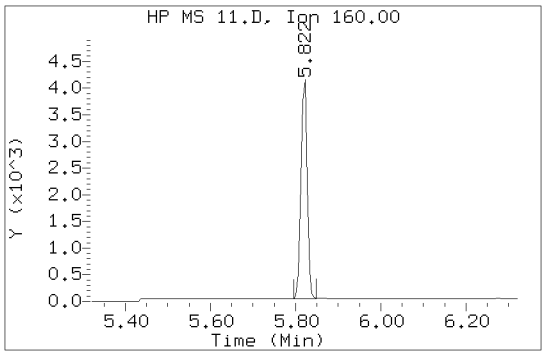
BEFORE

MASS
160
AREA
4133
HEIGHT
4109
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
160
AREA
4133
HEIGHT
4109
19-Jun-2023
15:04
ALSHS
Se

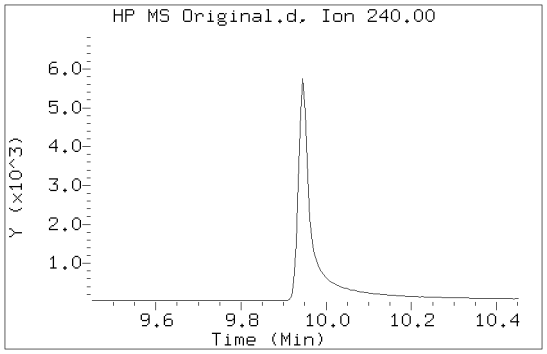


Chrysene-d12 (1719-03-5)

Reason Code:

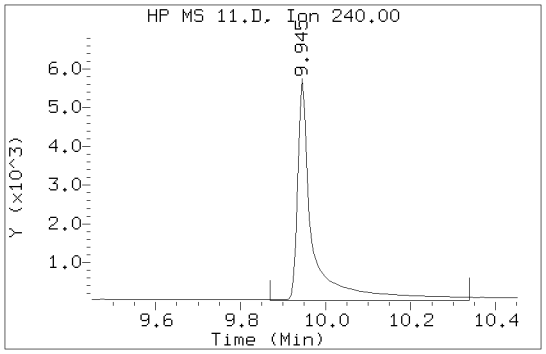
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
14:42
ALSHS
Server



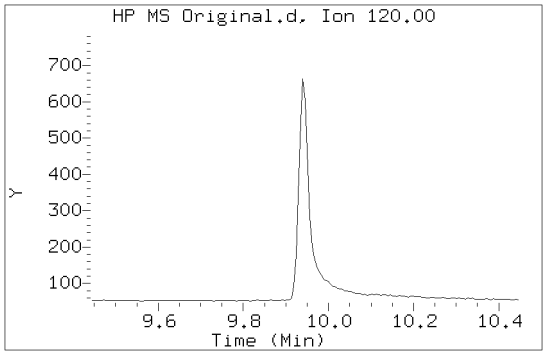
AFTER

MASS
240
AREA
14362
HEIGHT
5724
19-Jun-2023
15:04
ALSHS
Se



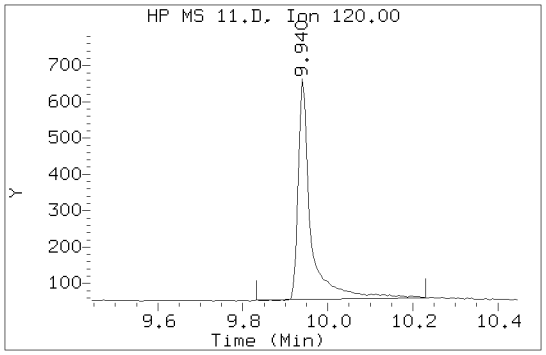
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
14:42
ALSHS
Server



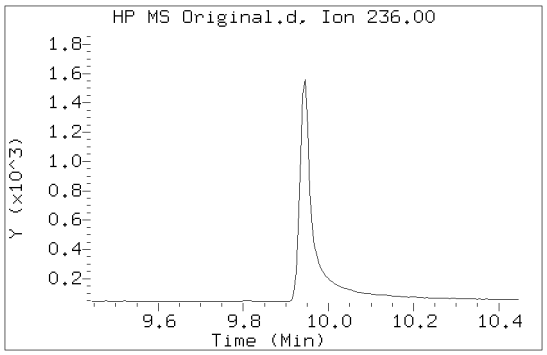
AFTER

MASS
120
AREA
1244
HEIGHT
607
19-Jun-2023
15:04
ALSHS
Se



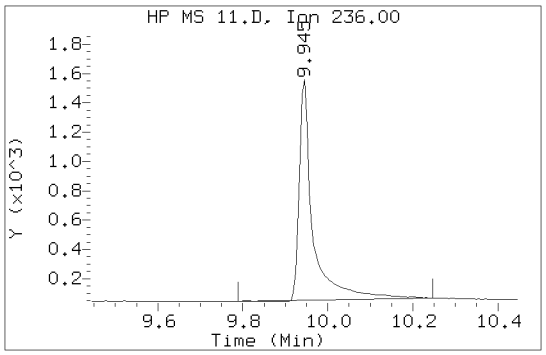
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
236
AREA
3328
HEIGHT
1503
19-Jun-2023
15:04
ALSHS
Se



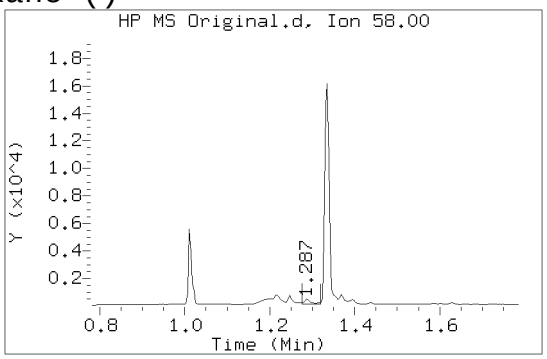
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\11.D
Inj Date : 19-JUN-2023 14:26
InstruID : SV6.i
LabSampID : HS23060739-04

1,4-Dioxane ()

Reason Code:

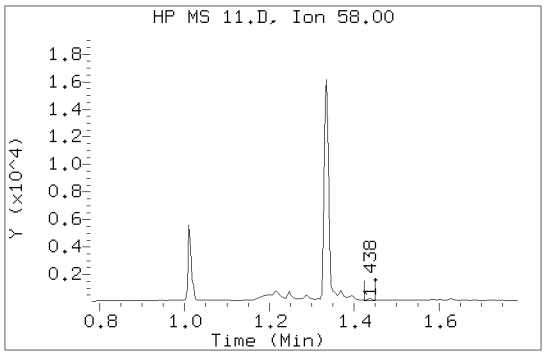
BEFORE

MASS
58
AREA
461
HEIGHT
375
19-Jun-2023
14:42
ALSHS
Server



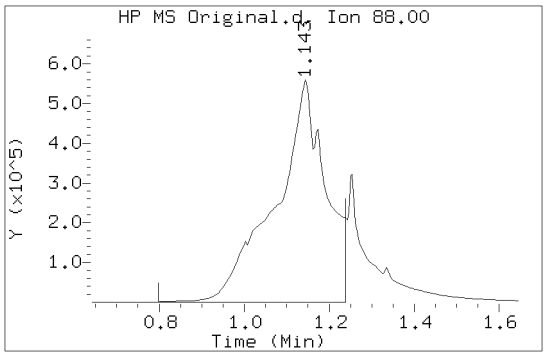
AFTER

MASS
58
AREA
141
HEIGHT
140
19-Jun-2023
15:04
ALSHS
Se



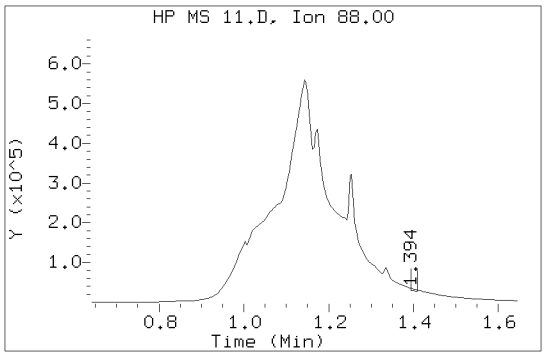
BEFORE

MASS
88
AREA
4570708
HEIGHT
558810
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
88
AREA
5256
HEIGHT
6648
19-Jun-2023
15:04
ALSHS
Se

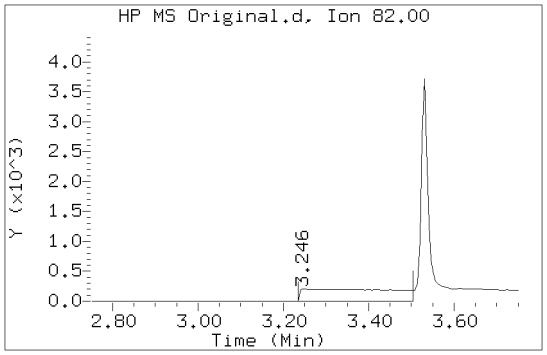


Nitrobenzene-d5 (4165-60-0)

Reason Code:

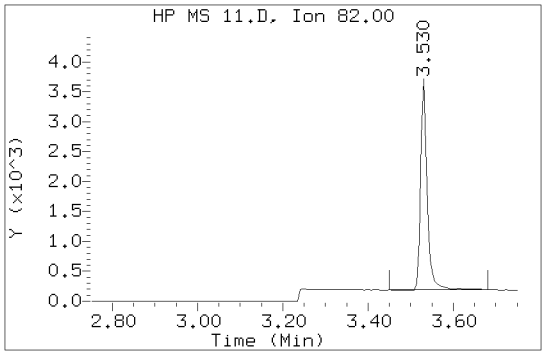
BEFORE

MASS
82
AREA
3050
HEIGHT
200
19-Jun-2023
14:42
ALSHS
Server



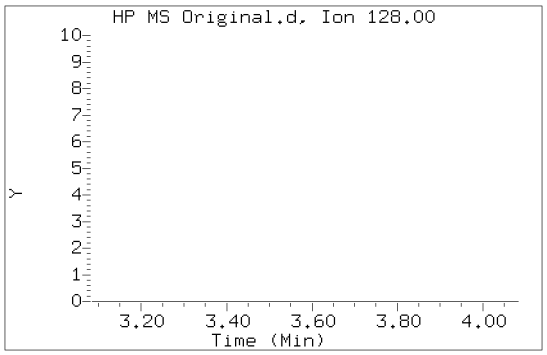
AFTER

MASS
82
AREA
3803
HEIGHT
3523
19-Jun-2023
15:04
ALSHS
Se



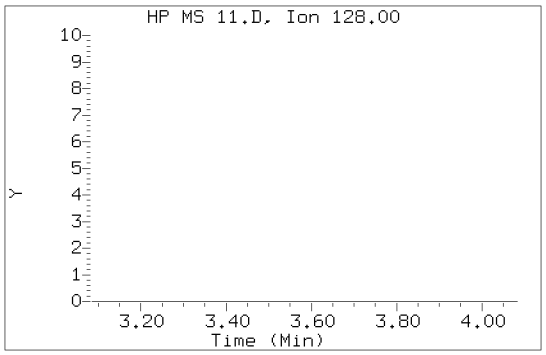
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
15:04
ALSHS
Se



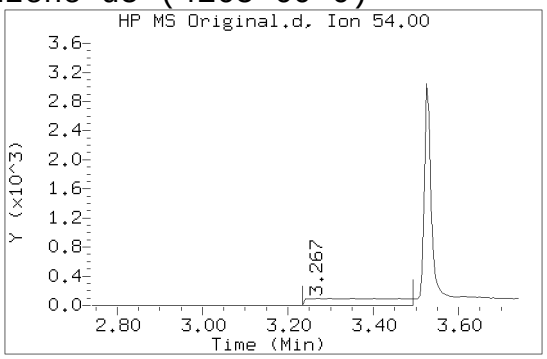
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\11.D
Inj Date : 19-JUN-2023 14:26
InstruID : SV6.i
LabSampID : HS23060739-04

Nitrobenzene-d5 (4165-60-0)

Reason Code:

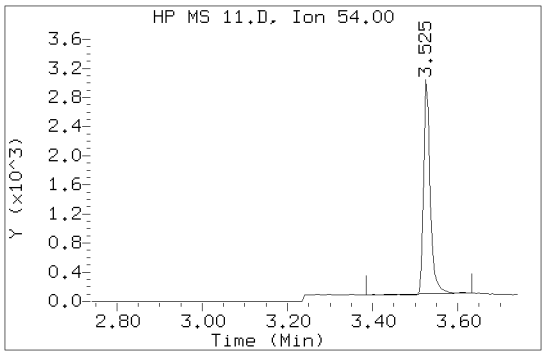
BEFORE

MASS
54
AREA
1407
HEIGHT
95
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
54
AREA
3196
HEIGHT
2940
19-Jun-2023
15:04
ALSHS
Se

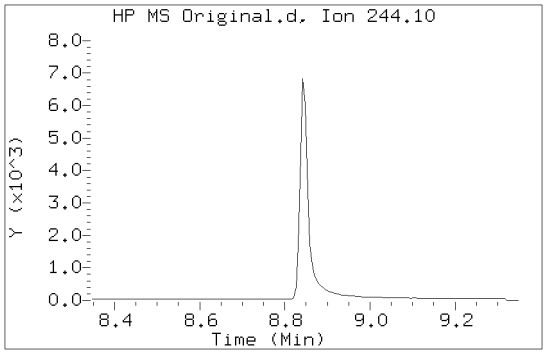


4-Terphenyl-d14 (1718-51-0)

Reason Code:

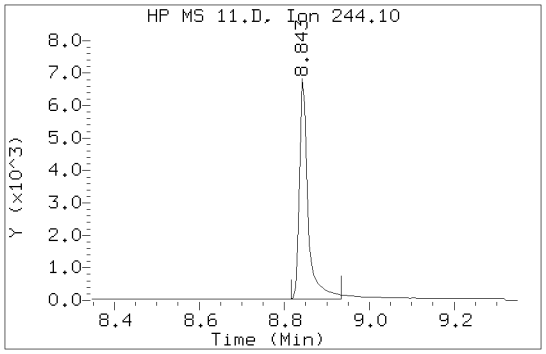
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
14:42
ALSHS
Server



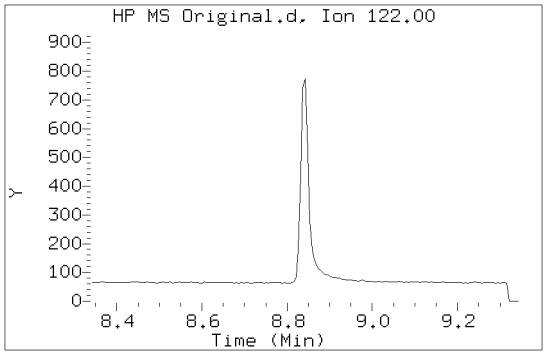
AFTER

MASS
244.1
AREA
9456
HEIGHT
6782
19-Jun-2023
15:04
ALSHS
Se



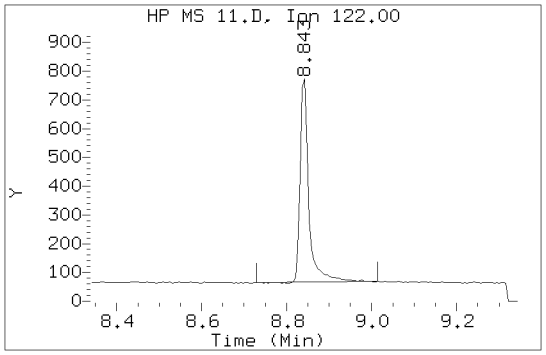
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
14:42
ALSHS
Server



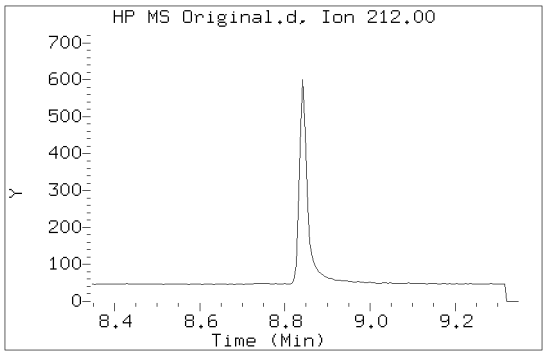
AFTER

MASS
122
AREA
974
HEIGHT
706
19-Jun-2023
15:04
ALSHS
Se



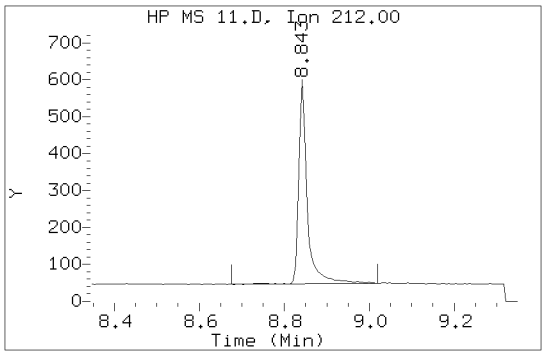
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
14:42
ALSHS
Server



AFTER

MASS
212
AREA
763
HEIGHT
552
19-Jun-2023
15:04
ALSHS
Se



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\12.D Page 1
Report Date: 19-Jun-2023 15:05

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\12.D
Lab Smp Id: HS23060739-05 Client Smp ID: HS23060739-05
Inj Date : 19-JUN-2023 14:44
Operator : LG Inst ID: SV6.i
Smp Info : HS23060739-05
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	4895	0.10000	(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	15589	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.251	(0.848)	3514	0.07419	0.07419(M)
* 86 Acenaphthene-d10	164	5.825	5.827	(1.000)	9324	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.193	(0.891)	8465	0.08878	0.08878
* 126 Phenanthrene-d10	188	7.264	7.261	(1.000)	18079	0.10000	
* 182 Chrysene-d12	240	9.943	9.950	(1.000)	13074	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.846	8.848	(0.890)	8586	0.08902	0.08902(M)
* 198 Perylene-d12	264	11.844	11.846	(1.000)	10294	0.10000	
1 1,4-Dioxane	58	1.434	1.283	(0.467)	443	0.02667	0.02667(M)

QC Flag Legend

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

01194863

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\12.D

Date : 19-JUN-2023 14:44

Client ID: HS23060739-05

Instrument: SV6.i

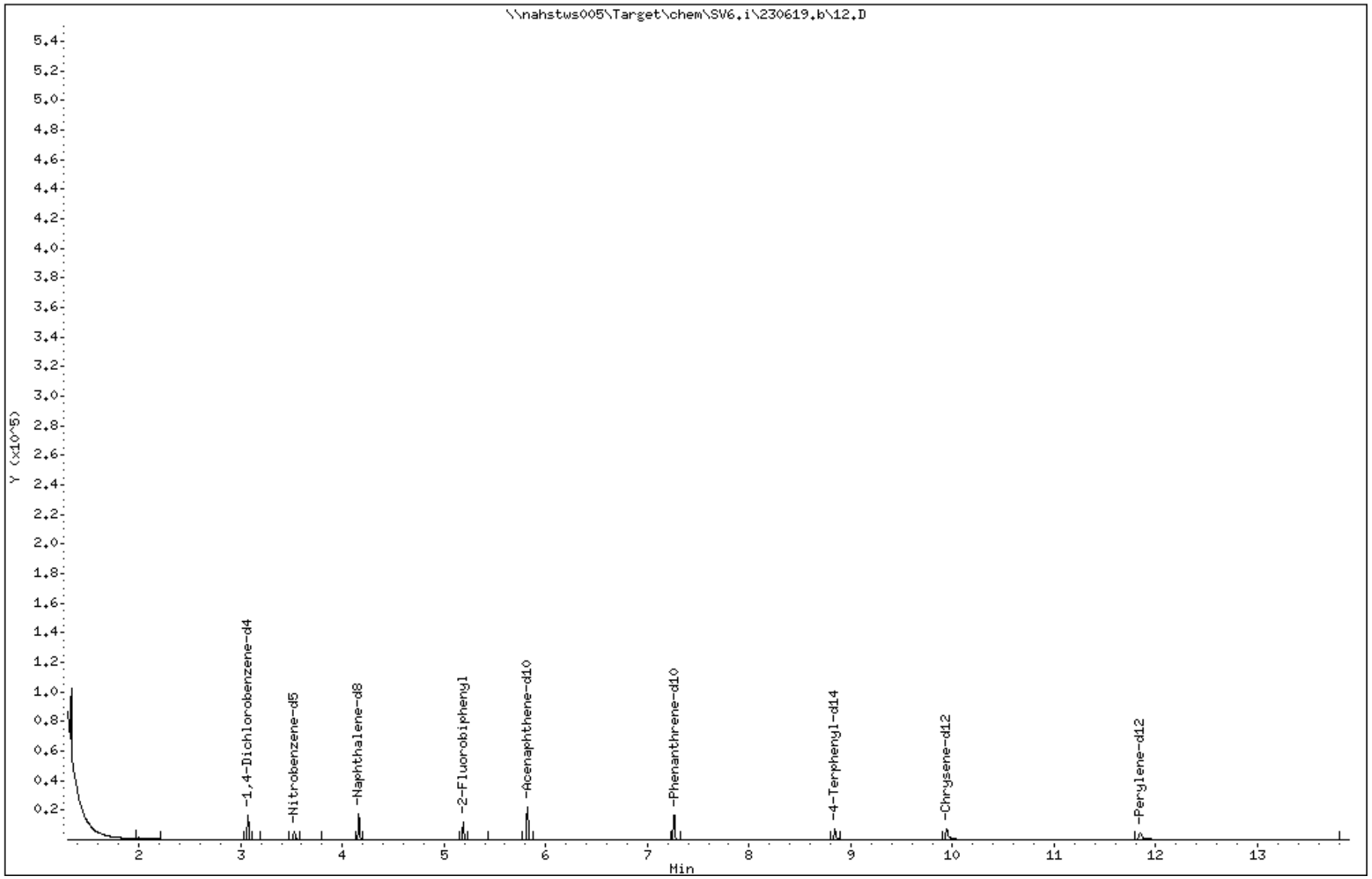
Sample Info: HS23060739-05

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\12.D

Date : 19-JUN-2023 14:44

Client ID: HS23060739-05

Instrument: SV6.i

Sample Info: HS23060739-05

Purge Volume: 1000.0

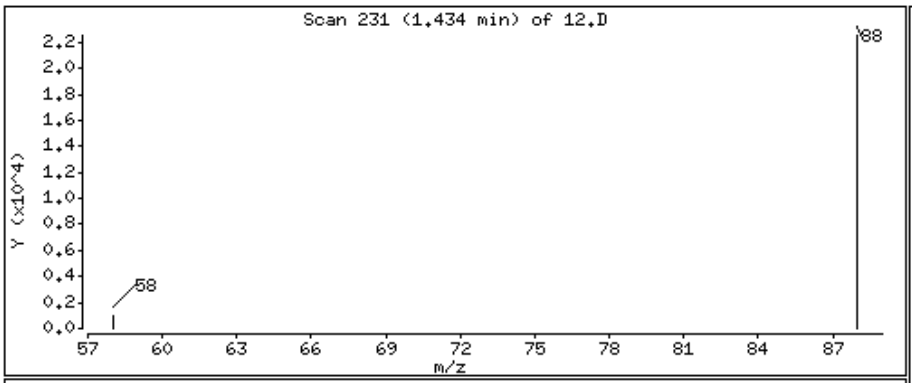
Operator: LG

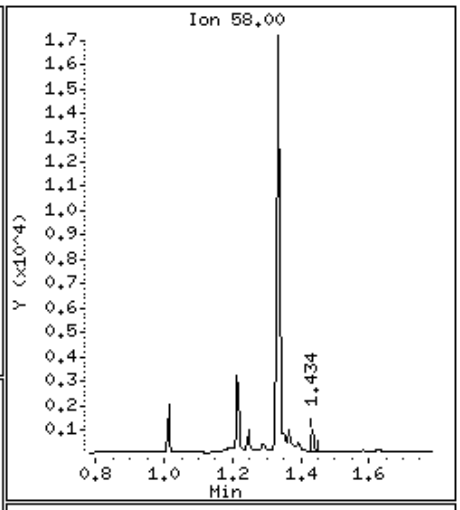
Column phase: RTX-5SIL MS

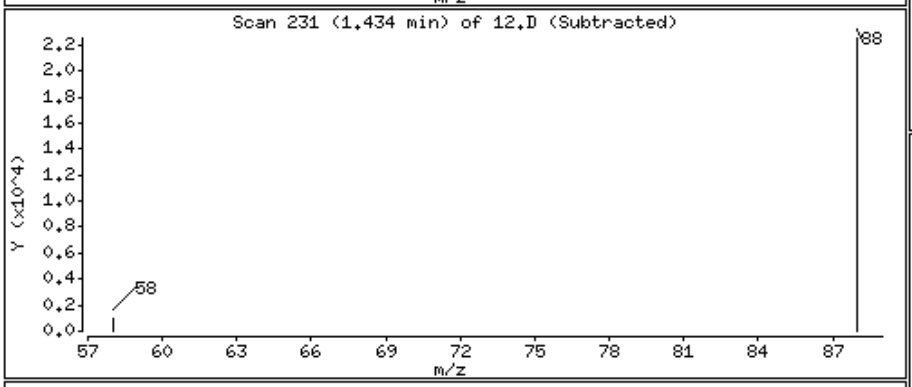
Column diameter: 0.28

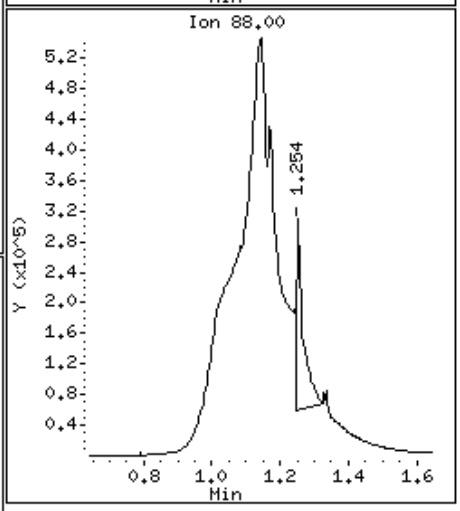
1 1,4-Dioxane

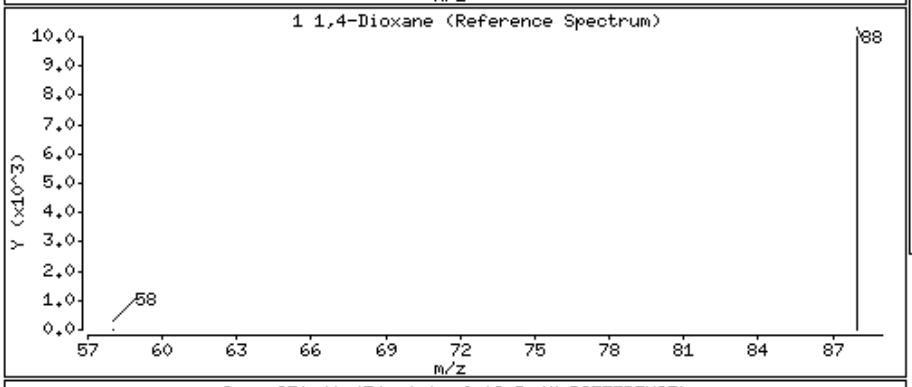
Concentration: 0.02667 ug/L

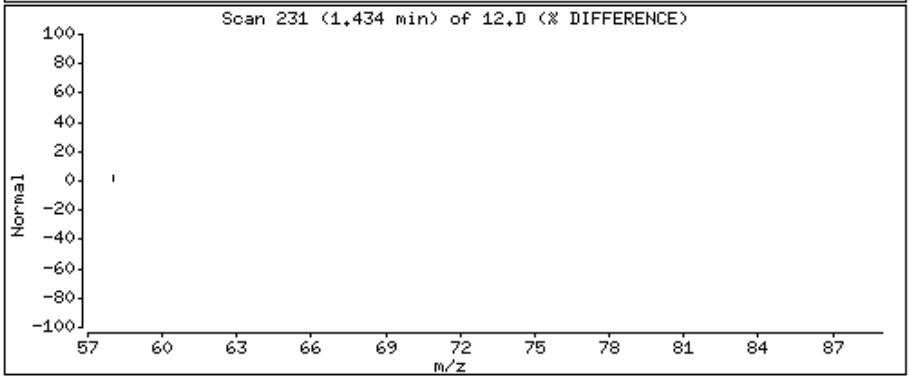












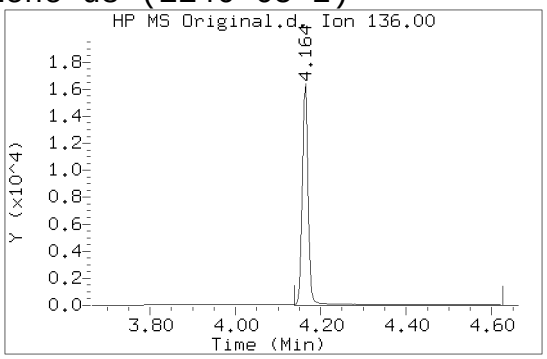
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\12.D
Inj Date : 19-JUN-2023 14:44
InstruID : SV6.i
LabSampID : HS23060739-05

Naphthalene-d8 (1146-65-2)

Reason Code:

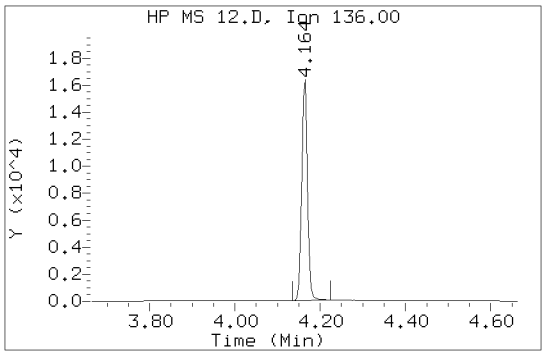
BEFORE

MASS
136
AREA
17485
HEIGHT
16408
19-Jun-2023
15:01
ALSHS
Server



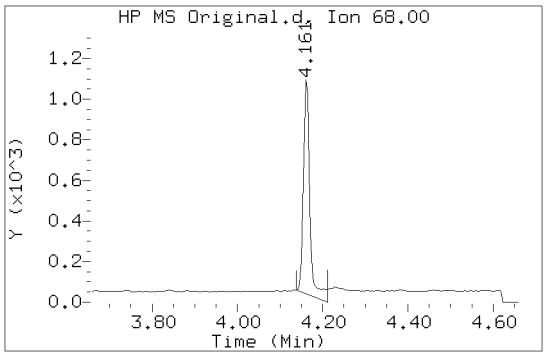
AFTER

MASS
136
AREA
15589
HEIGHT
16340
19-Jun-2023
15:04
ALSHS
Se



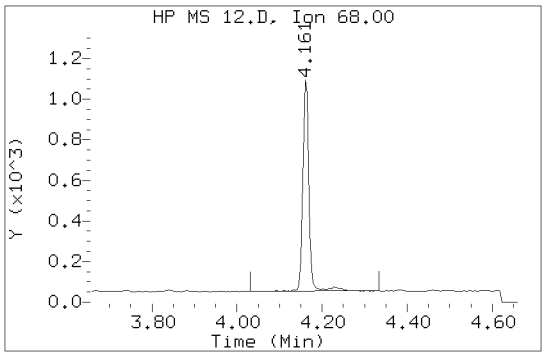
BEFORE

MASS
68
AREA
1126
HEIGHT
1053
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
68
AREA
1054
HEIGHT
1040
19-Jun-2023
15:04
ALSHS
Se

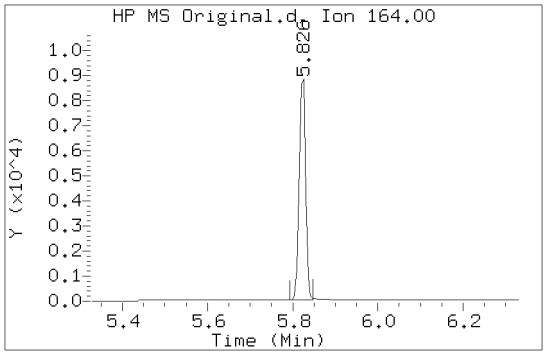


Acenaphthene-d10 (15067-26-2)

Reason Code:

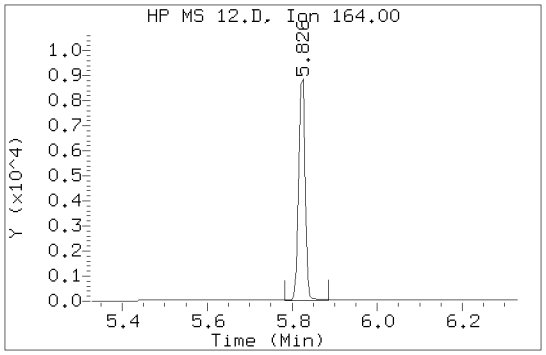
BEFORE

MASS
164
AREA
9133
HEIGHT
8818
19-Jun-2023
15:01
ALSHS
Server



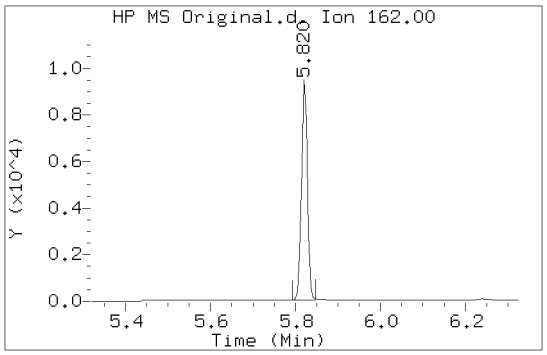
AFTER

MASS
164
AREA
9324
HEIGHT
8841
19-Jun-2023
15:04
ALSHS
Se



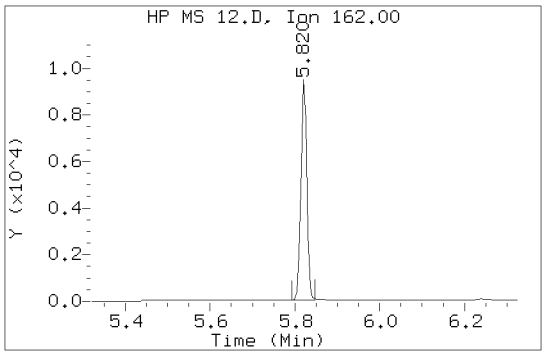
BEFORE

MASS
162
AREA
9255
HEIGHT
9461
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
162
AREA
9255
HEIGHT
9461
19-Jun-2023
15:04
ALSHS
Se



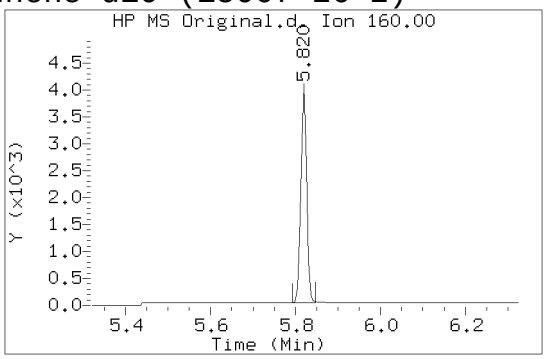
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\12.D
Inj Date : 19-JUN-2023 14:44
InstruID : SV6.i
LabSampID : HS23060739-05

Acenaphthene-d10 (15067-26-2)

Reason Code:

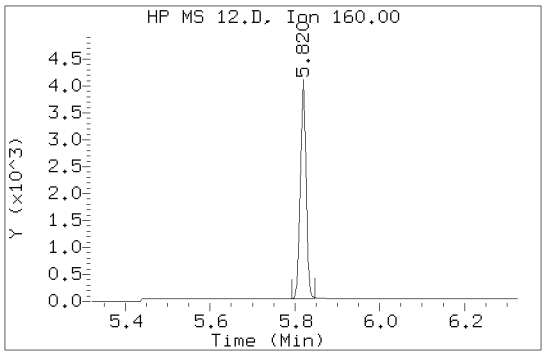
BEFORE

MASS
160
AREA
3872
HEIGHT
4068
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
160
AREA
3872
HEIGHT
4068
19-Jun-2023
15:04
ALSHS
Se

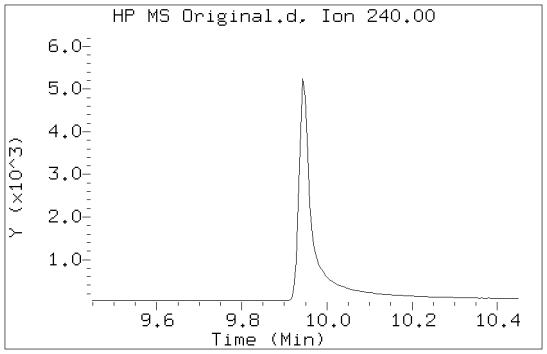


Chrysene-d12 (1719-03-5)

Reason Code:

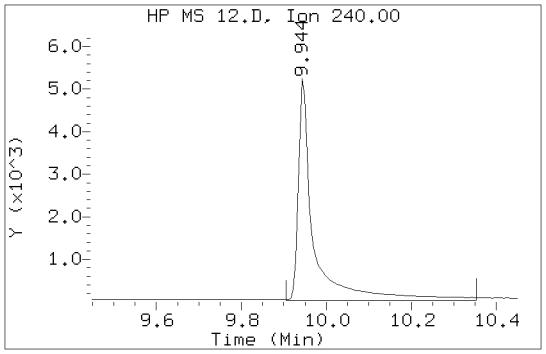
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
15:01
ALSHS
Server



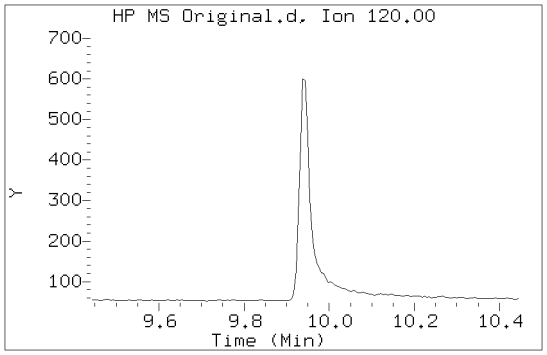
AFTER

MASS
240
AREA
13074
HEIGHT
5206
19-Jun-2023
15:04
ALSHS
Se



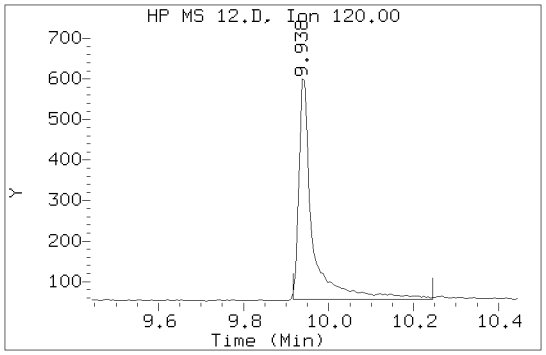
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
15:01
ALSHS
Server



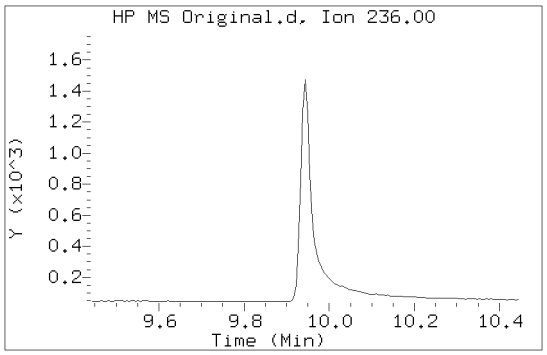
AFTER

MASS
120
AREA
1227
HEIGHT
544
19-Jun-2023
15:04
ALSHS
Se



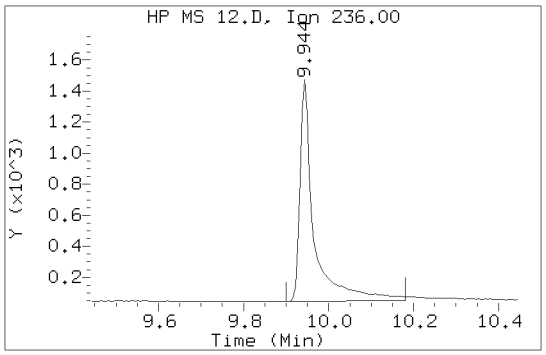
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
236
AREA
3243
HEIGHT
1424
19-Jun-2023
15:04
ALSHS
Se



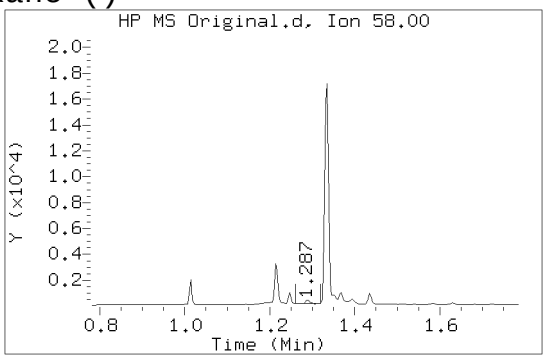
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\12.D
Inj Date : 19-JUN-2023 14:44
InstruID : SV6.i
LabSampID : HS23060739-05

1,4-Dioxane ()

Reason Code:

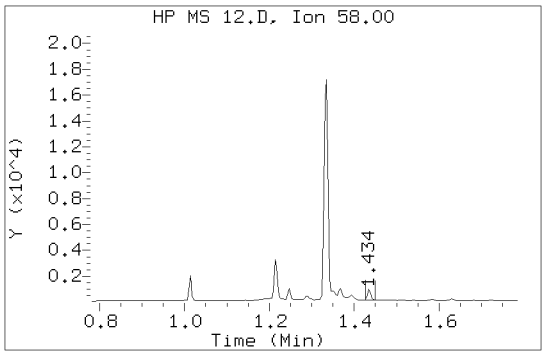
BEFORE

MASS
58
AREA
242
HEIGHT
270
19-Jun-2023
15:01
ALSHS
Server



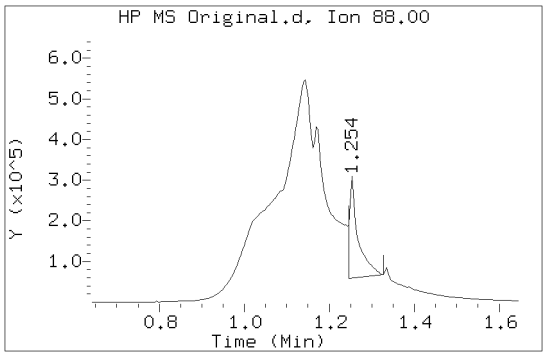
AFTER

MASS
58
AREA
443
HEIGHT
841
19-Jun-2023
15:04
ALSHS
Se



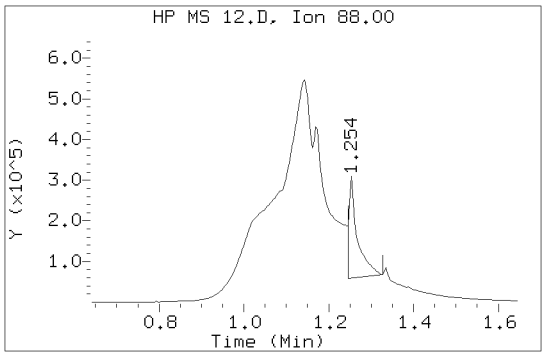
BEFORE

MASS
88
AREA
345400
HEIGHT
250628
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
88
AREA
345400
HEIGHT
250628
19-Jun-2023
15:04
ALSHS
Se

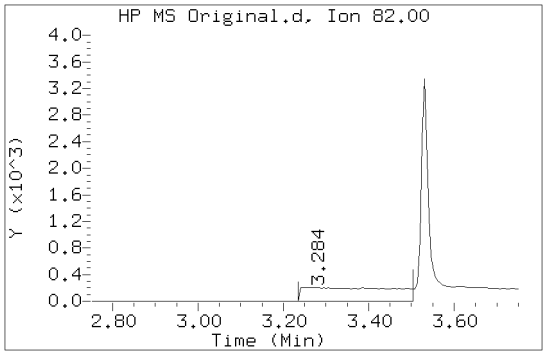


Nitrobenzene-d5 (4165-60-0)

Reason Code:

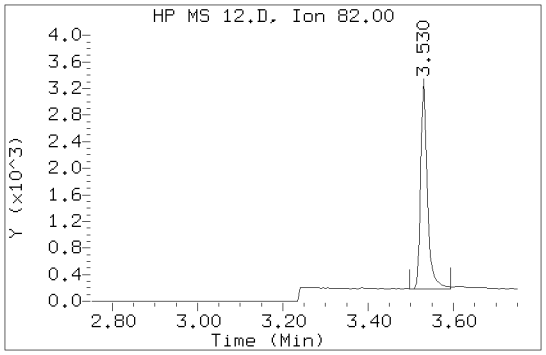
BEFORE

MASS
82
AREA
3119
HEIGHT
205
19-Jun-2023
15:01
ALSHS
Server



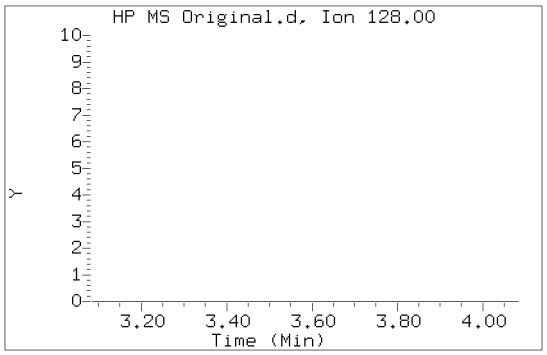
AFTER

MASS
82
AREA
3514
HEIGHT
3159
19-Jun-2023
15:04
ALSHS
Se



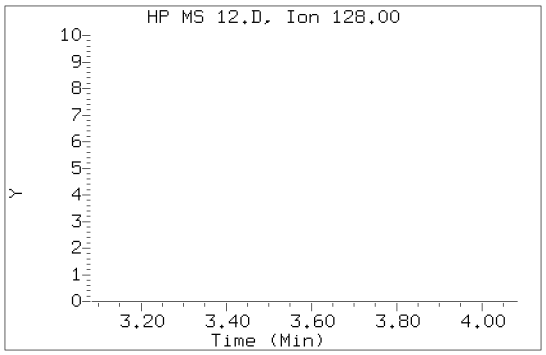
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
15:04
ALSHS
Se



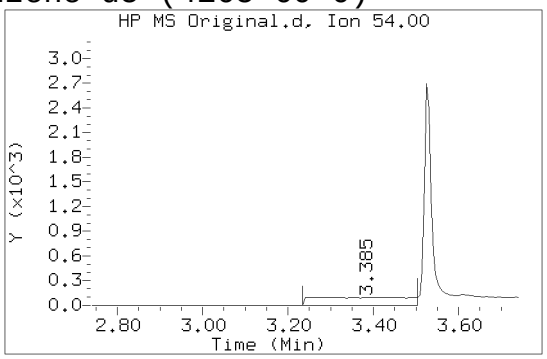
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\12.D
Inj Date : 19-JUN-2023 14:44
InstruID : SV6.i
LabSampID : HS23060739-05

Nitrobenzene-d5 (4165-60-0)

Reason Code:

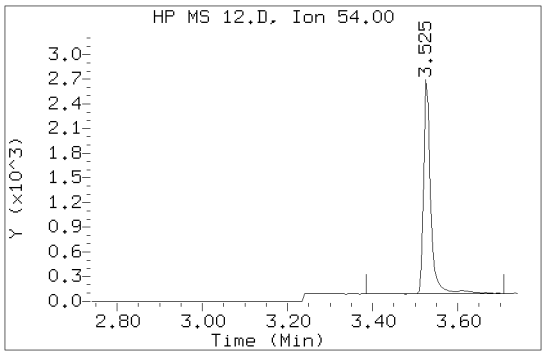
BEFORE

MASS
54
AREA
1484
HEIGHT
97
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
54
AREA
3045
HEIGHT
2598
19-Jun-2023
15:04
ALSHS
Se

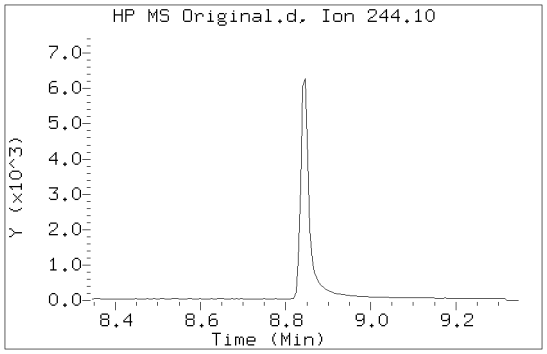


4-Terphenyl-d14 (1718-51-0)

Reason Code:

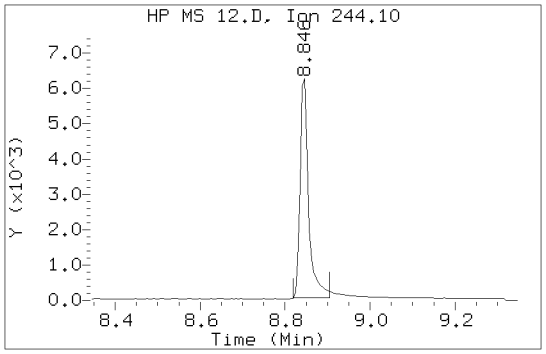
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
15:01
ALSHS
Server



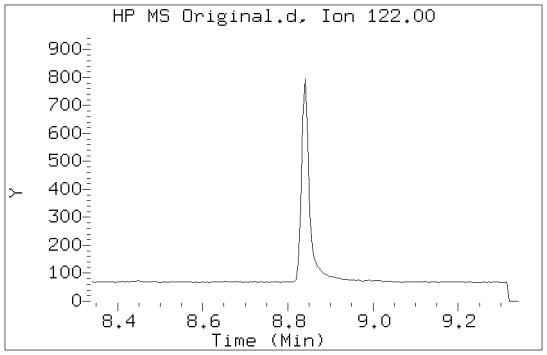
AFTER

MASS
244.1
AREA
8586
HEIGHT
6211
19-Jun-2023
15:04
ALSHS
Se



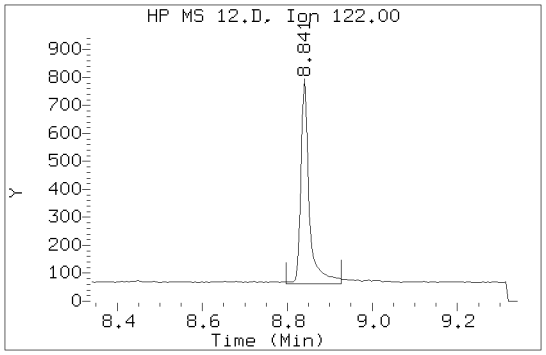
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
15:01
ALSHS
Server



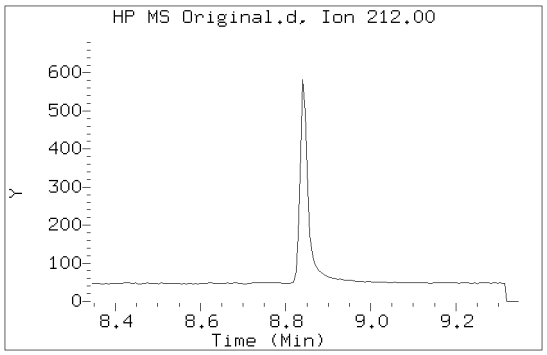
AFTER

MASS
122
AREA
993
HEIGHT
732
19-Jun-2023
15:04
ALSHS
Se



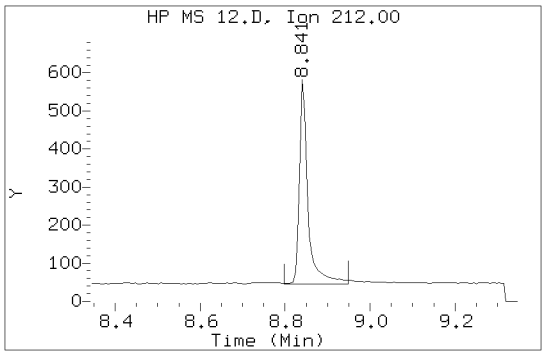
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
15:01
ALSHS
Server



AFTER

MASS
212
AREA
740
HEIGHT
536
19-Jun-2023
15:04
ALSHS
Se



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\13.D Page 1
Report Date: 19-Jun-2023 15:22

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\13.D
Lab Smp Id: HS23060739-06 Client Smp ID: HS23060739-06
Inj Date : 19-JUN-2023 15:02
Operator : LG Inst ID: SV6.i
Smp Info : HS23060739-06
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	4508	0.10000	(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	14438	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.251	(0.848)	3436	0.07833	0.07833(M)
* 86 Acenaphthene-d10	164	5.822	5.827	(1.000)	8906	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.189	5.193	(0.891)	8135	0.08933	0.08932(M)
* 126 Phenanthrene-d10	188	7.261	7.261	(1.000)	16606	0.10000	
* 182 Chrysene-d12	240	9.945	9.950	(1.000)	12483	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.842	8.848	(0.889)	8226	0.08932	0.08932(M)
* 198 Perylene-d12	264	11.846	11.846	(1.000)	9422	0.10000	
1 1,4-Dioxane	58	1.445	1.283	(0.470)	604	0.03949	0.03949(M)

QC Flag Legend

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

01194870

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\13.D

Date : 19-JUN-2023 15:02

Client ID: HS23060739-06

Instrument: SV6.i

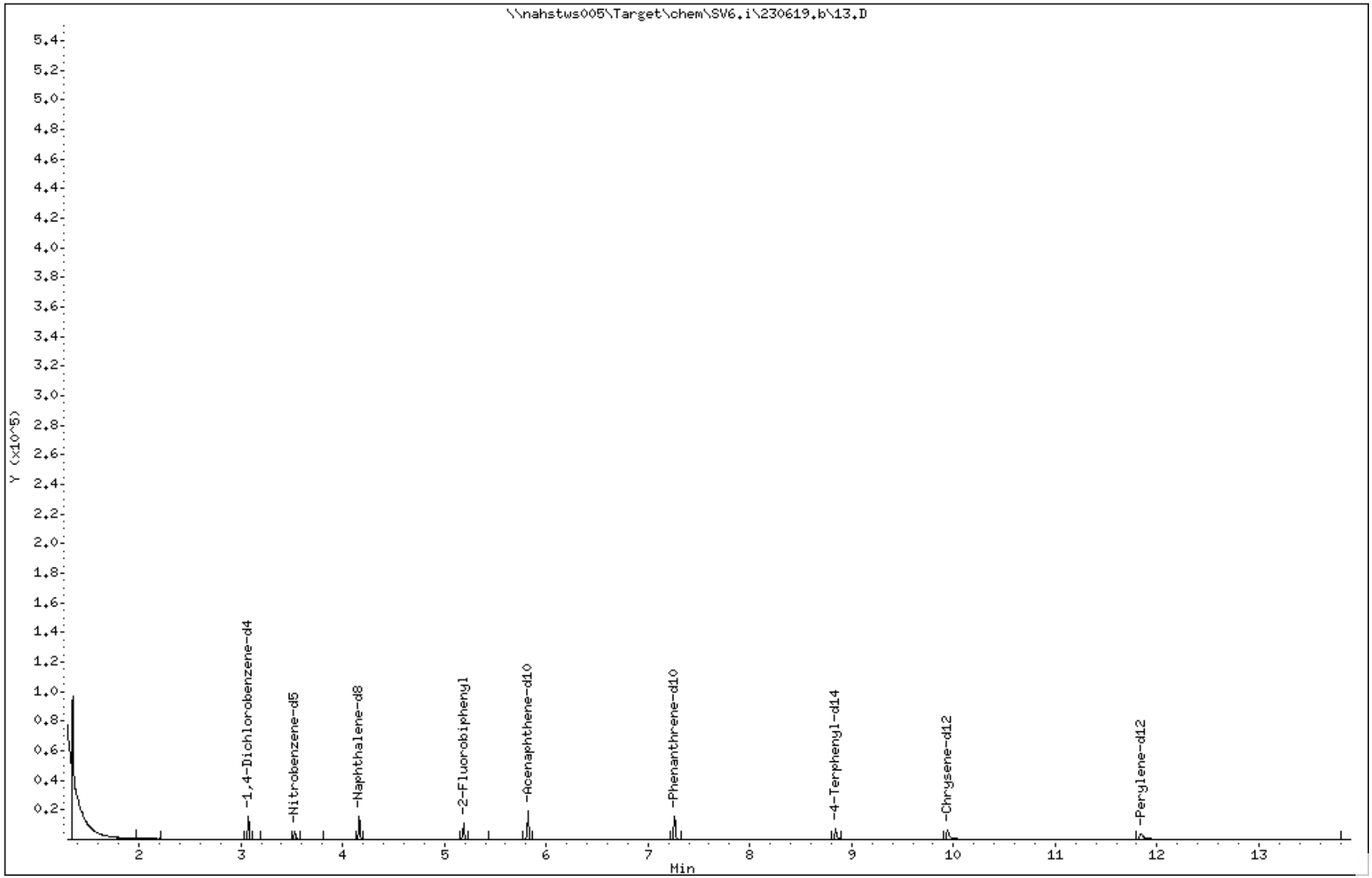
Sample Info: HS23060739-06

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\13.D

Date : 19-JUN-2023 15:02

Client ID: HS23060739-06

Instrument: SV6.i

Sample Info: HS23060739-06

Purge Volume: 1000.0

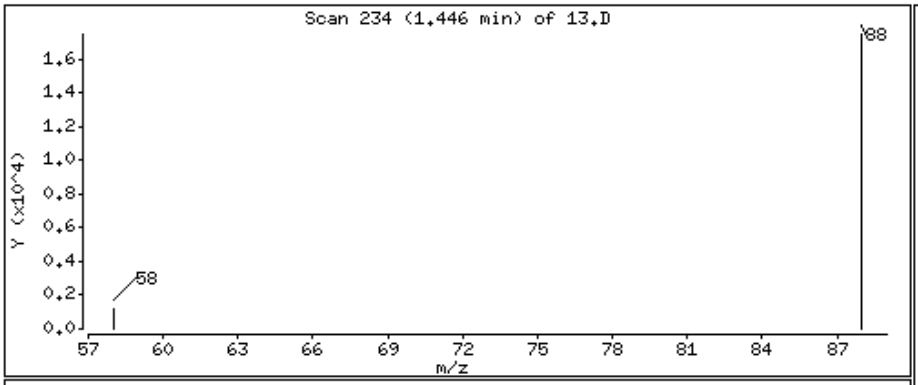
Operator: LG

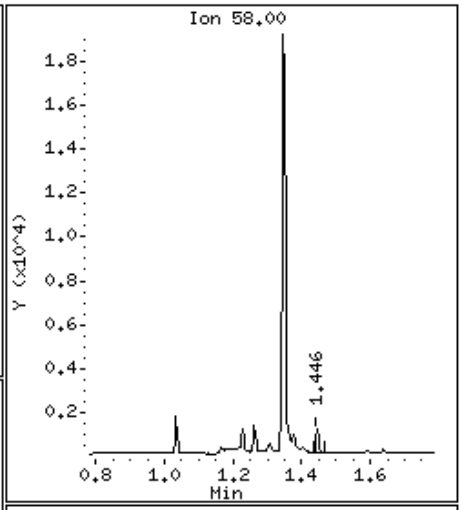
Column phase: RTX-5SIL MS

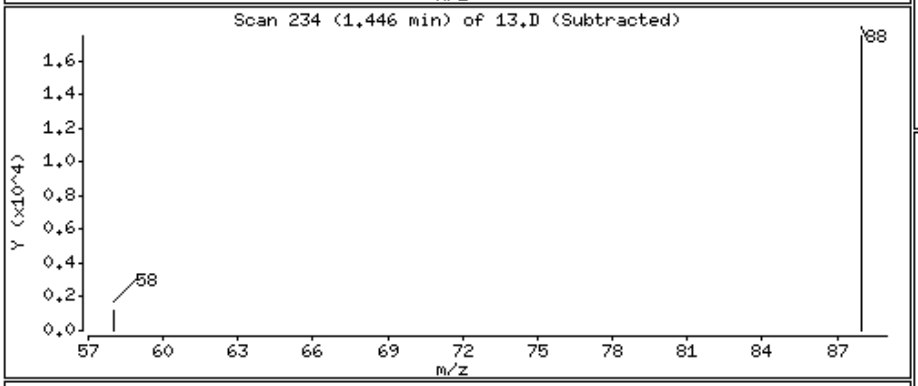
Column diameter: 0.28

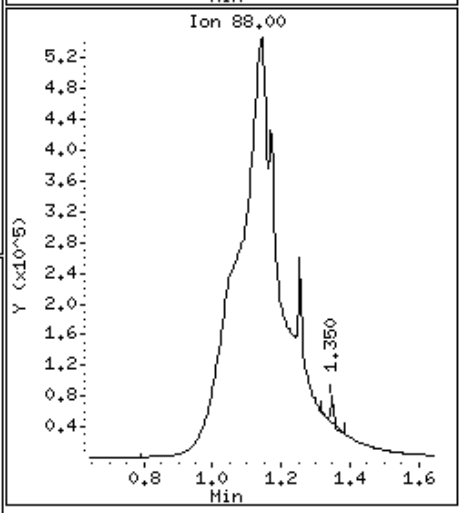
1 1,4-Dioxane

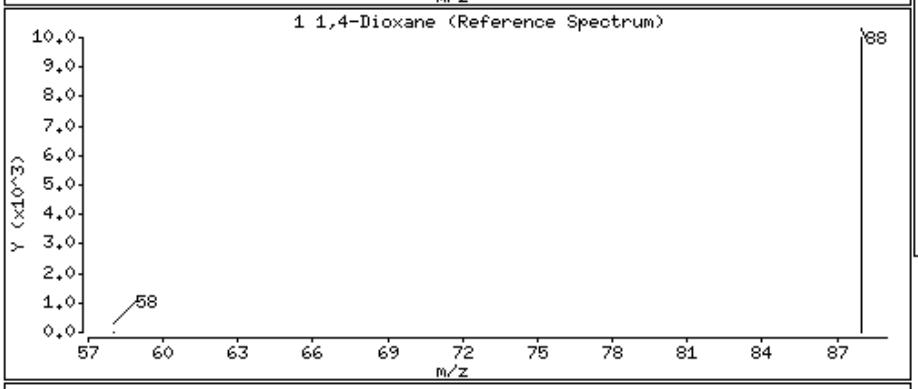
Concentration: 0.03949 ug/L

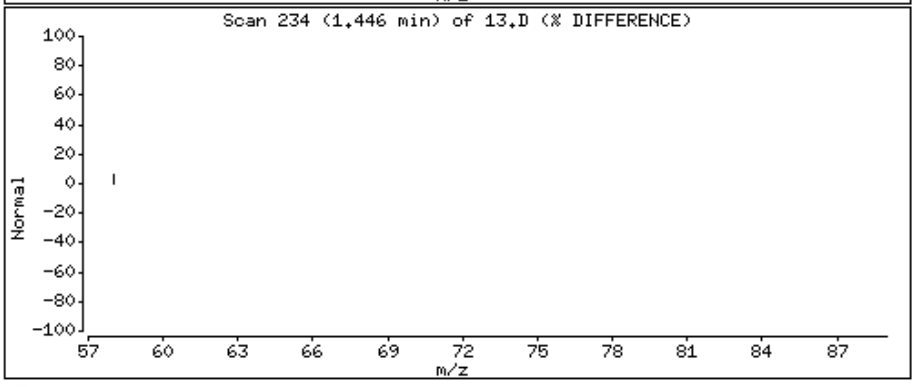












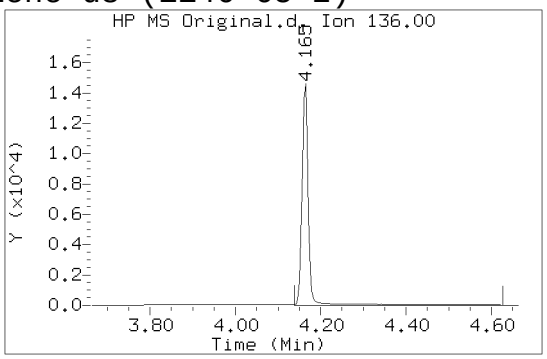
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\13.D
Inj Date : 19-JUN-2023 15:02
InstruID : SV6.i
LabSampID : HS23060739-06

Naphthalene-d8 (1146-65-2)

Reason Code:

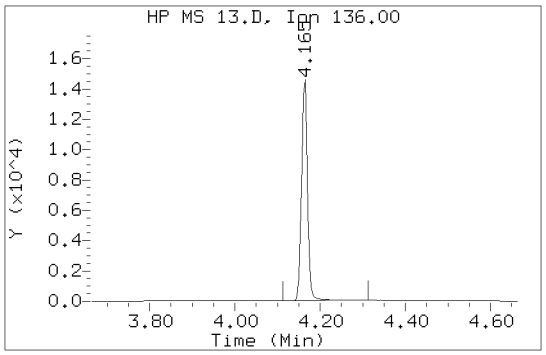
BEFORE

MASS
136
AREA
16142
HEIGHT
14612
19-Jun-2023
15:18
ALSHS
Server



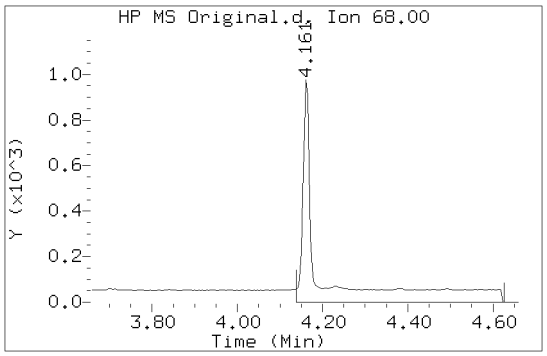
AFTER

MASS
136
AREA
14438
HEIGHT
14557
19-Jun-2023
15:22
ALSHS
Se



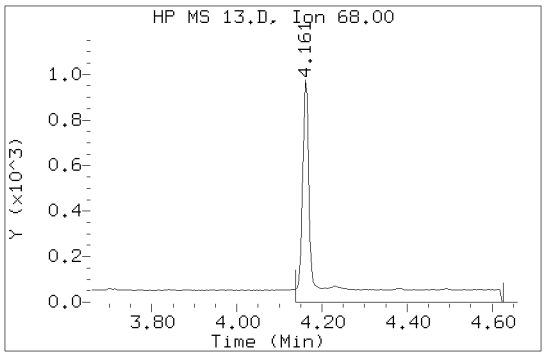
BEFORE

MASS
68
AREA
2541
HEIGHT
976
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
68
AREA
2541
HEIGHT
976
19-Jun-2023
15:22
ALSHS
Se

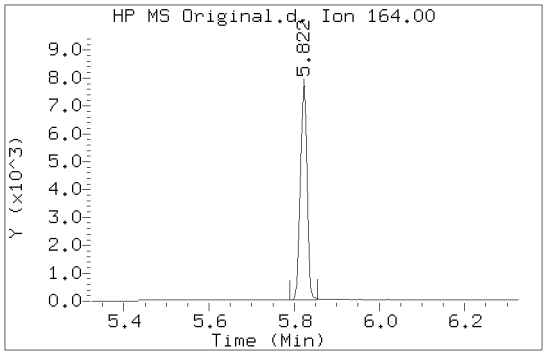


Acenaphthene-d10 (15067-26-2)

Reason Code:

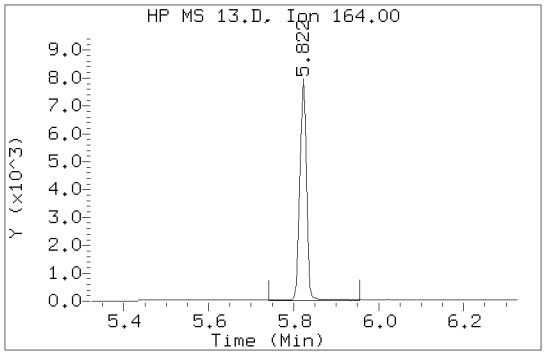
BEFORE

MASS
164
AREA
8392
HEIGHT
7916
19-Jun-2023
15:18
ALSHS
Server



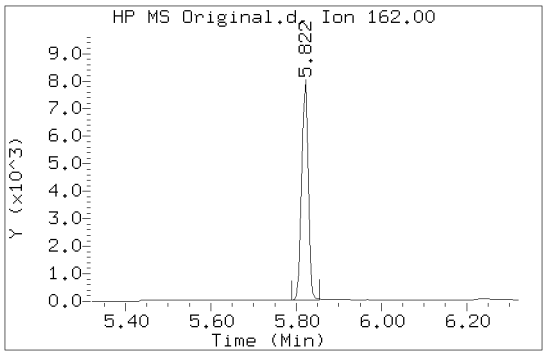
AFTER

MASS
164
AREA
8906
HEIGHT
7950
19-Jun-2023
15:22
ALSHS
Se



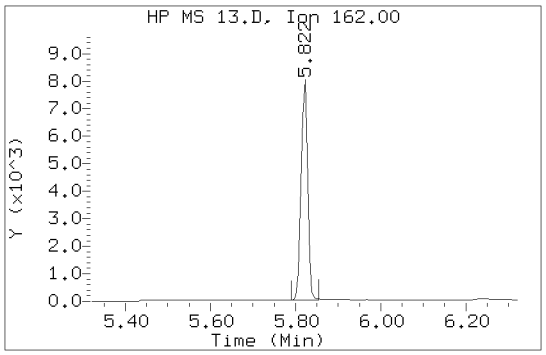
BEFORE

MASS
162
AREA
8478
HEIGHT
8004
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
162
AREA
8478
HEIGHT
8004
19-Jun-2023
15:22
ALSHS
Se



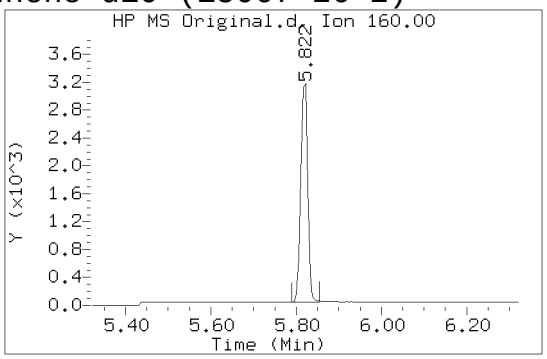
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\13.D
Inj Date : 19-JUN-2023 15:02
InstruID : SV6.i
LabSampID : HS23060739-06

Acenaphthene-d10 (15067-26-2)

Reason Code:

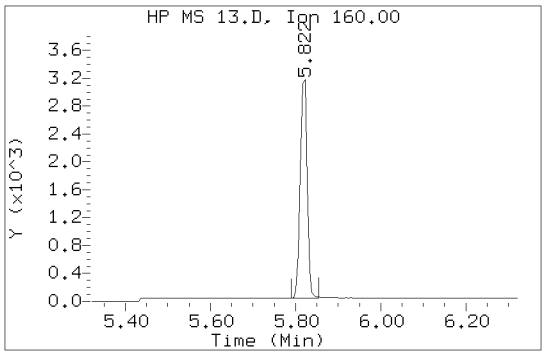
BEFORE

MASS
160
AREA
3515
HEIGHT
3132
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
160
AREA
3515
HEIGHT
3132
19-Jun-2023
15:22
ALSHS
Se

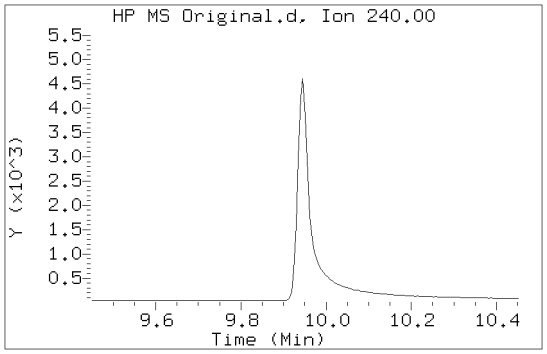


Chrysene-d12 (1719-03-5)

Reason Code:

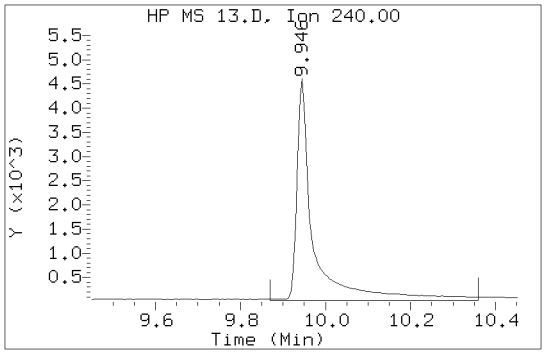
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
15:18
ALSHS
Server



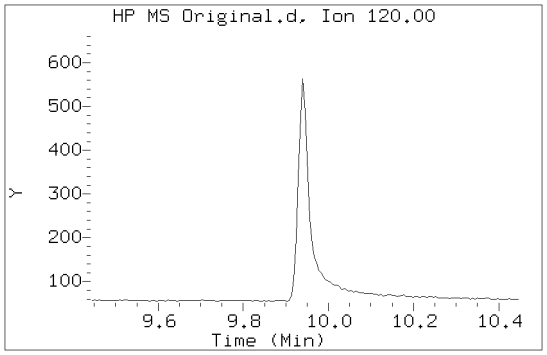
AFTER

MASS
240
AREA
12483
HEIGHT
4580
19-Jun-2023
15:22
ALSHS
Se



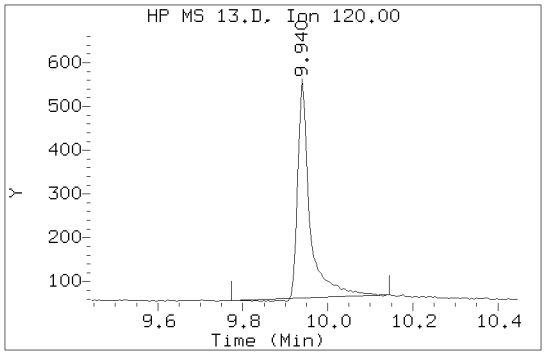
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
15:18
ALSHS
Server



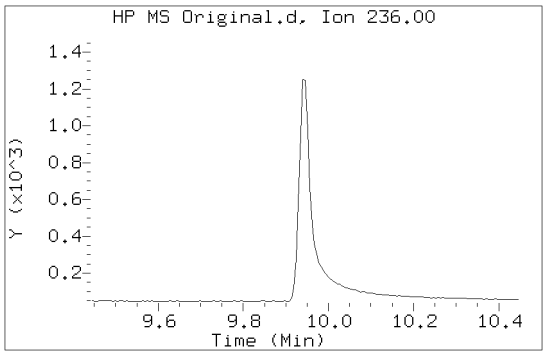
AFTER

MASS
120
AREA
981
HEIGHT
501
19-Jun-2023
15:22
ALSHS
Se



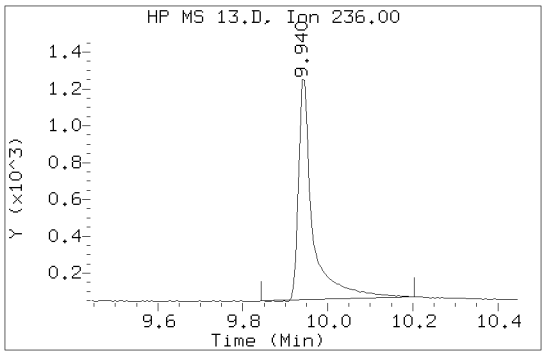
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
236
AREA
2778
HEIGHT
1194
19-Jun-2023
15:22
ALSHS
Se



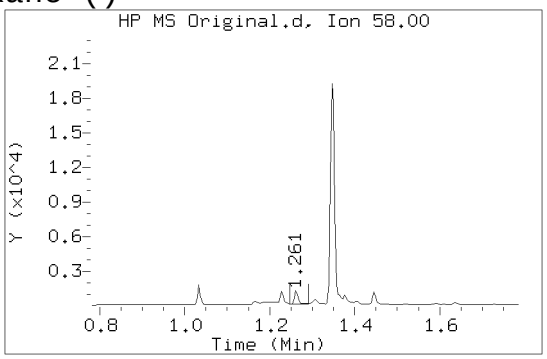
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\13.D
Inj Date : 19-JUN-2023 15:02
InstruID : SV6.i
LabSampID : HS23060739-06

1,4-Dioxane ()

Reason Code:

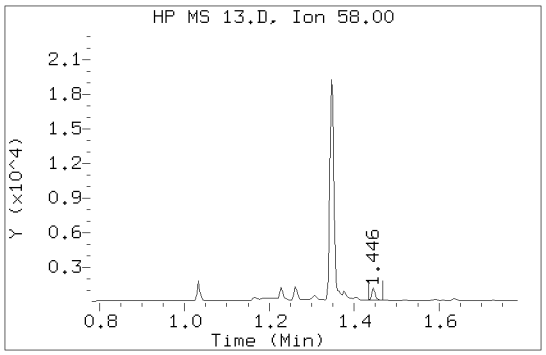
BEFORE

MASS
58
AREA
689
HEIGHT
1179
19-Jun-2023
15:18
ALSHS
Server



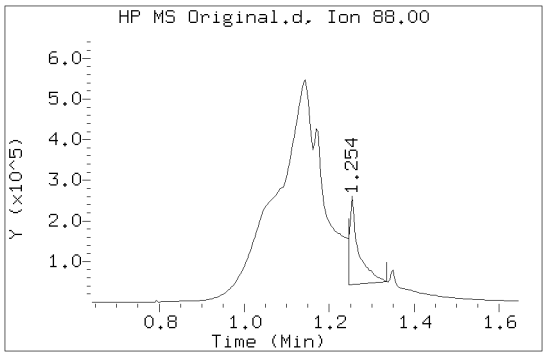
AFTER

MASS
58
AREA
604
HEIGHT
1067
19-Jun-2023
15:22
ALSHS
Se



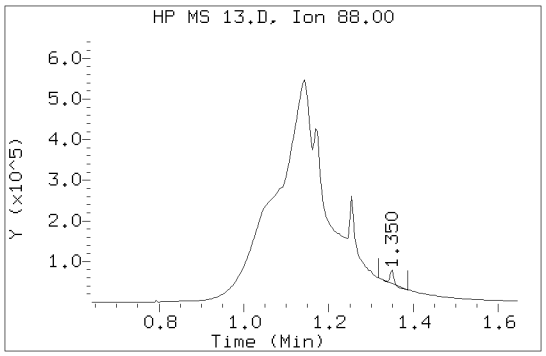
BEFORE

MASS
88
AREA
317528
HEIGHT
217325
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
88
AREA
14102
HEIGHT
33519
19-Jun-2023
15:22
ALSHS
Se

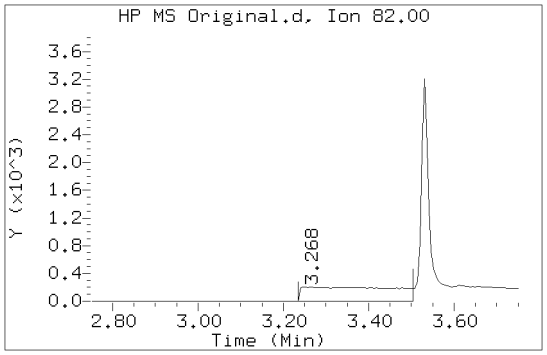


Nitrobenzene-d5 (4165-60-0)

Reason Code:

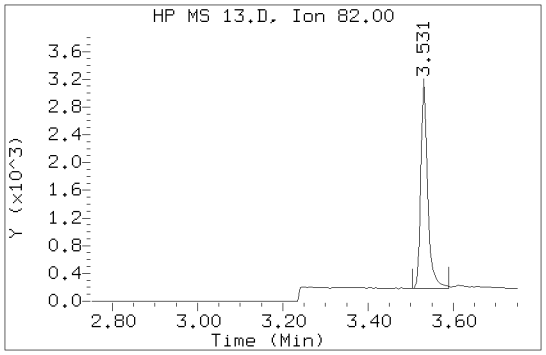
BEFORE

MASS
82
AREA
3090
HEIGHT
204
19-Jun-2023
15:18
ALSHS
Server



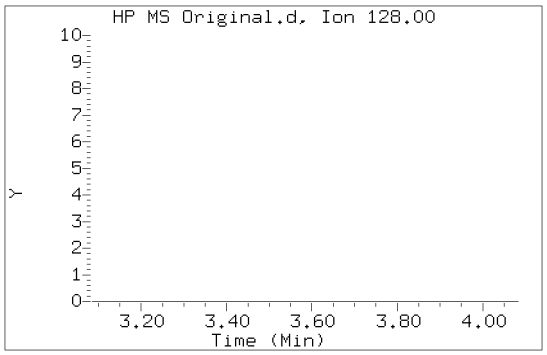
AFTER

MASS
82
AREA
3436
HEIGHT
3023
19-Jun-2023
15:22
ALSHS
Se



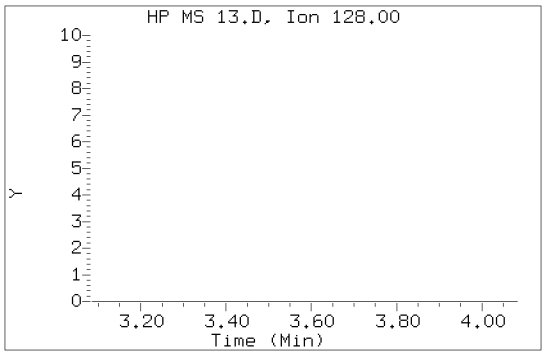
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
15:22
ALSHS
Se



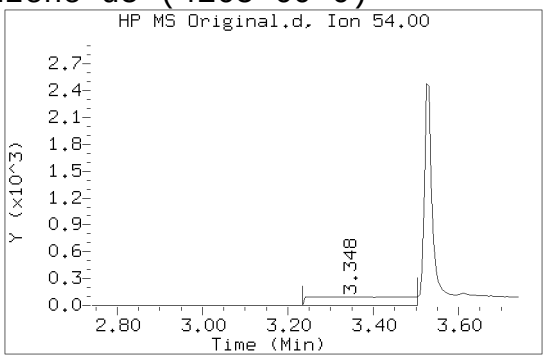
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\13.D
Inj Date : 19-JUN-2023 15:02
InstruID : SV6.i
LabSampID : HS23060739-06

Nitrobenzene-d5 (4165-60-0)

Reason Code:

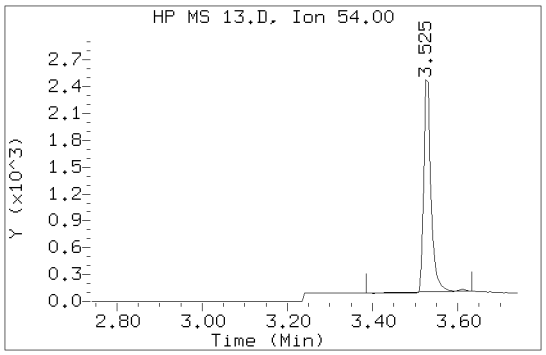
BEFORE

MASS
54
AREA
1497
HEIGHT
96
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
54
AREA
2863
HEIGHT
2375
19-Jun-2023
15:22
ALSHS
Se

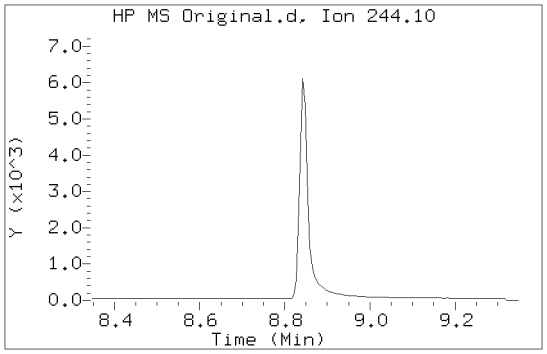


4-Terphenyl-d14 (1718-51-0)

Reason Code:

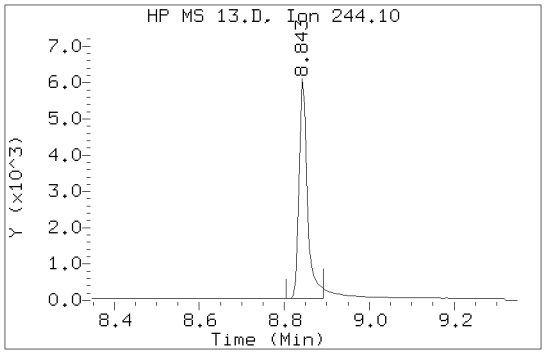
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
15:18
ALSHS
Server



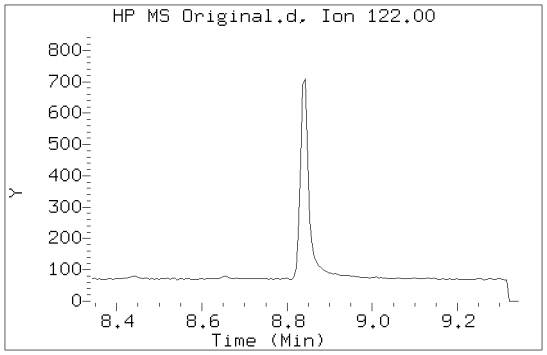
AFTER

MASS
244.1
AREA
8226
HEIGHT
6061
19-Jun-2023
15:22
ALSHS
Se



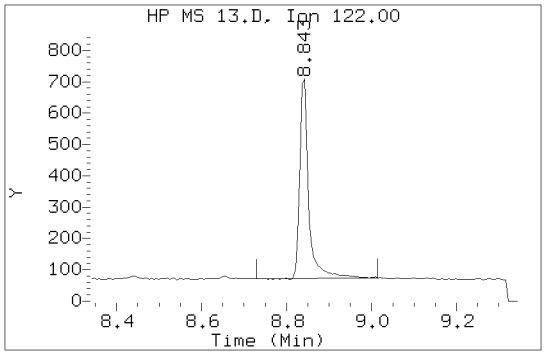
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
15:18
ALSHS
Server



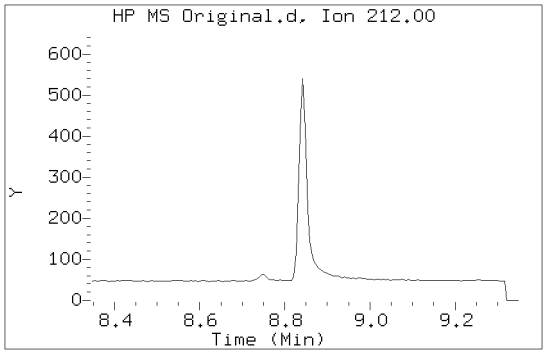
AFTER

MASS
122
AREA
927
HEIGHT
636
19-Jun-2023
15:22
ALSHS
Se



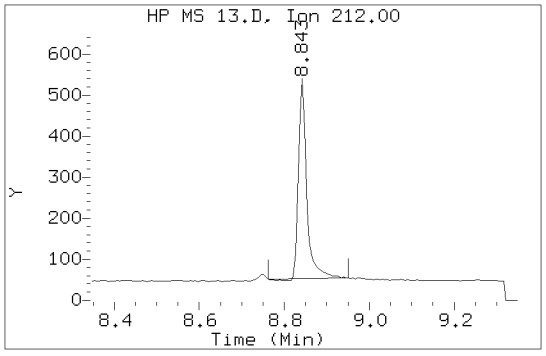
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
212
AREA
645
HEIGHT
487
19-Jun-2023
15:22
ALSHS
Se



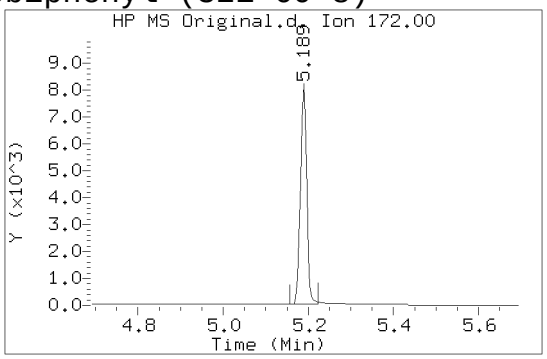
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\13.D
Inj Date : 19-JUN-2023 15:02
InstruID : SV6.i
LabSampID : HS23060739-06

2-Fluorobiphenyl (321-60-8)

Reason Code:

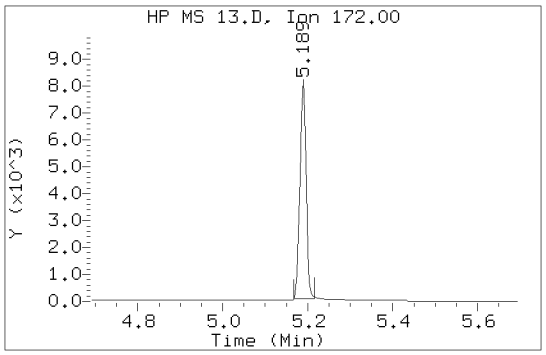
BEFORE

MASS
172
AREA
8298
HEIGHT
8195
19-Jun-2023
15:18
ALSHS
Server



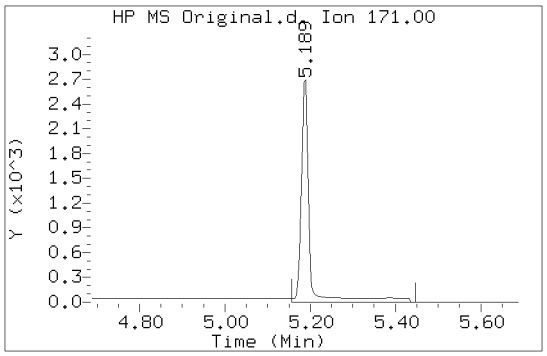
AFTER

MASS
172
AREA
8135
HEIGHT
8154
19-Jun-2023
15:22
ALSHS
Se



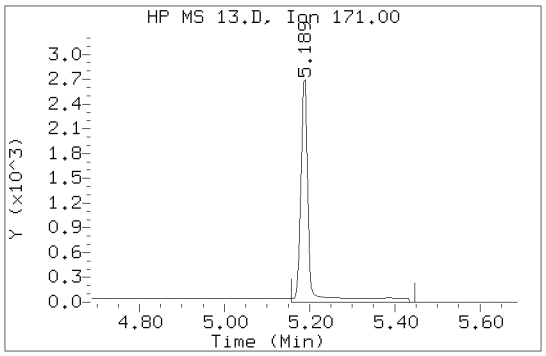
BEFORE

MASS
171
AREA
3650
HEIGHT
2692
19-Jun-2023
15:18
ALSHS
Server



AFTER

MASS
171
AREA
3650
HEIGHT
2692
19-Jun-2023
15:22
ALSHS
Se



Data File: \\nahstws005\Target\chem\SV6.i\230619.b\24.D Page 1
Report Date: 20-Jun-2023 09:42

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\nahstws005\Target\chem\SV6.i\230619.b\24.D
Lab Smp Id: 14DXCCV-CLOSING Client Smp ID: 14DXCCV-CLOSING
Inj Date : 19-JUN-2023 18:21
Operator : LG Inst ID: SV6.i
Smp Info : 14DXCCV-CLOSING
Misc Info : ;;0;1;
Comment :
Method : \\nahstws005\Target\chem\SV6.i\230619.b\DXSIM.m
Meth Date : 20-Jun-2023 09:42 SV6.i Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 24 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTW7015

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.074	3.074	(1.000)	4705	0.10000	(a)
* 45 Naphthalene-d8	136	4.164	4.164	(1.000)	15368	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.530	3.530	(0.848)	3637	0.08000	0.07789(QM)
* 86 Acenaphthene-d10	164	5.825	5.825	(1.000)	9068	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.196	5.196	(0.892)	7615	0.08000	0.08212(M)
* 126 Phenanthrene-d10	188	7.270	7.270	(1.000)	18393	0.10000	
* 182 Chrysene-d12	240	9.954	9.954	(1.000)	12032	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.851	8.851	(0.889)	7499	0.08000	0.08448(M)
* 198 Perylene-d12	264	11.855	11.855	(1.000)	8355	0.10000	
1 1,4-Dioxane	58	1.434	1.434	(0.467)	1324	0.08000	0.08294(QM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

01194878

Data File: \\nahstws005\Target\chem\SV6.i\230619.b\24.D

Date : 19-JUN-2023 18:21

Client ID: 14DXCCV-CLOSING

Instrument: SV6.i

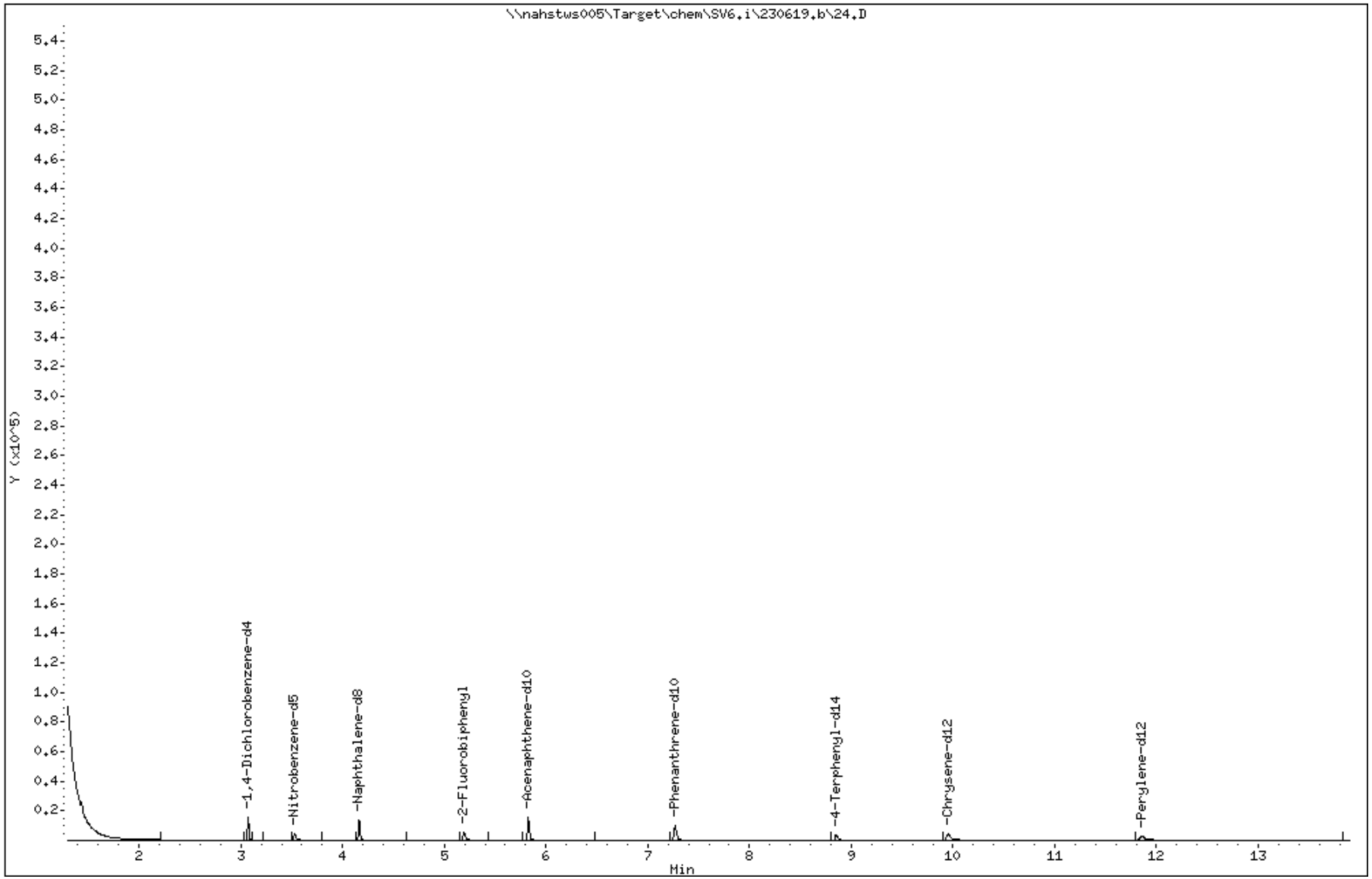
Sample Info: 14DXCCV-CLOSING

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



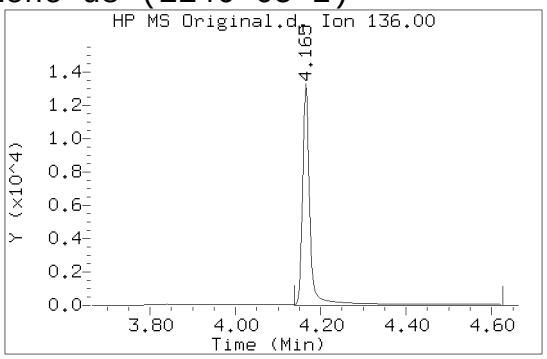
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\24.D
Inj Date : 19-JUN-2023 18:21
InstruID : SV6.i
LabSampID : 14DXCCV-CLOSING

Naphthalene-d8 (1146-65-2)

Reason Code:

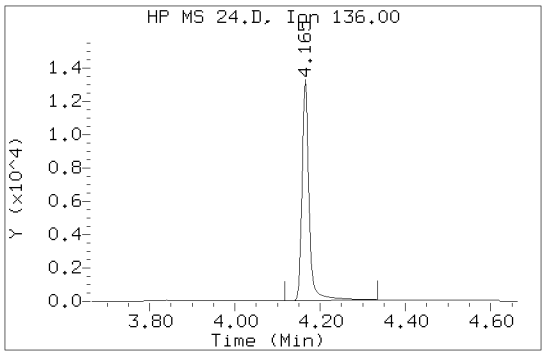
BEFORE

MASS
136
AREA
17535
HEIGHT
13304
19-Jun-2023
18:36
ALSHS
Server



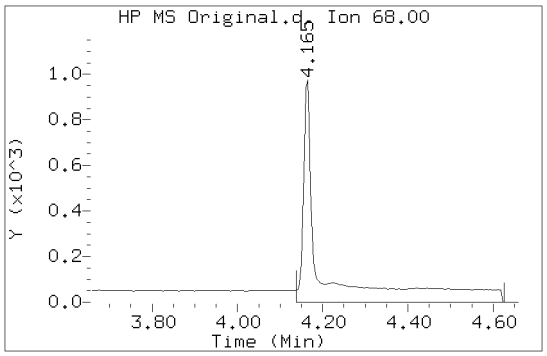
AFTER

MASS
136
AREA
15368
HEIGHT
13239
20-Jun-2023
09:42
ALSHS
Se



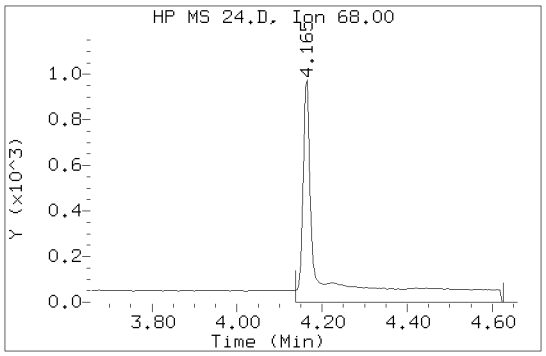
BEFORE

MASS
68
AREA
2787
HEIGHT
975
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
68
AREA
2787
HEIGHT
975
20-Jun-2023
09:42
ALSHS
Se

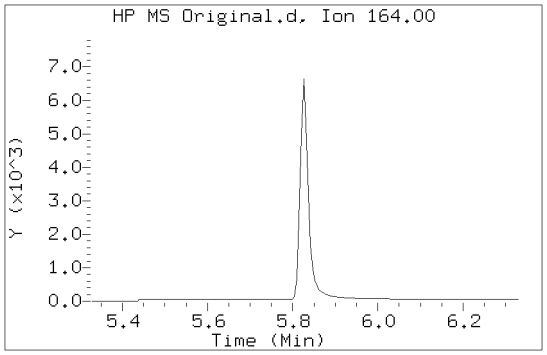


Acenaphthene-d10 (15067-26-2)

Reason Code:

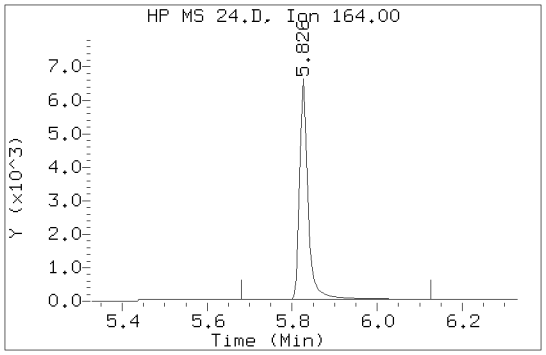
BEFORE

MASS
164
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



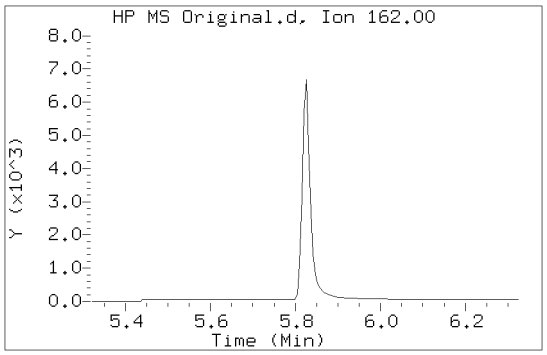
AFTER

MASS
164
AREA
9068
HEIGHT
6584
20-Jun-2023
09:42
ALSHS
Se



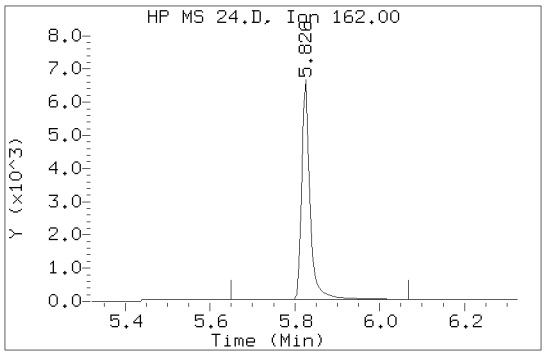
BEFORE

MASS
162
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
162
AREA
9103
HEIGHT
6617
20-Jun-2023
09:42
ALSHS
Se



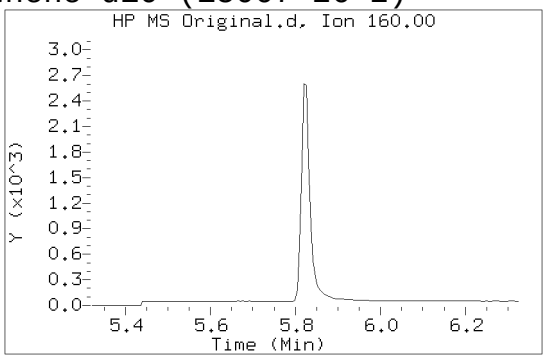
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\24.D
Inj Date : 19-JUN-2023 18:21
InstruID : SV6.i
LabSampID : 14DXCCV-CLOSING

Acenaphthene-d10 (15067-26-2)

Reason Code:

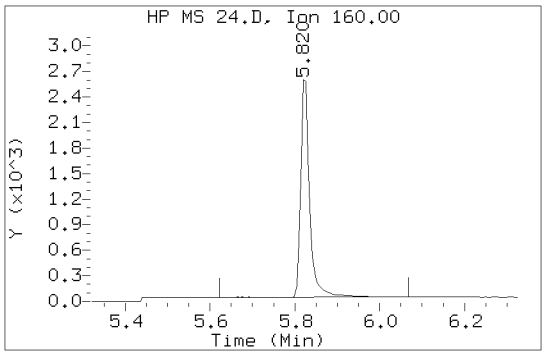
BEFORE

MASS
160
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
160
AREA
3754
HEIGHT
2553
20-Jun-2023
09:42
ALSHS
Se

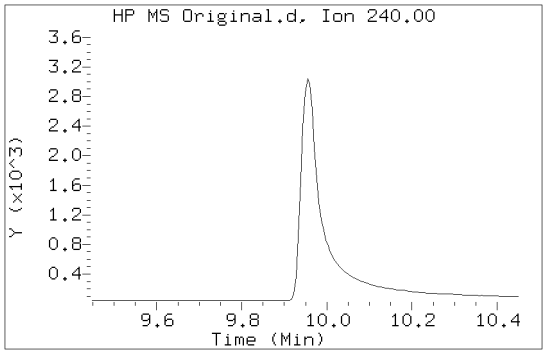


Chrysene-d12 (1719-03-5)

Reason Code:

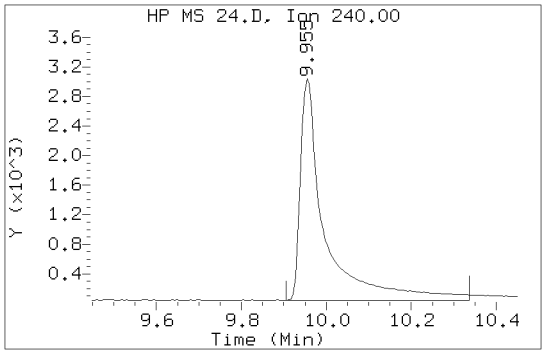
BEFORE

MASS
240
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



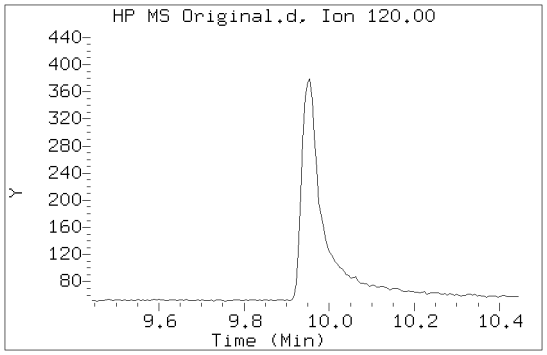
AFTER

MASS
240
AREA
12032
HEIGHT
2999
20-Jun-2023
09:42
ALSHS
Se



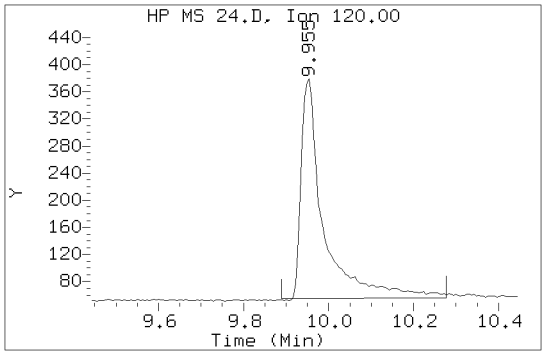
BEFORE

MASS
120
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



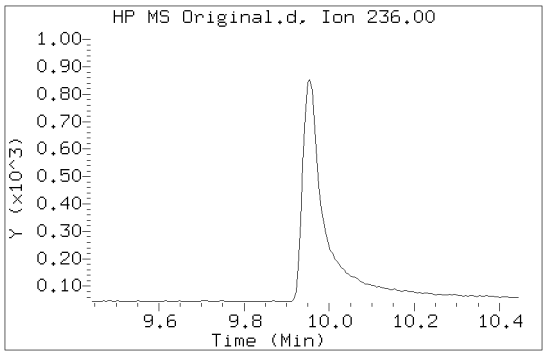
AFTER

MASS
120
AREA
1183
HEIGHT
323
20-Jun-2023
09:42
ALSHS
Se



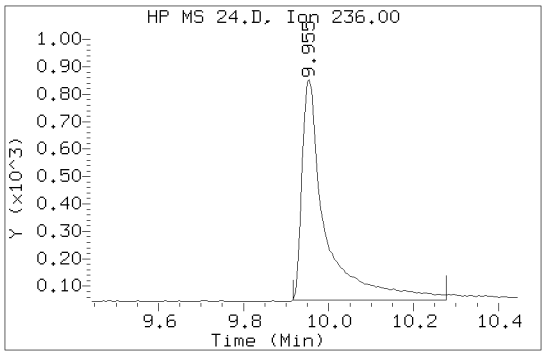
BEFORE

MASS
236
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
236
AREA
3096
HEIGHT
804
20-Jun-2023
09:42
ALSHS
Se



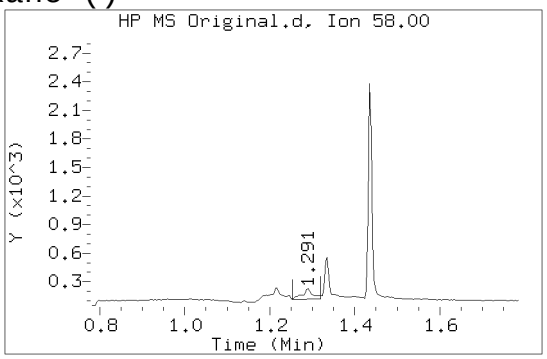
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\24.D
Inj Date : 19-JUN-2023 18:21
InstruID : SV6.i
LabSampID : 14DXCCV-CLOSING

1,4-Dioxane ()

Reason Code:

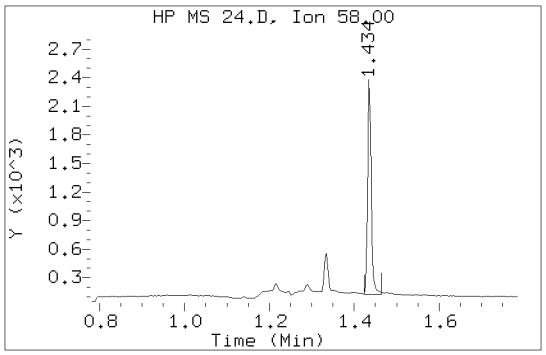
BEFORE

MASS
58
AREA
207
HEIGHT
111
19-Jun-2023
18:36
ALSHS
Server



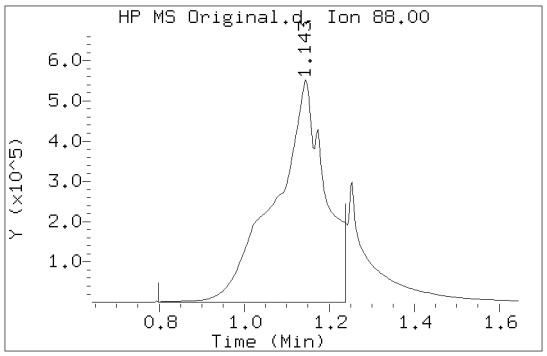
AFTER

MASS
58
AREA
1324
HEIGHT
2255
20-Jun-2023
09:42
ALSHS
Se



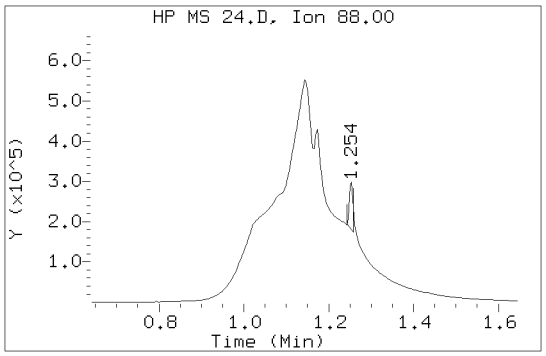
BEFORE

MASS
88
AREA
4485399
HEIGHT
551673
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
88
AREA
66684
HEIGHT
120434
20-Jun-2023
09:42
ALSHS
Se

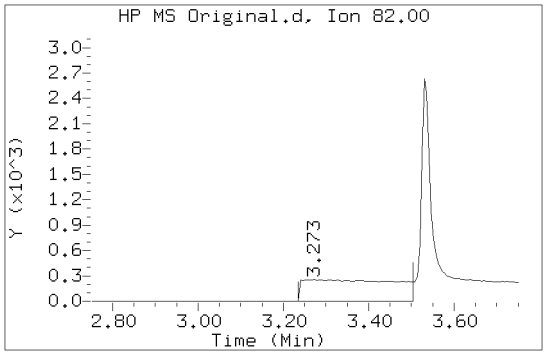


Nitrobenzene-d5 (4165-60-0)

Reason Code:

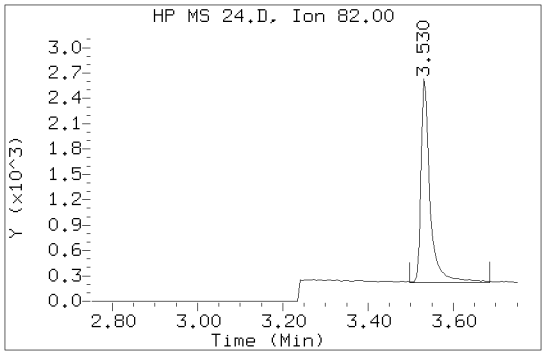
BEFORE

MASS
82
AREA
3860
HEIGHT
258
19-Jun-2023
18:36
ALSHS
Server



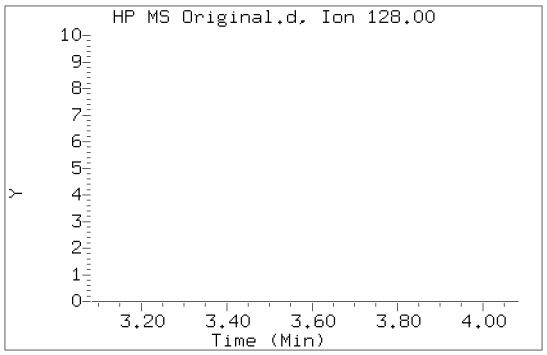
AFTER

MASS
82
AREA
3637
HEIGHT
2412
20-Jun-2023
09:42
ALSHS
Se



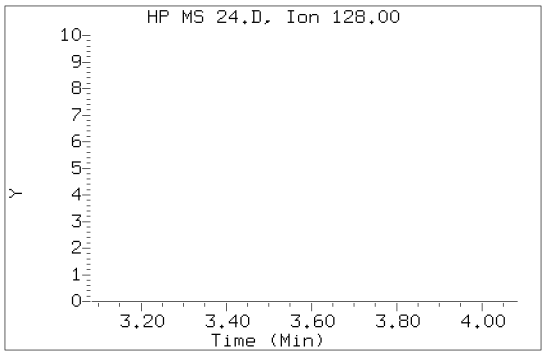
BEFORE

MASS
128
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
128
AREA
0
HEIGHT
0
20-Jun-2023
09:42
ALSHS
Se



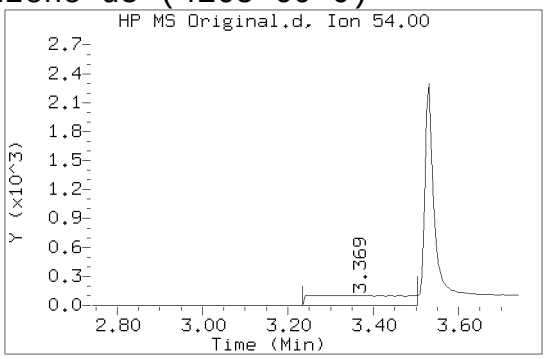
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\24.D
Inj Date : 19-JUN-2023 18:21
InstruID : SV6.i
LabSampID : 14DXCCV-CLOSING

Nitrobenzene-d5 (4165-60-0)

Reason Code:

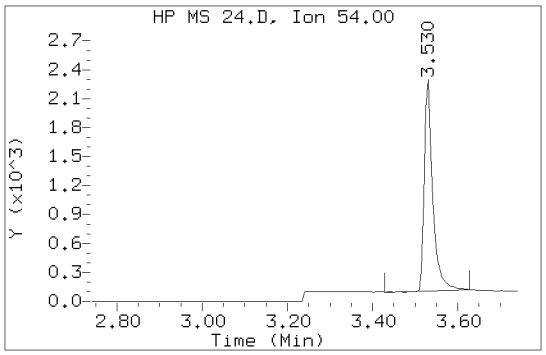
BEFORE

MASS
54
AREA
1584
HEIGHT
102
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
54
AREA
3010
HEIGHT
2187
20-Jun-2023
09:42
ALSHS
Se

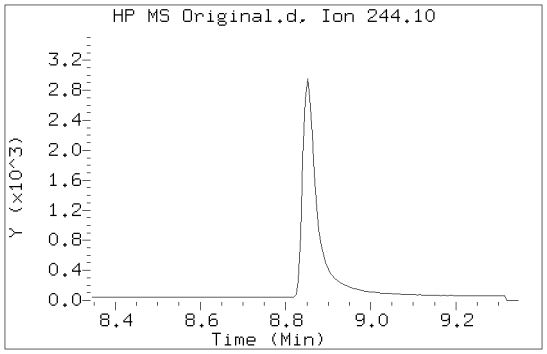


4-Terphenyl-d14 (1718-51-0)

Reason Code:

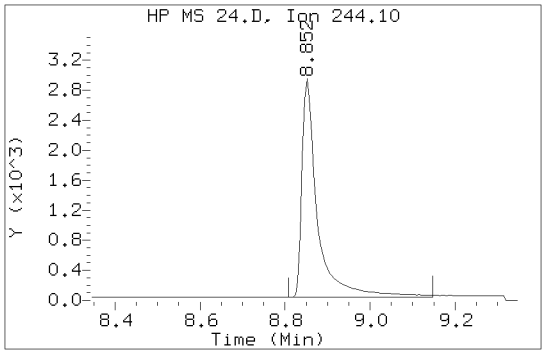
BEFORE

MASS
244.1
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



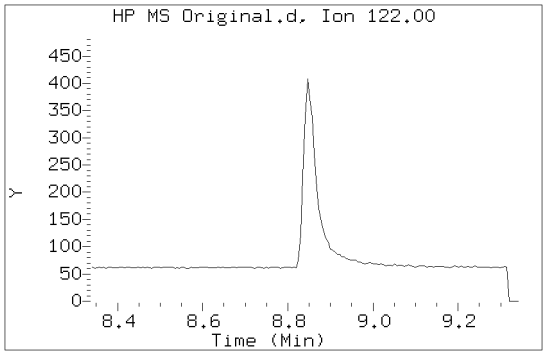
AFTER

MASS
244.1
AREA
7499
HEIGHT
2915
20-Jun-2023
09:42
ALSHS
Se



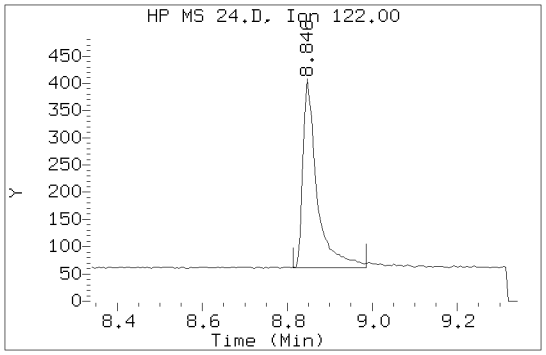
BEFORE

MASS
122
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



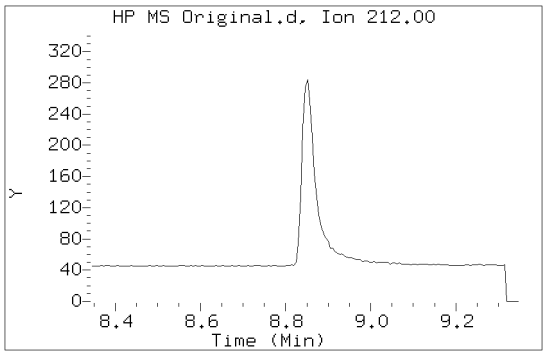
AFTER

MASS
122
AREA
802
HEIGHT
347
20-Jun-2023
09:42
ALSHS
Se



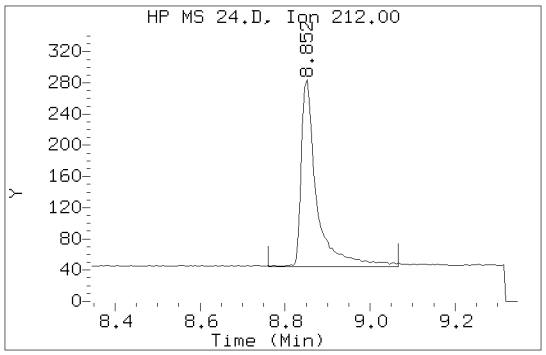
BEFORE

MASS
212
AREA
0
HEIGHT
0
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
212
AREA
619
HEIGHT
240
20-Jun-2023
09:42
ALSHS
Se



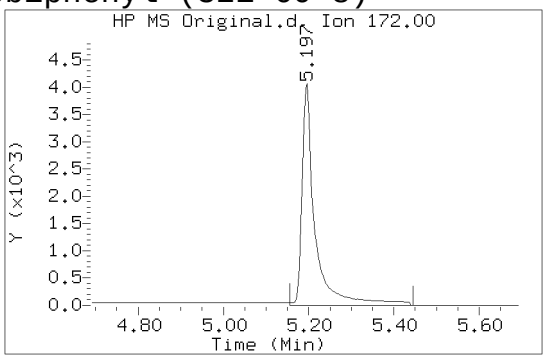
Data File : \\nahstws005\Target\chem\SV6.i\230619.b\24.D
Inj Date : 19-JUN-2023 18:21
InstruID : SV6.i
LabSampID : 14DXCCV-CLOSING

2-Fluorobiphenyl (321-60-8)

Reason Code:

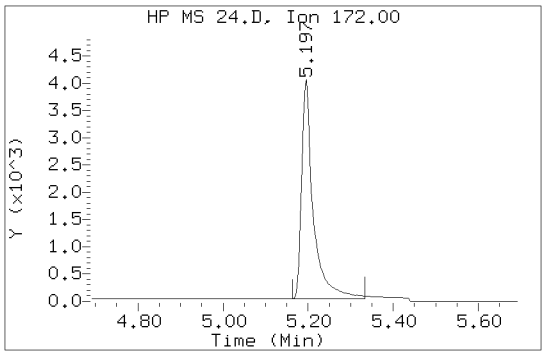
BEFORE

MASS
172
AREA
8649
HEIGHT
4065
19-Jun-2023
18:36
ALSHS
Server



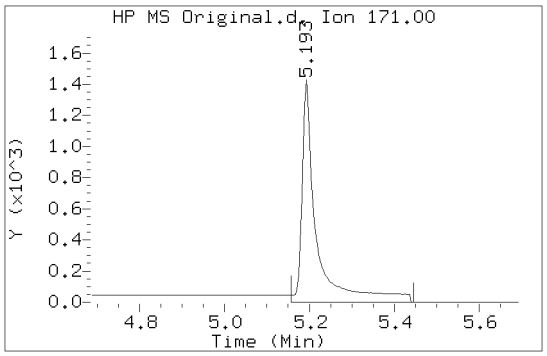
AFTER

MASS
172
AREA
7615
HEIGHT
4017
20-Jun-2023
09:42
ALSHS
Se



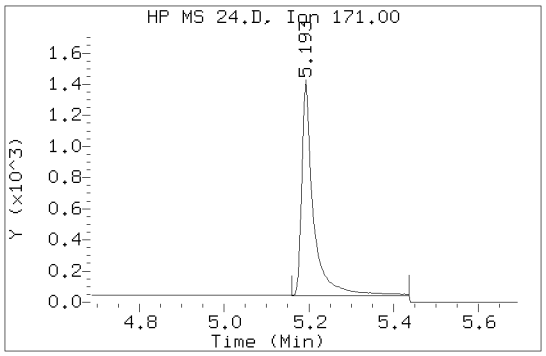
BEFORE

MASS
171
AREA
3408
HEIGHT
1428
19-Jun-2023
18:36
ALSHS
Server



AFTER

MASS
171
AREA
2706
HEIGHT
1388
20-Jun-2023
09:42
ALSHS
Se



Data File: \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D Page 1
Report Date: 23-Jun-2023 17:50

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D
Lab Smp Id: MBLK-195305 Client Smp ID: MBLK-195305
Inj Date : 21-JUN-2023 19:39
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-195305
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230621.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 26 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: llpahdbf.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
$ 33 Nitrobenzene-d5	82	3.408	3.251	(0.844)	11350	0.10140	0.1014(RM)
* 45 Naphthalene-d8	136	4.036	4.164	(1.000)	36840	0.10000	
$ 69 2-Fluorobiphenyl	172	5.069	5.193	(0.890)	18454	0.10427	0.1043(RM)
* 86 Acenaphthene-d10	164	5.695	5.827	(1.000)	17307	0.10000	(M)
* 126 Phenanthrene-d10	188	7.131	7.261	(1.000)	33677	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.713	8.848	(0.891)	22000	0.11067	0.1107(R)
* 182 Chrysene-d12	240	9.779	9.950	(1.000)	26944	0.10000	(M)
* 198 Perylene-d12	264	11.632	11.846	(1.000)	29189	0.10000	(M)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

01194885

Data File: \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D

Date : 21-JUN-2023 19:39

Client ID: MBLK-195305

Instrument: SV6.i

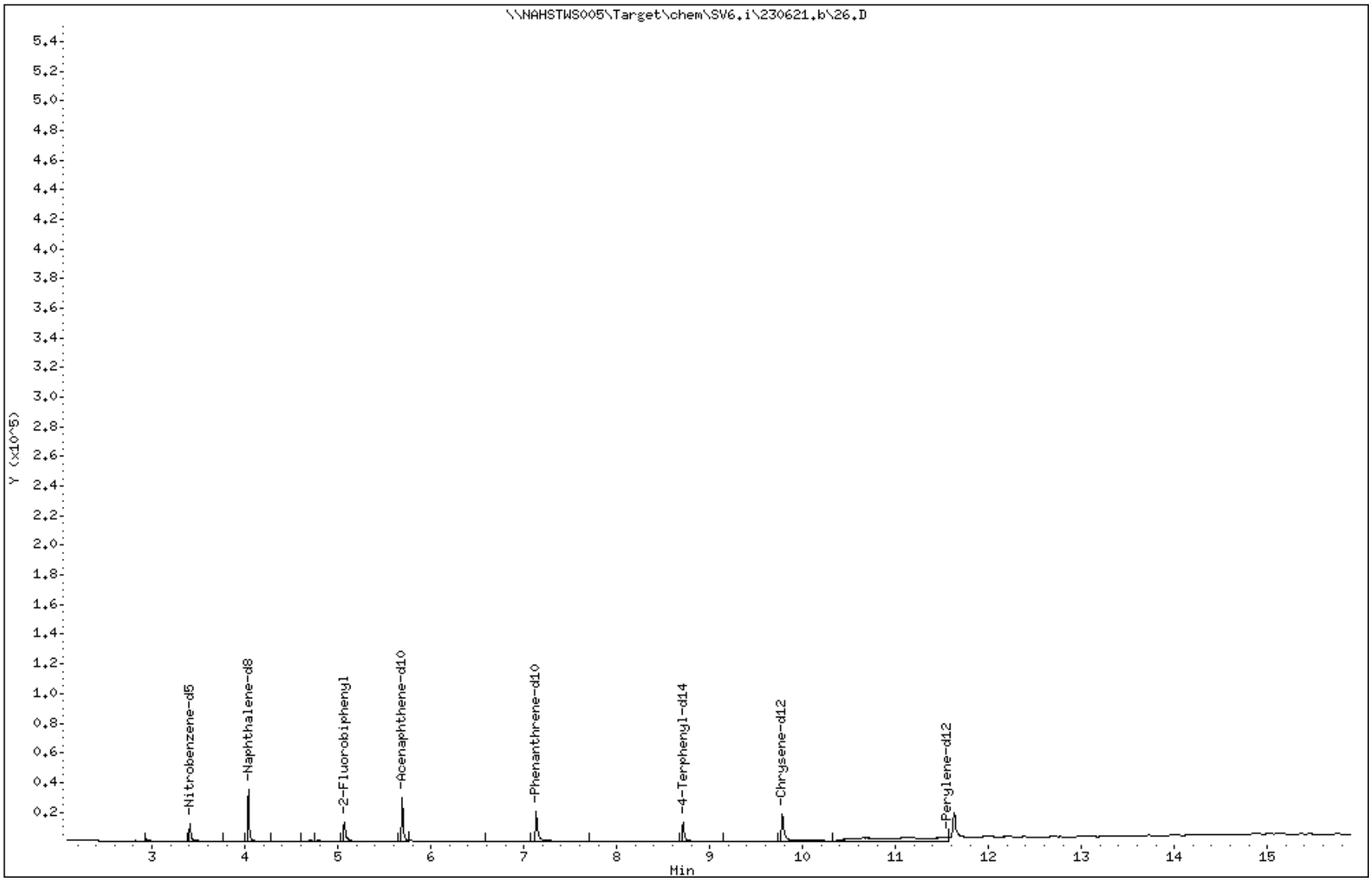
Sample Info: MBLK-195305

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



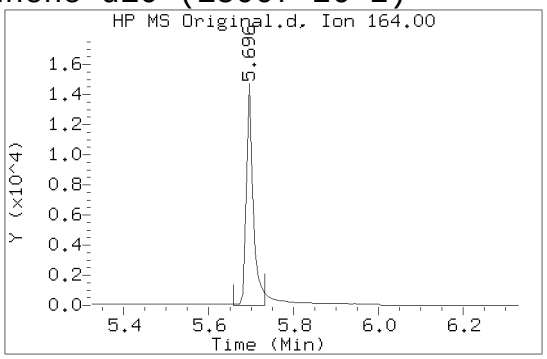
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D
Inj Date : 21-JUN-2023 19:39
InstruID : SV6.i
LabSampID : MBLK-195305

Acenaphthene-d10 (15067-26-2)

Reason Code:

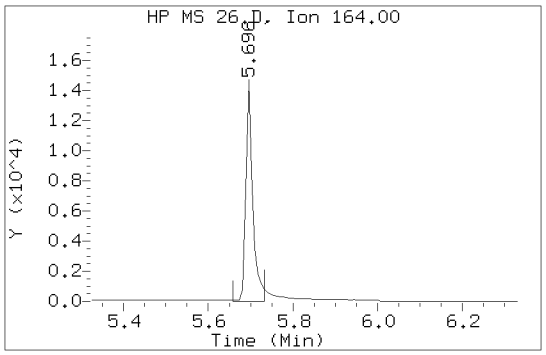
BEFORE

MASS
164
AREA
17307
HEIGHT
14722
23-Jun-2023
17:50
linh
pham



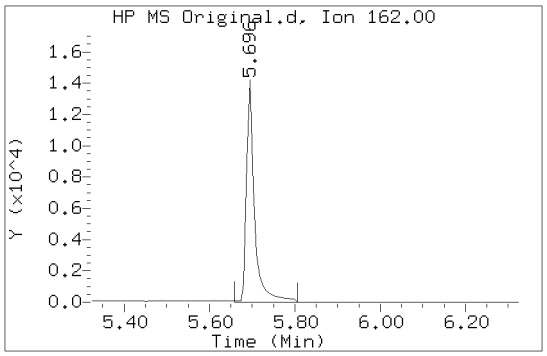
AFTER

MASS
164
AREA
17307
HEIGHT
14722
23-Jun-2023
17:50
linh
pham



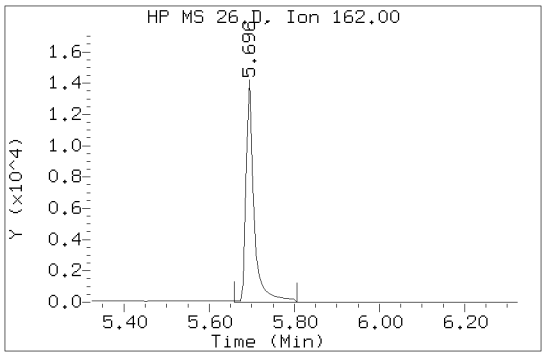
BEFORE

MASS
162
AREA
18482
HEIGHT
14211
23-Jun-2023
17:50
linh
pham



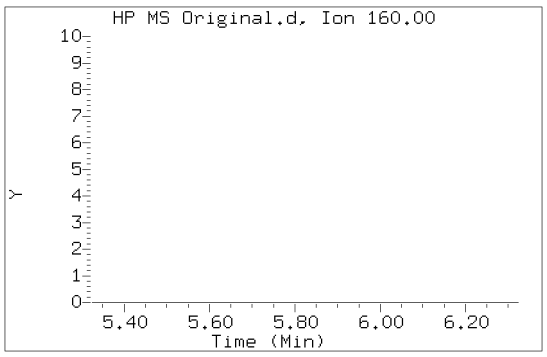
AFTER

MASS
162
AREA
18482
HEIGHT
14211
23-Jun-2023
17:50
linh
pham



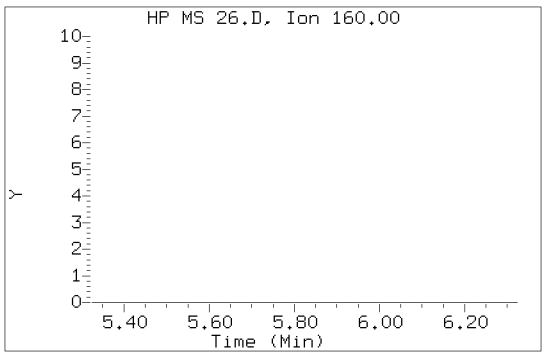
BEFORE

MASS
160
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
160
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham

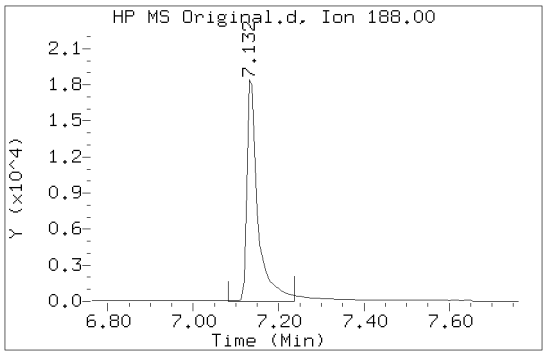


Phenanthrene-d10 (1517-22-2)

Reason Code:

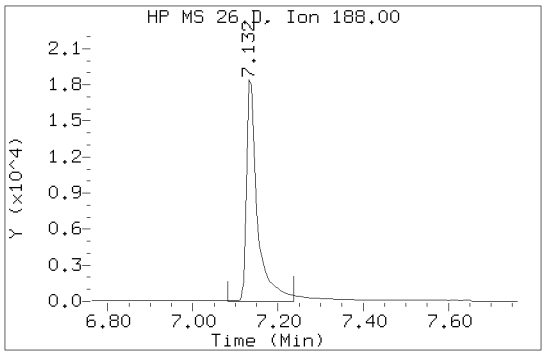
BEFORE

MASS
188
AREA
33677
HEIGHT
18424
23-Jun-2023
17:50
linh
pham



AFTER

MASS
188
AREA
33677
HEIGHT
18424
23-Jun-2023
17:50
linh
pham



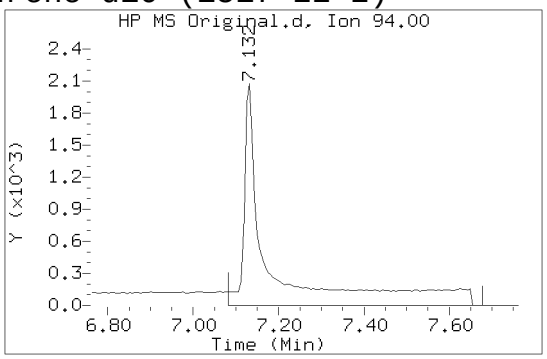
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D
Inj Date : 21-JUN-2023 19:39
InstruID : SV6.i
LabSampID : MBLK-195305

Phenanthrene-d10 (1517-22-2)

Reason Code:

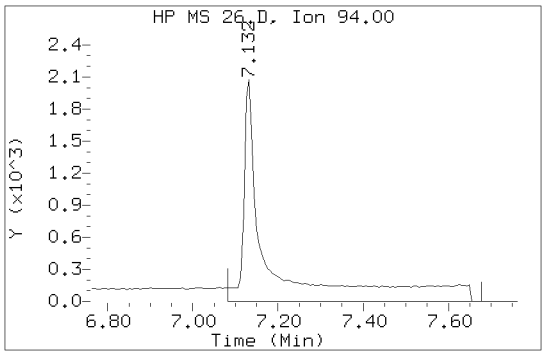
BEFORE

MASS
94
AREA
8338
HEIGHT
2074
23-Jun-2023
17:50
linh
pham



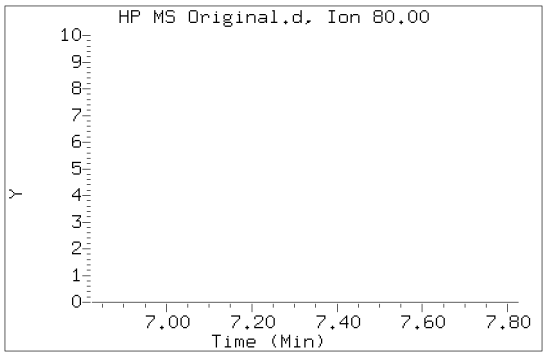
AFTER

MASS
94
AREA
8338
HEIGHT
2074
23-Jun-2023
17:50
linh
pham



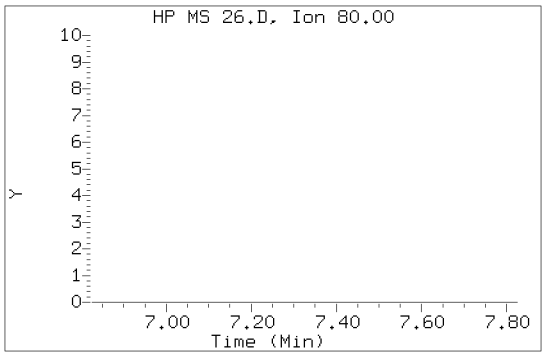
BEFORE

MASS
80
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
80
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham

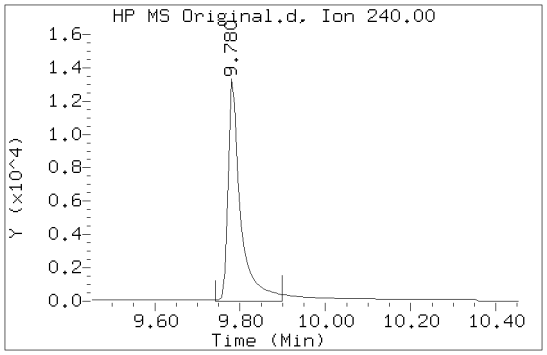


Chrysene-d12 (1719-03-5)

Reason Code:

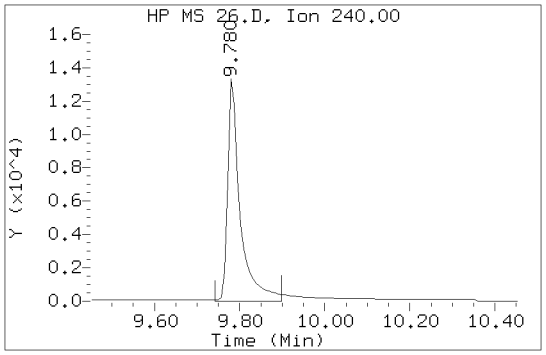
BEFORE

MASS
240
AREA
26944
HEIGHT
13330
23-Jun-2023
17:50
linh
pham



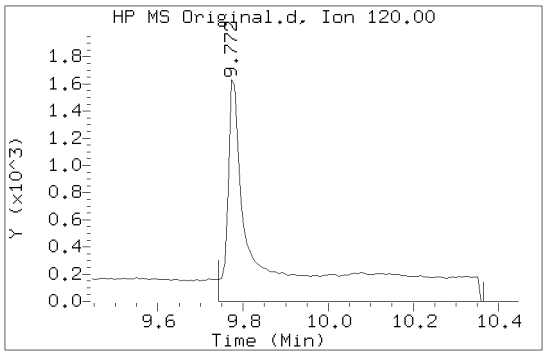
AFTER

MASS
240
AREA
26944
HEIGHT
13330
23-Jun-2023
17:50
linh
pham



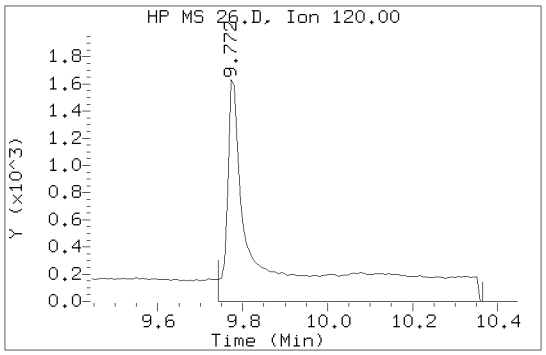
BEFORE

MASS
120
AREA
9799
HEIGHT
1631
23-Jun-2023
17:50
linh
pham



AFTER

MASS
120
AREA
9799
HEIGHT
1631
23-Jun-2023
17:50
linh
pham



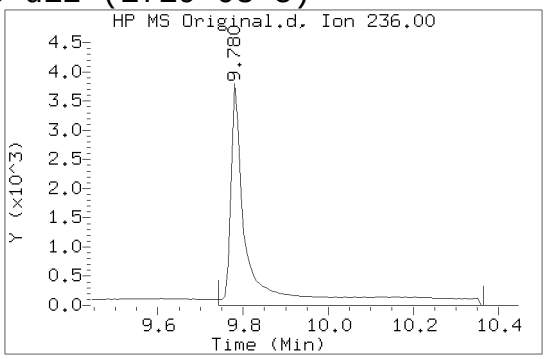
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D
Inj Date : 21-JUN-2023 19:39
InstruID : SV6.i
LabSampID : MBLK-195305

Chrysene-d12 (1719-03-5)

Reason Code:

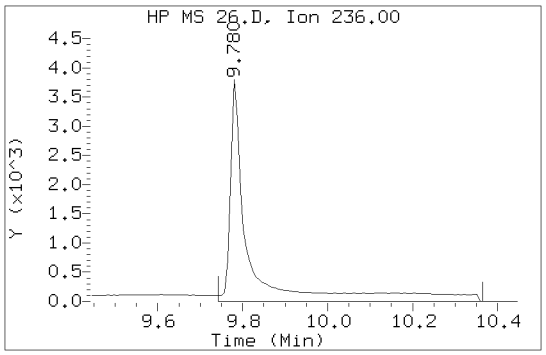
BEFORE

MASS
236
AREA
11824
HEIGHT
3798
23-Jun-2023
17:50
linh
pham



AFTER

MASS
236
AREA
11824
HEIGHT
3798
23-Jun-2023
17:50
linh
pham

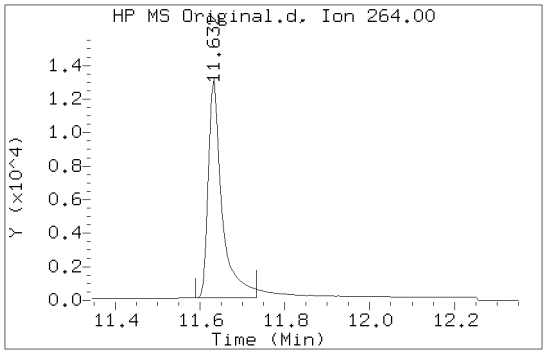


Perylene-d12 (1520-96-3)

Reason Code:

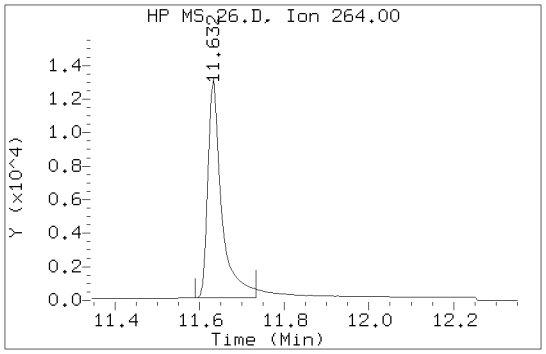
BEFORE

MASS
264
AREA
29189
HEIGHT
13071
23-Jun-2023
17:50
linh
pham



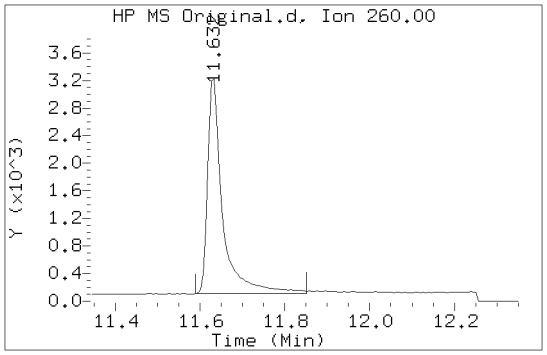
AFTER

MASS
264
AREA
29189
HEIGHT
13071
23-Jun-2023
17:50
linh
pham



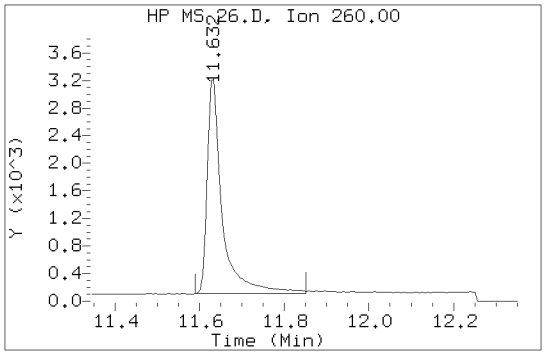
BEFORE

MASS
260
AREA
7637
HEIGHT
3112
23-Jun-2023
17:50
linh
pham



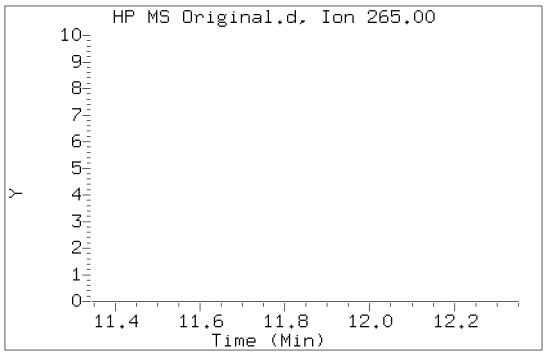
AFTER

MASS
260
AREA
7637
HEIGHT
3112
23-Jun-2023
17:50
linh
pham



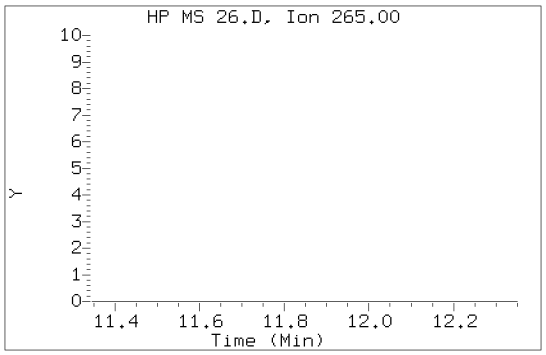
BEFORE

MASS
265
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
265
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



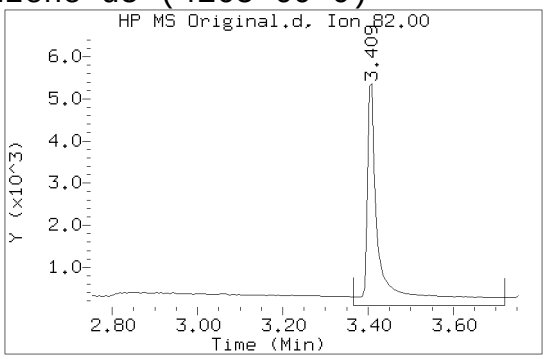
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D
Inj Date : 21-JUN-2023 19:39
InstruID : SV6.i
LabSampID : MBLK-195305

Nitrobenzene-d5 (4165-60-0)

Reason Code:

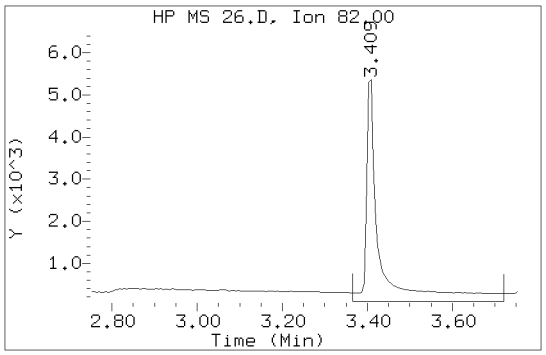
BEFORE

MASS
82
AREA
11350
HEIGHT
5260
23-Jun-2023
17:50
linh
pham



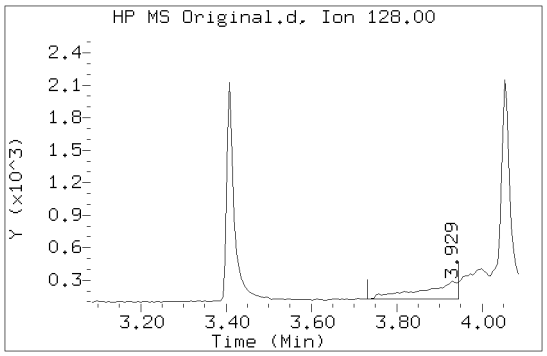
AFTER

MASS
82
AREA
11350
HEIGHT
5260
23-Jun-2023
17:50
linh
pham



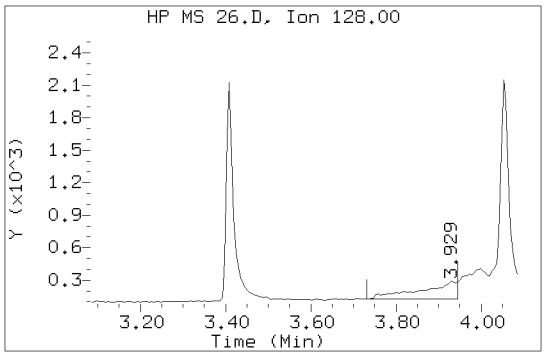
BEFORE

MASS
128
AREA
958
HEIGHT
162
23-Jun-2023
17:50
linh
pham



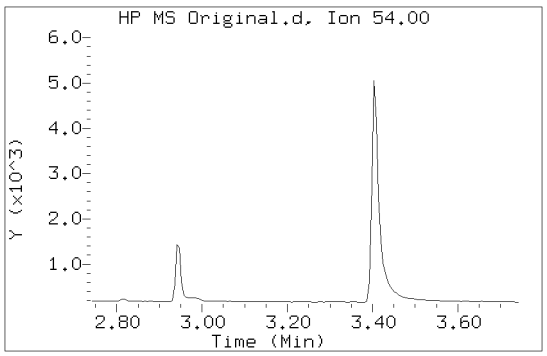
AFTER

MASS
128
AREA
958
HEIGHT
162
23-Jun-2023
17:50
linh
pham



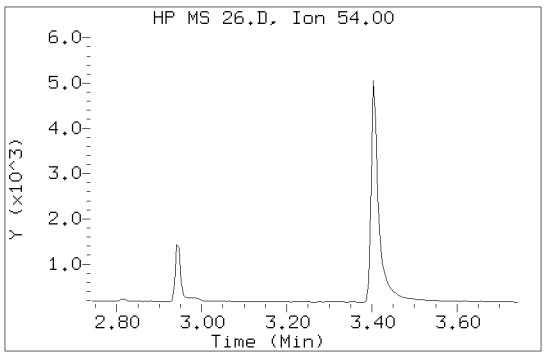
BEFORE

MASS
54
AREA
171
HEIGHT
199
23-Jun-2023
17:50
linh
pham



AFTER

MASS
54
AREA
171
HEIGHT
199
23-Jun-2023
17:50
linh
pham

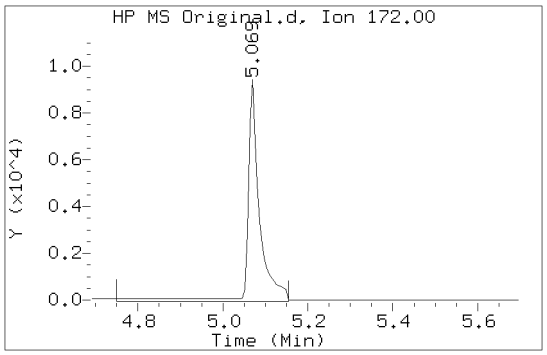


2-Fluorobiphenyl (321-60-8)

Reason Code:

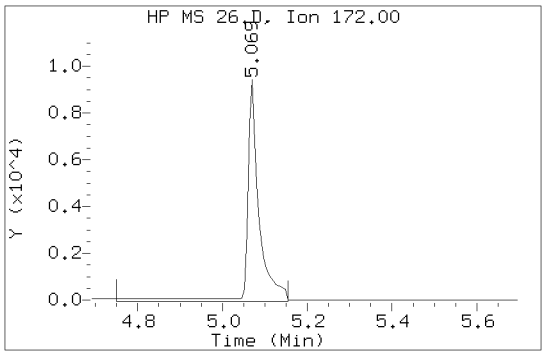
BEFORE

MASS
172
AREA
18454
HEIGHT
9476
23-Jun-2023
17:50
linh
pham



AFTER

MASS
172
AREA
18454
HEIGHT
9476
23-Jun-2023
17:50
linh
pham



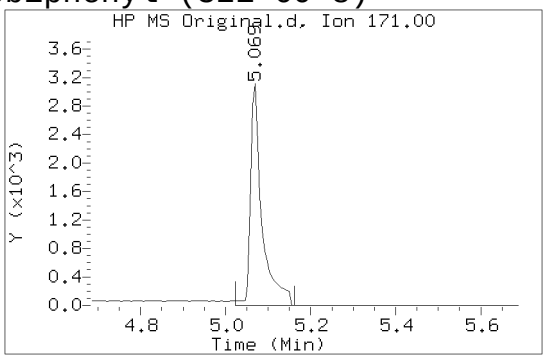
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\26.D
Inj Date : 21-JUN-2023 19:39
InstruID : SV6.i
LabSampID : MBLK-195305

2-Fluorobiphenyl (321-60-8)

Reason Code:

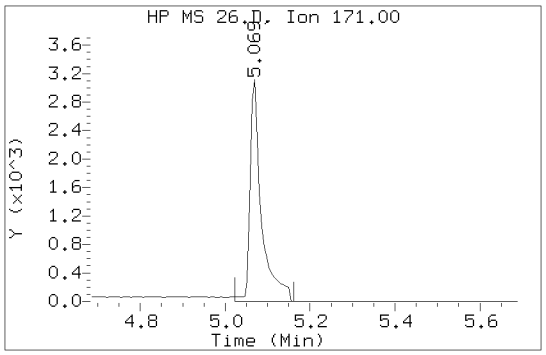
BEFORE

MASS
171
AREA
5838
HEIGHT
3114
23-Jun-2023
17:50
linh
pham



AFTER

MASS
171
AREA
5838
HEIGHT
3114
23-Jun-2023
17:50
linh
pham



Data File: \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D Page 1
Report Date: 23-Jun-2023 17:50

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D
Lab Smp Id: LCS-195305 Client Smp ID: LCS-195305
Inj Date : 21-JUN-2023 19:59
Operator : LG Inst ID: SV6.i
Smp Info : LCS-195305
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230621.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 27 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: llpahdbf.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
$ 33 Nitrobenzene-d5	82	3.408	3.251	(0.844)	8420	0.05632	0.05632(M)
* 45 Naphthalene-d8	136	4.036	4.164	(1.000)	49203	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.069	5.193	(0.890)	27516	0.10376	0.1038(RM)
* 86 Acenaphthene-d10	164	5.695	5.827	(1.000)	25933	0.10000	(M)
* 126 Phenanthrene-d10	188	7.131	7.261	(1.000)	47318	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.708	8.848	(0.891)	28035	0.10607	0.1061(R)
* 182 Chrysene-d12	240	9.777	9.950	(1.000)	35827	0.10000	(M)
* 198 Perylene-d12	264	11.624	11.846	(1.000)	36363	0.10000	(M)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

01194892

Data File: \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D

Date : 21-JUN-2023 19:59

Client ID: LCS-195305

Instrument: SV6.i

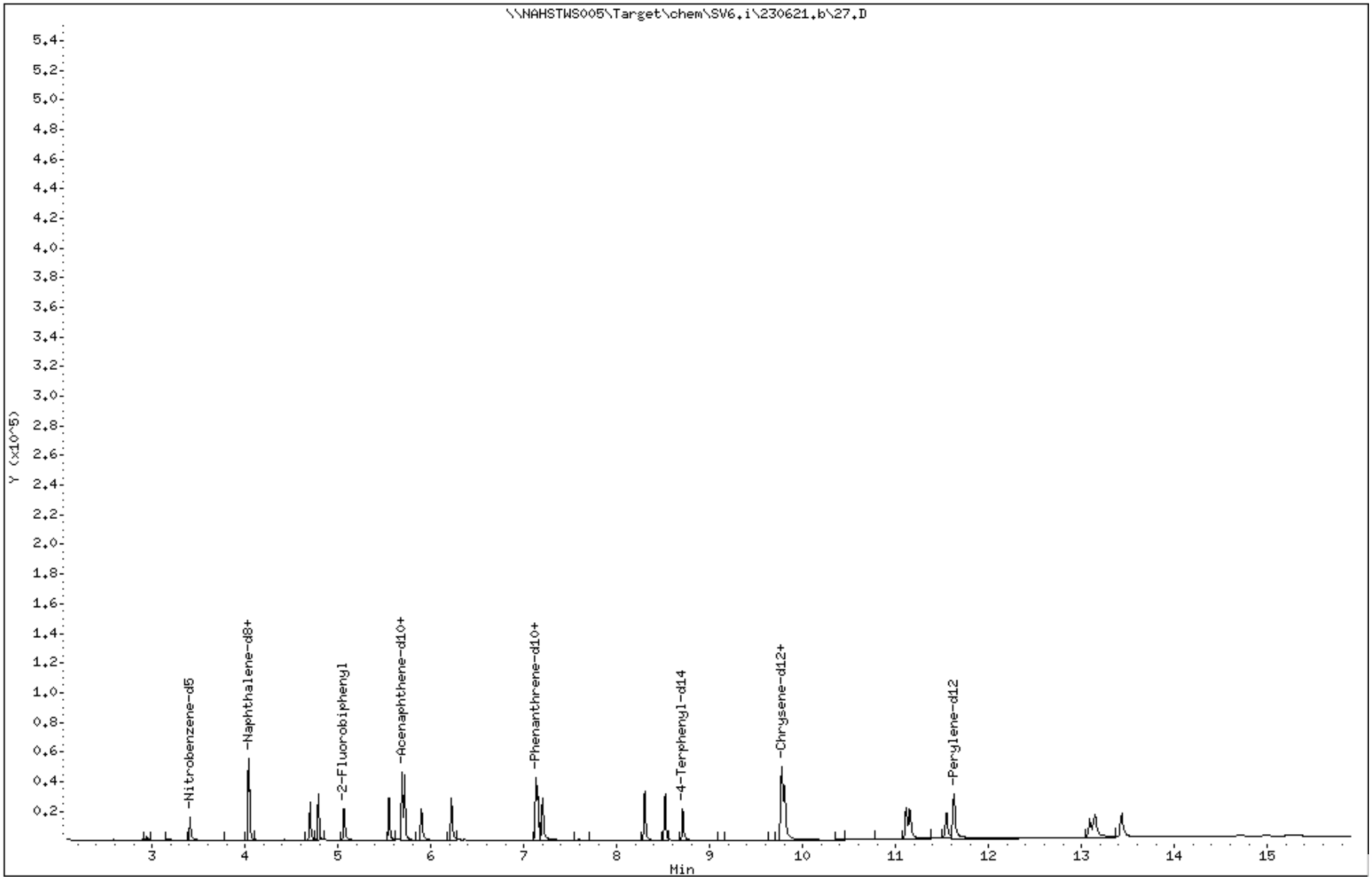
Sample Info: LCS-195305

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

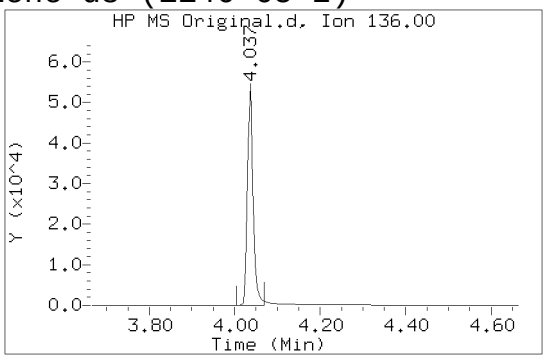


Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D
Inj Date : 21-JUN-2023 19:59
InstruID : SV6.i
LabSampID : LCS-195305

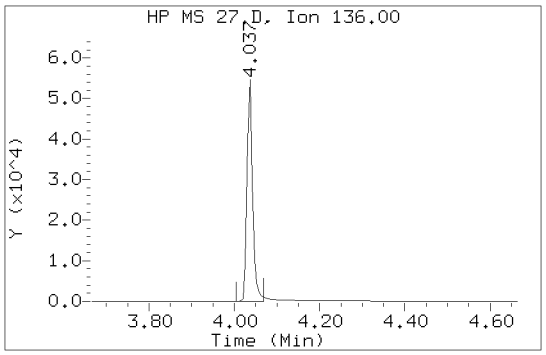
Naphthalene-d8 (1146-65-2)

Reason Code:

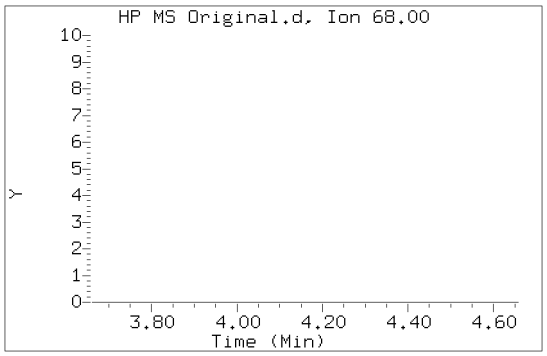
BEFORE
MASS
136
AREA
49203
HEIGHT
54632
23-Jun-2023
17:50
linh
pham



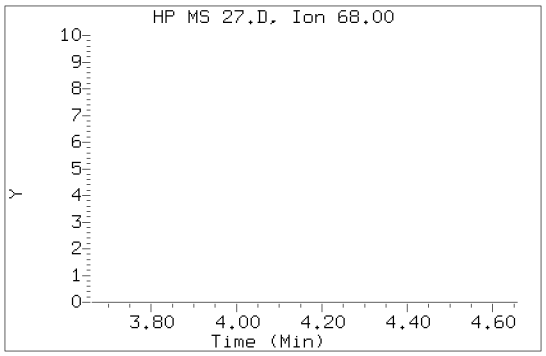
AFTER
MASS
136
AREA
49203
HEIGHT
54632
23-Jun-2023
17:50
linh
pham



BEFORE
MASS
68
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



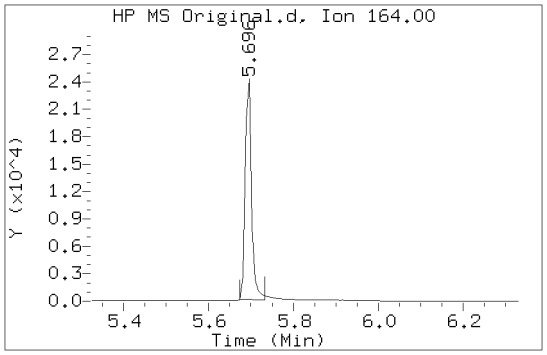
AFTER
MASS
68
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



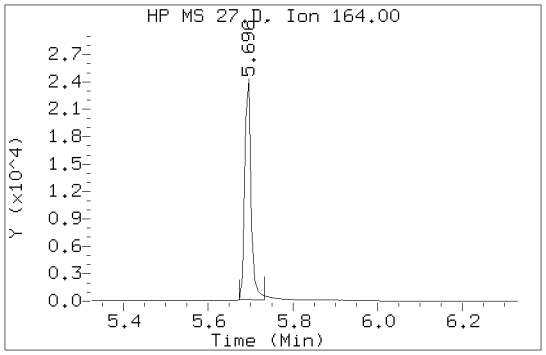
Acenaphthene-d10 (15067-26-2)

Reason Code:

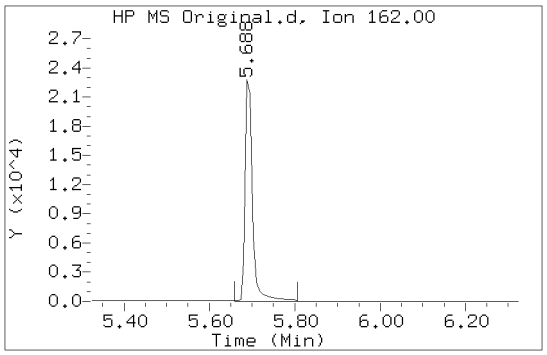
BEFORE
MASS
164
AREA
25933
HEIGHT
24143
23-Jun-2023
17:50
linh
pham



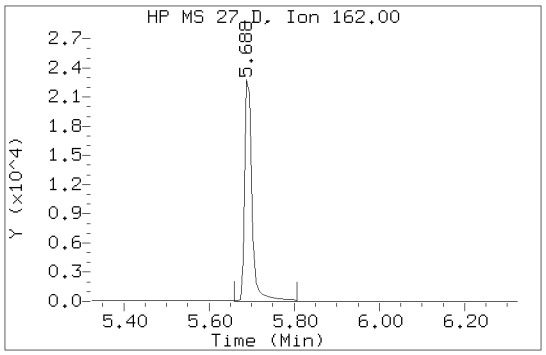
AFTER
MASS
164
AREA
25933
HEIGHT
24143
23-Jun-2023
17:50
linh
pham



BEFORE
MASS
162
AREA
27529
HEIGHT
22784
23-Jun-2023
17:50
linh
pham



AFTER
MASS
162
AREA
27529
HEIGHT
22784
23-Jun-2023
17:50
linh
pham



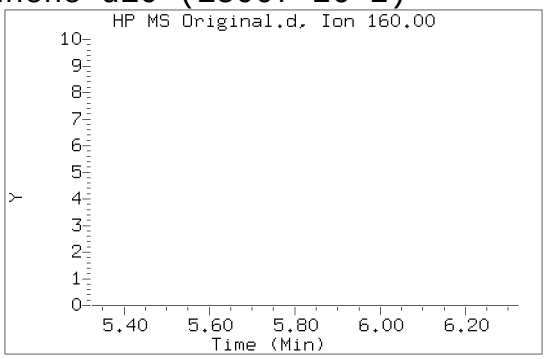
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D
Inj Date : 21-JUN-2023 19:59
InstruID : SV6.i
LabSampID : LCS-195305

Acenaphthene-d10 (15067-26-2)

Reason Code:

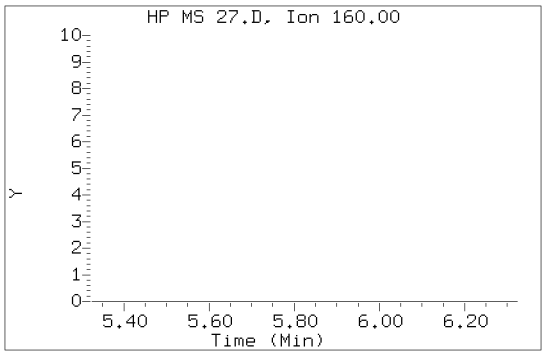
BEFORE

MASS
160
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
160
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham

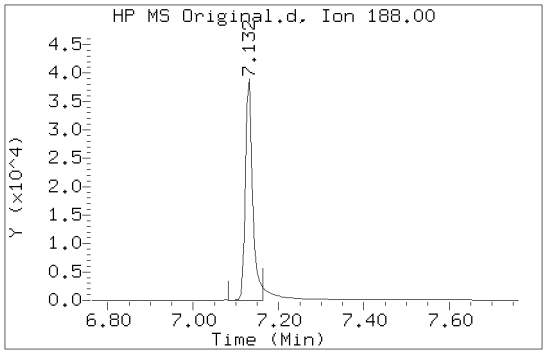


Phenanthrene-d10 (1517-22-2)

Reason Code:

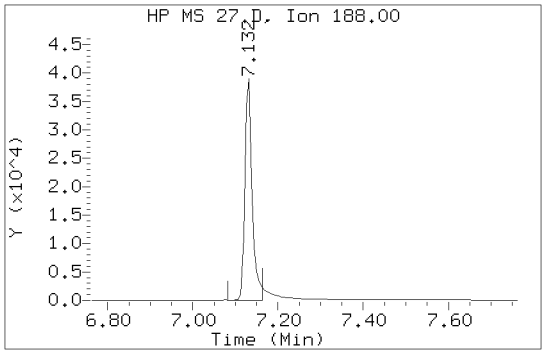
BEFORE

MASS
188
AREA
47318
HEIGHT
39000
23-Jun-2023
17:50
linh
pham



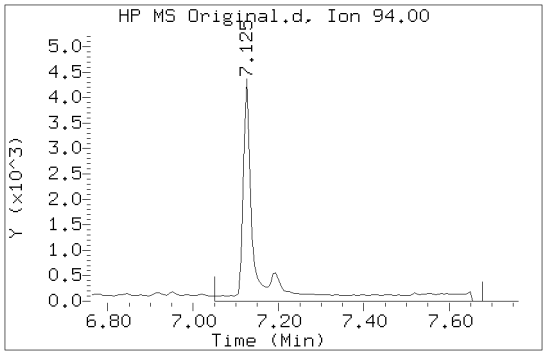
AFTER

MASS
188
AREA
47318
HEIGHT
39000
23-Jun-2023
17:50
linh
pham



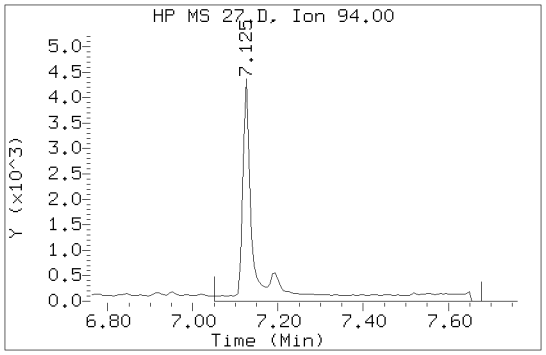
BEFORE

MASS
94
AREA
10325
HEIGHT
4368
23-Jun-2023
17:50
linh
pham



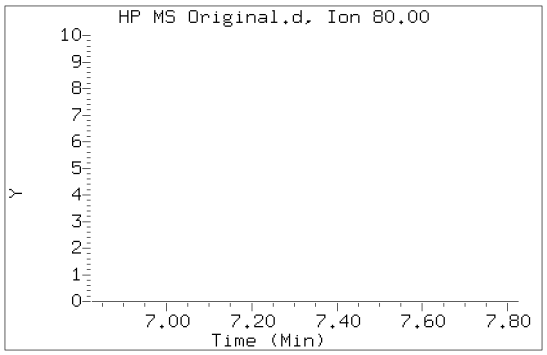
AFTER

MASS
94
AREA
10325
HEIGHT
4368
23-Jun-2023
17:50
linh
pham



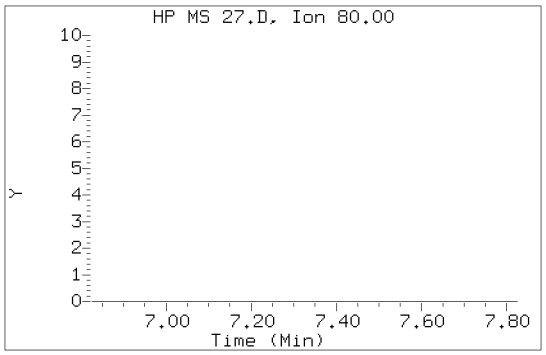
BEFORE

MASS
80
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
80
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



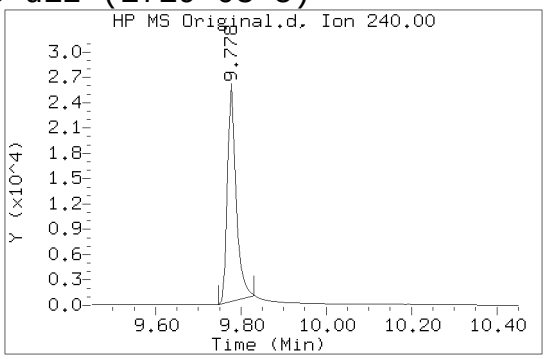
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D
Inj Date : 21-JUN-2023 19:59
InstruID : SV6.i
LabSampID : LCS-195305

Chrysene-d12 (1719-03-5)

Reason Code:

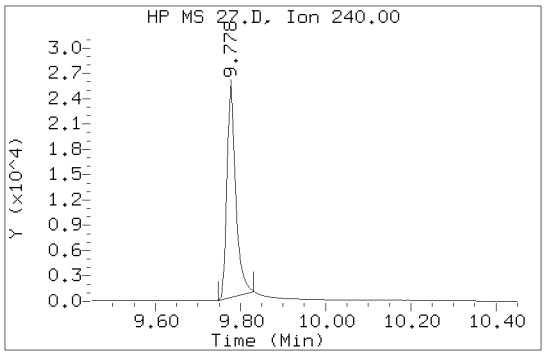
BEFORE

MASS
240
AREA
35827
HEIGHT
25779
23-Jun-2023
17:50
linh
pham



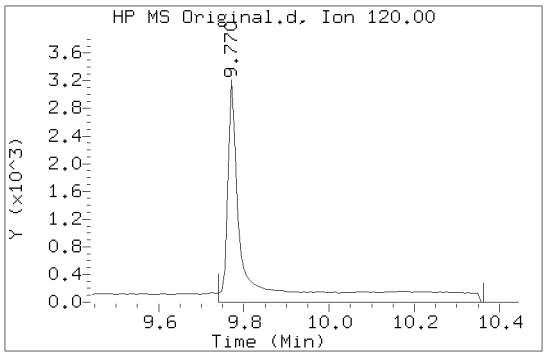
AFTER

MASS
240
AREA
35827
HEIGHT
25779
23-Jun-2023
17:50
linh
pham



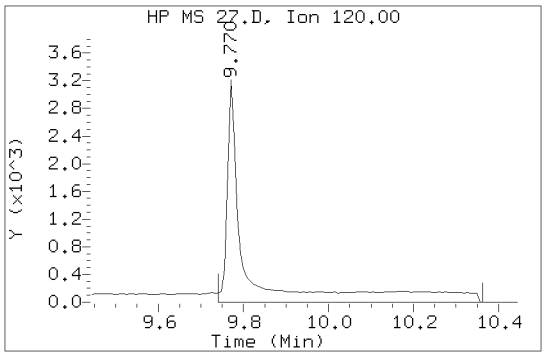
BEFORE

MASS
120
AREA
9898
HEIGHT
3211
23-Jun-2023
17:50
linh
pham



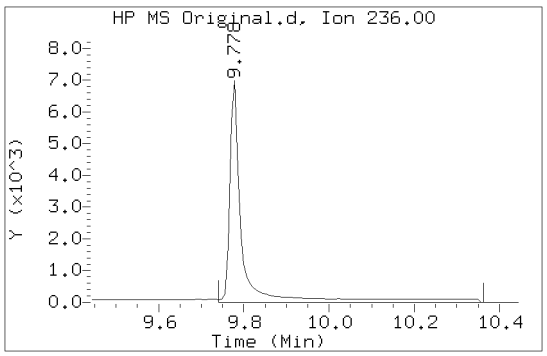
AFTER

MASS
120
AREA
9898
HEIGHT
3211
23-Jun-2023
17:50
linh
pham



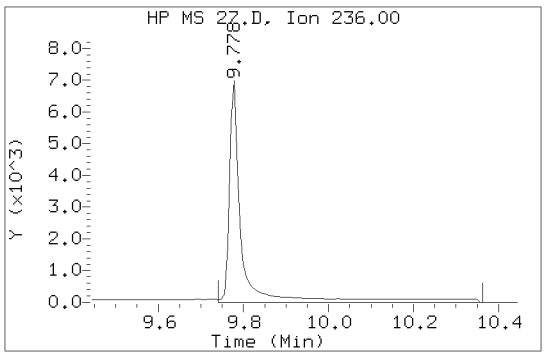
BEFORE

MASS
236
AREA
14710
HEIGHT
6985
23-Jun-2023
17:50
linh
pham



AFTER

MASS
236
AREA
14710
HEIGHT
6985
23-Jun-2023
17:50
linh
pham

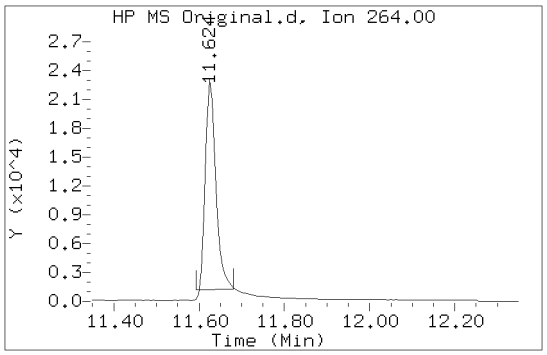


Perylene-d12 (1520-96-3)

Reason Code:

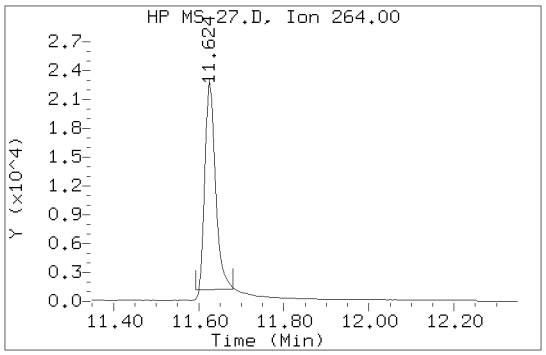
BEFORE

MASS
264
AREA
36363
HEIGHT
21836
23-Jun-2023
17:50
linh
pham



AFTER

MASS
264
AREA
36363
HEIGHT
21836
23-Jun-2023
17:50
linh
pham



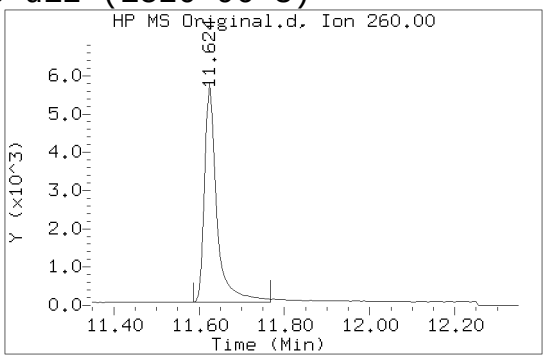
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D
Inj Date : 21-JUN-2023 19:59
InstruID : SV6.i
LabSampID : LCS-195305

Perylene-d12 (1520-96-3)

Reason Code:

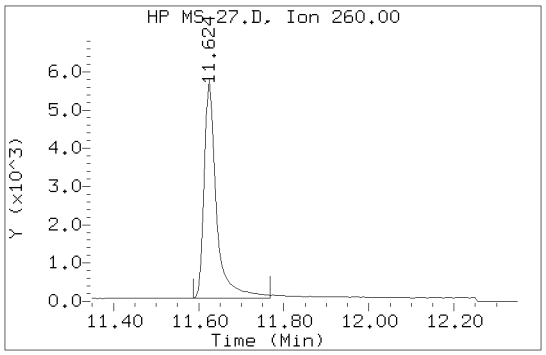
BEFORE

MASS
260
AREA
11363
HEIGHT
5714
23-Jun-2023
17:50
linh
pham



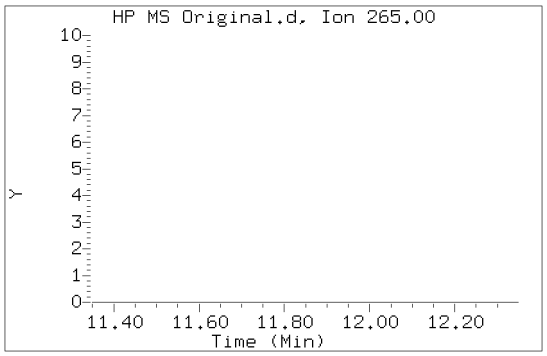
AFTER

MASS
260
AREA
11363
HEIGHT
5714
23-Jun-2023
17:50
linh
pham



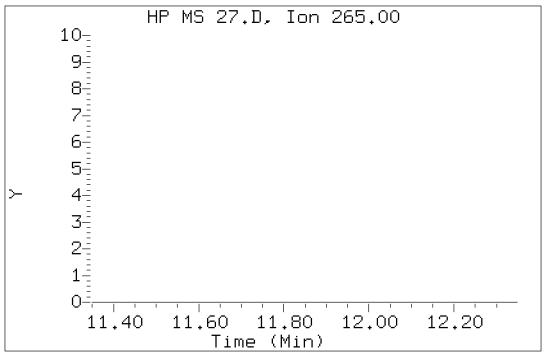
BEFORE

MASS
265
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
265
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham

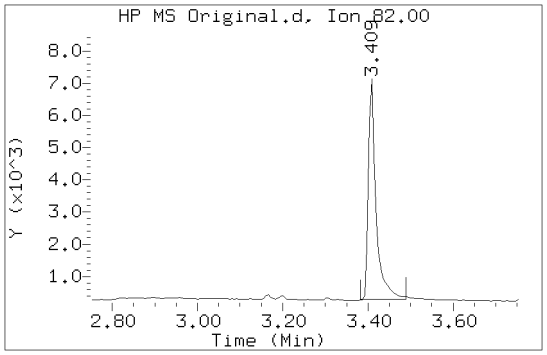


Nitrobenzene-d5 (4165-60-0)

Reason Code:

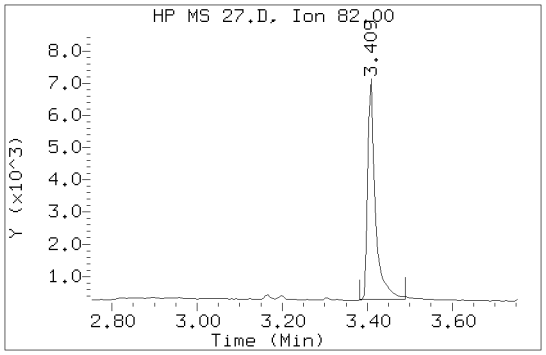
BEFORE

MASS
82
AREA
8420
HEIGHT
6831
23-Jun-2023
17:50
linh
pham



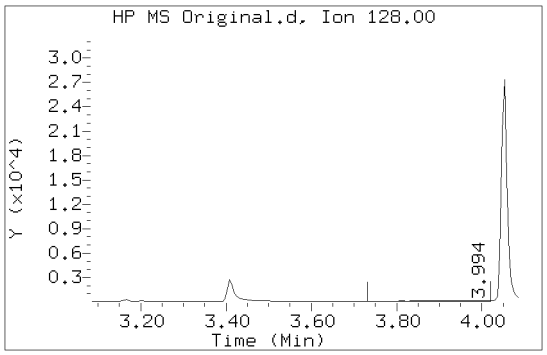
AFTER

MASS
82
AREA
8420
HEIGHT
6831
23-Jun-2023
17:50
linh
pham



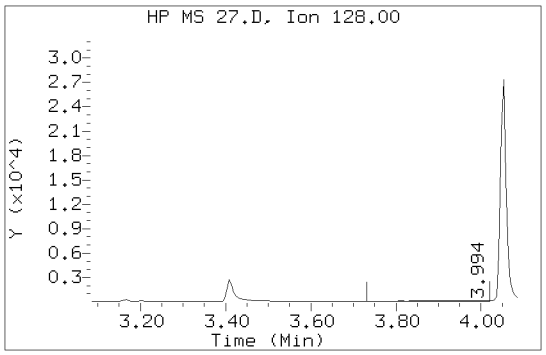
BEFORE

MASS
128
AREA
679
HEIGHT
93
23-Jun-2023
17:50
linh
pham



AFTER

MASS
128
AREA
679
HEIGHT
93
23-Jun-2023
17:50
linh
pham



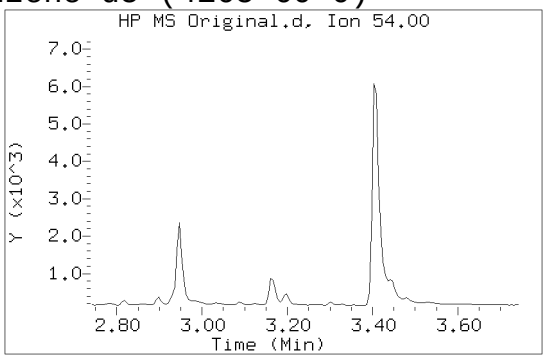
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\27.D
Inj Date : 21-JUN-2023 19:59
InstruID : SV6.i
LabSampID : LCS-195305

Nitrobenzene-d5 (4165-60-0)

Reason Code:

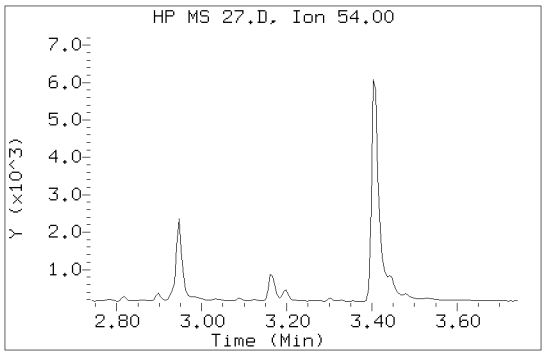
BEFORE

MASS
54
AREA
270
HEIGHT
194
23-Jun-2023
17:50
linh
pham



AFTER

MASS
54
AREA
270
HEIGHT
194
23-Jun-2023
17:50
linh
pham

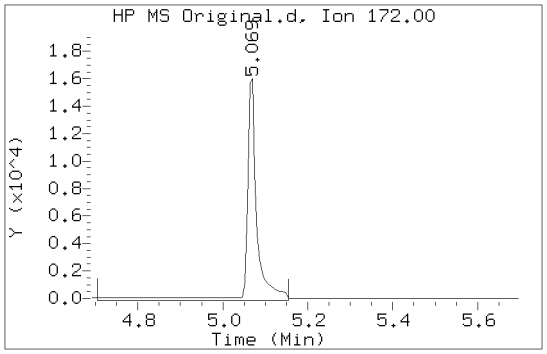


2-Fluorobiphenyl (321-60-8)

Reason Code:

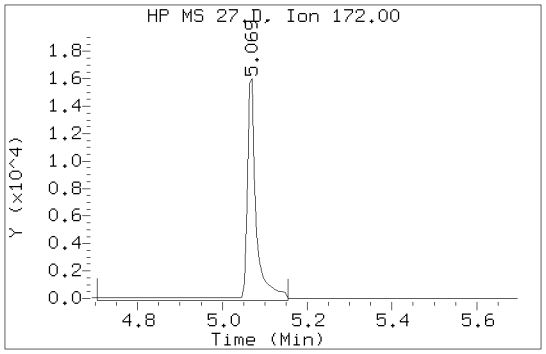
BEFORE

MASS
172
AREA
27516
HEIGHT
16146
23-Jun-2023
17:50
linh
pham



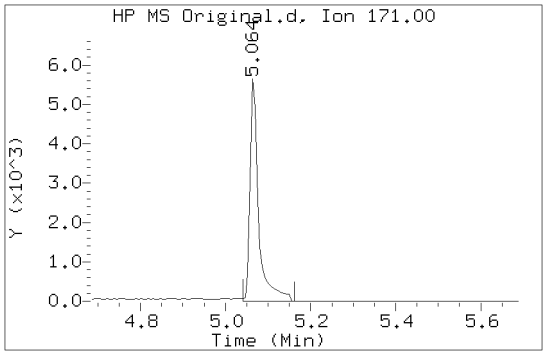
AFTER

MASS
172
AREA
27516
HEIGHT
16146
23-Jun-2023
17:50
linh
pham



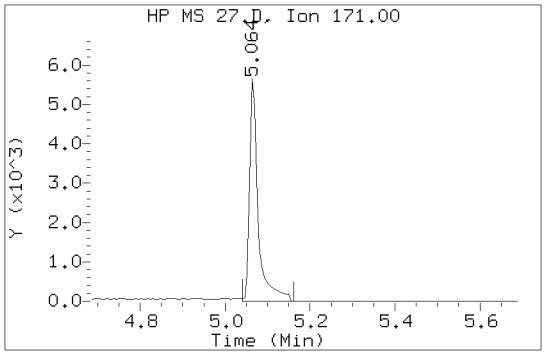
BEFORE

MASS
171
AREA
7931
HEIGHT
5647
23-Jun-2023
17:50
linh
pham



AFTER

MASS
171
AREA
7931
HEIGHT
5647
23-Jun-2023
17:50
linh
pham



Data File: \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D Page 1
Report Date: 23-Jun-2023 17:50

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D
Lab Smp Id: LCSD-195305 Client Smp ID: LCSD-195305
Inj Date : 21-JUN-2023 20:19
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-195305
Misc Info : ;;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\230621.b\DXSIM.m
Meth Date : 19-Jun-2023 12:30 jiayi.lu Quant Type: ISTD
Cal Date : 16-JUN-2023 15:56 Cal File: 15.D
Als bottle: 28 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: llpahdbf.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
$ 33 Nitrobenzene-d5	82	3.408	3.251	(0.844)	7371	0.05912	0.05912(M)
* 45 Naphthalene-d8	136	4.036	4.164	(1.000)	41038	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.069	5.193	(0.890)	21845	0.10232	0.1023(RM)
* 86 Acenaphthene-d10	164	5.693	5.827	(1.000)	20878	0.10000	(M)
* 126 Phenanthrene-d10	188	7.129	7.261	(1.000)	37143	0.10000	(M)
$ 158 4-Terphenyl-d14	244	8.708	8.848	(0.891)	25493	0.10796	0.1080(RM)
* 182 Chrysene-d12	240	9.777	9.950	(1.000)	32006	0.10000	(M)
* 198 Perylene-d12	264	11.630	11.846	(1.000)	34341	0.10000	(M)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

01194899

Data File: \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D

Date : 21-JUN-2023 20:19

Client ID: LCSD-195305

Instrument: SV6.i

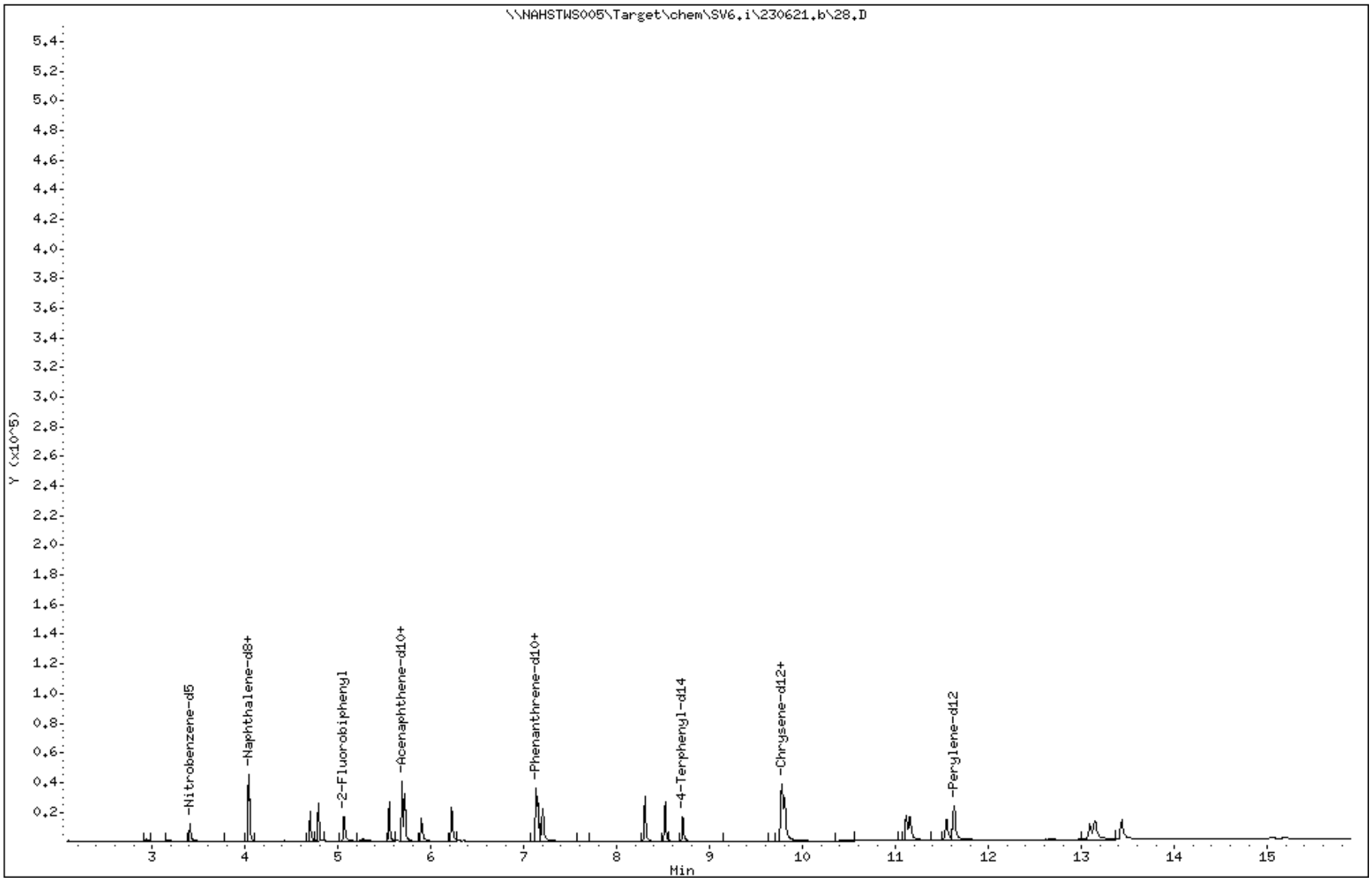
Sample Info: LCSD-195305

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28

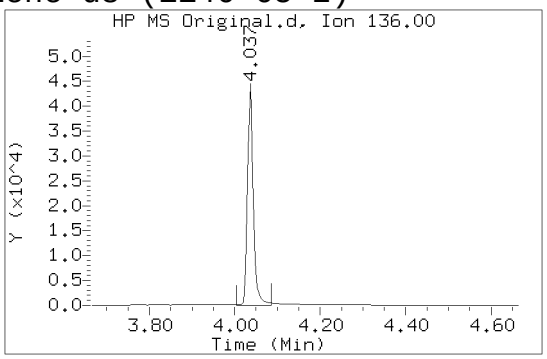


Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D
Inj Date : 21-JUN-2023 20:19
InstruID : SV6.i
LabSampID : LCSD-195305

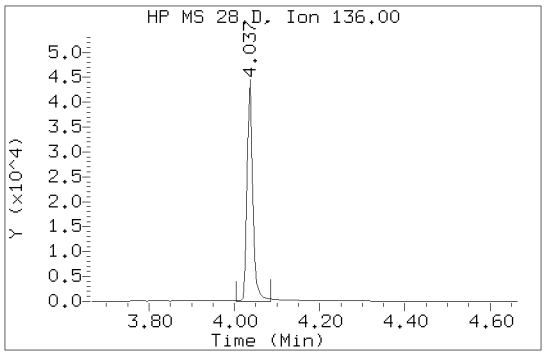
Naphthalene-d8 (1146-65-2)

Reason Code:

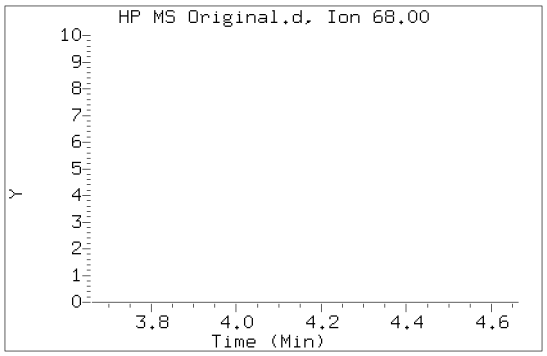
BEFORE
MASS
136
AREA
41038
HEIGHT
44520
23-Jun-2023
17:50
linh
pham



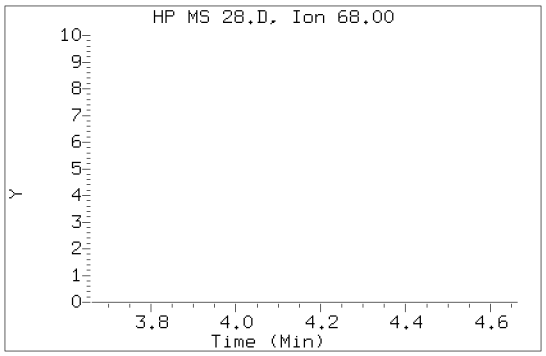
AFTER
MASS
136
AREA
41038
HEIGHT
44520
23-Jun-2023
17:50
linh
pham



BEFORE
MASS
68
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



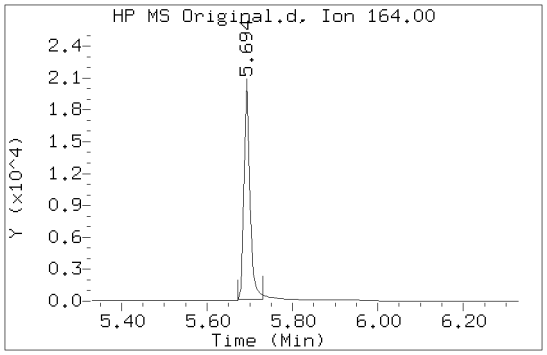
AFTER
MASS
68
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



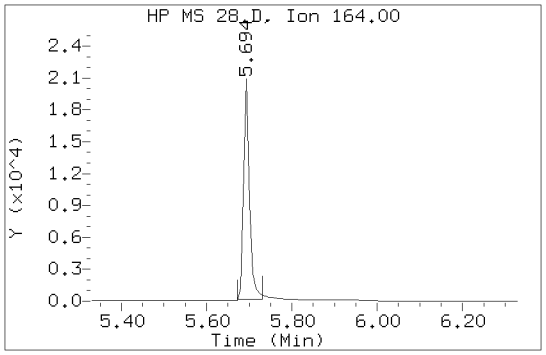
Acenaphthene-d10 (15067-26-2)

Reason Code:

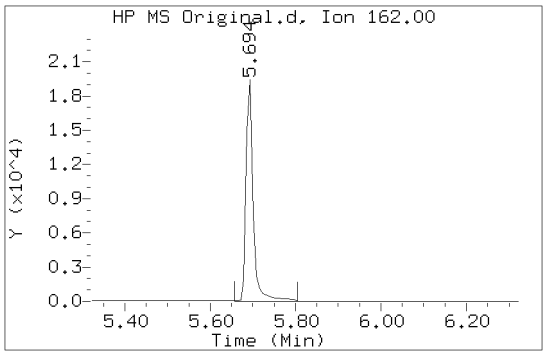
BEFORE
MASS
164
AREA
20878
HEIGHT
20722
23-Jun-2023
17:50
linh
pham



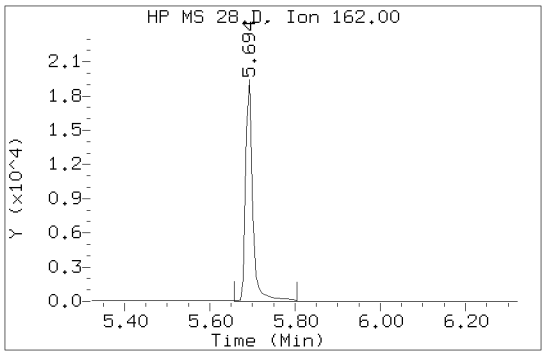
AFTER
MASS
164
AREA
20878
HEIGHT
20722
23-Jun-2023
17:50
linh
pham



BEFORE
MASS
162
AREA
22679
HEIGHT
19432
23-Jun-2023
17:50
linh
pham



AFTER
MASS
162
AREA
22679
HEIGHT
19432
23-Jun-2023
17:50
linh
pham



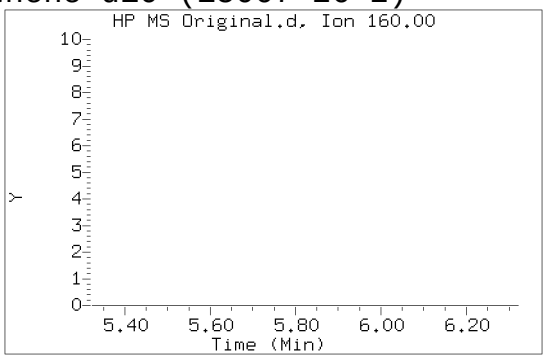
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D
Inj Date : 21-JUN-2023 20:19
InstruID : SV6.i
LabSampID : LCSD-195305

Acenaphthene-d10 (15067-26-2)

Reason Code:

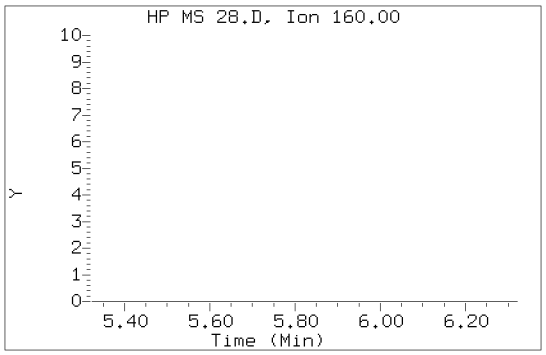
BEFORE

MASS
160
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
160
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham

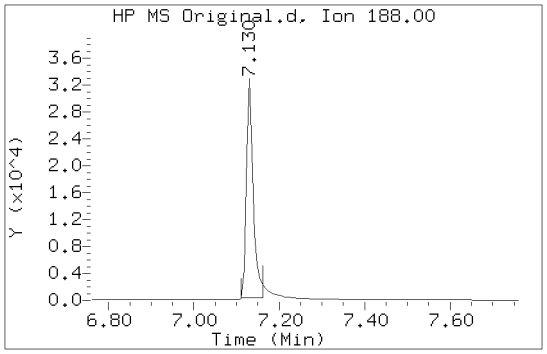


Phenanthrene-d10 (1517-22-2)

Reason Code:

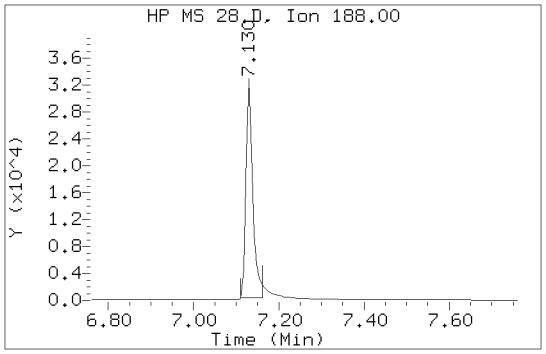
BEFORE

MASS
188
AREA
37143
HEIGHT
32634
23-Jun-2023
17:50
linh
pham



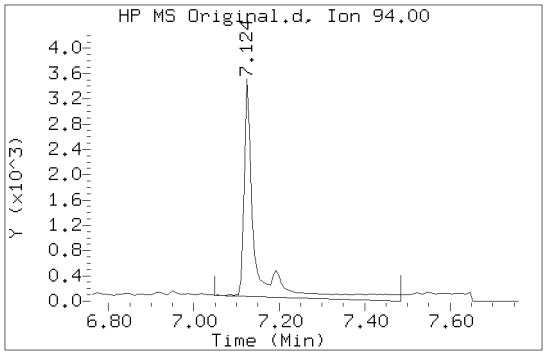
AFTER

MASS
188
AREA
37143
HEIGHT
32634
23-Jun-2023
17:50
linh
pham



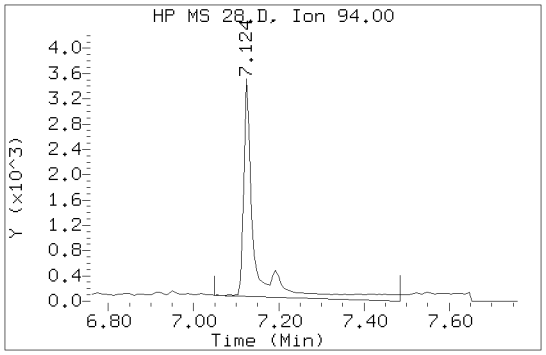
BEFORE

MASS
94
AREA
6395
HEIGHT
3440
23-Jun-2023
17:50
linh
pham



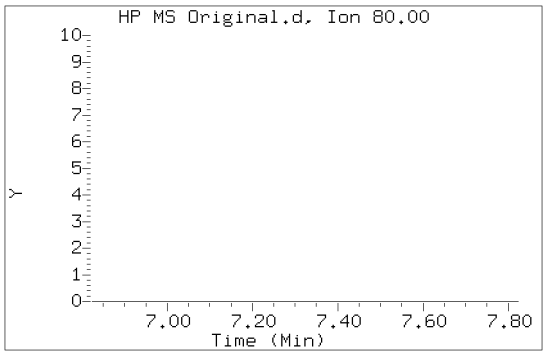
AFTER

MASS
94
AREA
6395
HEIGHT
3440
23-Jun-2023
17:50
linh
pham



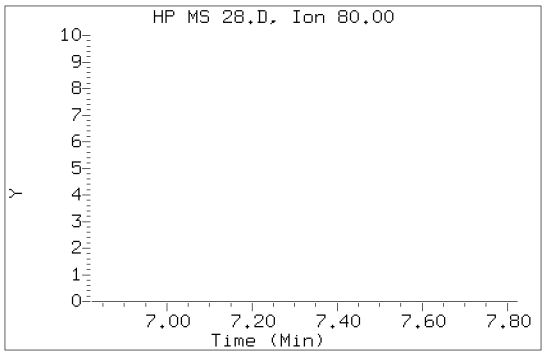
BEFORE

MASS
80
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
80
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham

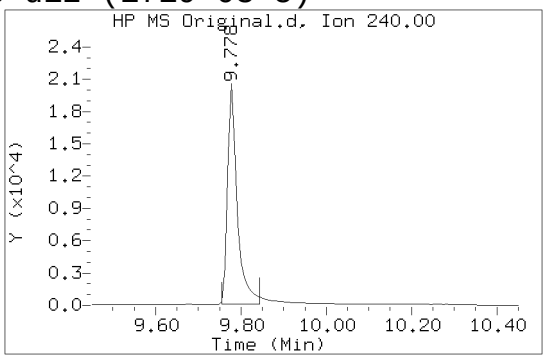


Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D
Inj Date : 21-JUN-2023 20:19
InstruID : SV6.i
LabSampID : LCSD-195305

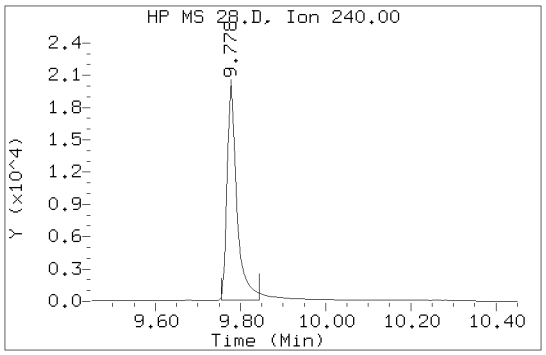
Chrysene-d12 (1719-03-5)

Reason Code:

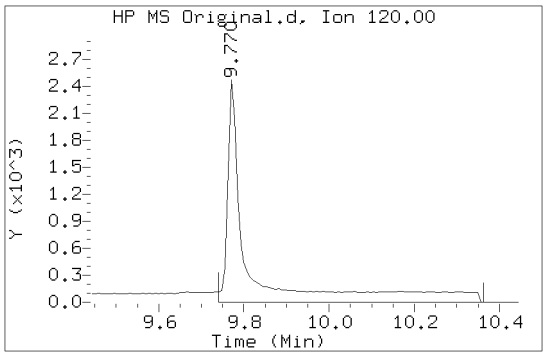
BEFORE
MASS
240
AREA
32006
HEIGHT
20461
23-Jun-2023
17:50
linh
pham



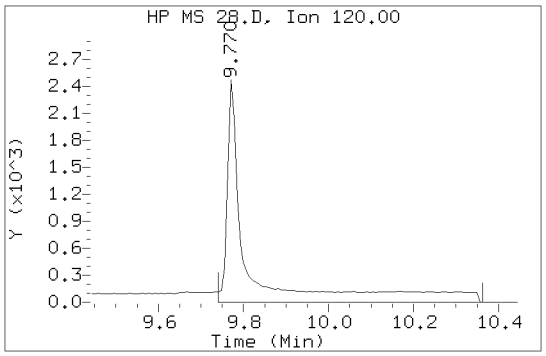
AFTER
MASS
240
AREA
32006
HEIGHT
20461
23-Jun-2023
17:50
linh
pham



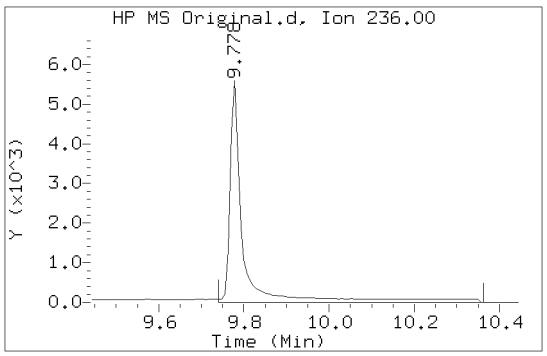
BEFORE
MASS
120
AREA
8162
HEIGHT
2470
23-Jun-2023
17:50
linh
pham



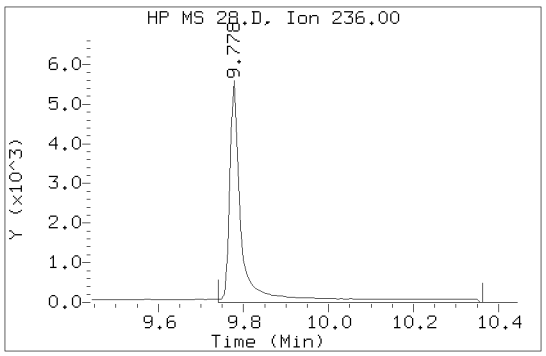
AFTER
MASS
120
AREA
8162
HEIGHT
2470
23-Jun-2023
17:50
linh
pham



BEFORE
MASS
236
AREA
12217
HEIGHT
5592
23-Jun-2023
17:50
linh
pham



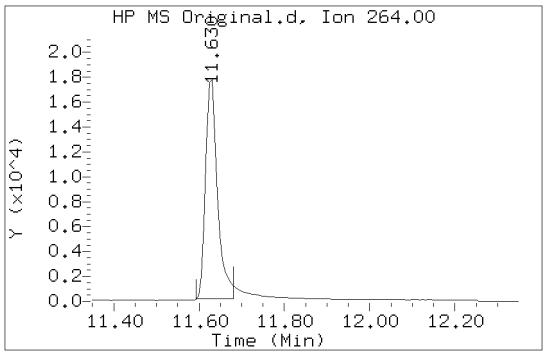
AFTER
MASS
236
AREA
12217
HEIGHT
5592
23-Jun-2023
17:50
linh
pham



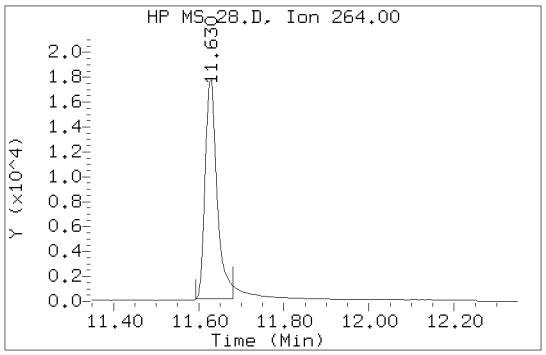
Perylene-d12 (1520-96-3)

Reason Code:

BEFORE
MASS
264
AREA
34341
HEIGHT
17619
23-Jun-2023
17:50
linh
pham



AFTER
MASS
264
AREA
34341
HEIGHT
17619
23-Jun-2023
17:50
linh
pham

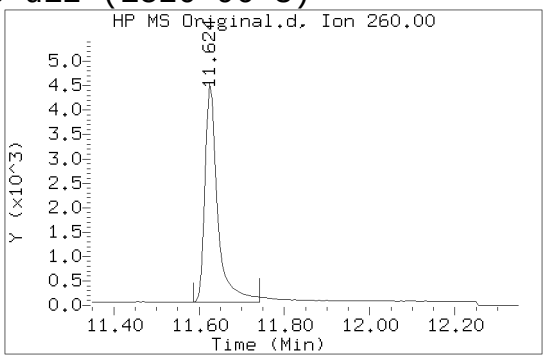


Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D
Inj Date : 21-JUN-2023 20:19
InstruID : SV6.i
LabSampID : LCSD-195305

Perylene-d12 (1520-96-3)

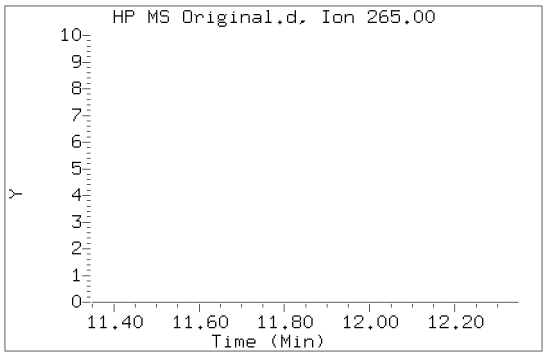
BEFORE

MASS
260
AREA
9169
HEIGHT
4475
23-Jun-2023
17:50
linh
pham



BEFORE

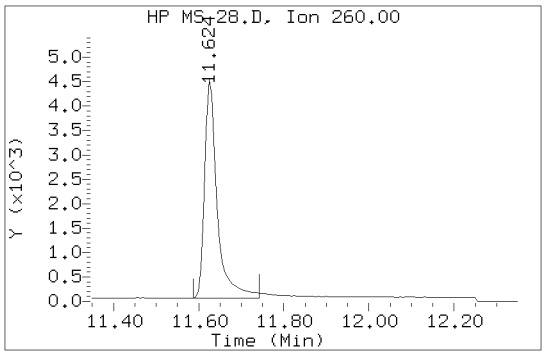
MASS
265
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



Reason Code:

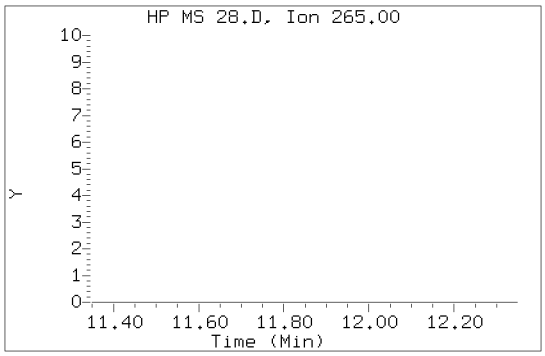
AFTER

MASS
260
AREA
9169
HEIGHT
4475
23-Jun-2023
17:50
linh
pham



AFTER

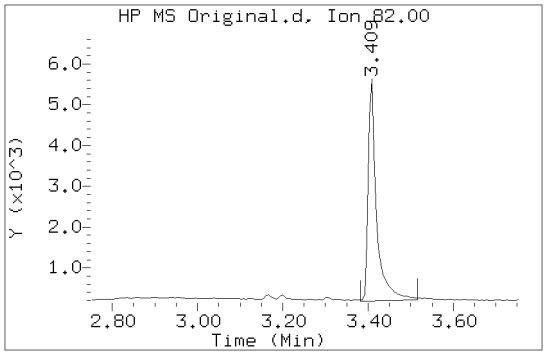
MASS
265
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



Nitrobenzene-d5 (4165-60-0)

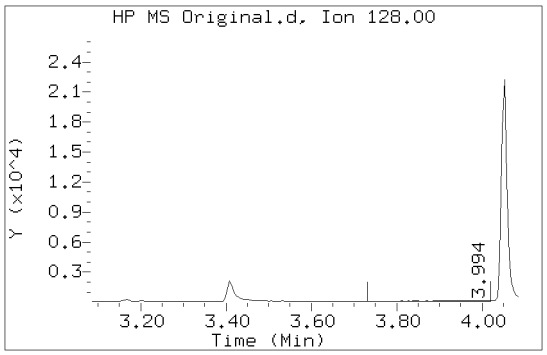
BEFORE

MASS
82
AREA
7371
HEIGHT
5444
23-Jun-2023
17:50
linh
pham



BEFORE

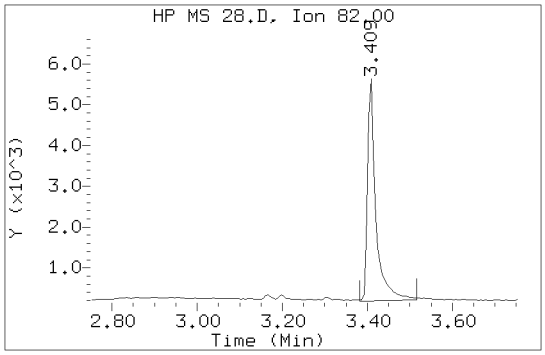
MASS
128
AREA
439
HEIGHT
53
23-Jun-2023
17:50
linh
pham



Reason Code:

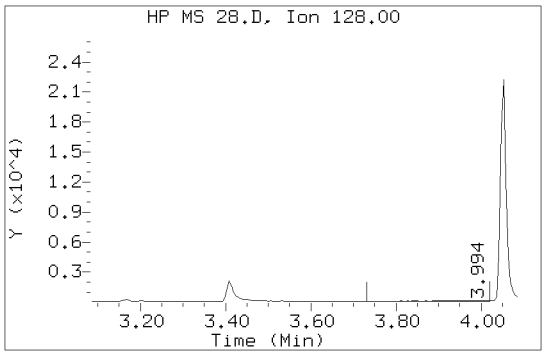
AFTER

MASS
82
AREA
7371
HEIGHT
5444
23-Jun-2023
17:50
linh
pham



AFTER

MASS
128
AREA
439
HEIGHT
53
23-Jun-2023
17:50
linh
pham



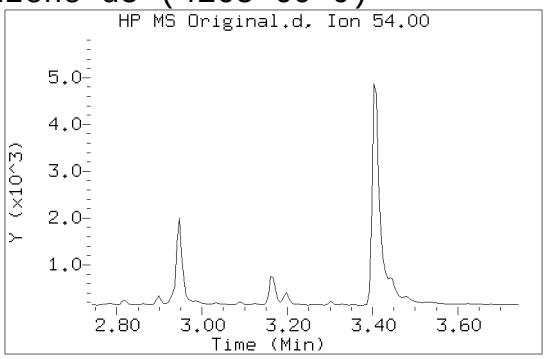
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D
Inj Date : 21-JUN-2023 20:19
InstruID : SV6.i
LabSampID : LCSD-195305

Nitrobenzene-d5 (4165-60-0)

Reason Code:

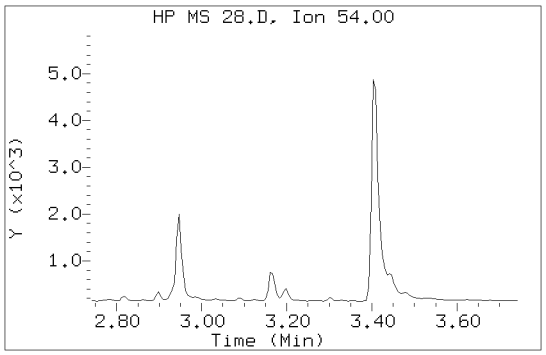
BEFORE

MASS
54
AREA
157
HEIGHT
185
23-Jun-2023
17:50
linh
pham



AFTER

MASS
54
AREA
157
HEIGHT
185
23-Jun-2023
17:50
linh
pham

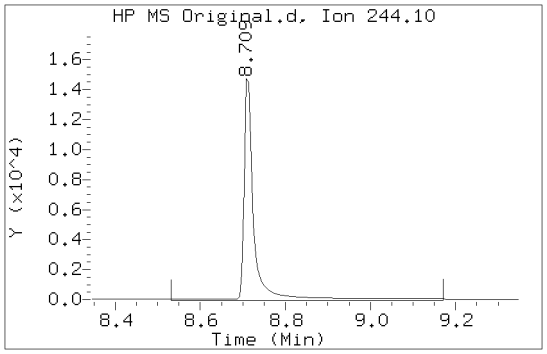


4-Terphenyl-d14 (1718-51-0)

Reason Code:

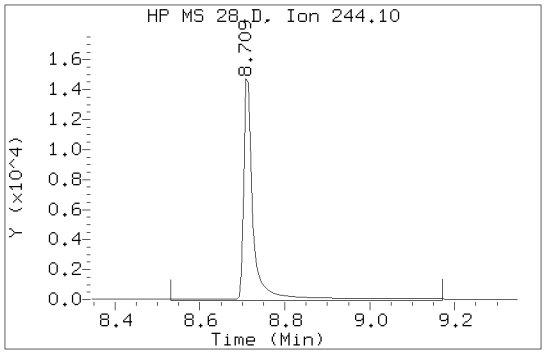
BEFORE

MASS
244.1
AREA
25493
HEIGHT
14765
23-Jun-2023
17:50
linh
pham



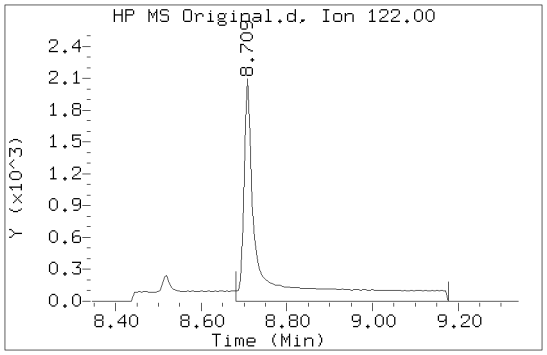
AFTER

MASS
244.1
AREA
25493
HEIGHT
14765
23-Jun-2023
17:50
linh
pham



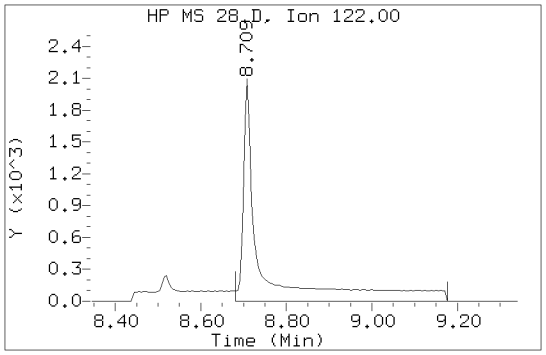
BEFORE

MASS
122
AREA
5882
HEIGHT
2095
23-Jun-2023
17:50
linh
pham



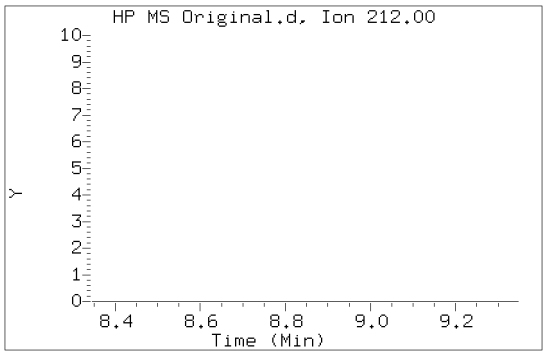
AFTER

MASS
122
AREA
5882
HEIGHT
2095
23-Jun-2023
17:50
linh
pham



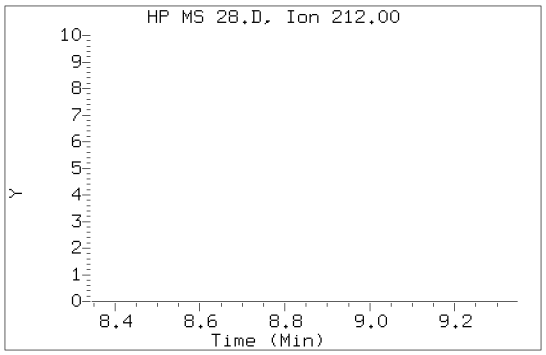
BEFORE

MASS
212
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



AFTER

MASS
212
AREA
0
HEIGHT
0
23-Jun-2023
17:50
linh
pham



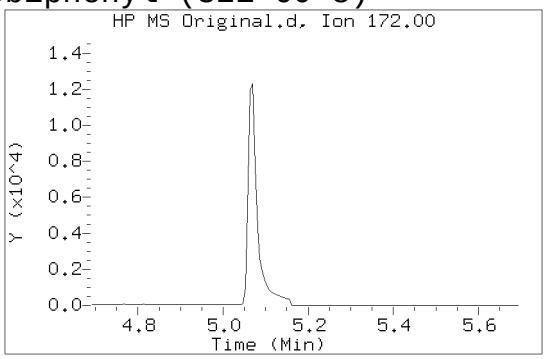
Data File : \\NAHSTWS005\Target\chem\SV6.i\230621.b\28.D
Inj Date : 21-JUN-2023 20:19
InstruID : SV6.i
LabSampID : LCSD-195305

2-Fluorobiphenyl (321-60-8)

Reason Code:

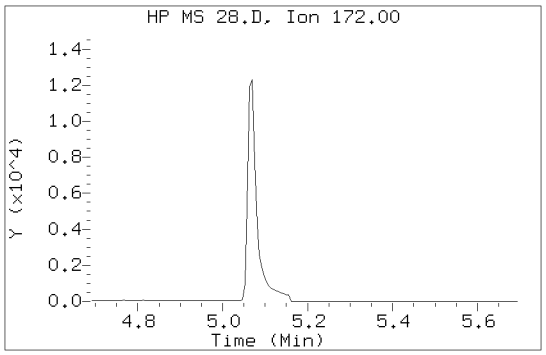
BEFORE

MASS
172
AREA
21845
HEIGHT
12327
23-Jun-2023
17:50
linh
pham



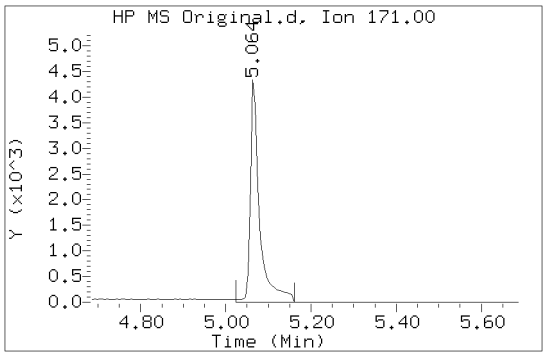
AFTER

MASS
172
AREA
21845
HEIGHT
12327
23-Jun-2023
17:50
linh
pham



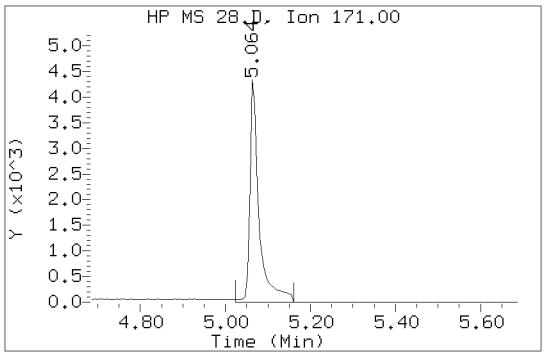
BEFORE

MASS
171
AREA
6570
HEIGHT
4335
23-Jun-2023
17:50
linh
pham



AFTER

MASS
171
AREA
6570
HEIGHT
4335
23-Jun-2023
17:50
linh
pham



HS23060739 - ME - HG_W_DODICP_W_DOD

ALS WO# HS23060739

ALS Houston, US

Date: 27-Jun-23

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Instrument:ICPMS06

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: 27-Jun-23

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739
Start Date: 23-Jun-2023 End Date: 23-Jun-2023

Run ID:HG04_439735
Instrument:HG04
Method:SW7470A

Sample No.	D/F	Time	FileID	Analytes
ICCV 1	1	23-Jun-2023 12:01	_7381727	HG
ICV	1	23-Jun-2023 12:02	_7381728	HG
ICB	1	23-Jun-2023 12:04	_7381729	HG
CRA	1	23-Jun-2023 12:06	_7381730	HG
CCV 2	1	23-Jun-2023 12:08	_7381731	HG
CCB 1	1	23-Jun-2023 12:10	_7381732	HG
CCV 3	1	23-Jun-2023 12:43	_7381743	HG
CCB 2	1	23-Jun-2023 12:45	_7381744	HG
CCV 4	1	23-Jun-2023 13:10	HG04_439735 Raw Data_7381719	HG
CCB 3	1	23-Jun-2023 13:12	_7381720	HG
CCV 5	1	23-Jun-2023 13:34	_7381755	HG
CCB 4	1	23-Jun-2023 13:35	_7381756	HG
CCV 6	1	23-Jun-2023 14:00	_7381767	HG
CCB 5	1	23-Jun-2023 14:01	_7381768	HG
MBLK-196674	1	23-Jun-2023 14:10	_7381772	HG
LCS-196674	1	23-Jun-2023 14:21	_7381773	HG
MW5_060923	1	23-Jun-2023 14:23	_7381774	HG
MW5_060923MS	1	23-Jun-2023 14:25	_7381775	HG
MW5_060923MSD	1	23-Jun-2023 14:29	_7381776	HG
18CPTMW04SW_060923	1	23-Jun-2023 14:30	_7381777	HG
CCV 7	1	23-Jun-2023 14:34	_7381779	HG
CCB 6	1	23-Jun-2023 14:36	_7381780	HG
CCV 8	1	23-Jun-2023 14:57	_7381788	HG
CCB 7	1	23-Jun-2023 14:59	_7381789	HG

ALS Houston, US

Date: 27-Jun-23

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739
Start Date: 23-Jun-2023 End Date: 24-Jun-2023

Run ID:ICPMS06_439681
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS06_439681_Tune	1	23-Jun-2023 00:00	ICPMS06_439681_Tune_1	
CAL BLK	1	23-Jun-2023 10:33	008CALB.d_7381145	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	23-Jun-2023 10:35	009CALS.d_7381146	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	23-Jun-2023 10:37	010CALS.d_7381147	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
10/50/100	1	23-Jun-2023 10:39	011CALS.d_7381148	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	23-Jun-2023 10:41	012CALS.d_7381149	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	23-Jun-2023 10:42	013CALS.d_7381150	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	23-Jun-2023 10:51	015_ICV.d_7381152	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	23-Jun-2023 10:52	016LCV2.d_7381153	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	23-Jun-2023 10:54	017LCV5.d_7381154	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	23-Jun-2023 10:56	018_ICB.d_7381155	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	23-Jun-2023 10:58	019_ICV.d_7381156	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	23-Jun-2023 11:02	021ICSA.d_7381158	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	23-Jun-2023 11:04	022ICSB.d_7381159	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CAL BLK	1	23-Jun-2023 19:58	186CALB.d_7383308	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	23-Jun-2023 20:00	187CALS.d_7383309	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	23-Jun-2023 20:02	188CALS.d_7383310	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
10/50/100	1	23-Jun-2023 20:04	189CALS.d_7383311	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	23-Jun-2023 20:06	190CALS.d_7383312	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	23-Jun-2023 20:07	191CALS.d_7383313	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	23-Jun-2023 20:15	195LCV5.d_7383315	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	23-Jun-2023 20:20	197LCV2.d_7383316	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	23-Jun-2023 20:22	198_ICV.d_7383317	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICCB 1	1	23-Jun-2023 20:23	199_ICB.d_7383318	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 1	1	23-Jun-2023 21:51	246_CCV.d_7383344	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 2	1	23-Jun-2023 21:53	247_CCB.d_7383345	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MBLK-196499	1	23-Jun-2023 21:55	248SMPL.d_7383346	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LCS-196499	1	23-Jun-2023 21:57	249SMPL.d_7383347	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZSD	5	23-Jun-2023 22:01	251SMPL.d_7383320	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMS	1	23-Jun-2023 22:03	252SMPL.d_7383321	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMSD	1	23-Jun-2023 22:05	253SMPL.d_7383322	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

ALS Houston, US

Date: 27-Jun-23

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739
Start Date: 23-Jun-2023 End Date: 24-Jun-2023

Run ID:ICPMS06_439681
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
ZZZZZZPDS	1	23-Jun-2023 22:06	254SMPL.d_7383323	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	23-Jun-2023 22:08	255_CCV.d_7383324	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	23-Jun-2023 22:10	256_CCB.d_7383325	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MW5_060923	1	23-Jun-2023 22:16	259SMPL.d_7383328	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW04SW_060923	1	23-Jun-2023 22:18	260SMPL.d_7383329	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 3	1	23-Jun-2023 22:31	267_CCV.d_7383336	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 4	1	23-Jun-2023 22:33	268_CCB.d_7383337	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 4	1	23-Jun-2023 22:41	272_CCV.d_7383341	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 5	1	23-Jun-2023 22:43	273_CCB.d_7383342	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 5	1	23-Jun-2023 23:59	311_CCV.d_7383412	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 6	1	24-Jun-2023 00:01	312_CCB.d_7383413	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	24-Jun-2023 00:02	313LCV2.d_7383414	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	24-Jun-2023 00:04	314LCV5.d_7383415	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	24-Jun-2023 00:06	315ICSA.d_7383416	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	24-Jun-2023 00:08	316ICSB.d_7383417	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

ALS Houston, US Date: 27-Jun-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: HG04_439735
Instrument: HG04
Method: SW7470A

ICCV1	Date: 23-Jun-2023 12:01		Seq: 7381727	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.96	99	90-110	

ICV	Date: 23-Jun-2023 12:02		Seq: 7381728	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.9	98	90-110	

CCV2	Date: 23-Jun-2023 12:08		Seq: 7381731	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.97	99	90-110	

CCV3	Date: 23-Jun-2023 12:43		Seq: 7381743	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.04	101	90-110	

CCV4	Date: 23-Jun-2023 13:10		Seq: 7381719	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.14	103	90-110	

CCV5	Date: 23-Jun-2023 13:34		Seq: 7381755	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.16	103	90-110	

CCV6	Date: 23-Jun-2023 14:00		Seq: 7381767	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.09	102	90-110	

CCV7	Date: 23-Jun-2023 14:34		Seq: 7381779	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.04	101	90-110	

CCV8	Date: 23-Jun-2023 14:57		Seq: 7381788	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.1	102	90-110	

ALS Houston, US

Date: 27-Jun-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

ICV | Date: 23-Jun-2023 10:51 | Seq: 7381152 | ICV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	168.733	169	90-110	S
Antimony	100	104.772	105	90-110	
Arsenic	100	101.898	102	90-110	
Barium	100	102.496	102	90-110	
Beryllium	100	103.456	103	90-110	
Cadmium	100	102.25	102	90-110	
Calcium	10000	10426.098	104	90-110	
Chromium	100	100.718	101	90-110	
Cobalt	100	100.783	101	90-110	
Copper	100	101.877	102	90-110	
Iron	10000	10286.425	103	90-110	
Lead	100	99.305	99	90-110	
Magnesium	10000	10259.026	103	90-110	
Manganese	100	102.061	102	90-110	
Nickel	100	101.932	102	90-110	
Potassium	10000	10144.298	101	90-110	
Selenium	100	99.564	100	90-110	
Silver	100	100.333	100	90-110	
Sodium	10000	10134.681	101	90-110	
Thallium	100	101.481	101	90-110	
Vanadium	100	101.395	101	90-110	
Zinc	100	100.77	101	90-110	

ICV | Date: 23-Jun-2023 10:58 | Seq: 7381156 | ICV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.739	101	90-110	
Antimony	100	101.981	102	90-110	
Arsenic	100	101.16	101	90-110	
Barium	100	100.237	100	90-110	
Beryllium	100	101.254	101	90-110	
Cadmium	100	101.308	101	90-110	
Calcium	10000	10099.234	101	90-110	
Chromium	100	101.828	102	90-110	
Cobalt	100	101.054	101	90-110	
Copper	100	101.445	101	90-110	
Iron	10000	10150.784	102	90-110	
Lead	100	100.384	100	90-110	
Magnesium	10000	10090.972	101	90-110	
Manganese	100	101.947	102	90-110	
Nickel	100	101.515	102	90-110	
Potassium	10000	10030.94	100	90-110	
Selenium	100	100.206	100	90-110	
Silver	100	102.784	103	90-110	
Sodium	10000	10107.265	101	90-110	
Thallium	100	102.021	102	90-110	
Vanadium	100	101.756	102	90-110	
Zinc	100	101.728	102	90-110	

ICV | Date: 23-Jun-2023 20:22 | Seq: 7383317 | ICV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	92.986	93	90-110	
Antimony	100	94.224	94	90-110	
Arsenic	100	94.893	95	90-110	
Barium	100	96.207	96	90-110	
Beryllium	100	97.365	97	90-110	

ALS Houston, US Date: 27-Jun-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

ICV Date: 23-Jun-2023 20:22 Seq: 7383317 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Cadmium	100	96.642	97	90-110	
Calcium	10000	9620.733	96	90-110	
Chromium	100	96.284	96	90-110	
Cobalt	100	96.352	96	90-110	
Copper	100	96.8	97	90-110	
Iron	10000	9586.944	96	90-110	
Lead	100	96.83	97	90-110	
Magnesium	10000	9639.099	96	90-110	
Manganese	100	96.15	96	90-110	
Nickel	100	96.731	97	90-110	
Potassium	10000	9815.815	98	90-110	
Selenium	100	94.976	95	90-110	
Silver	100	98.072	98	90-110	
Sodium	10000	9597.096	96	90-110	
Thallium	100	95.469	96	90-110	
Vanadium	100	97.28	97	90-110	
Zinc	100	96.333	96	90-110	

CCV1 Date: 23-Jun-2023 21:51 Seq: 7383344 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	96.746	97	90-110	
Antimony	100	98.79	99	90-110	
Arsenic	100	98.302	98	90-110	
Barium	100	100.238	100	90-110	
Beryllium	100	100.759	101	90-110	
Cadmium	100	99.219	99	90-110	
Calcium	10000	9793.572	98	90-110	
Chromium	100	104.747	105	90-110	
Cobalt	100	99.458	100	90-110	
Copper	100	101.062	101	90-110	
Iron	10000	9968.838	100	90-110	
Lead	100	97.201	97	90-110	
Magnesium	10000	9858.128	99	90-110	
Manganese	100	99.2	99	90-110	
Nickel	100	106.222	106	90-110	
Potassium	10000	9869.823	99	90-110	
Selenium	100	98.615	99	90-110	
Silver	100	99.743	100	90-110	
Sodium	10000	9863.903	99	90-110	
Thallium	100	97.624	98	90-110	
Vanadium	100	99.872	100	90-110	
Zinc	100	100.617	101	90-110	

CCV2 Date: 23-Jun-2023 22:08 Seq: 7383324 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	95.038	95	90-110	
Antimony	100	102.378	102	90-110	
Arsenic	100	98.662	99	90-110	
Barium	100	100.803	101	90-110	
Beryllium	100	92.141	92	90-110	
Cadmium	100	99.835	100	90-110	
Calcium	10000	9758.941	98	90-110	
Chromium	100	105.093	105	90-110	
Cobalt	100	100.096	100	90-110	
Copper	100	101.582	102	90-110	

ALS Houston, US Date: 27-Jun-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

CCV2 Date: 23-Jun-2023 22:08 Seq: 7383324 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	9986.075	100	90-110	
Lead	100	100.534	101	90-110	
Magnesium	10000	9762.11	98	90-110	
Manganese	100	99.389	99	90-110	
Nickel	100	107.015	107	90-110	
Potassium	10000	9806.103	98	90-110	
Selenium	100	98.717	99	90-110	
Silver	100	100.007	100	90-110	
Sodium	10000	9645.45	97	90-110	
Thallium	100	101.108	101	90-110	
Vanadium	100	99.573	100	90-110	
Zinc	100	100.647	101	90-110	

CCV3 Date: 23-Jun-2023 22:31 Seq: 7383336 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	96.516	97	90-110	
Antimony	100	101.672	102	90-110	
Arsenic	100	96.939	97	90-110	
Barium	100	100.972	101	90-110	
Beryllium	100	91.514	92	90-110	
Cadmium	100	99.972	100	90-110	
Calcium	10000	9549.353	96	90-110	
Chromium	100	103.027	103	90-110	
Cobalt	100	98.785	99	90-110	
Copper	100	100.427	100	90-110	
Iron	10000	9826.307	98	90-110	
Lead	100	97.482	98	90-110	
Magnesium	10000	9730.327	97	90-110	
Manganese	100	98.336	98	90-110	
Nickel	100	104.88	105	90-110	
Potassium	10000	9519.811	95	90-110	
Selenium	100	97.924	98	90-110	
Silver	100	99.535	100	90-110	
Sodium	10000	9509.166	95	90-110	
Thallium	100	98.558	99	90-110	
Vanadium	100	97.989	98	90-110	
Zinc	100	100.326	100	90-110	

CCV4 Date: 23-Jun-2023 22:41 Seq: 7383341 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	92.768	93	90-110	
Antimony	100	102	102	90-110	
Arsenic	100	97.206	97	90-110	
Barium	100	101.778	102	90-110	
Beryllium	100	92.122	92	90-110	
Cadmium	100	100.154	100	90-110	
Calcium	10000	9496.013	95	90-110	
Chromium	100	103.393	103	90-110	
Cobalt	100	99.092	99	90-110	
Copper	100	100.583	101	90-110	
Iron	10000	9943.501	99	90-110	
Lead	100	99.585	100	90-110	
Magnesium	10000	9541.189	95	90-110	
Manganese	100	98.945	99	90-110	
Nickel	100	106.574	107	90-110	

ALS Houston, US

Date: 27-Jun-23

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

CCV4 Date: 23-Jun-2023 22:41 Seq: 7383341 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Potassium	10000	9502.561	95	90-110	
Selenium	100	97.172	97	90-110	
Silver	100	100.742	101	90-110	
Sodium	10000	9436.402	94	90-110	
Thallium	100	99.353	99	90-110	
Vanadium	100	98.111	98	90-110	
Zinc	100	99.672	100	90-110	

CCV5 Date: 23-Jun-2023 23:59 Seq: 7383412 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	92.37	92	90-110	
Antimony	100	104.791	105	90-110	
Arsenic	100	98.073	98	90-110	
Barium	100	101.083	101	90-110	
Beryllium	100	90.115	90	90-110	
Cadmium	100	98.053	98	90-110	
Calcium	10000	9516.45	95	90-110	
Chromium	100	104.25	104	90-110	
Cobalt	100	99.844	100	90-110	
Copper	100	102.026	102	90-110	
Iron	10000	10042.866	100	90-110	
Lead	100	97.303	97	90-110	
Magnesium	10000	9519.075	95	90-110	
Manganese	100	98.81	99	90-110	
Nickel	100	106.965	107	90-110	
Potassium	10000	9464.941	95	90-110	
Selenium	100	96.87	97	90-110	
Silver	100	96.954	97	90-110	
Sodium	10000	9429.633	94	90-110	
Thallium	100	97.081	97	90-110	
Vanadium	100	98.914	99	90-110	
Zinc	100	101.338	101	90-110	

ALS Houston, US Date: 27-Jun-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: HG04_439735
Instrument: HG04
Method: SW7470A

ICB	Date: 23-Jun-2023 12:04		Seq: 7381729	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB1	Date: 23-Jun-2023 12:10		Seq: 7381732	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB2	Date: 23-Jun-2023 12:45		Seq: 7381744	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB3	Date: 23-Jun-2023 13:12		Seq: 7381720	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB4	Date: 23-Jun-2023 13:35		Seq: 7381756	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB5	Date: 23-Jun-2023 14:01		Seq: 7381768	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

MBLK-196674	Date: 23-Jun-2023 14:10		Seq: 7381772	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB6	Date: 23-Jun-2023 14:36		Seq: 7381780	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB7	Date: 23-Jun-2023 14:59		Seq: 7381789	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

ALS Houston, US Date: 27-Jun-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

ICB	Date: 23-Jun-2023 10:56		Seq: 7381155	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	-2.451	1.8	10	J	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	-1.345	0.4	5	J	
Cobalt	5	0.1	5	U	
Copper	5	1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

ICCB1	Date: 23-Jun-2023 20:23		Seq: 7383318	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	-0.809	0.4	5	J	
Cobalt	5	0.1	5	U	
Copper	5	1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	0.613	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

CCB2	Date: 23-Jun-2023 21:53		Seq: 7383345	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	

ALS Houston, US

Date: 27-Jun-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

CCB2	Date: 23-Jun-2023 21:53		Seq: 7383345	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Cadmium	2	0.2	2	U	
Calcium	170.5	34	500	J	
Chromium	-0.528	0.4	4	J	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.753	0.6	2	J	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	86.04	14	200	J	
Thallium	0.921	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

MBLK-196499	Date: 23-Jun-2023 21:55		Seq: 7383346	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Copper	5	1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
Sodium	62.93	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

CCB3	Date: 23-Jun-2023 22:10		Seq: 7383325	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	4.538	1.8	10	J	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	-0.691	0.4	4	J	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	

ALS Houston, US Date: 27-Jun-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

CCB3	Date: 23-Jun-2023 22:10		Seq: 7383325	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	1.236	0.6	2	J	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	27.12	14	200	J	
Thallium	0.919	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB4	Date: 23-Jun-2023 22:33		Seq: 7383337	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	-0.681	0.4	4	J	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.775	0.6	2	J	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	20.43	14	200	J	
Thallium	0.987	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB5	Date: 23-Jun-2023 22:43		Seq: 7383342	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	-0.82	0.4	4	J	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.643	0.6	2	J	

ALS Houston, US Date: 27-Jun-23

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID: ICPMS06_439681
Instrument: ICPMS06
Method: SW6020A

CCB5	Date: 23-Jun-2023 22:43		Seq: 7383342	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Potassium	-24.12	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	0.89	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB6	Date: 24-Jun-2023 00:01		Seq: 7383413	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	-0.755	0.4	4	J	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.733	0.6	2	J	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	58.62	14	200	J	
Thallium	0.992	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

ALS Houston, US

Date: 27-Jun-23

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID:ICPMS06_439681
Instrument:ICPMS06
Method:SW6020A

ICSA	Date: 23-Jun-2023 11:02	Seq: 7381158	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	94600	94.6	
Antimony		0.404	0	
Arsenic		0.286	0	
Barium		0.649	0	
Beryllium		-0.004	0	
Cadmium		0.612	0	
Calcium	100000	95860	95.9	
Chromium		1.29	0	
Cobalt		0.576	0	
Copper		0.877	0	
Iron	100000	98470	98.5	
Lead		0.2	0	
Magnesium	100000	98190	98.2	
Manganese		1.14	0	
Nickel		1.003	0	
Potassium	100000	98010	98.0	
Selenium		0.169	0	
Silver		0.174	0	
Sodium	100000	99510	99.5	
Thallium		0.039	0	
Vanadium		-0.085	0	
Zinc		2.725	0	

ICSAB	Date: 23-Jun-2023 11:04	Seq: 7381159	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	93430	93.0	
Antimony	100	99.38	99.4	
Arsenic	100	98.75	98.8	
Barium	100	100.6	101	
Beryllium	100	94.21	94.2	
Cadmium	100	98.7	98.7	
Calcium	110000	104300	94.8	
Chromium	100	98.86	98.9	
Cobalt	100	96.25	96.3	
Copper	100	94.4	94.4	
Iron	110000	107600	97.8	
Lead	100	99.55	99.6	
Magnesium	110000	106900	97.1	
Manganese	100	98.49	98.5	
Nickel	100	94.73	94.7	
Potassium	110000	106700	97.0	
Selenium	100	98.4	98.4	
Silver	100	92.26	92.3	
Sodium	110000	108700	98.8	
Thallium	100	97.27	97.3	
Vanadium	100	99.13	99.1	
Zinc	100	97.11	97.1	

ICSA	Date: 24-Jun-2023 00:06	Seq: 7383416	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	89580	89.6	
Antimony		0.308	0	
Arsenic		0.317	0	
Barium		0.769	0	

ALS Houston, US

Date: 27-Jun-23

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Run ID:ICPMS06_439681
Instrument:ICPMS06
Method:SW6020A

ICSA	Date: 24-Jun-2023 00:06	Seq: 7383416	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Beryllium		0.004	0	
Cadmium		0.306	0	
Calcium	100000	93690	93.7	
Chromium		1.26	0	
Cobalt		0.606	0	
Copper		0.828	0	
Iron	100000	99630	99.6	
Lead		0.194	0	
Magnesium	100000	95790	95.8	
Manganese		1.253	0	
Nickel		0.994	0	
Potassium	100000	95350	95.3	
Selenium		0.336	0	
Silver		0.16	0	
Sodium	100000	94570	94.6	
Thallium		0.052	0	
Vanadium		0.668	0	
Zinc		2.673	0	

ICSAB	Date: 24-Jun-2023 00:08	Seq: 7383417	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	87880	87.4	
Antimony	100	101.2	101	
Arsenic	100	97.1	97.1	
Barium	100	106.9	107	
Beryllium	100	92.15	92.1	
Cadmium	100	101.6	102	
Calcium	110000	101200	92.0	
Chromium	100	96.39	96.4	
Cobalt	100	97.05	97.0	
Copper	100	94.8	94.8	
Iron	110000	106700	97.0	
Lead	100	102.4	102	
Magnesium	110000	102300	93.0	
Manganese	100	95.47	95.5	
Nickel	100	95.6	95.6	
Potassium	110000	102300	93.0	
Selenium	100	96.58	96.6	
Silver	100	97.72	97.7	
Sodium	110000	101900	92.6	
Thallium	100	101.7	102	
Vanadium	100	97.44	97.4	
Zinc	100	97.72	97.7	

ALS Houston, US

Date: 27-Jun-23

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Date Analyzed: 23-Jun-2023 14:29
Date Extracted: 23-Jun-2023 08:00
Units: ug/L

Matrix Spike: HS23060739-01MS
Client Sample ID: MW5_060923

Analysis Method: SW7470A

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.2000	4.920	5.000	98.4	5.070	5.000	101	82-119	3.00	20

ALS Houston, US

Date: 27-Jun-23

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Date Analyzed: 23-Jun-2023 22:05
Date Extracted: 21-Jun-2023 08:30
Units: ug/L

Matrix Spike: HS23060757-08MS
Client Sample ID:

Analysis Method: SW6020A

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aluminum	35.82	142.6	100.0	107	155.1	100.0	119	84-117	8.39	20
Antimony	5.000	51.66	50.00	103	51.36	50.00	102	85-117	0.567	20
Arsenic	319.5	381.0	50.00	123	379.4	50.00	120	84-116	0.411	20
Barium	32.07	82.52	50.00	101	83.52	50.00	103	86-114	1.20	20
Beryllium	2.000	47.49	50.00	94.9	46.25	50.00	92.4	83-121	2.66	20
Cadmium	2.000	50.88	50.00	102	51.01	50.00	102	87-115	0.243	20
Calcium	63820	69490	5000	114	69610	5000	116	87-118	0.178	20
Chromium	5.000	50.04	50.00	101	49.59	50.00	99.8	85-116	0.901	20
Cobalt	0.3740	50.87	50.00	101	50.24	50.00	99.7	86-115	1.24	20
Copper	5.000	51.58	50.00	103	51.39	50.00	103	85-118	0.381	20
Iron	950.9	6047	5000	102	5985	5000	101	87-118	1.04	20
Lead	5.000	48.91	50.00	97.8	48.81	50.00	97.6	88-115	0.201	20
Magnesium	3508	8583	5000	101	8427	5000	98.4	83-118	1.84	20
Manganese	137.1	189.5	50.00	105	182.1	50.00	89.9	87-115	4.01	20
Nickel	5.000	52.02	50.00	103	51.33	50.00	102	85-117	1.35	20
Potassium	2259	7264	5000	100	7177	5000	98.4	87-115	1.21	20
Selenium	5.000	51.09	50.00	101	50.77	50.00	101	80-120	0.640	20
Silver	5.000	49.40	50.00	98.8	49.08	50.00	98.2	85-116	0.636	20
Sodium	7938	13200	5000	105	13050	5000	102	85-117	1.13	20
Thallium	0.7990	53.83	50.00	106	53.42	50.00	105	82-116	0.770	20
Vanadium	5.000	51.31	50.00	102	50.72	50.00	100	86-115	1.15	20
Zinc	5.000	53.56	50.00	105	52.90	50.00	103	83-119	1.24	20

ALS Houston, US

Date: 27-Jun-23

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Date Analyzed: 23-Jun-2023 22:06
Date Extracted: 21-Jun-2023 08:30
Units: ug/L

Lab Sample ID: HS23060757-08PDS
Client Sample ID:

Analysis Method: SW6020A

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Aluminum	35.82	134.9	100	99	80-120
Antimony	0	91.76	100	91	80-120
Arsenic	319.5	423.9	100	104	80-120
Barium	32.07	126.5	100	94	80-120
Beryllium	0	84.59	100	85	80-120
Cadmium	0	94.04	100	94	80-120
Calcium	63820	74140	10000	103	80-120
Chromium	0	92.35	100	93	80-120
Cobalt	0.374	93.49	100	93	80-120
Copper	0	94.68	100	95	80-120
Iron	950.9	10280	10000	93	80-120
Lead	0	90.16	100	90	80-120
Magnesium	3508	12650	10000	91	80-120
Manganese	137.1	230	100	93	80-120
Nickel	0	93.68	100	93	80-120
Potassium	2259	11200	10000	89	80-120
Selenium	0	96.97	100	97	80-120
Silver	0	93.75	100	94	80-120
Sodium	7938	17070	10000	91	80-120
Thallium	0.799	98.2	100	97	80-120
Vanadium	0	94.18	100	94	80-120
Zinc	0	97.19	100	96	80-120

ALS Houston, US

Date: 27-Jun-23

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Date Analyzed: 23-Jun-2023 14:21
Date Extracted: 23-Jun-2023 08:00
Units: ug/L

Lab Sample ID: LCS-196674
Analysis Method: SW7470A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	5.05	101	82-119

ALS Houston, US Date: 27-Jun-23

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Date Analyzed: 23-Jun-2023 21:57
Date Extracted: 21-Jun-2023 08:30
Units: ug/L

Lab Sample ID: LCS-196499 Analysis Method: SW6020A

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Aluminum	100	101.2	101	84-117
Antimony	50	49.44	99	85-117
Arsenic	50	49.35	99	84-116
Barium	50	48.76	98	86-114
Beryllium	50	45.93	92	83-121
Cadmium	50	49.58	99	87-115
Calcium	5000	4803	96	87-118
Chromium	50	48.4	97	85-116
Cobalt	50	50.23	100	86-115
Copper	50	51.58	103	85-118
Iron	5000	5001	100	87-118
Lead	50	47.85	96	88-115
Magnesium	5000	5069	101	83-118
Manganese	50	48.99	98	87-115
Nickel	50	50.66	101	85-117
Potassium	5000	4950	99	87-115
Selenium	50	51.5	103	80-120
Silver	50	49.04	98	85-116
Sodium	5000	5008	100	85-117
Thallium	50	44.05	88	82-116
Vanadium	50	49.13	98	86-115
Zinc	50	51.76	104	83-119

ALS Houston, US

Date: 27-Jun-23

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18 24
WorkOrder: HS23060739

Date Analyzed: 23-Jun-2023 22:01
Date Extracted: 21-Jun-2023 08:30
Units: ug/L

Lab Sample ID: HS23060757-08SD
Client Sample ID:

Analysis Method: SW6020A

Analyte	Sample Result	C	SD Result	C	RPD	Q
Aluminum	35.82		40.41	J	13	
Antimony	0	U	0	U	0	
Arsenic	319.5		309.6		3	
Barium	32.07		30.24		6	
Beryllium	0	U	0	U	0	
Cadmium	0	U	0	U	0	
Calcium	63820		63590		0	
Chromium	0	U	0	U	0	
Cobalt	0.374	J	0	U	0	
Copper	0	U	0	U	0	
Iron	950.9		975.1	J	3	
Lead	0	U	0	U	0	
Magnesium	3508		3692		5	
Manganese	137.1		135.2		1	
Nickel	0	U	0	U	0	
Potassium	2259		2219		2	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Sodium	7938		8175		3	
Thallium	0.799	J	0	U	0	
Vanadium	0	U	0	U	0	
Zinc	0	U	0	U	0	

Report Generated By Teledyne Leeman QuickTrace

Analyst: ALSHS.NoUser,

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\062323AW.wszf

Creation Date: 6/23/2023 10:48:55 AM

Comment:

Results

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
Calibration Blank					STD	06/23/23 11:50:14 am	0.000	76	13.30		
	Replicates	74.0	70.6	90.4	68.0						
Standard #1 (0.2 ppb)					STD	06/23/23 11:51:56 am	0.200	1348	1.64	3.03%	
	Replicates	1322.0	1341.1	1374.9	1352.5						
Standard #2 (0.5 ppb)					STD	06/23/23 11:53:38 am	0.500	3218	0.25	0.38%	
	Replicates	3211.4	3228.7	3218.7	3211.7						
Standard #3 (2.0 ppb)					STD	06/23/23 11:55:21 am	2.000	12529	0.19	-1.25%	
	Replicates	12495.1	12534.4	12549.2	12536.0						
Standard #4 (5.0 ppb)					STD	06/23/23 11:57:04 am	5.000	31527	0.26	-0.38%	
	Replicates	31407.1	31550.5	31586.9	31565.3						
Standard #5 (10.0 ppb)					STD	06/23/23 11:58:47 am	10.000	63436	0.15	0.29%	
	Replicates	63297.0	63475.1	63506.1	63465.7						

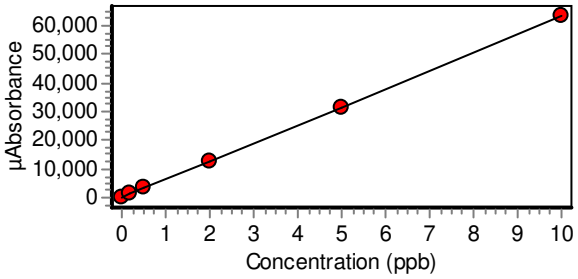
Calibration

Equation: Abs = 6320.444x + 45.268

R2: 0.99998 RSE: 1.92%

SEE: 138.2343

Flags:



ICCV					UNK	06/23/23 12:01:09 pm	4.960	31420	0.55		
	Replicates	31214.3	31352.5	31498.5	31614.3						
ICV					UNK	06/23/23 12:02:50 pm	4.900	31030	0.72		
	Replicates	30908.0	30780.4	31173.4	31256.6						
ICB					UNK	06/23/23 12:04:32 pm	0.005	75	49.74		
	Replicates	61.8	83.0	63.6	92.2						
CRA					UNK	06/23/23 12:06:14 pm	0.196	1282	1.93		
	Replicates	1253.1	1308.0	1274.4	1294.0						
CCV					UNK	06/23/23 12:08:49 pm	4.970	31430	0.14		
	Replicates	31368.4	31426.1	31461.9	31462.3						
CCB					UNK	06/23/23 12:10:33 pm	0.006	85	41.37		
	Replicates	74.2	70.1	106.3	90.7						
MBLK-196649					UNK	06/23/23 12:19:32 pm	0.006	83	9.73		
	Replicates	85.6	85.3	77.7	83.7						

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
LCS-196649				UNK	06/23/23 12:23:31 pm	4.740	30020	1.12		
Replicates	30502.5	30000.9	29802.5	29775.5						
MBLKT1-195238				UNK	06/23/23 12:25:13 pm	0.008	96	23.51		
Replicates	110.3	95.5	95.3	81.3						
MBLKT2-196504				UNK	06/23/23 12:26:56 pm	0.005	78	32.89		
Replicates	74.6	75.6	69.2	94.2						
MBLKT3-196457				UNK	06/23/23 12:28:38 pm	0.005	80	135.01		
Replicates	27.6	62.1	91.7	136.9						
MBLKT4-196582				UNK	06/23/23 12:30:21 pm	0.005	74	24.95		
Replicates	75.8	69.9	83.7	67.5						
MBLKT5-195168				UNK	06/23/23 12:32:04 pm	0.007	89	36.36		
Replicates	83.4	74.4	88.0	112.0						
HS23060631-01				UNK	06/23/23 12:33:47 pm	0.009	102	53.14		
Replicates	73.9	80.4	114.0	137.8						
HS23060633-01				UNK	06/23/23 12:35:28 pm	0.003	62	64.05		
Replicates	52.6	66.3	54.3	75.7						
HS23060680-01				UNK	06/23/23 12:37:10 pm	0.109	733	1.10		
Replicates	724.7	742.8	730.8	733.0						
CCV				UNK	06/23/23 12:43:30 pm	5.040	31876	0.68		
Replicates	31579.9	31853.1	32032.3	32038.5						
CCB				UNK	06/23/23 12:45:14 pm	0.002	57	60.51		
Replicates	62.1	56.6	47.0	61.6						
HS23061091-01				UNK	06/23/23 12:49:01 pm	0.016	146	32.47		
Replicates	176.0	160.5	146.5	100.3						
HS23061091-01MS				UNK	06/23/23 12:50:43 pm	5.030	31869	0.90		
Replicates	31971.0	31536.8	31761.2	32205.0						
HS23061091-01MSD				UNK	06/23/23 12:54:28 pm	4.580	28988	12.28		
Replicates	26714.6	26621.6	28448.4	34167.2						
HS23061121-01				UNK	06/23/23 12:56:10 pm	0.003	62	41.74		
Replicates	69.5	54.3	58.3	66.3						
HS23061122-01				UNK	06/23/23 12:57:52 pm	0.005	74	36.96		
Replicates	67.8	68.1	70.7	90.1						
HS23061123-01				UNK	06/23/23 12:59:35 pm	0.009	105	30.41		
Replicates	117.1	111.5	77.9	112.7						
HS23061195-01				UNK	06/23/23 01:01:17 pm	0.009	101	16.13		
Replicates	101.4	113.7	92.1	98.5						
HS23061210-01				UNK	06/23/23 01:03:00 pm	0.009	101	27.59		
Replicates	90.7	118.3	85.9	110.1						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS23061210-02					UNK	06/23/23 01:04:43 pm	0.013	130	8.11		
	Replicates	124.3	124.8	139.0	130.6						
HS23061210-03					UNK	06/23/23 01:06:26 pm	0.023	192	13.56		
	Replicates	205.8	195.5	204.3	163.1						
CCV					UNK	06/23/23 01:10:22 pm	5.140	32504	0.72		
	Replicates	32198.2	32461.6	32610.6	32746.2						
CCB					UNK	06/23/23 01:12:06 pm	0.001	52	87.92		
	Replicates	52.7	46.2	59.6	49.0						
HS23061210-04					UNK	06/23/23 01:16:58 pm	0.009	101	24.92		
	Replicates	98.9	103.5	84.3	118.1						
HS23061269-01					UNK	06/23/23 01:18:39 pm	0.002	60	58.84		
	Replicates	68.1	50.0	56.0	67.6						
HS23061325-01					UNK	06/23/23 01:20:21 pm	0.009	100	47.54		
	Replicates	80.2	76.1	115.3	129.1						
HS23061408-04					UNK	06/23/23 01:22:03 pm	0.007	89	24.30		
	Replicates	81.8	78.1	98.3	98.1						
HS23061408-08					UNK	06/23/23 01:23:45 pm	0.011	114	5.23		
	Replicates	112.4	113.3	119.1	110.9						
HS23061421-01					UNK	06/23/23 01:25:27 pm	0.010	108	22.87		
	Replicates	90.3	125.4	108.2	108.0						
MBLK-196667					UNK	06/23/23 01:27:09 pm	0.006	86	72.16		
	Replicates	75.2	50.6	99.8	117.8						
LCS-196667					UNK	06/23/23 01:28:52 pm	4.690	29657	0.38		
	Replicates	29581.9	29778.4	29724.8	29541.4						
LCSD-196667					UNK	06/23/23 01:30:34 pm	5.370	33995	1.36		
	Replicates	33489.7	34447.3	34321.5	33722.7						
LOQ-196667					UNK	06/23/23 01:32:17 pm	0.203	1326	0.77		
	Replicates	1333.0	1312.8	1325.0	1334.4						
CCV					UNK	06/23/23 01:34:01 pm	5.160	32643	0.60		
	Replicates	32397.2	32587.6	32748.0	32839.6						
CCB					UNK	06/23/23 01:35:44 pm	0.007	90	16.95		
	Replicates	91.5	96.9	91.1	79.1						
HS23060546-10					UNK	06/23/23 01:37:27 pm	0.015	138	11.79		
	Replicates	127.4	146.4	129.0	147.6						
HS23060894-01					UNK	06/23/23 01:39:10 pm	0.010	107	43.41		
	Replicates	94.5	86.2	101.8	146.4						
HS23061082-01					UNK	06/23/23 01:40:52 pm	0.004	73	151.90		
	Replicates	18.2	62.8	111.6	98.8						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
HS23061082-01MS					UNK	06/23/23 01:42:34 pm	4.890	30934	1.28		
Replicates	31162.0	31079.7	31150.3	30342.9							
HS23061082-01MSD					UNK	06/23/23 01:49:52 pm	4.210	26649	0.67		
Replicates	26727.7	26814.8	26654.8	26400.4							
HS23061082-02					UNK	06/23/23 01:51:34 pm	-0.002	32	68.48		
Replicates	22.4	35.8	42.8	28.2							
HS23061082-03					UNK	06/23/23 01:53:16 pm	0.049	353	1.74		
Replicates	347.0	359.9	351.3	352.3							
HS23061082-04					UNK	06/23/23 01:54:58 pm	0.010	107	18.79		
Replicates	98.7	98.2	108.0	123.0							
HS23061082-05					UNK	06/23/23 01:56:40 pm	0.006	81	70.83		
Replicates	58.2	59.8	101.6	103.6							
HS23061082-06					UNK	06/23/23 01:58:22 pm	0.028	224	10.34		
Replicates	202.5	232.3	216.5	244.9							
CCV					UNK	06/23/23 02:00:06 pm	5.090	32227	1.73		
Replicates	31480.3	32140.6	32551.6	32735.4							
CCB					UNK	06/23/23 02:01:50 pm	0.000	42	432.50		
Replicates	32.3	34.5	60.7	41.5							
HS23061082-07					UNK	06/23/23 02:05:33 pm	0.005	79	26.29		
Replicates	84.0	66.0	85.2	81.6							
HS23061082-08					UNK	06/23/23 02:07:15 pm	0.004	68	18.40		
Replicates	64.4	66.3	73.7	66.3							
HS23061082-09					UNK	06/23/23 02:08:58 pm	0.007	90	17.64		
Replicates	81.3	97.3	96.5	85.7							
MBLK-196674					UNK	06/23/23 02:10:41 pm	0.007	92	32.82		
Replicates	71.3	107.0	90.8	99.0							
LCS-196674					UNK	06/23/23 02:21:46 pm	5.050	31947	0.07		
Replicates	31915.1	31946.8	31955.6	31972.0							
HS23060739-01					UNK	06/23/23 02:23:28 pm	0.002	55	114.21		
Replicates	68.8	40.7	58.3	53.9							
HS23060739-01MS					UNK	06/23/23 02:25:10 pm	4.920	31164	1.21		
Replicates	30649.9	31120.7	31463.7	31422.5							
HS23060739-01MSD					UNK	06/23/23 02:29:00 pm	5.070	32075	0.26		
Replicates	32101.8	32164.3	32067.9	31963.9							
HS23060739-04					UNK	06/23/23 02:30:42 pm	0.004	69	18.80		
Replicates	74.7	63.6	70.0	69.4							
MBLK-196675					UNK	06/23/23 02:32:25 pm	0.006	81	19.19		
Replicates	77.2	90.7	75.9	78.9							

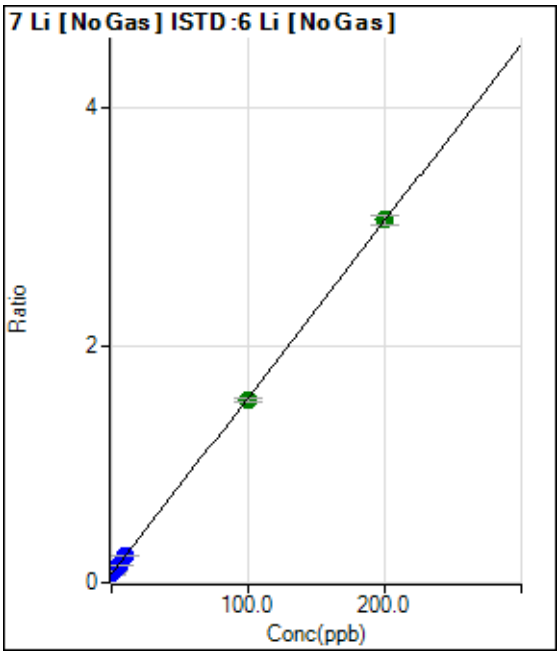
Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags
CCV				UNK	06/23/23 02:34:29 pm	5.040	31902	0.69		
	Replicates	31676.7	31813.4	31922.8	32196.0					
CCB				UNK	06/23/23 02:36:13 pm	-0.004	20	32.80		
	Replicates	14.1	11.1	25.3	28.3					
LCS-196675				UNK	06/23/23 02:37:56 pm	4.700	29750	1.37		
	Replicates	29196.1	29706.4	29969.4	30127.4					
HS23061192-01				UNK	06/23/23 02:39:38 pm	0.007	89	17.67		
	Replicates	95.5	82.9	82.3	96.7					
HS23061192-01MS				UNK	06/23/23 02:44:51 pm	4.630	29336	0.66		
	Replicates	29055.2	29371.5	29485.9	29431.9					
HS23061192-01MSD				UNK	06/23/23 02:50:29 pm	4.760	30119	0.81		
	Replicates	29768.4	30142.0	30301.0	30264.8					
MBLKT6-196630				UNK	06/23/23 02:52:12 pm	-0.007	1	30.21		
	Replicates	-19.4	9.6	5.2	7.2					
HS23061393-01				UNK	06/23/23 02:53:55 pm	0.006	86	24.11		
	Replicates	80.7	88.8	76.8	99.2					
HS23061454-01				UNK	06/23/23 02:55:37 pm	0.014	132	18.24		
	Replicates	152.2	138.1	119.9	119.1					
CCV				UNK	06/23/23 02:57:21 pm	5.100	32309	0.86		
	Replicates	31908.7	32339.0	32457.4	32532.0					
CCB				UNK	06/23/23 02:59:04 pm	0.004	74	37.32		
	Replicates	58.9	72.9	79.5	82.7					

Calibration for 198_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\062323A.b\
Analysis File: 062323A.batch.bin
DA Date-Time: 6/23/2023 11:59:58 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	186CALB.d	CAL BLK	6/23/2023 7:58:42 PM
2	187CALS.d	2/10/200	6/23/2023 8:00:33 PM
3	188CALS.d	5/25/500	6/23/2023 8:02:24 PM
4	189CALS.d	10/50/100	6/23/2023 8:04:15 PM
5	190CALS.d	100/500/10K	6/23/2023 8:06:05 PM
6	191CALS.d	200/1000/20K	6/23/2023 8:07:51 PM

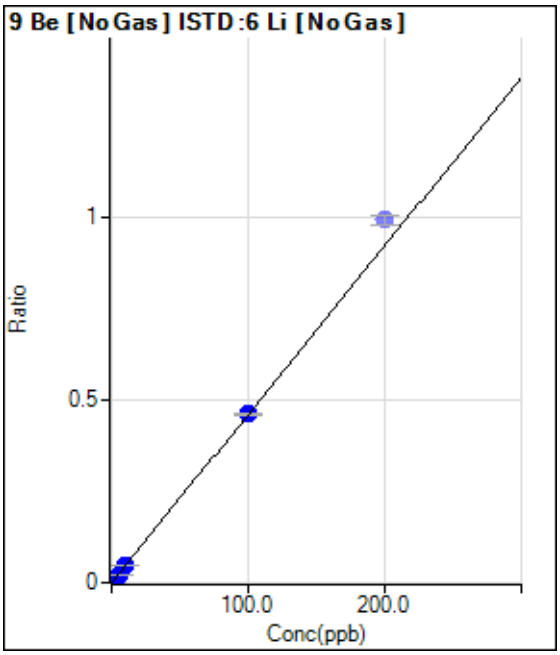
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53144.77	0.0731	P	3.1
2	☐	2.000	2.027	73240.70	0.1032	P	3.8
3	☐	5.000	4.990	104173.63	0.1474	P	2.2
4	☐	10.000	10.011	160246.06	0.2221	P	0.9
5	☐	100.000	98.707	1043329.07	1.5427	A	2.0
6	☐	200.000	200.646	1945309.71	3.0605	A	2.9

y = 0.0149 * x + 0.0731
R = 1.0000
DL = 0.4572
BEC = 4.907

Weight: <None>
Min Conc: <None>

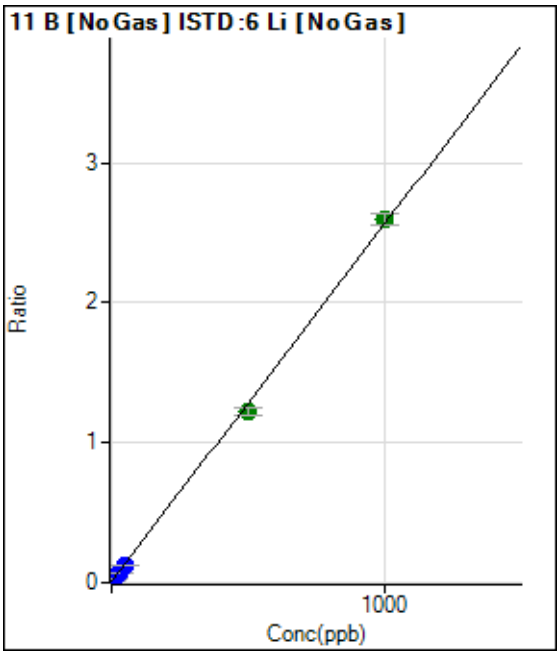


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28.33	0.0000	P	94.0
2	☐	2.000	1.956	6416.51	0.0090	P	4.5
3	☐	5.000	4.934	16094.26	0.0228	P	1.4
4	☐	10.000	9.876	32843.33	0.0455	P	1.5
5	☐	100.000	100.017	311604.41	0.4607	P	1.4
6	☑	200.000		631100.99	0.9929	P	2.8

y = 0.0046 * x + 3.8121E-005
R = 1.0000
DL = 0.02333
BEC = 0.008276

Weight: <None>
Min Conc: <None>

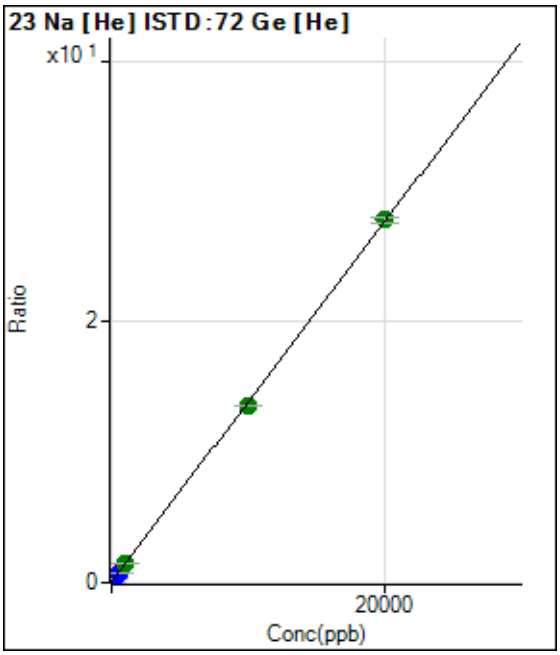
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5632.84	0.0077	P	2.3
2	☐	10.000	8.864	21546.59	0.0304	P	4.5
3	☐	25.000	23.214	47401.41	0.0670	P	0.9
4	☐	50.000	47.038	92273.96	0.1279	P	1.8
5	☐	500.000	476.887	829199.60	1.2262	A	4.6
6	☐	1000.000	1011.761	1647852.01	2.5928	A	3.0

y = 0.0026 * x + 0.0077
R = 0.9996
DL = 0.2104
BEC = 3.028

Weight: <None>
Min Conc: <None>

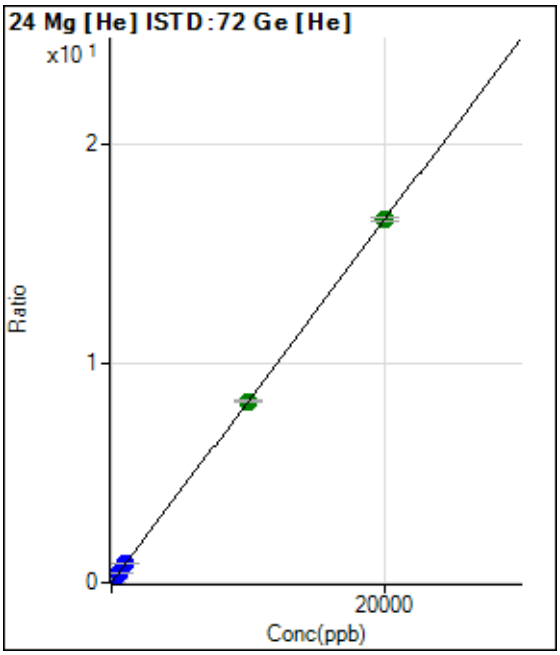


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44584.75	0.0647	P	0.4
2	☐	200.000	210.831	245378.38	0.3557	P	3.1
3	☐	500.000	507.597	525454.27	0.7653	P	0.4
4	☐	1000.000	1050.044	1030498.92	1.5140	A	3.2
5	☐	10000.000	9778.639	9096932.78	13.5615	A	0.7
6	☐	20000.000	20107.880	18566486.39	27.8182	A	1.3

y = 0.0014 * x + 0.0647
R = 0.9999
DL = 0.5619
BEC = 46.9

Weight: <None>
Min Conc: <None>

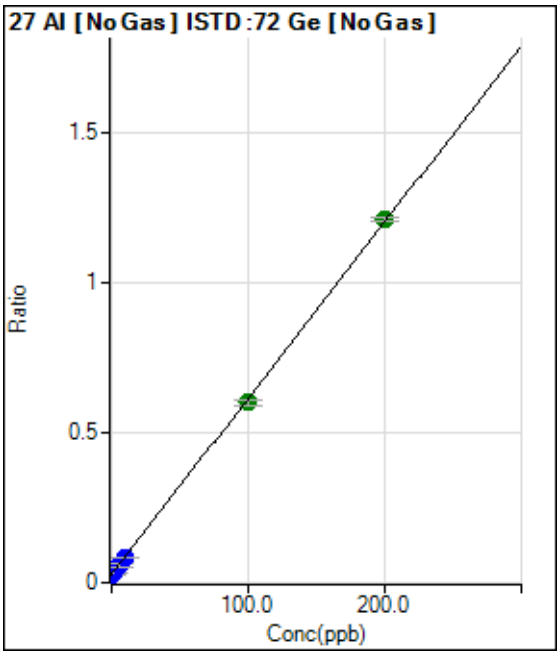
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	813.37	0.0012	P	3.6
2	☐	200.000	215.340	123977.08	0.1797	P	1.8
3	☐	500.000	520.428	297043.23	0.4327	P	0.9
4	☐	1000.000	1106.955	625491.50	0.9189	P	0.6
5	☐	10000.000	9996.172	5560511.79	8.2887	A	1.2
6	☐	20000.000	19995.902	11064307.34	16.5792	A	1.2

y = 8.2907E-004 * x + 0.0012
R = 1.0000
DL = 0.1559
BEC = 1.425

Weight: <None>
Min Conc: <None>

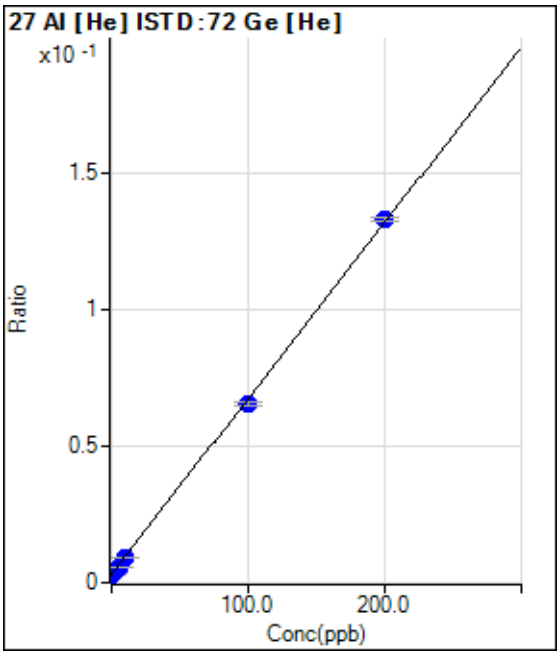


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63015.94	0.0277	P	4.6
2	☐	2.000	0.885	73624.33	0.0329	P	4.5
3	☐	5.000	5.311	132308.28	0.0589	P	18.0
4	☐	10.000	9.461	191479.34	0.0834	P	0.9
5	☐	100.000	97.454	1325303.05	0.6008	A	2.4
6	☐	200.000	201.303	2645316.84	1.2115	A	1.2

y = 0.0059 * x + 0.0277
R = 0.9999
DL = 0.644
BEC = 4.714

Weight: <None>
Min Conc: <None>

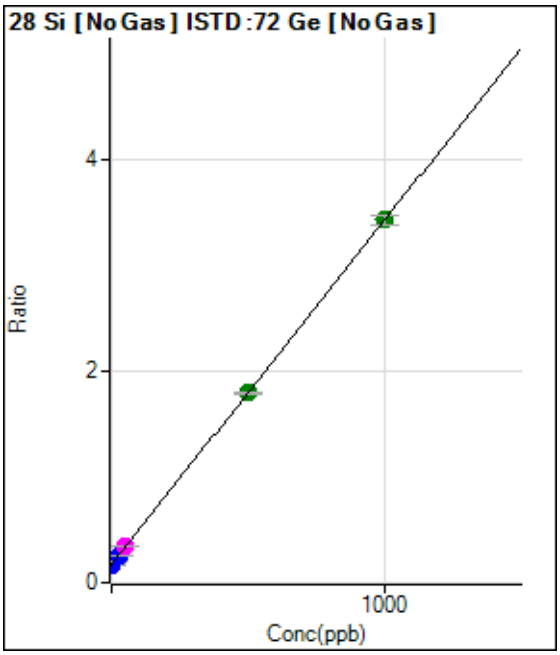
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2173.54	0.0032	P	4.0
2	☐	2.000	0.533	2413.59	0.0035	P	4.0
3	☐	5.000	3.797	3840.60	0.0056	P	2.9
4	☐	10.000	9.511	6304.86	0.0093	P	2.5
5	☐	100.000	96.812	43832.79	0.0653	P	1.4
6	☐	200.000	201.663	88553.96	0.1327	P	1.1

y = 6.4230E-004 * x + 0.0032
R = 0.9998
DL = 0.5865
BEC = 4.911

Weight: <None>
Min Conc: <None>

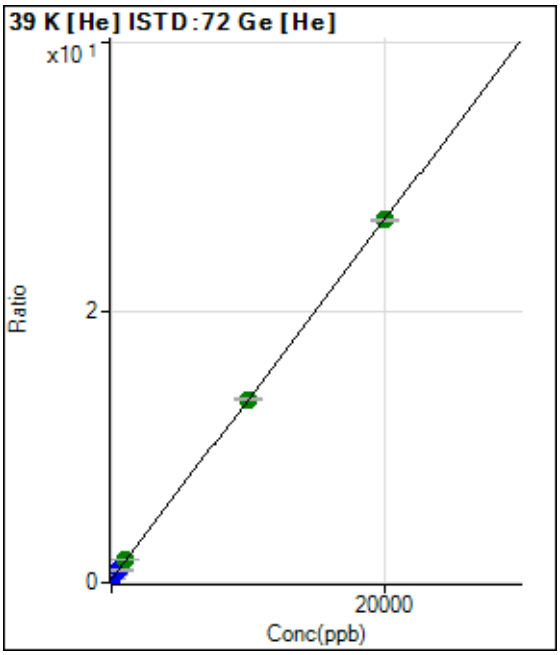


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	391549.89	0.1722	P	2.6
2	☐	10.000	11.610	469297.40	0.2099	P	2.4
3	☐	25.000	27.323	586002.88	0.2610	P	0.7
4	☐	50.000	53.589	795710.07	0.3464	M	1.6
5	☐	500.000	497.572	3948192.55	1.7896	A	1.6
6	☐	1000.000	1000.960	7480294.68	3.4260	A	2.5

y = 0.0033 * x + 0.1722
R = 1.0000
DL = 4.149
BEC = 52.97

Weight: <None>
Min Conc: <None>

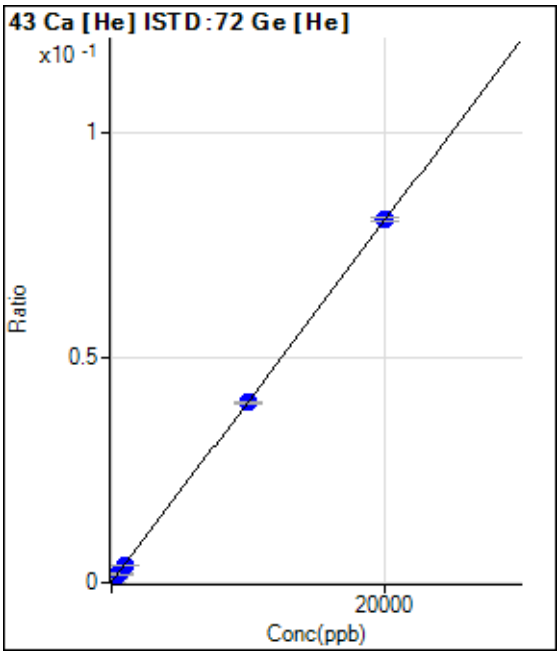
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	172015.96	0.2497	P	0.8
2	☐	200.000	207.332	362602.29	0.5256	P	1.7
3	☐	500.000	507.761	635309.21	0.9253	P	1.0
4	☐	1000.000	1078.274	1146458.27	1.6844	A	2.8
5	☐	10000.000	10007.048	9099583.62	13.5644	A	0.8
6	☐	20000.000	19992.295	17918947.65	26.8500	A	0.4

y = 0.0013 * x + 0.2497
R = 1.0000
DL = 4.524
BEC = 187.7

Weight: <None>
Min Conc: <None>

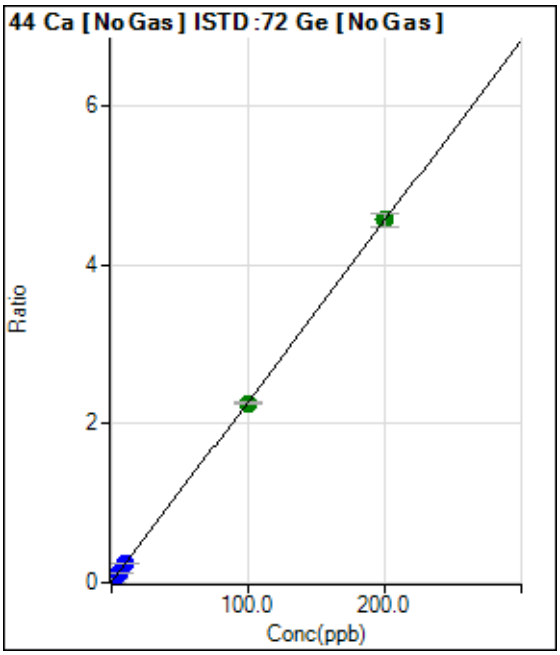


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	37.5
2	☐	200.000	195.247	603.36	0.0009	P	11.7
3	☐	500.000	487.527	1406.76	0.0020	P	16.6
4	☐	1000.000	965.975	2700.32	0.0040	P	2.8
5	☐	10000.000	9922.530	26756.27	0.0399	P	0.9
6	☐	20000.000	20040.795	53704.76	0.0805	P	1.1

y = 4.0107E-006 * x + 9.2167E-005
R = 1.0000
DL = 25.88
BEC = 22.98

Weight: <None>
Min Conc: <None>

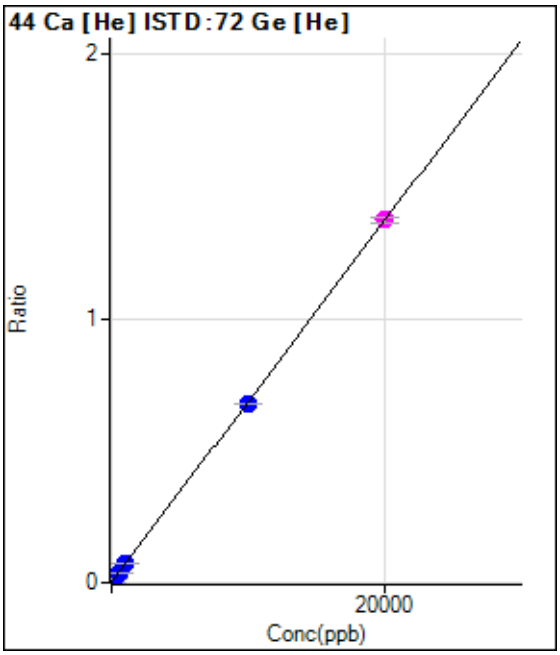
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17561.50	0.0077	P	3.4
2	☐	2.000	1.991	118321.74	0.0529	P	0.3
3	☐	5.000	5.172	280957.17	0.1252	P	2.0
4	☐	10.000	10.550	568031.81	0.2473	P	3.5
5	☐	100.000	98.835	4968424.72	2.2520	A	0.9
6	☐	200.000	200.551	9958115.06	4.5617	A	3.5

y = 0.0227 * x + 0.0077
R = 1.0000
DL = 0.03512
BEC = 0.3402

Weight: <None>
Min Conc: <None>

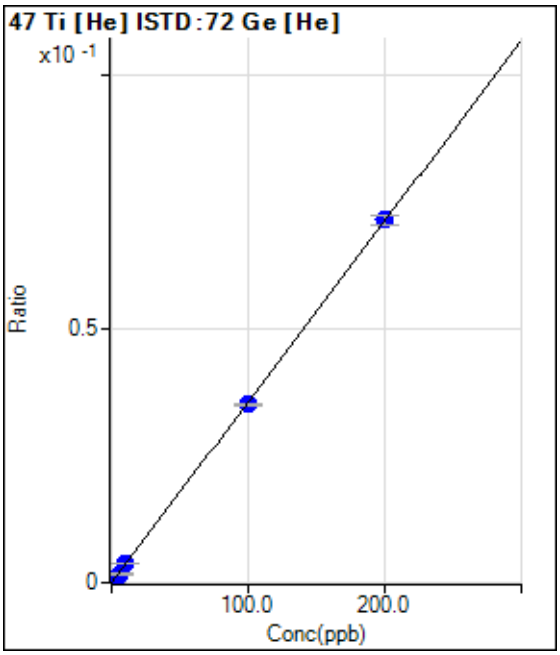


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1140.09	0.0017	P	10.5
2	☐	200.000	190.163	10120.54	0.0147	P	0.7
3	☐	500.000	467.217	23086.21	0.0336	P	2.6
4	☐	1000.000	1001.014	47759.98	0.0702	P	2.1
5	☐	10000.000	9898.291	455509.85	0.6790	P	0.4
6	☐	20000.000	20051.721	916865.06	1.3739	M	1.3

y = 6.8435E-005 * x + 0.0017
R = 1.0000
DL = 7.638
BEC = 24.17

Weight: <None>
Min Conc: <None>

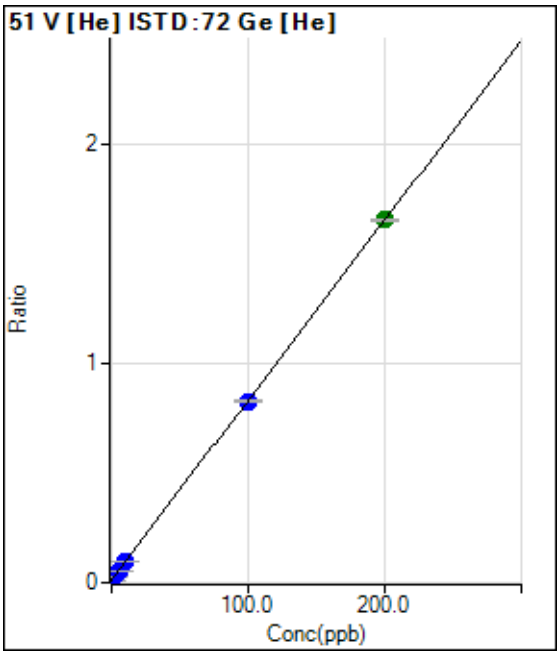
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.141	530.02	0.0008	P	5.6
3	☐	5.000	4.753	1166.74	0.0017	P	5.6
4	☐	10.000	10.523	2556.95	0.0038	P	1.5
5	☐	100.000	98.433	23543.84	0.0351	P	1.6
6	☐	200.000	200.762	47759.72	0.0716	P	2.8

y = 3.5648E-004 * x + 4.8934E-006
R = 0.9999
DL = 0.07133
BEC = 0.01373

Weight: <None>
Min Conc: <None>

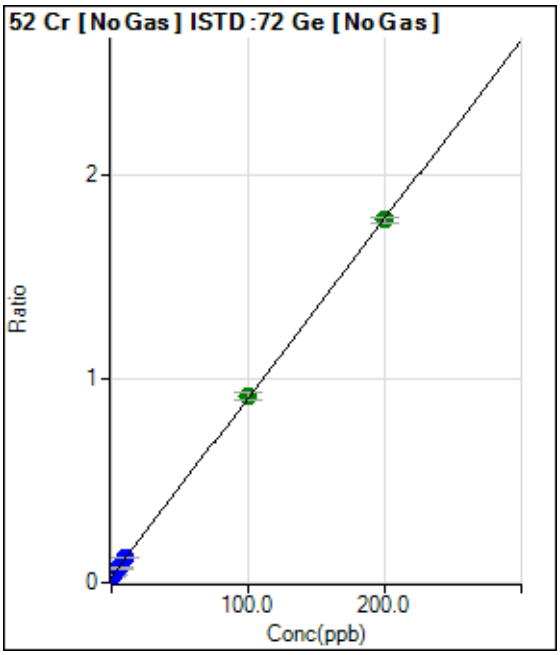


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8925.17	0.0130	P	2.9
2	☐	2.000	1.923	19839.93	0.0288	P	0.6
3	☐	5.000	4.732	35580.52	0.0518	P	0.9
4	☐	10.000	10.188	65774.53	0.0966	P	1.6
5	☐	100.000	99.381	556252.97	0.8292	P	0.7
6	☐	200.000	200.308	1106600.79	1.6582	A	0.8

y = 0.0082 * x + 0.0130
R = 1.0000
DL = 0.1381
BEC = 1.578

Weight: <None>
Min Conc: <None>

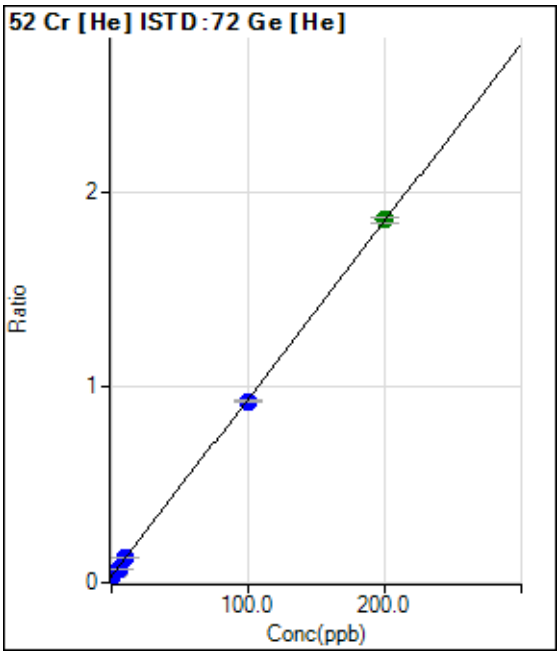
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67516.41	0.0297	P	2.2
2	☐	2.000	1.383	93487.96	0.0418	P	0.6
3	☐	5.000	4.700	159253.79	0.0709	P	0.9
4	☐	10.000	10.127	272340.92	0.1186	P	0.8
5	☐	100.000	101.005	2020405.18	0.9160	A	3.4
6	☐	200.000	199.505	3887110.36	1.7803	A	1.9

y = 0.0088 * x + 0.0297
R = 1.0000
DL = 0.2281
BEC = 3.384

Weight: <None>
Min Conc: <None>

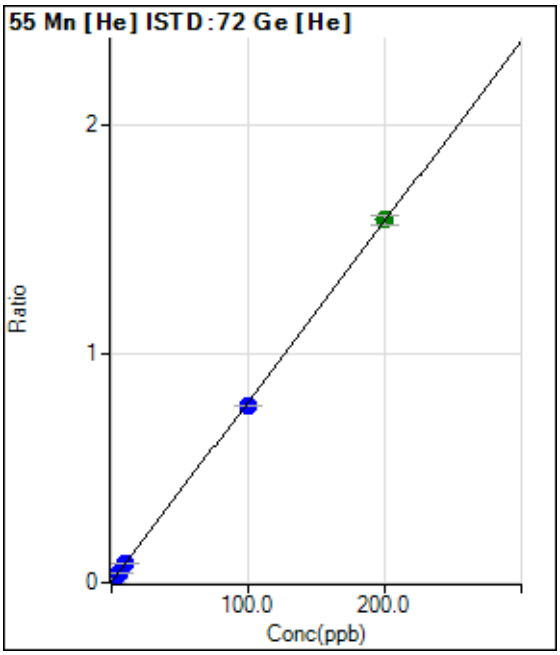


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22792.57	0.0331	P	1.6
2	☐	2.000	1.246	30641.25	0.0444	P	1.1
3	☐	5.000	4.190	48860.76	0.0712	P	0.2
4	☐	10.000	10.200	85613.27	0.1258	P	1.7
5	☐	100.000	98.575	623035.76	0.9288	P	0.5
6	☐	200.000	200.730	1239336.96	1.8570	A	1.5

y = 0.0091 * x + 0.0331
R = 1.0000
DL = 0.1752
BEC = 3.642

Weight: <None>
Min Conc: <None>

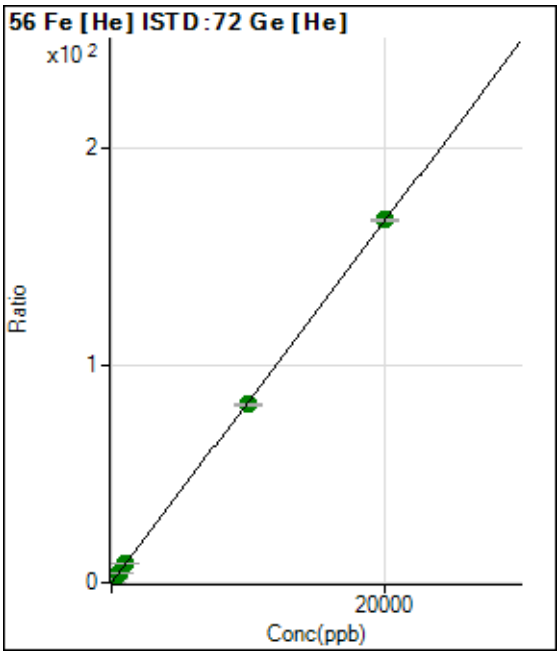
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1140.41	0.0017	P	39.6
2	☐	2.000	1.887	11411.60	0.0165	P	1.1
3	☐	5.000	4.760	26916.82	0.0392	P	1.4
4	☐	10.000	9.984	54729.47	0.0804	P	0.7
5	☐	100.000	98.156	520447.21	0.7758	P	0.5
6	☐	200.000	200.930	1058774.62	1.5864	A	2.5

y = 0.0079 * x + 0.0017
R = 0.9999
DL = 0.2497
BEC = 0.2104

Weight: <None>
Min Conc: <None>

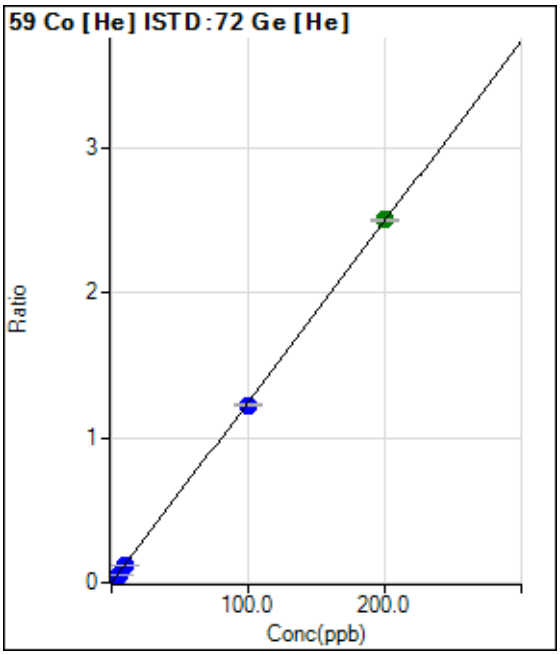


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34039.66	0.0494	P	3.4
2	☐	200.000	202.821	1198261.02	1.7372	A	5.0
3	☐	500.000	480.371	2778660.79	4.0470	A	1.3
4	☐	1000.000	1009.778	5753488.04	8.4525	A	0.6
5	☐	10000.000	9845.365	54990980.85	81.9800	A	0.7
6	☐	20000.000	20077.291	111534698.34	167.1275	A	0.8

y = 0.0083 * x + 0.0494
R = 1.0000
DL = 0.6126
BEC = 5.94

Weight: <None>
Min Conc: <None>

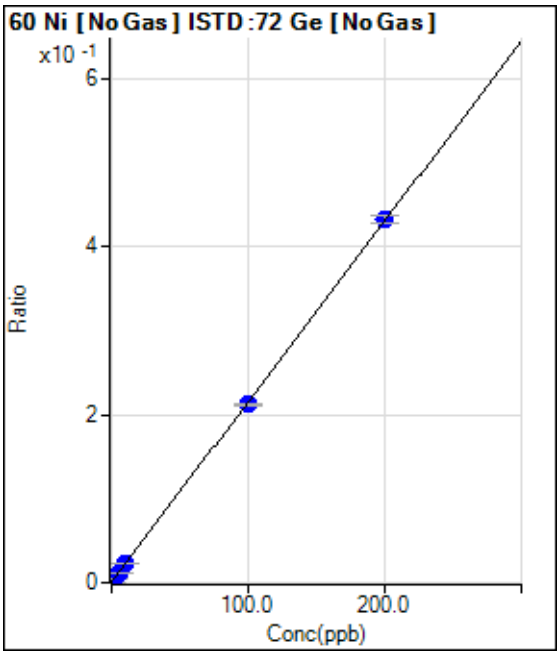
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180.01	0.0003	P	25.1
2	☐	2.000	1.969	17114.35	0.0248	P	5.7
3	☐	5.000	4.711	40523.92	0.0590	P	2.4
4	☐	10.000	10.021	85245.75	0.1252	P	0.8
5	☐	100.000	98.322	822679.39	1.2264	P	0.5
6	☐	200.000	200.845	1671795.08	2.5050	A	0.7

y = 0.0125 * x + 2.6177E-004
R = 1.0000
DL = 0.01579
BEC = 0.02099

Weight: <None>
Min Conc: <None>

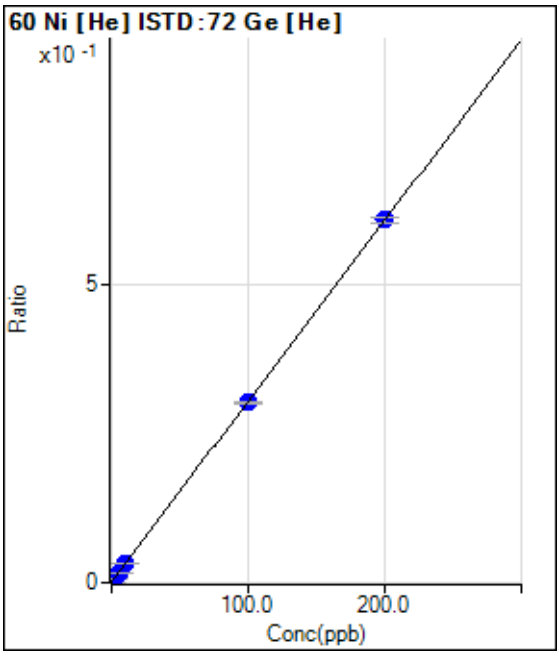


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2286.91	0.0010	P	5.3
2	☐	2.000	2.137	12495.94	0.0056	P	3.7
3	☐	5.000	5.152	27087.27	0.0121	P	1.0
4	☐	10.000	10.076	51985.93	0.0226	P	0.8
5	☐	100.000	98.605	469143.90	0.2126	P	1.0
6	☐	200.000	200.688	942663.79	0.4318	P	2.1

y = 0.0021 * x + 0.0010
R = 1.0000
DL = 0.07481
BEC = 0.468

Weight: <None>
Min Conc: <None>

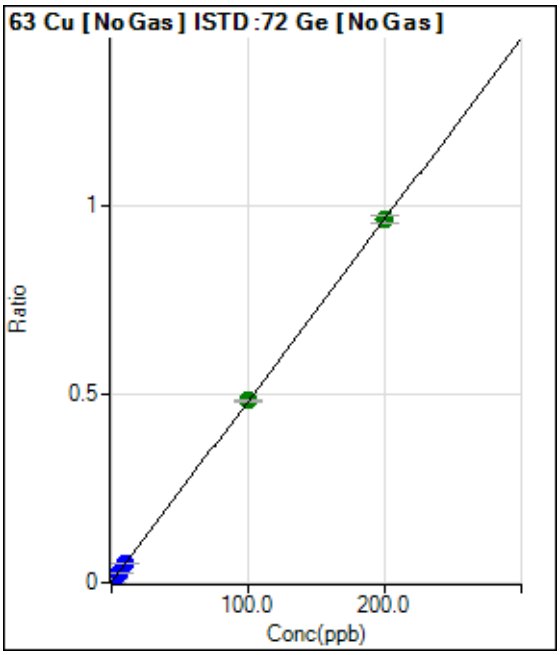
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	870.04	0.0013	P	17.9
2	☐	2.000	2.097	5257.79	0.0076	P	3.6
3	☐	5.000	4.941	11158.11	0.0162	P	3.4
4	☐	10.000	10.005	21513.98	0.0316	P	5.0
5	☐	100.000	99.207	202680.38	0.3021	P	0.7
6	☐	200.000	200.397	406413.66	0.6090	P	1.3

y = 0.0030 * x + 0.0013
R = 1.0000
DL = 0.2239
BEC = 0.4169

Weight: <None>
Min Conc: <None>

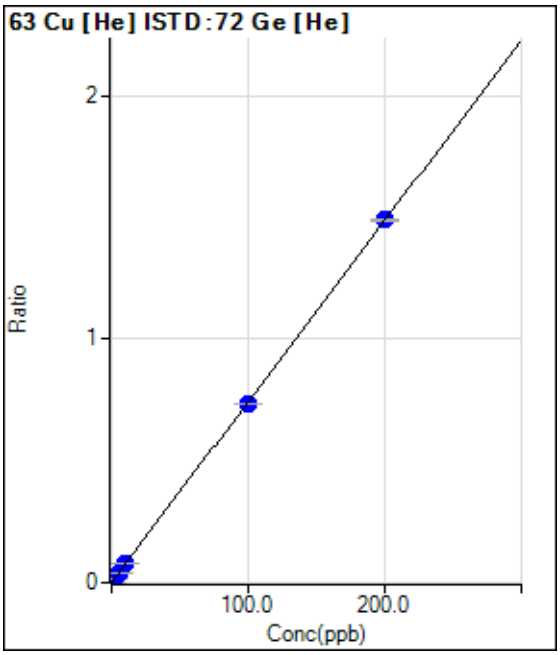


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1993.51	0.0009	P	9.2
2	☐	2.000	2.183	25410.72	0.0114	P	0.8
3	☐	5.000	5.159	57642.20	0.0257	P	2.6
4	☐	10.000	10.346	116260.12	0.0506	P	2.1
5	☐	100.000	100.204	1064657.72	0.4826	A	1.6
6	☐	200.000	199.875	2099828.93	0.9618	A	2.1

y = 0.0048 * x + 8.7521E-004
R = 1.0000
DL = 0.04998
BEC = 0.1821

Weight: <None>
Min Conc: <None>

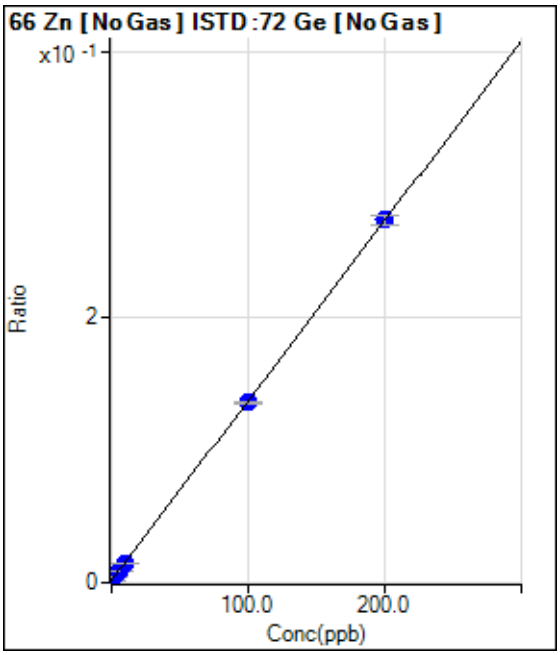
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	673.36	0.0010	P	9.9
2	☐	2.000	2.020	11014.64	0.0160	P	6.8
3	☐	5.000	4.871	25484.21	0.0371	P	1.7
4	☐	10.000	10.239	52377.62	0.0770	P	1.5
5	☐	100.000	98.707	491971.86	0.7334	P	0.3
6	☐	200.000	200.637	994178.00	1.4897	P	0.7

y = 0.0074 * x + 9.7746E-004
R = 1.0000
DL = 0.03926
BEC = 0.1317

Weight: <None>
Min Conc: <None>

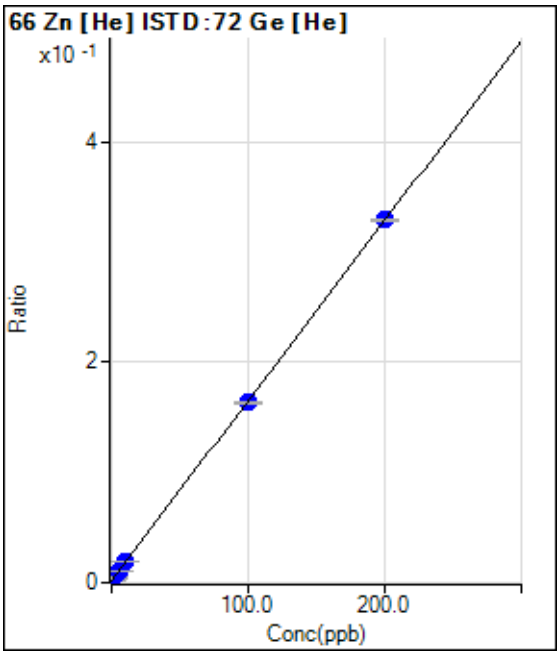


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3920.64	0.0017	P	3.4
2	☐	2.000	1.512	8422.76	0.0038	P	1.5
3	☐	5.000	4.983	19000.25	0.0085	P	1.3
4	☐	10.000	9.644	33916.02	0.0148	P	1.1
5	☐	100.000	98.859	298694.58	0.1354	P	1.9
6	☐	200.000	200.594	595934.47	0.2730	P	2.6

y = 0.0014 * x + 0.0017
R = 1.0000
DL = 0.129
BEC = 1.275

Weight: <None>
Min Conc: <None>

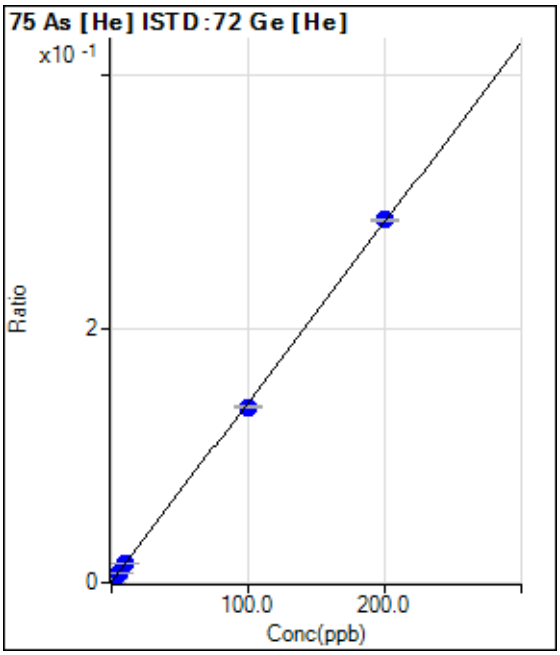
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1403.43	0.0020	P	1.6
2	☐	2.000	1.475	3063.74	0.0044	P	4.8
3	☐	5.000	4.835	6811.85	0.0099	P	5.0
4	☐	10.000	10.245	12759.57	0.0187	P	0.7
5	☐	100.000	98.869	109522.45	0.1633	P	0.6
6	☐	200.000	200.563	219631.28	0.3291	P	0.4

y = 0.0016 * x + 0.0020
R = 1.0000
DL = 0.05953
BEC = 1.249

Weight: <None>
Min Conc: <None>

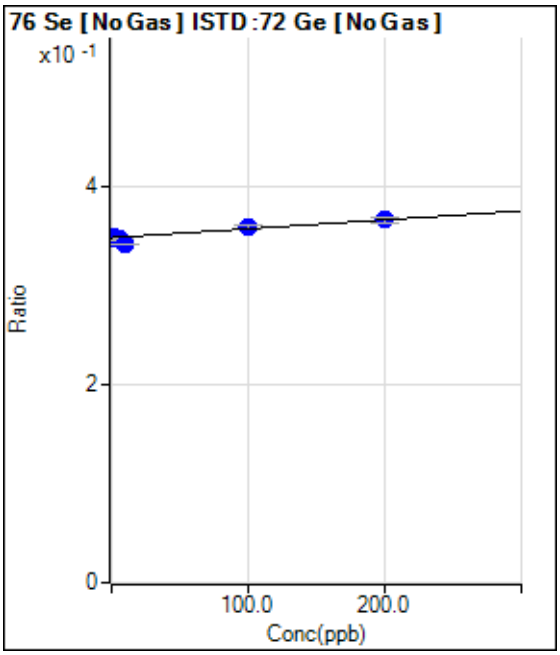


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	400.01	0.0006	P	8.4
2	☐	2.000	1.889	2245.76	0.0033	P	2.4
3	☐	5.000	4.625	4893.13	0.0071	P	4.1
4	☐	10.000	9.904	9937.03	0.0146	P	2.6
5	☐	100.000	97.312	92791.71	0.1383	P	1.1
6	☐	200.000	201.359	190617.36	0.2856	P	0.5

y = 0.0014 * x + 5.8042E-004
R = 0.9999
DL = 0.1038
BEC = 0.41

Weight: <None>
Min Conc: <None>

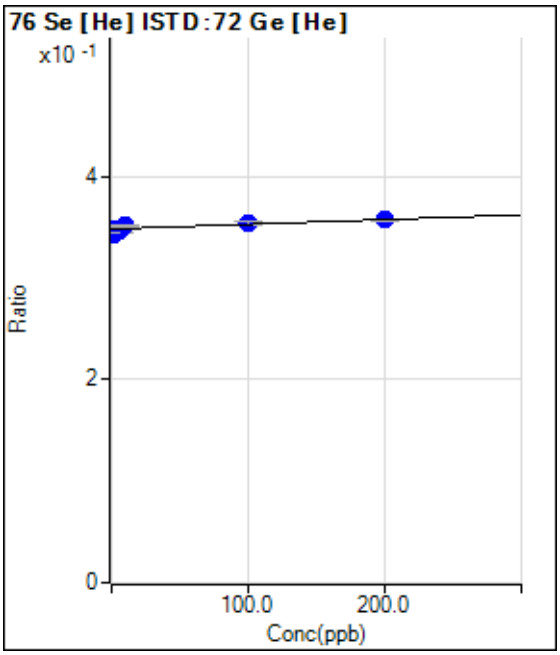
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	791894.80	0.3482	P	1.3
2	☐	2.000	2.204	778686.00	0.3484	P	1.3
3	☐	5.000	-14.599	778728.89	0.3469	P	0.6
4	☐	10.000	-73.839	784521.32	0.3415	P	0.4
5	☐	100.000	112.861	790657.10	0.3584	P	1.2
6	☐	200.000	198.249	799348.74	0.3661	P	1.9

y = 9.0363E-005 * x + 0.3482
R = 0.9430
DL = 147.2
BEC = 3853

Weight: <None>
Min Conc: <None>

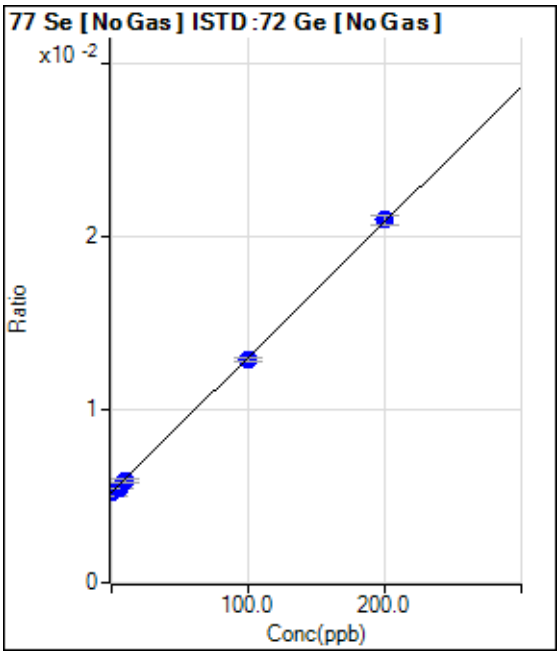


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	239986.44	0.3484	P	0.1
2	☐	2.000	-105.713	236974.40	0.3435	P	0.2
3	☐	5.000	-48.240	237662.30	0.3461	P	1.1
4	☐	10.000	67.959	239307.86	0.3516	P	0.4
5	☐	100.000	117.203	237383.62	0.3539	P	1.0
6	☐	200.000	190.909	238459.11	0.3573	P	0.8

y = 4.6663E-005 * x + 0.3484
R = 0.8573
DL = 22.43
BEC = 7466

Weight: <None>
Min Conc: <None>

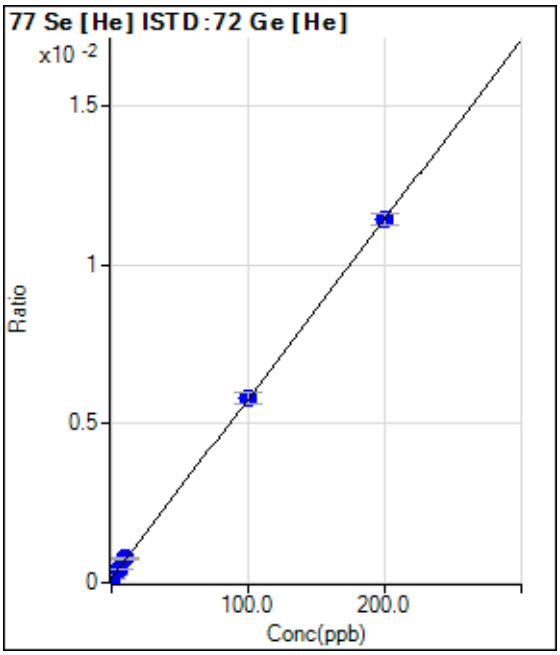
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11892.18	0.0052	P	9.3
2	☐	2.000	0.703	11812.08	0.0053	P	8.9
3	☐	5.000	2.669	12219.09	0.0054	P	1.0
4	☐	10.000	8.345	13520.39	0.0059	P	3.6
5	☐	100.000	97.777	28393.50	0.0129	P	1.8
6	☐	200.000	201.266	45741.16	0.0210	P	3.0

y = 7.8102E-005 * x + 0.0052
R = 0.9999
DL = 18.65
BEC = 67.01

Weight: <None>
Min Conc: <None>

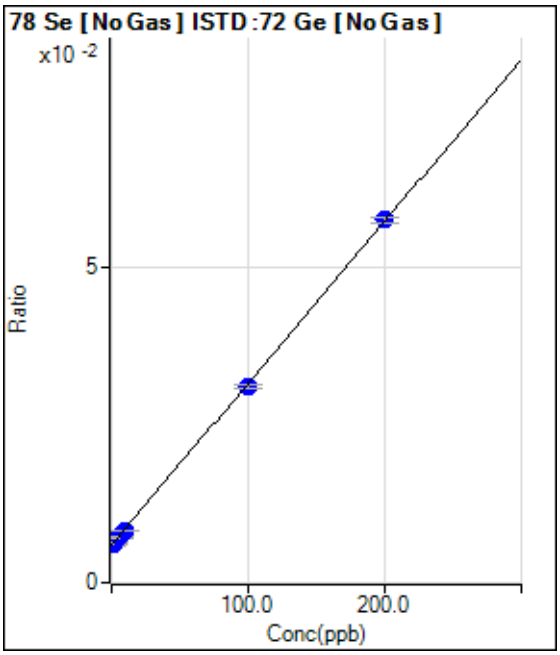


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0001	P	21.7
2	☐	2.000	2.554	193.34	0.0003	P	30.5
3	☐	5.000	4.826	280.01	0.0004	P	3.0
4	☐	10.000	11.040	516.69	0.0008	P	11.4
5	☐	100.000	100.499	3897.31	0.0058	P	6.5
6	☐	200.000	199.698	7615.60	0.0114	P	3.2

y = 5.6457E-005 * x + 1.3535E-004
R = 1.0000
DL = 1.559
BEC = 2.397

Weight: <None>
Min Conc: <None>

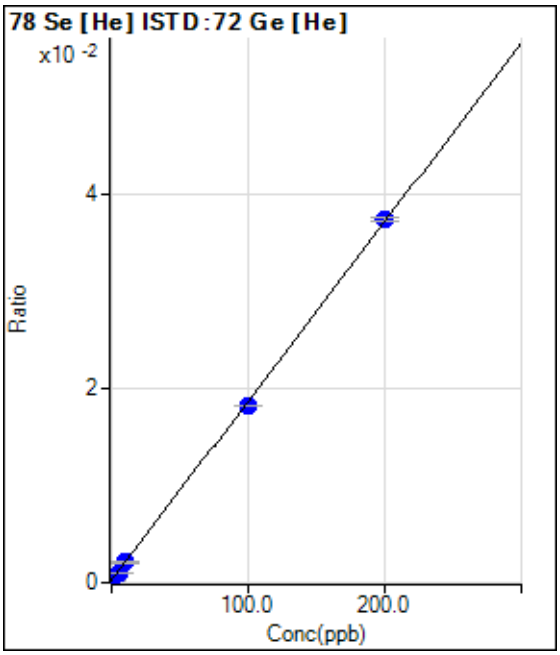
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13610.38	0.0060	P	4.9
2	☐	2.000	0.878	13877.35	0.0062	P	7.0
3	☐	5.000	5.047	16336.80	0.0073	P	4.1
4	☐	10.000	9.090	19103.83	0.0083	P	1.4
5	☐	100.000	98.172	68691.34	0.0311	P	1.7
6	☐	200.000	200.969	125493.75	0.0575	P	1.3

y = 2.5619E-004 * x + 0.0060
R = 0.9999
DL = 3.451
BEC = 23.37

Weight: <None>
Min Conc: <None>

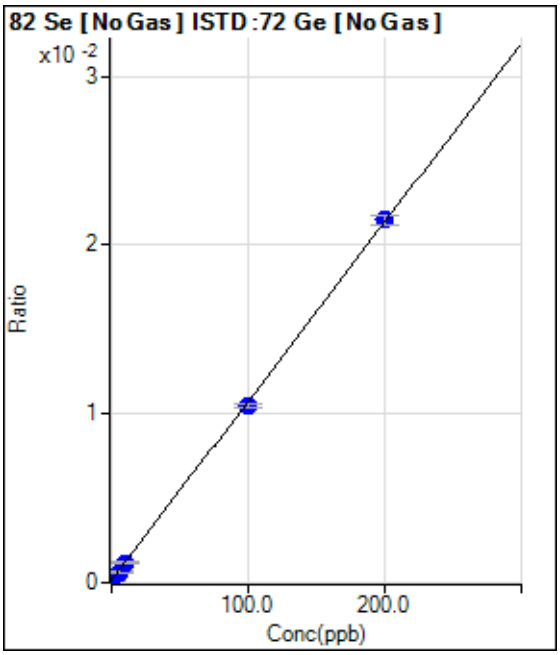


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	175.33	0.0003	P	15.1
2	☐	2.000	2.055	437.34	0.0006	P	8.3
3	☐	5.000	4.283	718.02	0.0010	P	8.2
4	☐	10.000	10.332	1471.42	0.0022	P	9.0
5	☐	100.000	97.590	12257.59	0.0183	P	0.6
6	☐	200.000	201.206	24963.02	0.0374	P	1.1

y = 1.8464E-004 * x + 2.5482E-004
R = 0.9999
DL = 0.6251
BEC = 1.38

Weight: <None>
Min Conc: <None>

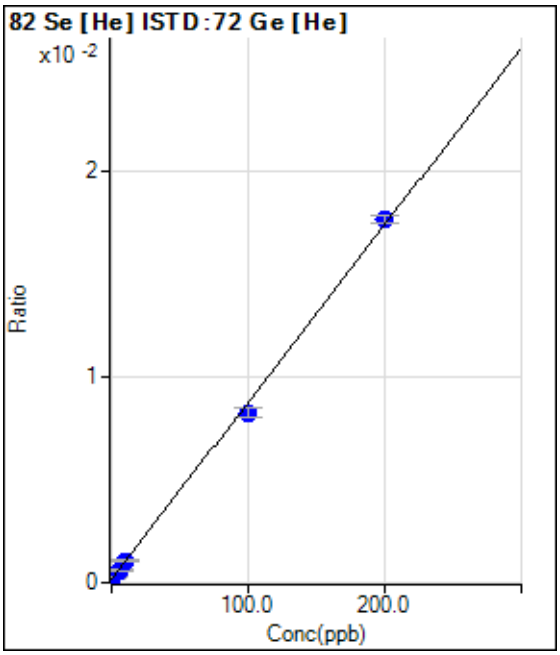
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	328.94	0.0001	P	25.0
2	☐	2.000	1.842	758.66	0.0003	P	13.4
3	☐	5.000	4.485	1392.16	0.0006	P	9.0
4	☐	10.000	9.847	2729.03	0.0012	P	7.9
5	☐	100.000	97.261	23065.87	0.0105	P	2.2
6	☐	200.000	201.392	46928.38	0.0215	P	2.9

y = 1.0602E-004 * x + 1.4435E-004
R = 0.9999
DL = 1.02
BEC = 1.362

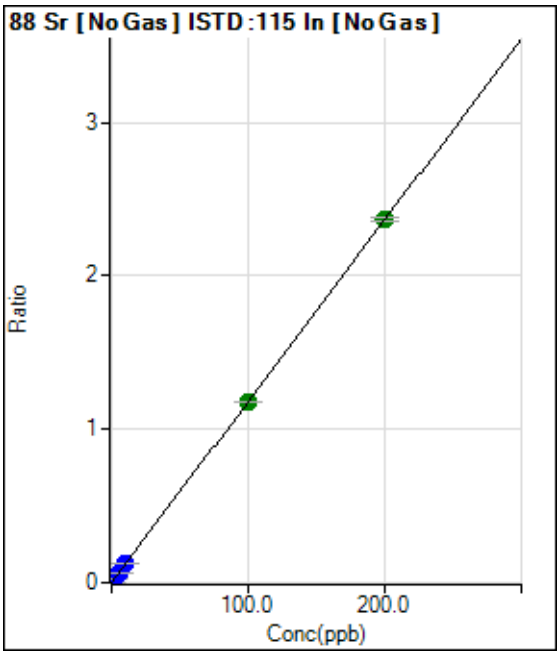
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0002	P	13.8
2	☐	2.000	2.068	236.67	0.0003	P	31.0
3	☐	5.000	4.924	403.35	0.0006	P	7.5
4	☐	10.000	10.462	723.37	0.0011	P	6.1
5	☐	100.000	94.065	5527.90	0.0082	P	4.9
6	☐	200.000	202.945	11742.00	0.0176	P	2.2

y = 8.5880E-005 * x + 1.6460E-004
R = 0.9994
DL = 0.7937
BEC = 1.917

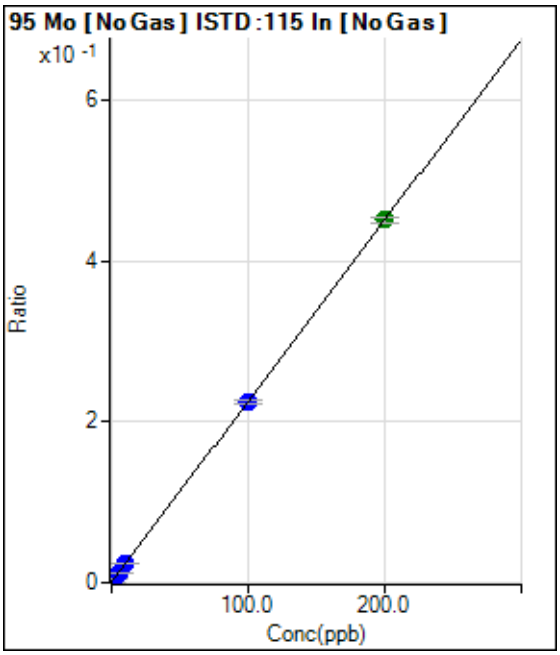
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2523.62	0.0009	P	2.0
2	☐	2.000	1.981	68404.43	0.0243	P	1.8
3	☐	5.000	4.989	166815.55	0.0598	P	1.5
4	☐	10.000	10.227	340668.89	0.1216	P	0.9
5	☐	100.000	99.580	3206866.20	1.1762	A	0.2
6	☐	200.000	200.199	6374754.49	2.3639	A	1.2

y = 0.0118 * x + 8.9061E-004
R = 1.0000
DL = 0.004473
BEC = 0.07546

Weight: <None>
Min Conc: <None>

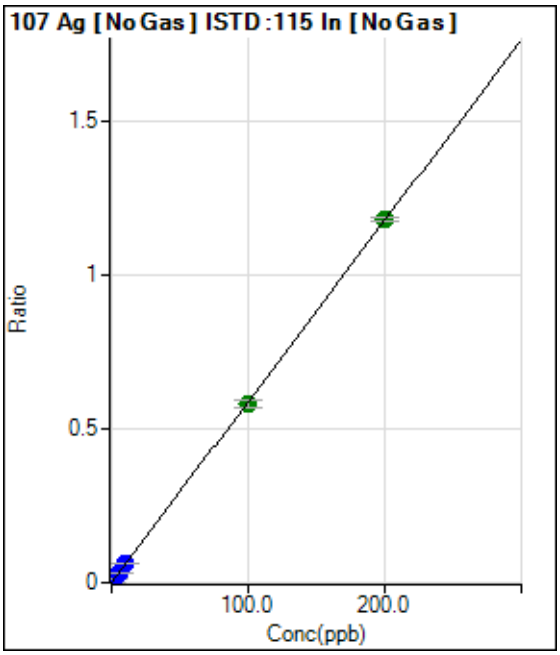


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1633.92	0.0006	P	45.4
2	☐	2.000	1.960	14077.66	0.0050	P	2.7
3	☐	5.000	4.894	32384.82	0.0116	P	4.6
4	☐	10.000	10.123	65533.89	0.0234	P	3.2
5	☐	100.000	99.435	612300.63	0.2246	P	2.1
6	☐	200.000	200.279	1218668.08	0.4519	A	1.6

y = 0.0023 * x + 5.7901E-004
R = 1.0000
DL = 0.35
BEC = 0.257

Weight: <None>
Min Conc: <None>

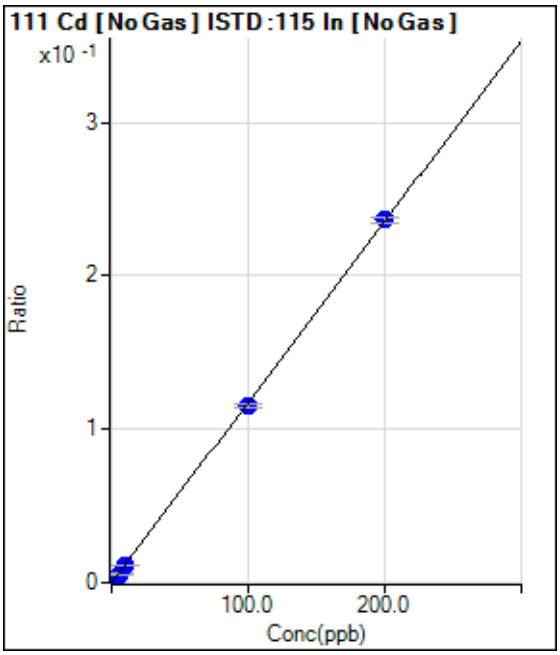
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	323.34	0.0001	P	14.0
2	☐	2.000	2.127	35494.67	0.0126	P	1.7
3	☐	5.000	5.198	85438.03	0.0306	P	0.9
4	☐	10.000	10.415	171523.55	0.0612	P	1.4
5	☐	100.000	98.871	1581425.18	0.5802	A	4.0
6	☐	200.000	200.537	3173506.10	1.1768	A	1.0

y = 0.0059 * x + 1.1425E-004
R = 1.0000
DL = 0.008176
BEC = 0.01947

Weight: <None>
Min Conc: <None>

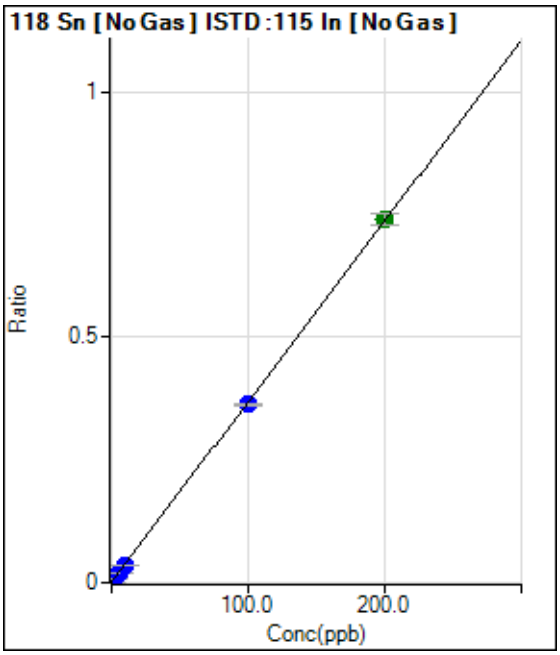


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-11.95	0.0000	P	-89.9
2	☐	2.000	1.902	6291.76	0.0022	P	2.0
3	☐	5.000	4.763	15626.03	0.0056	P	2.3
4	☐	10.000	9.718	32021.17	0.0114	P	0.9
5	☐	100.000	97.996	314287.05	0.1153	P	1.3
6	☐	200.000	201.023	637792.42	0.2365	P	1.4

y = 0.0012 * x - 4.2512E-006
R = 0.9999
DL = 0.009742
BEC = -0.003613

Weight: <None>
Min Conc: <None>

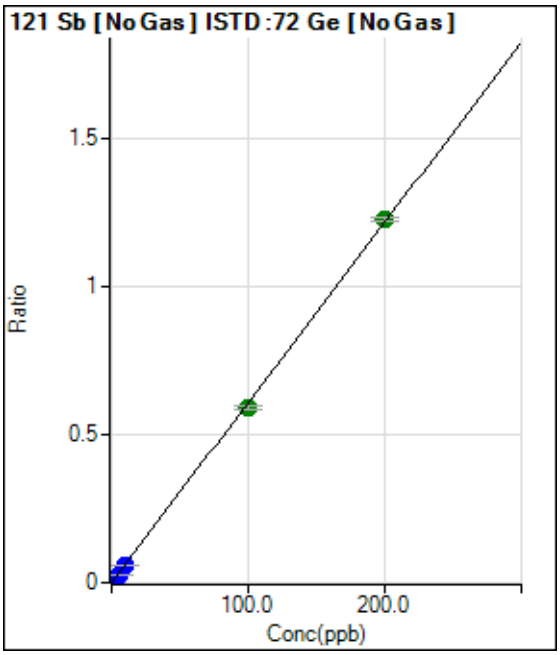
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2091.05	0.0007	P	31.0
2	☐	2.000	1.801	20763.31	0.0074	P	2.4
3	☐	5.000	4.777	51143.16	0.0183	P	0.0
4	☐	10.000	9.724	102359.80	0.0365	P	0.2
5	☐	100.000	98.647	991872.75	0.3639	P	1.1
6	☐	200.000	200.698	1993857.52	0.7395	A	3.2

y = 0.0037 * x + 7.3992E-004
R = 1.0000
DL = 0.1869
BEC = 0.201

Weight: <None>
Min Conc: <None>

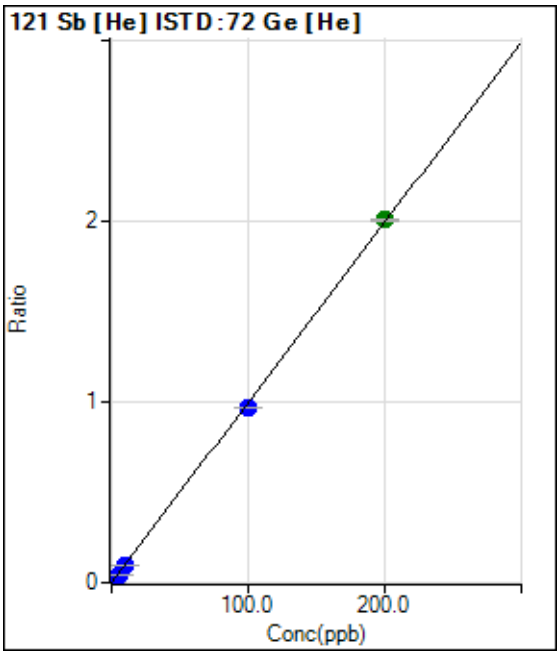


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	193.34	0.0001	P	7.7
2	☐	2.000	1.907	26133.07	0.0117	P	2.3
3	☐	5.000	4.644	63650.98	0.0283	P	0.6
4	☐	10.000	9.712	135969.59	0.0592	P	0.8
5	☐	100.000	97.058	1303297.38	0.5908	A	1.6
6	☐	200.000	201.495	2677881.00	1.2264	A	1.2

y = 0.0061 * x + 8.5002E-005
R = 0.9999
DL = 0.00321
BEC = 0.01397

Weight: <None>
Min Conc: <None>

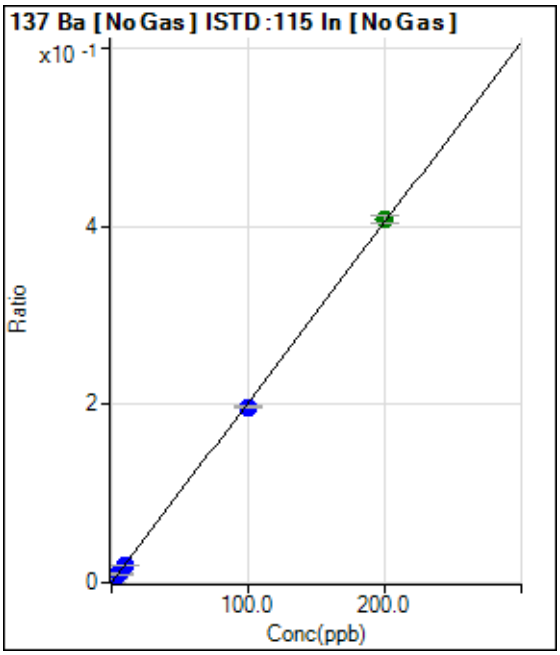
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	46.1
2	☐	2.000	1.854	12846.49	0.0186	P	1.6
3	☐	5.000	4.402	30241.91	0.0441	P	2.0
4	☐	10.000	9.569	65077.79	0.0956	P	2.2
5	☐	100.000	97.218	650956.20	0.9704	P	0.3
6	☐	200.000	201.429	1341782.69	2.0105	A	0.7

y = 0.0100 * x + 1.1652E-004
R = 0.9999
DL = 0.01616
BEC = 0.01168

Weight: <None>
Min Conc: <None>

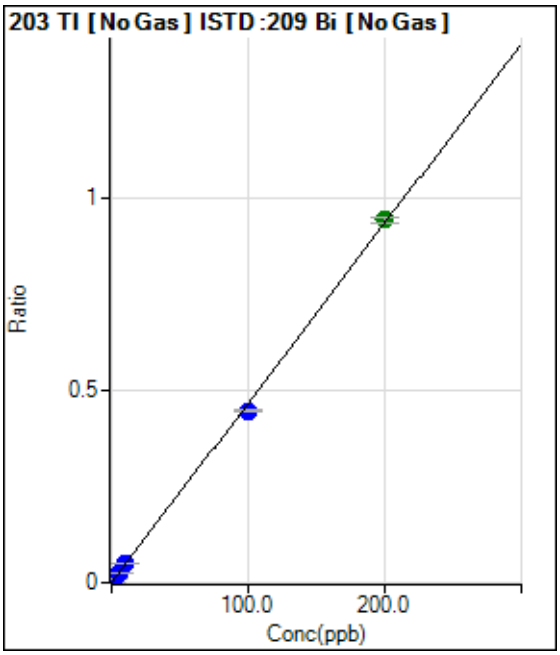


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	813.37	0.0003	P	12.6
2	☐	2.000	1.854	11368.50	0.0040	P	2.1
3	☐	5.000	4.714	27395.92	0.0098	P	2.6
4	☐	10.000	9.764	56101.53	0.0200	P	0.6
5	☐	100.000	97.264	536757.77	0.1969	P	1.2
6	☐	200.000	201.388	1098493.29	0.4074	A	2.2

y = 0.0020 * x + 2.8690E-004
R = 0.9999
DL = 0.05367
BEC = 0.1419

Weight: <None>
Min Conc: <None>

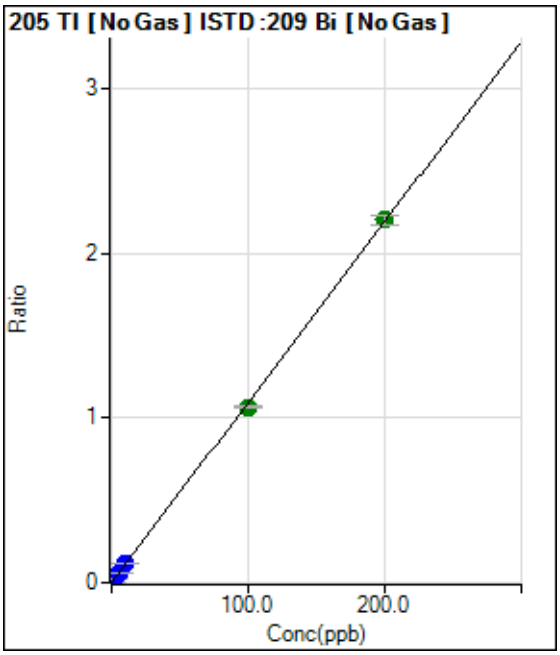
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0000	P	31.6
2	☐	2.000	2.130	23111.64	0.0100	P	1.5
3	☐	5.000	5.265	56993.28	0.0247	P	1.9
4	☐	10.000	10.711	116435.90	0.0501	P	1.7
5	☐	100.000	95.809	1019163.73	0.4482	P	0.2
6	☐	200.000	202.052	2101805.44	0.9451	A	1.8

y = 0.0047 * x + 4.1592E-005
R = 0.9997
DL = 0.008419
BEC = 0.008892

Weight: <None>
Min Conc: <None>

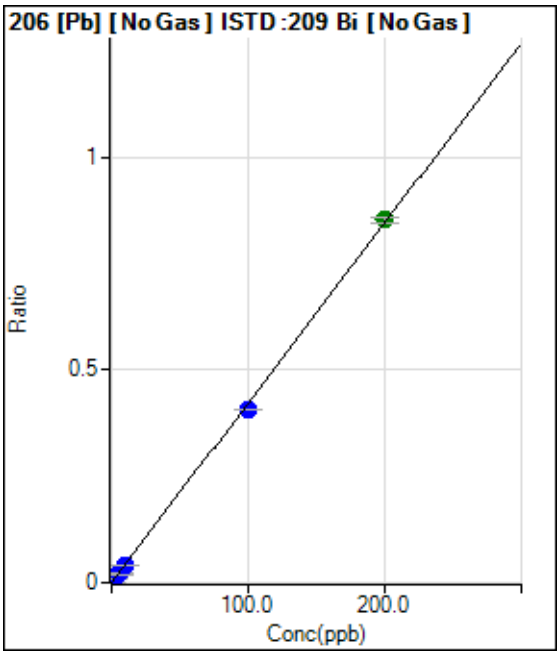


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	220.01	0.0001	P	20.9
2	☐	2.000	2.150	54656.69	0.0237	P	3.4
3	☐	5.000	5.360	136006.29	0.0589	P	0.7
4	☐	10.000	11.066	281979.23	0.1214	P	1.2
5	☐	100.000	97.473	2430415.74	1.0688	A	1.4
6	☐	200.000	201.200	4904957.11	2.2061	A	2.6

y = 0.0110 * x + 9.4649E-005
R = 0.9999
DL = 0.005415
BEC = 0.008633

Weight: <None>
Min Conc: <None>

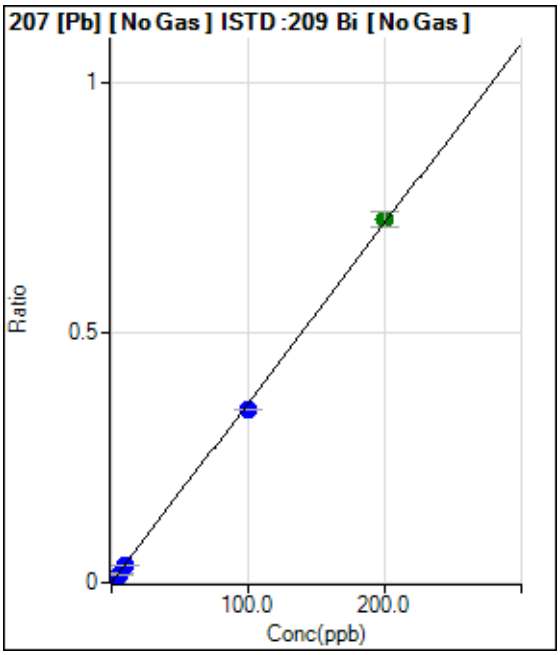
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0001	P	11.8
2	☐	2.000	1.946	19241.79	0.0083	P	1.8
3	☐	5.000	4.792	47055.98	0.0204	P	1.9
4	☐	10.000	9.934	97778.42	0.0421	P	1.6
5	☐	100.000	96.434	927477.46	0.4079	P	0.1
6	☐	200.000	201.792	1897662.11	0.8534	A	1.5

y = 0.0042 * x + 1.0048E-004
R = 0.9998
DL = 0.00839
BEC = 0.02376

Weight: <None>
Min Conc: <None>

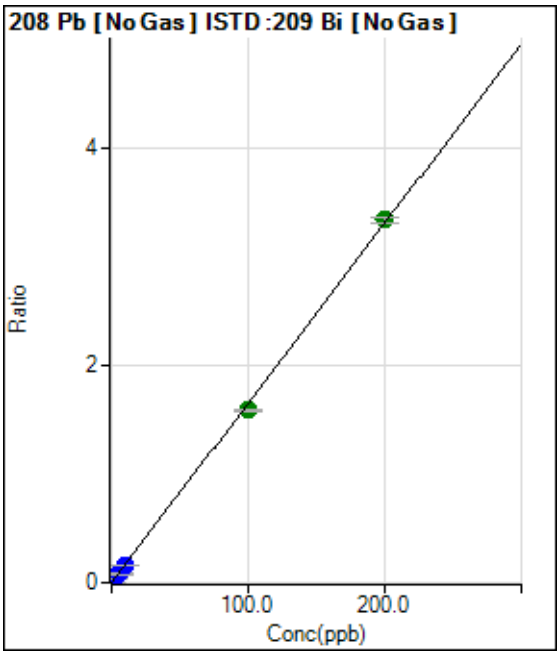


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0001	P	18.9
2	☐	2.000	1.941	16344.28	0.0071	P	1.7
3	☐	5.000	4.771	39840.66	0.0172	P	2.0
4	☐	10.000	9.819	82176.45	0.0354	P	2.3
5	☐	100.000	96.199	786442.49	0.3458	P	0.8
6	☐	200.000	201.916	1613459.45	0.7258	A	4.1

y = 0.0036 * x + 9.8812E-005
R = 0.9997
DL = 0.01562
BEC = 0.02749

Weight: <None>
Min Conc: <None>

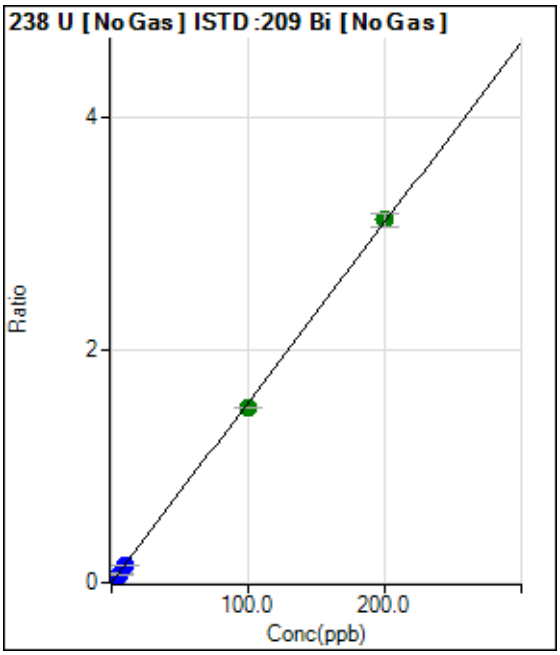
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.72	0.0005	P	9.4
2	☐	2.000	1.941	75342.95	0.0326	P	2.1
3	☐	5.000	4.799	184695.53	0.0799	P	0.6
4	☐	10.000	9.871	380557.71	0.1639	P	1.3
5	☐	100.000	95.934	3612126.95	1.5885	A	0.3
6	☐	200.000	202.045	7438280.04	3.3449	A	1.5

y = 0.0166 * x + 4.9269E-004
R = 0.9997
DL = 0.008423
BEC = 0.02976

Weight: <None>
Min Conc: <None>

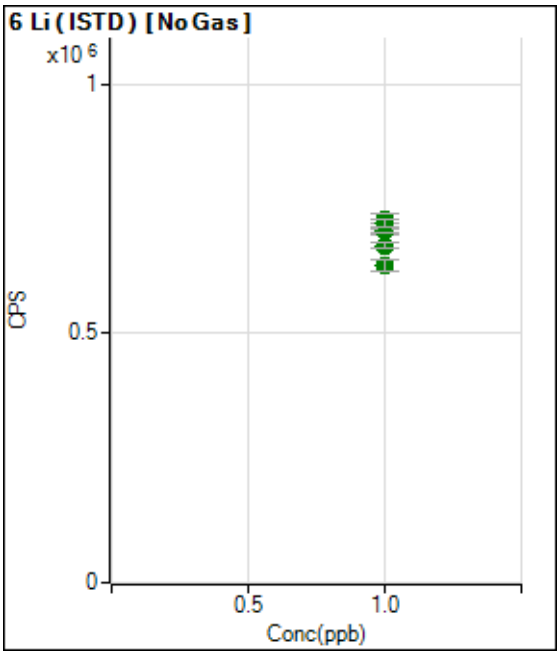


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	88.6
2	☐	2.000	1.933	69021.01	0.0299	P	3.0
3	☐	5.000	4.785	170828.61	0.0739	P	1.4
4	☐	10.000	9.901	355335.59	0.1530	P	1.0
5	☐	100.000	97.230	3416511.20	1.5025	A	0.6
6	☐	200.000	201.396	6918674.27	3.1121	A	3.5

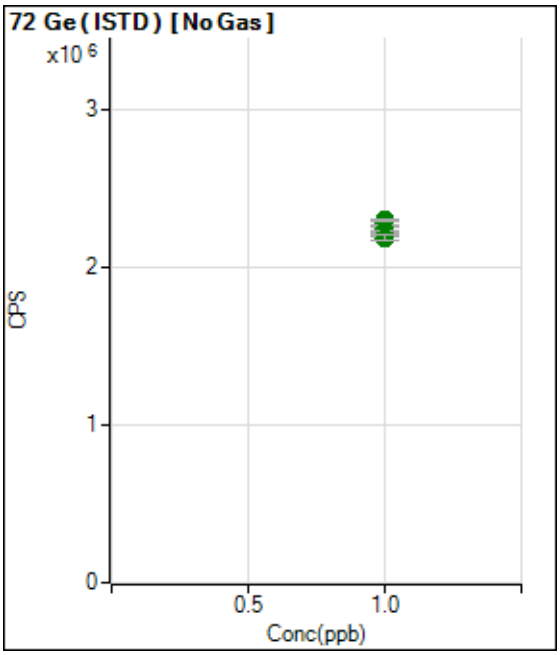
y = 0.0155 * x + 1.0034E-005
R = 0.9999
DL = 0.001726
BEC = 0.0006494

Weight: <None>
Min Conc: <None>

Calibration for 198_ICV.d

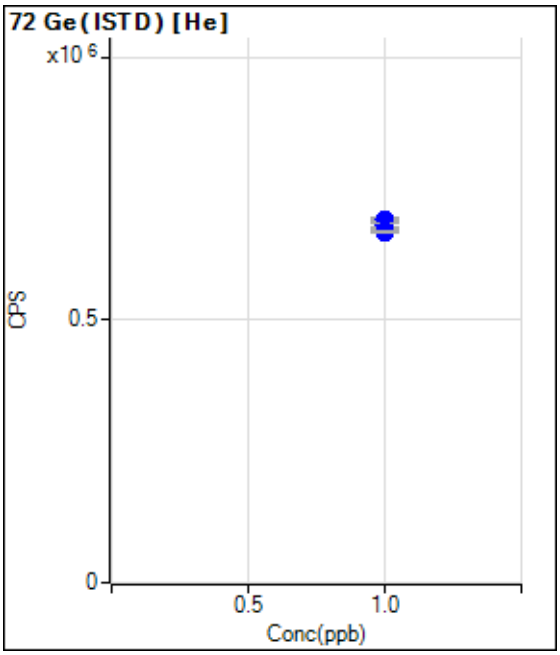


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		727883.56		A	3.5
2	☐	1.000		709827.00		A	3.4
3	☐	1.000		707027.76		A	1.3
4	☐	1.000		721497.40		A	1.9
5	☐	1.000		676463.76		A	2.0
6	☐	1.000		635990.01		A	3.4

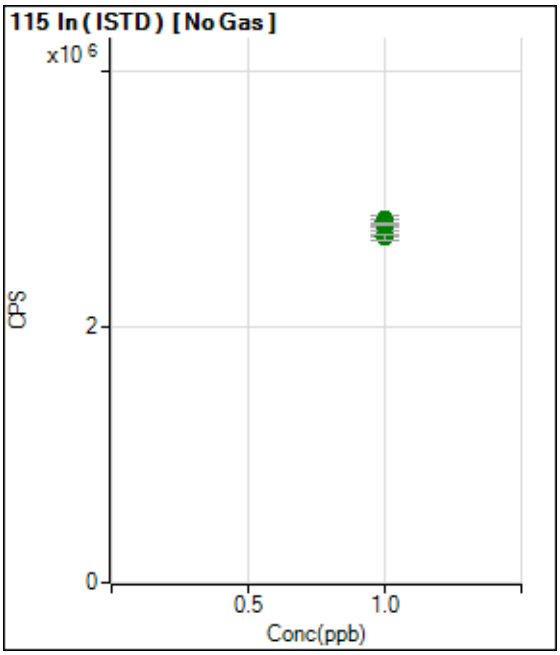


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2274783.93		A	2.3
2	☐	1.000		2235345.65		A	1.3
3	☐	1.000		2245248.66		A	1.9
4	☐	1.000		2297224.86		A	0.6
5	☐	1.000		2206418.51		A	1.5
6	☐	1.000		2183890.59		A	1.9

Calibration for 198_ICV.d

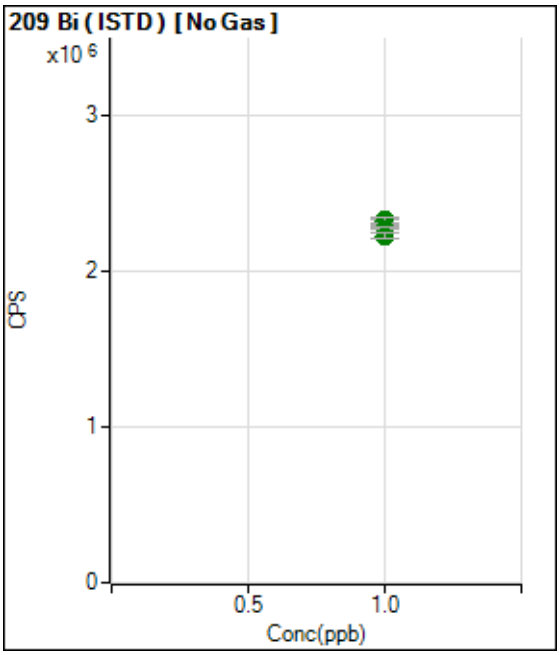


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		688824.96		P	1.1
2	☐	1.000		689959.49		P	1.3
3	☐	1.000		686566.81		P	0.7
4	☐	1.000		680689.73		P	0.9
5	☐	1.000		670813.12		P	0.9
6	☐	1.000		667378.87		P	0.8



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2833981.52		A	2.0
2	☐	1.000		2818107.39		A	1.8
3	☐	1.000		2790983.43		A	1.3
4	☐	1.000		2801664.11		A	0.7
5	☐	1.000		2726317.49		A	1.6
6	☐	1.000		2697089.39		A	1.7

Calibration for 198_ICV.d



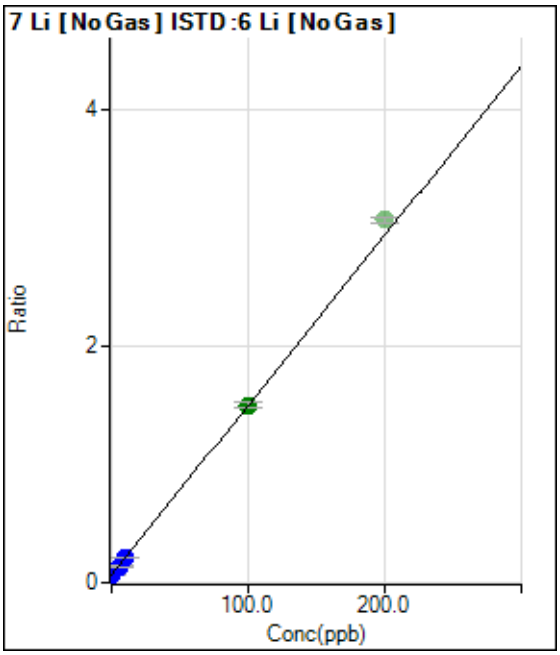
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2325618.40		A	1.8
2	☐	1.000		2310440.70		A	2.3
3	☐	1.000		2310523.51		A	1.3
4	☐	1.000		2322452.52		A	1.3
5	☐	1.000		2273960.33		A	0.2
6	☐	1.000		2224216.27		A	2.1

Calibration for 019_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\062323A.b\
Analysis File: 062323A.batch.bin
DA Date-Time: 6/23/2023 11:59:58 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	008CALB.d	CAL BLK	6/23/2023 10:33:42 AM
2	009CALS.d	2/10/200	6/23/2023 10:35:33 AM
3	010CALS.d	5/25/500	6/23/2023 10:37:24 AM
4	011CALS.d	10/50/100	6/23/2023 10:39:15 AM
5	012CALS.d	100/500/10K	6/23/2023 10:41:05 AM
6	013CALS.d	200/1000/20K	6/23/2023 10:42:52 AM

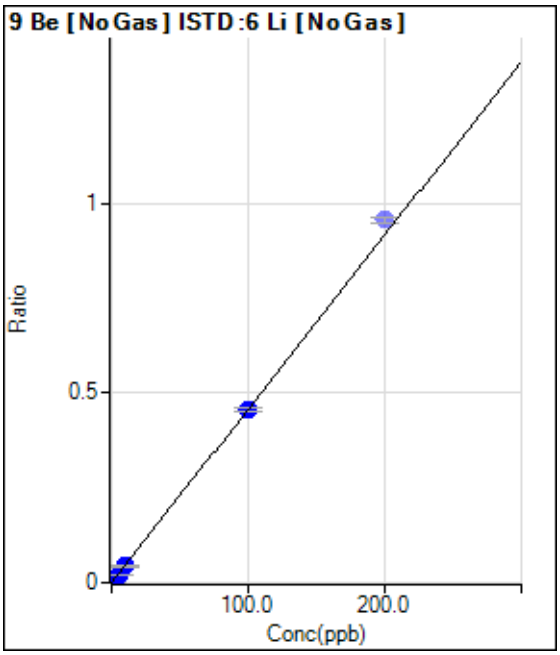
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48719.64	0.0664	P	4.0
2	☐	2.000	2.122	67571.06	0.0969	P	6.3
3	☐	5.000	4.988	96593.38	0.1381	P	1.7
4	☐	10.000	10.131	147096.14	0.2120	P	4.6
5	☐	100.000	99.985	968435.84	1.5028	A	3.0
6	☑	200.000		1868783.10	3.0735	A	1.7

y = 0.0144 * x + 0.0664
R = 1.0000
DL = 0.5587
BEC = 4.623

Weight: <None>
Min Conc: <None>

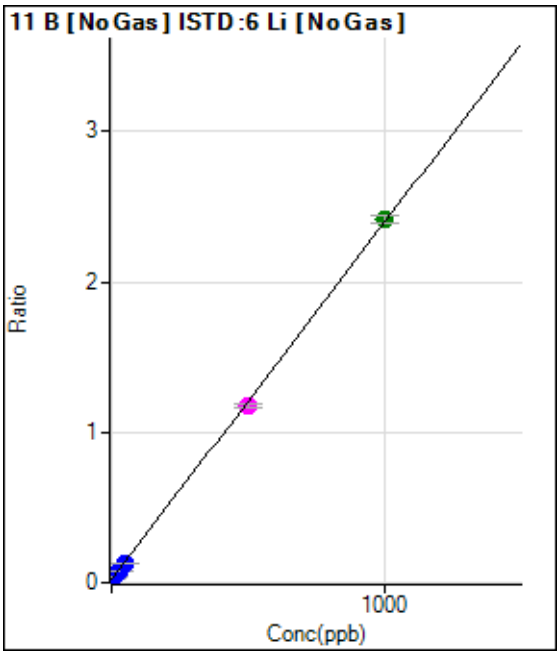


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0001	P	21.3
2	☐	2.000	1.816	5856.26	0.0084	P	6.5
3	☐	5.000	4.643	14934.66	0.0213	P	1.5
4	☐	10.000	9.513	30300.94	0.0437	P	4.3
5	☐	100.000	100.070	295491.05	0.4585	P	2.4
6	☑	200.000		582159.81	0.9574	P	1.8

y = 0.0046 * x + 7.6860E-005
R = 1.0000
DL = 0.01071
BEC = 0.01678

Weight: <None>
Min Conc: <None>

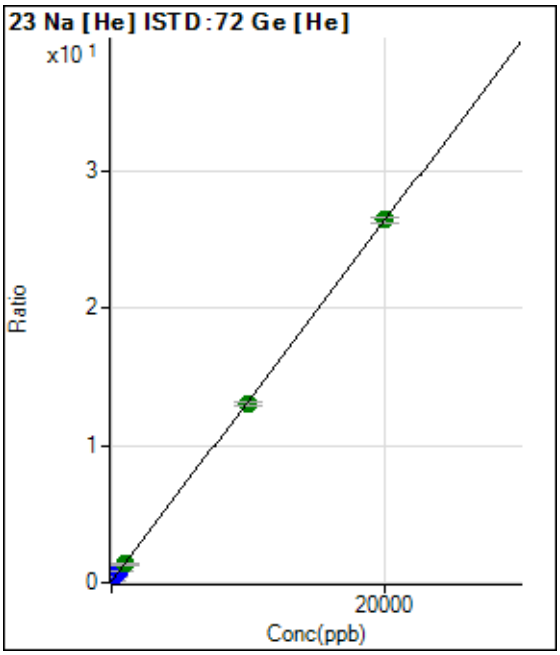
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15089.84	0.0207	P	6.6
2	☐	10.000	8.264	28098.08	0.0403	P	5.6
3	☐	25.000	21.540	50224.41	0.0718	P	2.6
4	☐	50.000	45.714	89690.59	0.1292	P	3.4
5	☐	500.000	486.467	757574.47	1.1755	M	3.0
6	☐	1000.000	1007.085	1466208.05	2.4115	A	2.1

y = 0.0024 * x + 0.0207
R = 0.9999
DL = 1.735
BEC = 8.705

Weight: <None>
Min Conc: <None>

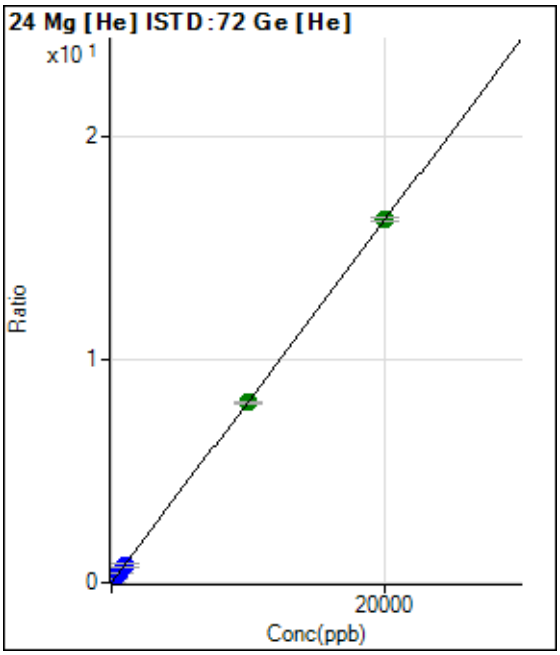


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	65095.11	0.0971	P	1.5
2	☐	200.000	203.419	245275.43	0.3644	P	1.0
3	☐	500.000	520.441	526015.06	0.7810	P	0.4
4	☐	1000.000	949.527	953094.13	1.3447	A	16.7
5	☐	10000.000	9877.897	8590716.33	13.0759	A	2.4
6	☐	20000.000	20063.030	16942639.33	26.4583	A	1.9

y = 0.0013 * x + 0.0971
R = 1.0000
DL = 3.315
BEC = 73.93

Weight: <None>
Min Conc: <None>

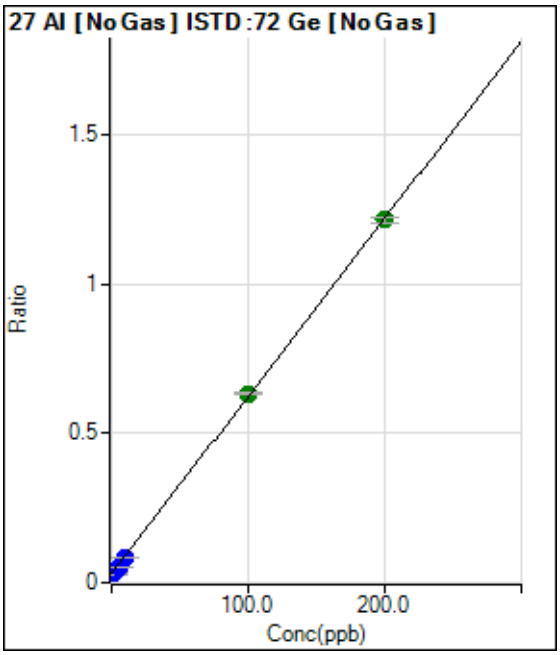
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	906.71	0.0014	P	15.6
2	☐	200.000	207.767	114471.00	0.1701	P	1.2
3	☐	500.000	530.211	290931.92	0.4319	P	1.1
4	☐	1000.000	986.845	567598.67	0.8027	P	19.0
5	☐	10000.000	9941.287	5305467.84	8.0745	A	1.1
6	☐	20000.000	20029.181	10417297.35	16.2666	A	1.0

y = 8.1208E-004 * x + 0.0014
R = 1.0000
DL = 0.7799
BEC = 1.666

Weight: <None>
Min Conc: <None>

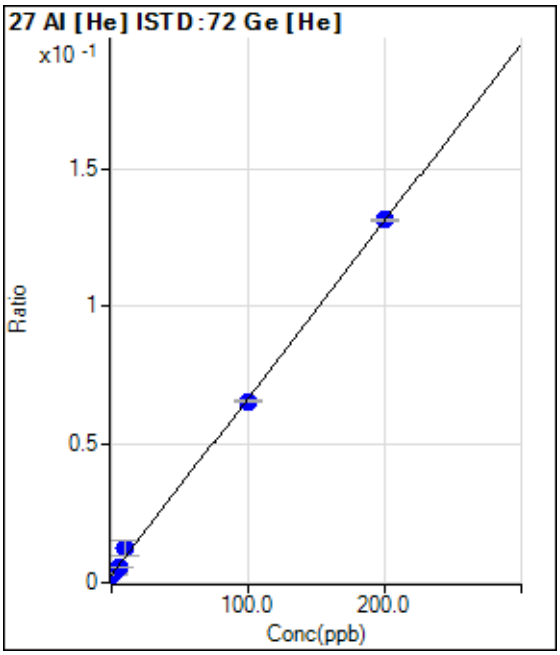


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62778.60	0.0298	P	27.8
2	☐	2.000	0.037	61704.70	0.0300	P	11.3
3	☐	5.000	3.240	99886.82	0.0490	P	0.5
4	☐	10.000	8.778	167481.76	0.0819	P	2.3
5	☐	100.000	101.506	1266668.86	0.6330	A	0.9
6	☐	200.000	199.372	2373116.37	1.2147	A	1.6

y = 0.0059 * x + 0.0298
R = 0.9999
DL = 4.175
BEC = 5.011

Weight: <None>
Min Conc: <None>

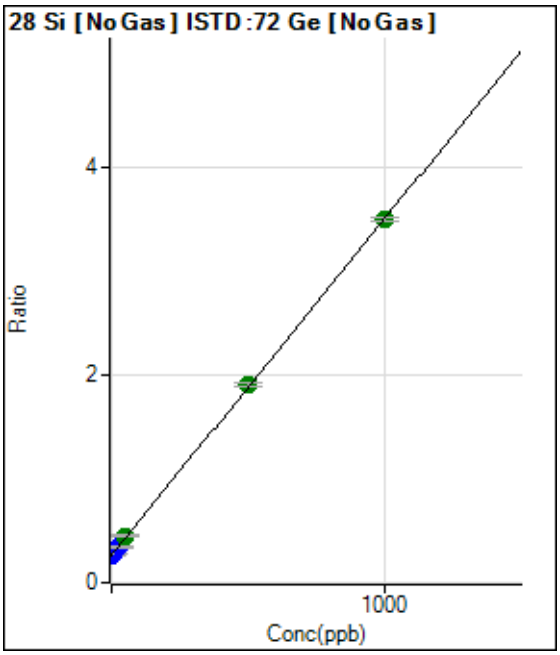
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1856.85	0.0028	P	15.7
2	☐	2.000	0.626	2136.89	0.0032	P	7.1
3	☐	5.000	4.097	3637.22	0.0054	P	2.2
4	☐	10.000	15.109	9331.94	0.0125	P	41.1
5	☐	100.000	98.206	43197.53	0.0657	P	0.3
6	☐	200.000	200.678	84183.57	0.1314	P	0.3

y = 6.4120E-004 * x + 0.0028
R = 0.9995
DL = 2.039
BEC = 4.325

Weight: <None>
Min Conc: <None>

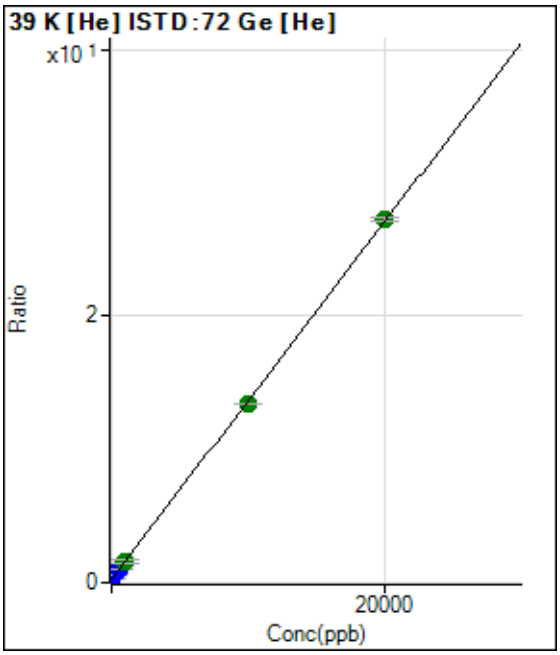


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	548199.47	0.2645	P	4.1
2	☐	10.000	5.714	581996.12	0.2830	P	2.1
3	☐	25.000	25.471	706862.70	0.3470	P	4.7
4	☐	50.000	57.210	919473.94	0.4497	A	1.8
5	☐	500.000	505.218	3802049.21	1.9003	A	1.7
6	☐	1000.000	997.062	6823861.98	3.4927	A	1.1

y = 0.0032 * x + 0.2645
R = 0.9999
DL = 10.08
BEC = 81.7

Weight: <None>
Min Conc: <None>

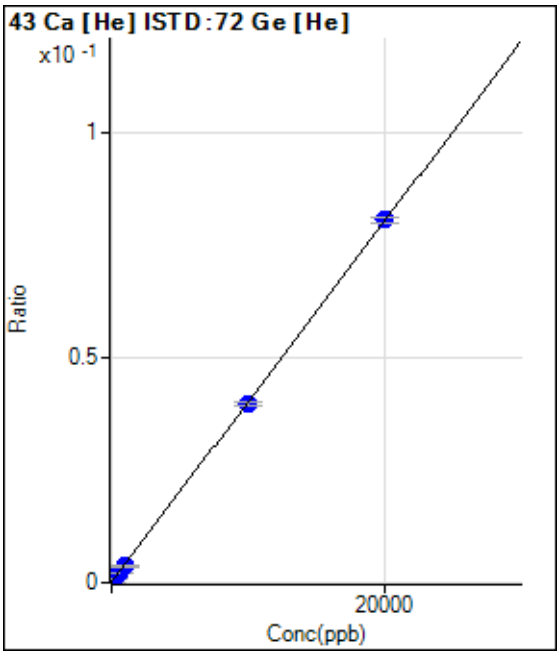
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	171351.35	0.2557	P	1.7
2	☐	200.000	205.737	357656.27	0.5314	P	0.6
3	☐	500.000	518.298	640026.62	0.9502	P	0.3
4	☐	1000.000	972.160	1103003.53	1.5584	A	17.9
5	☐	10000.000	9773.024	8772879.87	13.3513	A	0.1
6	☐	20000.000	20114.365	17424743.91	27.2084	A	1.2

y = 0.0013 * x + 0.2557
R = 0.9999
DL = 9.678
BEC = 190.8

Weight: <None>
Min Conc: <None>

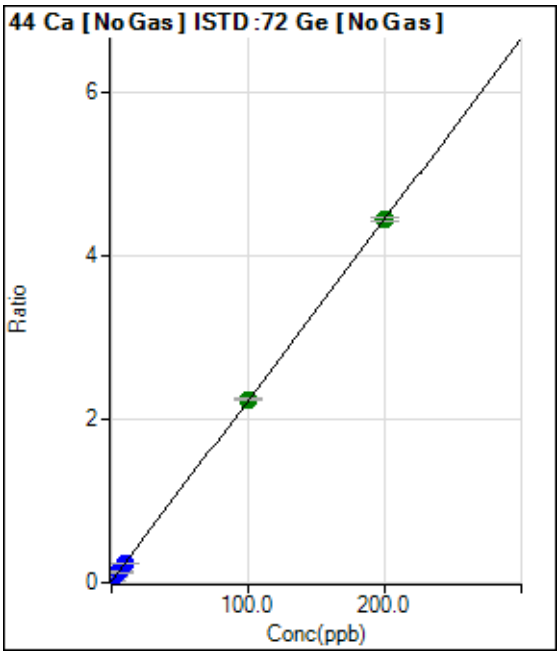


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0001	P	38.8
2	☐	200.000	176.533	566.69	0.0008	P	13.4
3	☐	500.000	470.054	1360.09	0.0020	P	1.9
4	☐	1000.000	880.805	2590.29	0.0037	P	20.1
5	☐	10000.000	9870.582	26101.85	0.0397	P	1.8
6	☐	20000.000	20071.652	51643.60	0.0806	P	1.4

y = 4.0113E-006 * x + 1.3389E-004
R = 1.0000
DL = 38.84
BEC = 33.38

Weight: <None>
Min Conc: <None>

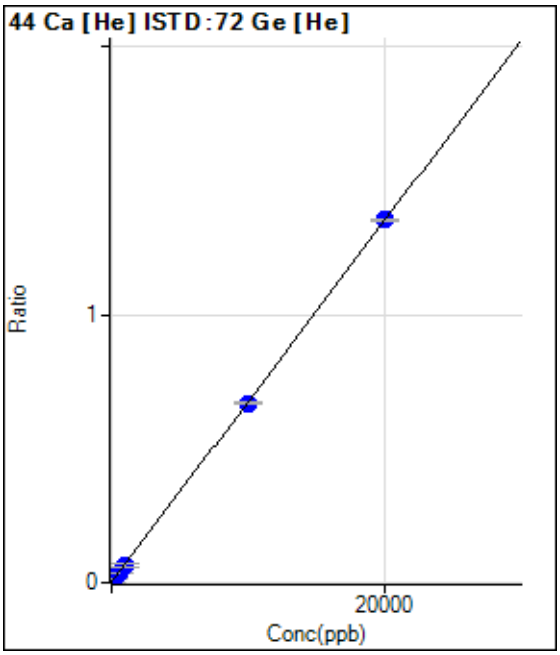
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37431.56	0.0182	P	9.5
2	☐	2.000	1.903	123869.87	0.0602	P	1.0
3	☐	5.000	5.058	264793.57	0.1300	P	3.1
4	☐	10.000	10.245	500305.01	0.2448	P	1.6
5	☐	100.000	100.510	4484488.68	2.2413	A	1.3
6	☐	200.000	199.732	8666991.75	4.4359	A	1.2

y = 0.0221 * x + 0.0182
R = 1.0000
DL = 0.2342
BEC = 0.8206

Weight: <None>
Min Conc: <None>

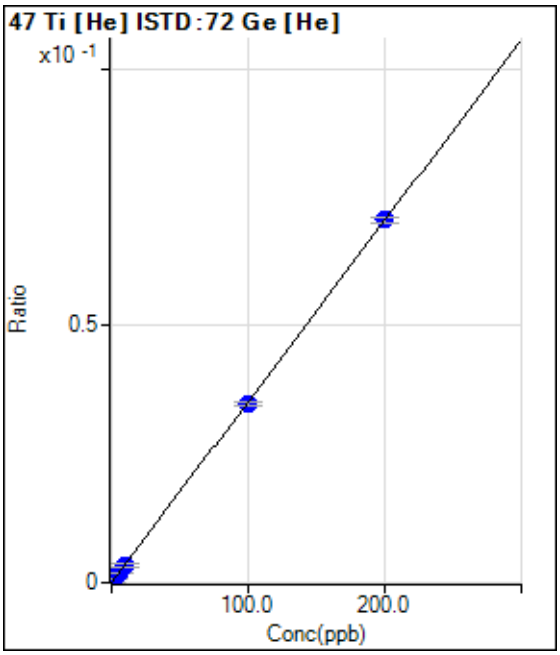


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1250.08	0.0019	P	5.9
2	☐	200.000	184.145	9606.86	0.0143	P	3.1
3	☐	500.000	486.873	23353.42	0.0347	P	1.7
4	☐	1000.000	906.283	44502.57	0.0629	P	19.1
5	☐	10000.000	9907.321	439856.95	0.6694	P	0.9
6	☐	20000.000	20051.512	866456.24	1.3530	P	0.9

y = 6.7382E-005 * x + 0.0019
R = 1.0000
DL = 4.899
BEC = 27.68

Weight: <None>
Min Conc: <None>

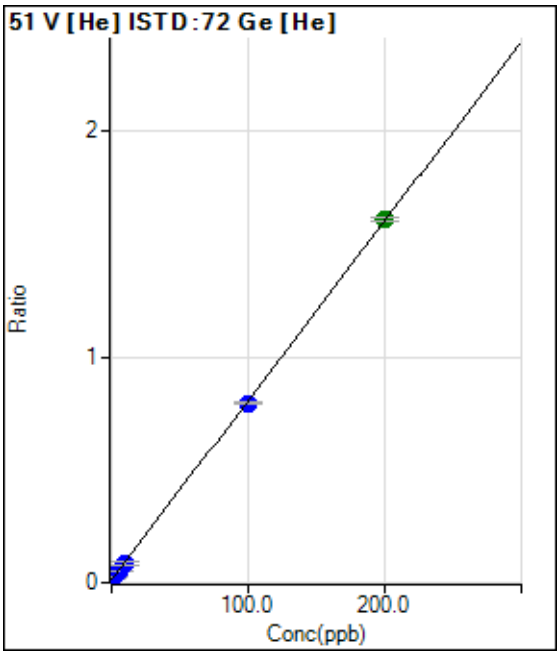
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	68.0
2	☐	2.000	1.774	436.68	0.0006	P	24.4
3	☐	5.000	5.108	1226.75	0.0018	P	7.8
4	☐	10.000	9.216	2313.57	0.0033	P	17.9
5	☐	100.000	99.029	22906.13	0.0349	P	2.1
6	☐	200.000	200.524	45194.52	0.0706	P	1.5

y = 3.5182E-004 * x + 2.4734E-005
R = 1.0000
DL = 0.1434
BEC = 0.0703

Weight: <None>
Min Conc: <None>

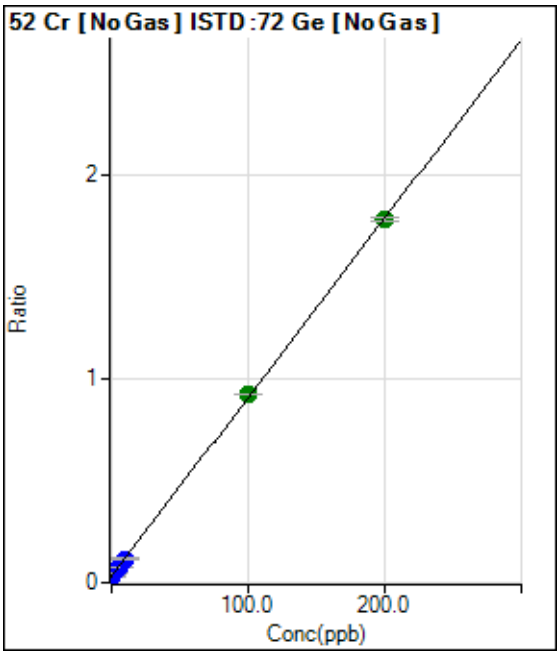


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8656.11	0.0129	P	1.4
2	☐	2.000	1.863	18640.49	0.0277	P	0.9
3	☐	5.000	4.836	34547.85	0.0513	P	0.5
4	☐	10.000	8.935	59271.34	0.0838	P	18.8
5	☐	100.000	98.639	522786.28	0.7956	P	0.7
6	☐	200.000	200.739	1028377.77	1.6058	A	1.2

y = 0.0079 * x + 0.0129
R = 1.0000
DL = 0.06985
BEC = 1.628

Weight: <None>
Min Conc: <None>

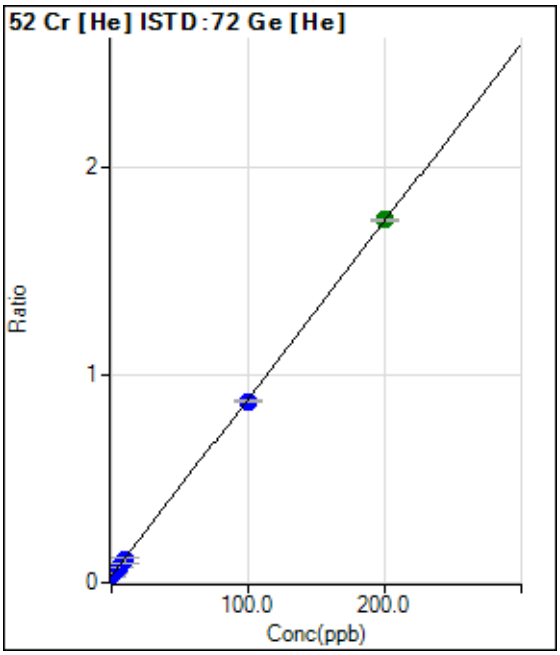
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	65895.60	0.0320	P	13.9
2	☐	2.000	1.232	88125.90	0.0429	P	0.8
3	☐	5.000	4.545	146459.16	0.0719	P	2.1
4	☐	10.000	9.689	239155.77	0.1170	P	2.5
5	☐	100.000	101.569	1846541.95	0.9228	A	0.6
6	☐	200.000	199.250	3476680.26	1.7795	A	1.1

y = 0.0088 * x + 0.0320
R = 0.9999
DL = 1.524
BEC = 3.654

Weight: <None>
Min Conc: <None>

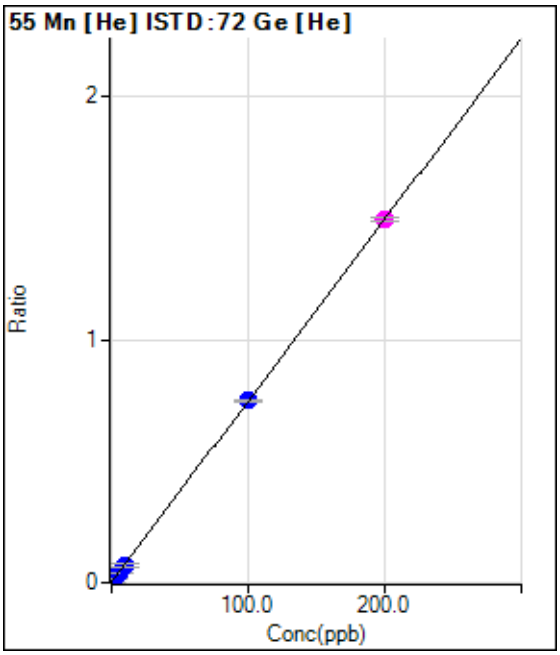


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21807.59	0.0325	P	3.4
2	☐	2.000	1.277	29254.89	0.0435	P	1.3
3	☐	5.000	4.604	48432.50	0.0719	P	1.5
4	☐	10.000	8.787	76095.19	0.1077	P	19.7
5	☐	100.000	98.602	575192.45	0.8754	P	0.7
6	☐	200.000	200.777	1120010.74	1.7488	A	0.2

y = 0.0085 * x + 0.0325
R = 1.0000
DL = 0.3919
BEC = 3.808

Weight: <None>
Min Conc: <None>

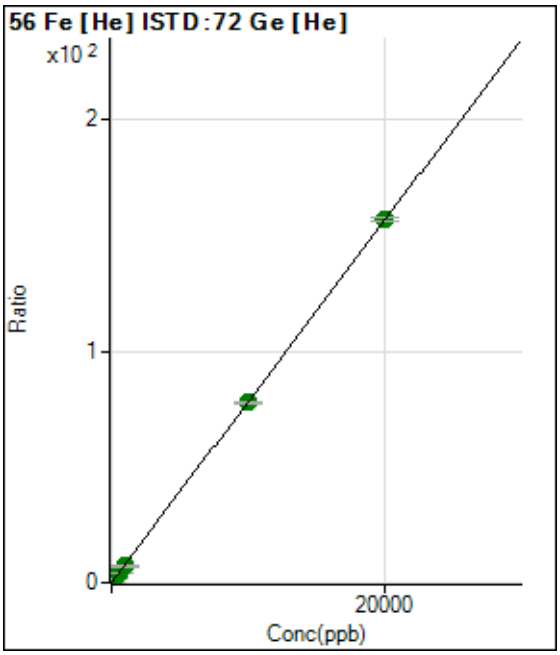
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1256.75	0.0019	P	12.9
2	☐	2.000	1.969	11138.06	0.0165	P	2.0
3	☐	5.000	5.022	26476.00	0.0393	P	3.1
4	☐	10.000	9.207	49834.62	0.0705	P	19.3
5	☐	100.000	100.222	492002.10	0.7488	P	1.4
6	☐	200.000	199.928	955443.32	1.4919	M	0.9

y = 0.0075 * x + 0.0019
R = 1.0000
DL = 0.09696
BEC = 0.2514

Weight: <None>
Min Conc: <None>

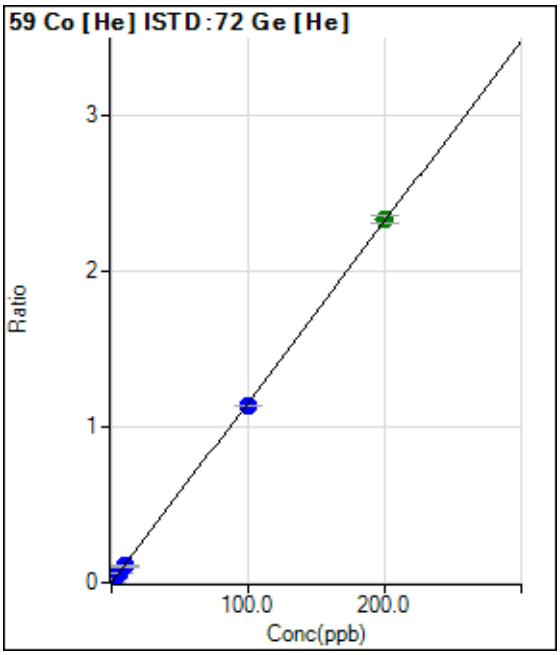


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28316.38	0.0423	P	3.6
2	☐	200.000	200.177	1081730.71	1.6072	A	1.0
3	☐	500.000	495.692	2638517.25	3.9174	A	1.3
4	☐	1000.000	920.756	5129907.53	7.2405	A	17.2
5	☐	10000.000	9933.628	51055389.24	77.7007	A	0.5
6	☐	20000.000	20037.254	100341251.84	156.6882	A	1.1

y = 0.0078 * x + 0.0423
R = 1.0000
DL = 0.5877
BEC = 5.406

Weight: <None>
Min Conc: <None>

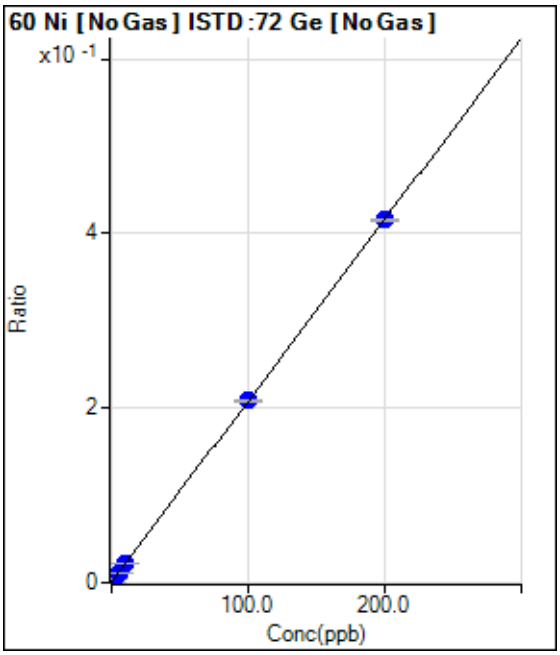
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0003	P	21.5
2	☐	2.000	2.010	15886.12	0.0236	P	1.0
3	☐	5.000	4.935	38738.71	0.0575	P	1.7
4	☐	10.000	9.153	75198.01	0.1064	P	19.7
5	☐	100.000	98.141	747910.12	1.1382	P	0.5
6	☐	200.000	200.973	1492347.22	2.3305	A	2.0

y = 0.0116 * x + 2.9389E-004
R = 0.9999
DL = 0.01633
BEC = 0.02535

Weight: <None>
Min Conc: <None>

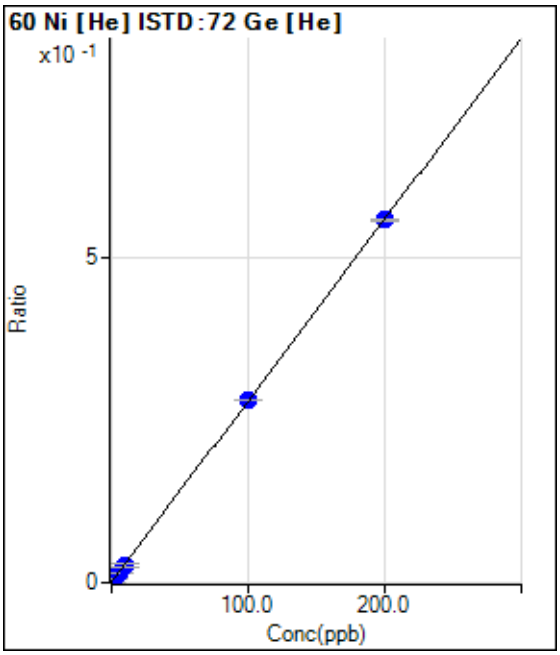


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1220.09	0.0006	P	1.4
2	☐	2.000	2.073	10060.53	0.0049	P	2.3
3	☐	5.000	5.151	22986.35	0.0113	P	1.4
4	☐	10.000	10.207	44526.34	0.0218	P	0.9
5	☐	100.000	100.136	417210.04	0.2085	P	0.9
6	☐	200.000	199.917	812168.09	0.4157	P	0.8

y = 0.0021 * x + 5.8769E-004
R = 1.0000
DL = 0.01149
BEC = 0.283

Weight: <None>
Min Conc: <None>

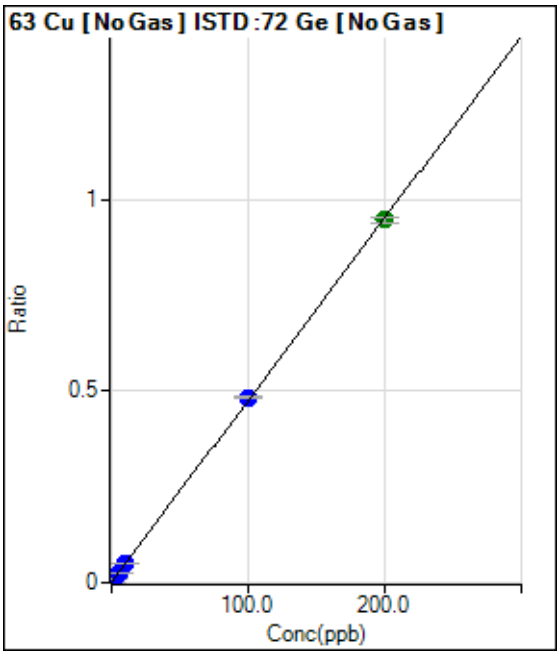
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	566.69	0.0008	P	12.9
2	☐	2.000	1.933	4207.38	0.0063	P	5.9
3	☐	5.000	5.058	10097.26	0.0150	P	2.0
4	☐	10.000	9.250	18870.14	0.0267	P	20.0
5	☐	100.000	100.502	185219.62	0.2819	P	0.9
6	☐	200.000	199.786	358334.62	0.5595	P	0.5

y = 0.0028 * x + 8.4648E-004
R = 1.0000
DL = 0.1168
BEC = 0.3027

Weight: <None>
Min Conc: <None>

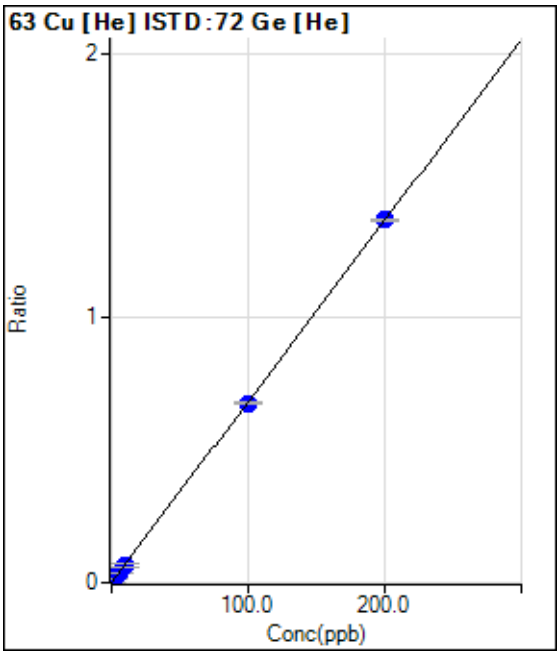


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1326.76	0.0006	P	15.8
2	☐	2.000	2.097	21844.52	0.0106	P	1.4
3	☐	5.000	5.110	50825.17	0.0250	P	2.7
4	☐	10.000	10.272	101201.27	0.0495	P	2.4
5	☐	100.000	101.654	968930.04	0.4842	P	0.5
6	☐	200.000	199.156	1852601.33	0.9481	A	1.4

y = 0.0048 * x + 6.4524E-004
R = 1.0000
DL = 0.06438
BEC = 0.1356

Weight: <None>
Min Conc: <None>

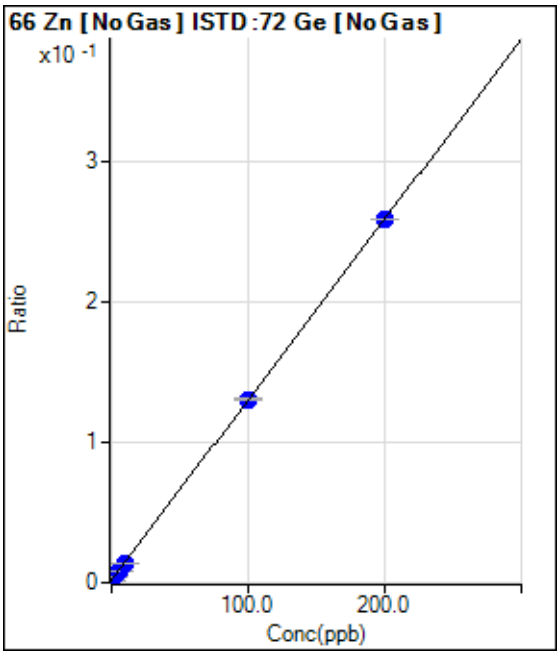
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	540.02	0.0008	P	4.2
2	☐	2.000	1.956	9533.49	0.0142	P	2.9
3	☐	5.000	5.031	23690.98	0.0352	P	2.6
4	☐	10.000	9.387	45911.48	0.0649	P	19.1
5	☐	100.000	99.226	445844.09	0.6786	P	0.7
6	☐	200.000	200.417	877205.74	1.3697	P	0.7

y = 0.0068 * x + 8.0566E-004
R = 1.0000
DL = 0.01478
BEC = 0.118

Weight: <None>
Min Conc: <None>

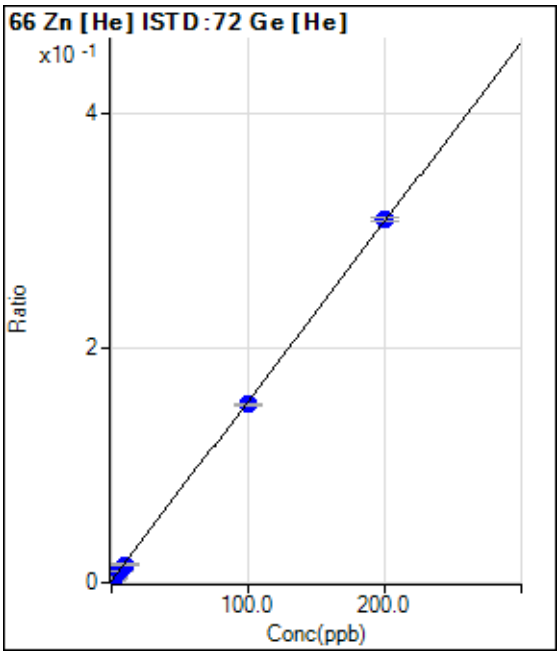


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3307.14	0.0016	P	8.6
2	☐	2.000	1.604	7535.56	0.0037	P	4.8
3	☐	5.000	4.863	15996.36	0.0079	P	1.3
4	☐	10.000	9.649	28620.55	0.0140	P	2.7
5	☐	100.000	100.372	261352.83	0.1306	P	0.5
6	☐	200.000	199.839	504989.04	0.2584	P	0.1

y = 0.0013 * x + 0.0016
R = 1.0000
DL = 0.3206
BEC = 1.247

Weight: <None>
Min Conc: <None>

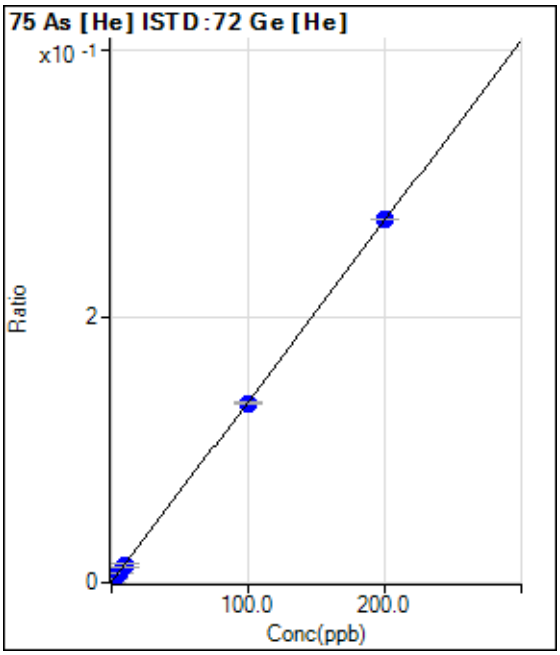
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1273.42	0.0019	P	6.1
2	☐	2.000	1.436	2756.99	0.0041	P	1.0
3	☐	5.000	5.015	6448.32	0.0096	P	1.8
4	☐	10.000	8.767	10844.56	0.0153	P	17.4
5	☐	100.000	98.101	99888.75	0.1520	P	0.6
6	☐	200.000	201.016	198197.41	0.3095	P	1.0

y = 0.0015 * x + 0.0019
R = 0.9999
DL = 0.2262
BEC = 1.241

Weight: <None>
Min Conc: <None>

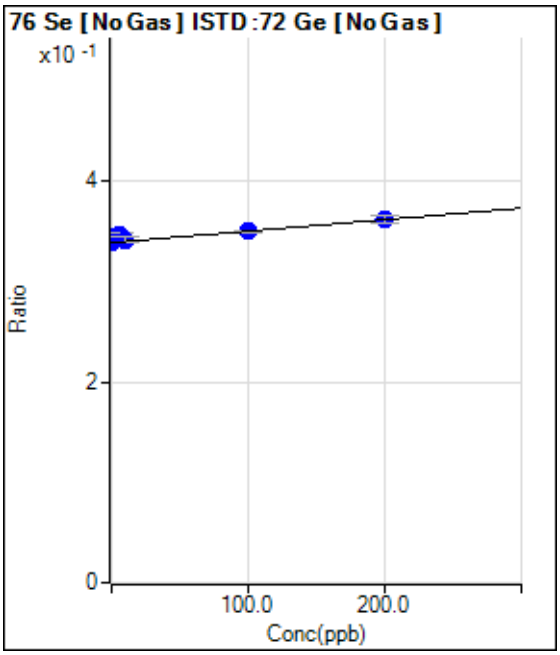


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	393.34	0.0006	P	5.2
2	☐	2.000	1.895	2124.62	0.0032	P	1.4
3	☐	5.000	4.859	4833.12	0.0072	P	2.2
4	☐	10.000	9.064	9120.89	0.0129	P	17.3
5	☐	100.000	98.900	88505.60	0.1347	P	0.7
6	☐	200.000	200.602	174589.72	0.2726	P	0.0

y = 0.0014 * x + 5.8697E-004
R = 1.0000
DL = 0.06761
BEC = 0.4329

Weight: <None>
Min Conc: <None>

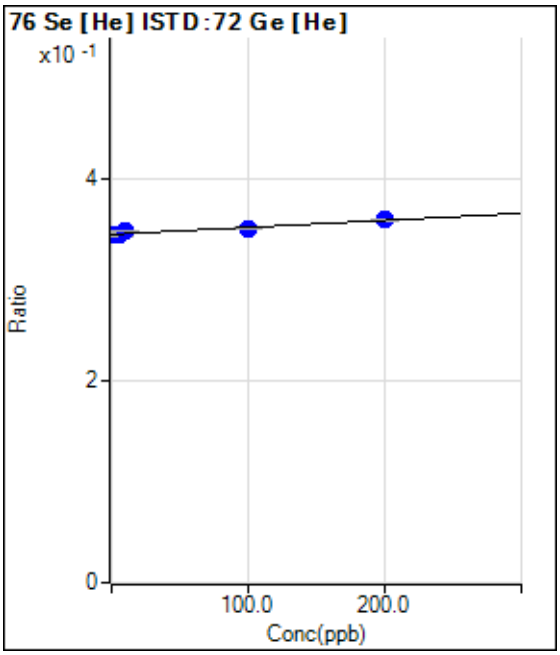
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	702827.59	0.3388	P	0.7
2	☐	2.000	56.540	710122.25	0.3453	P	1.1
3	☐	5.000	73.119	707262.91	0.3472	P	1.1
4	☐	10.000	23.141	697966.37	0.3415	P	1.6
5	☐	100.000	99.851	700908.14	0.3503	P	0.5
6	☐	200.000	197.169	706068.84	0.3614	P	2.2

y = 1.1460E-004 * x + 0.3388
R = 0.9275
DL = 60.35
BEC = 2957

Weight: <None>
Min Conc: <None>

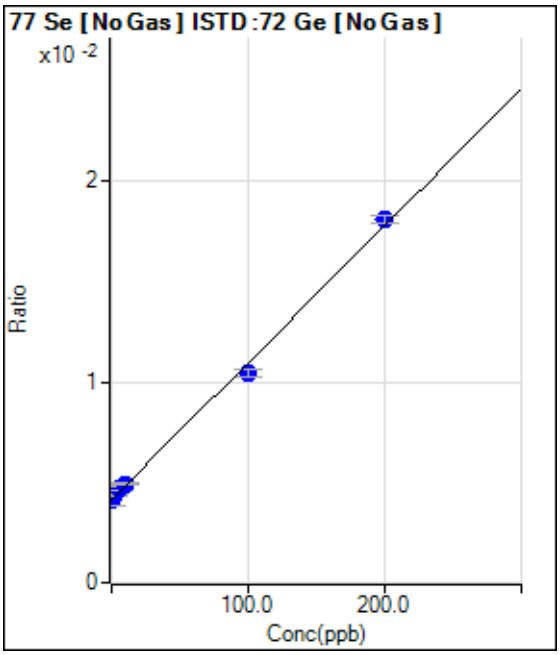


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	231275.95	0.3451	P	0.6
2	☐	2.000	-14.953	231558.56	0.3440	P	0.8
3	☐	5.000	6.454	232734.30	0.3455	P	1.1
4	☐	10.000	46.104	250988.19	0.3483	P	0.3
5	☐	100.000	86.580	230696.68	0.3511	P	0.7
6	☐	200.000	205.038	230137.54	0.3593	P	0.3

y = 6.9564E-005 * x + 0.3451
R = 0.9736
DL = 84.8
BEC = 4961

Weight: <None>
Min Conc: <None>

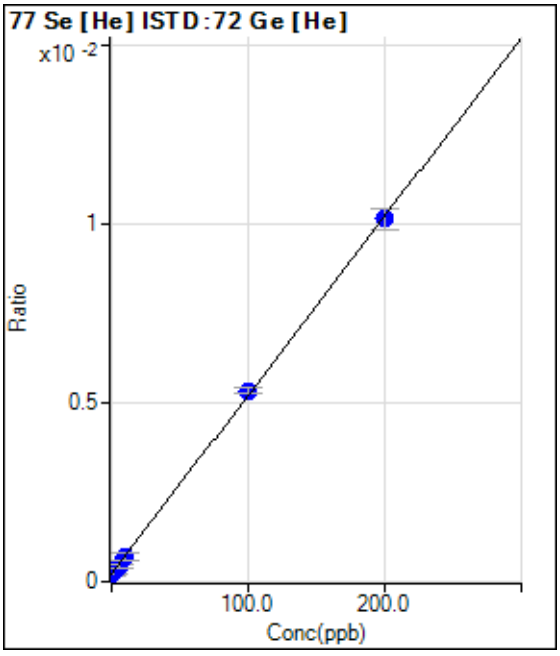
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8519.52	0.0041	P	16.3
2	☐	2.000	2.688	8906.44	0.0043	P	2.8
3	☐	5.000	7.625	9513.58	0.0047	P	3.9
4	☐	10.000	11.091	10030.60	0.0049	P	1.4
5	☐	100.000	91.713	20846.47	0.0104	P	3.6
6	☐	200.000	204.016	35346.52	0.0181	P	2.2

y = 6.8356E-005 * x + 0.0041
R = 0.9986
DL = 29.63
BEC = 60.68

Weight: <None>
Min Conc: <None>

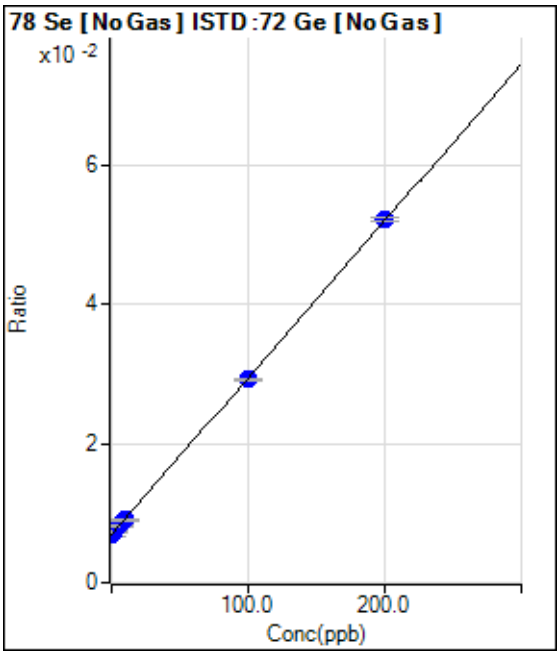


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0002	P	45.1
2	☐	2.000	1.357	193.34	0.0003	P	35.1
3	☐	5.000	4.129	286.68	0.0004	P	22.8
4	☐	10.000	9.363	480.02	0.0007	P	30.2
5	☐	100.000	102.677	3507.19	0.0053	P	3.0
6	☐	200.000	198.721	6484.99	0.0101	P	5.8

y = 4.9854E-005 * x + 2.1955E-004
R = 0.9998
DL = 5.956
BEC = 4.404

Weight: <None>
Min Conc: <None>

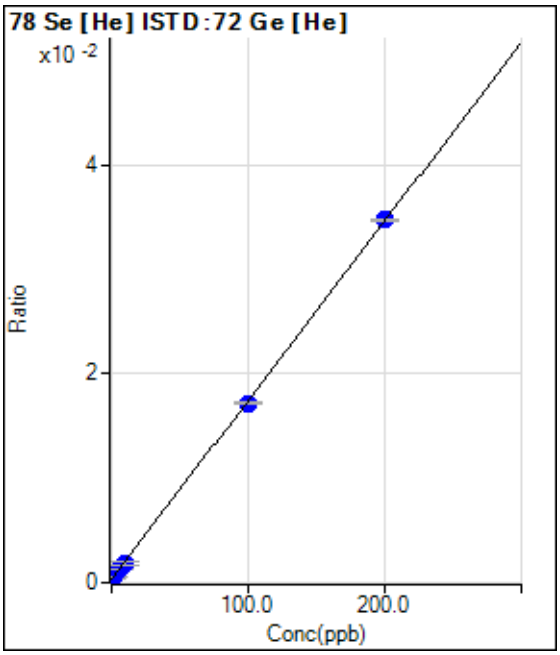
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14297.81	0.0069	P	10.3
2	☐	2.000	1.467	14945.17	0.0073	P	2.1
3	☐	5.000	5.621	16710.62	0.0082	P	3.5
4	☐	10.000	9.334	18483.00	0.0090	P	1.2
5	☐	100.000	98.766	58443.56	0.0292	P	1.4
6	☐	200.000	200.640	101940.24	0.0522	P	1.0

y = 2.2546E-004 * x + 0.0069
R = 1.0000
DL = 9.502
BEC = 30.77

Weight: <None>
Min Conc: <None>

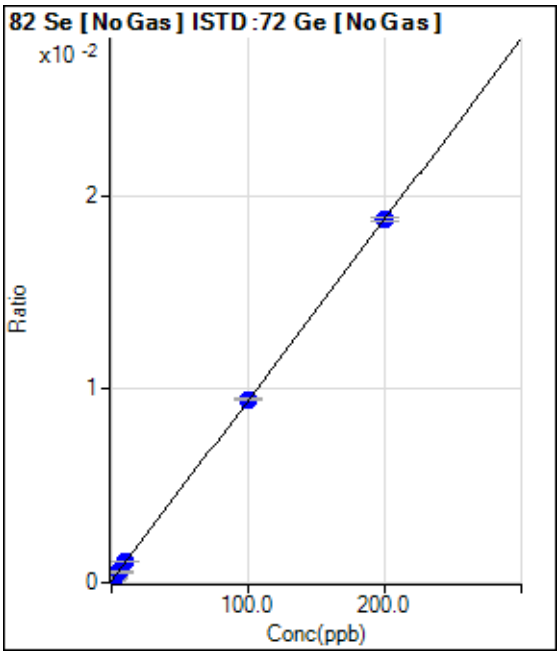


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	222.00	0.0003	P	15.7
2	☐	2.000	1.726	422.01	0.0006	P	3.3
3	☐	5.000	5.448	851.36	0.0013	P	2.1
4	☐	10.000	9.022	1332.74	0.0019	P	14.2
5	☐	100.000	98.365	11281.40	0.0172	P	1.1
6	☐	200.000	200.858	22231.62	0.0347	P	0.6

y = 1.7118E-004 * x + 3.3153E-004
R = 0.9999
DL = 0.9107
BEC = 1.937

Weight: <None>
Min Conc: <None>

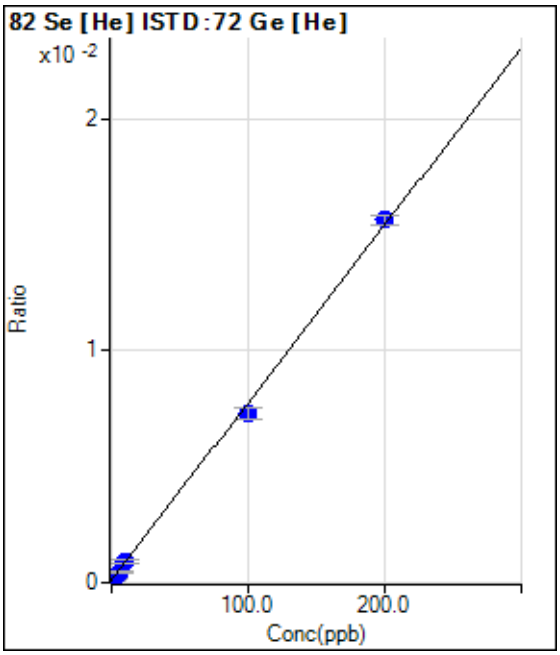
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	181.69	0.0001	P	55.9
2	☐	2.000	1.617	495.10	0.0002	P	17.2
3	☐	5.000	4.916	1115.70	0.0005	P	18.0
4	☐	10.000	10.603	2206.21	0.0011	P	4.1
5	☐	100.000	100.486	18952.86	0.0095	P	1.6
6	☐	200.000	199.733	36606.23	0.0187	P	0.9

y = 9.3352E-005 * x + 9.0001E-005
R = 1.0000
DL = 1.618
BEC = 0.9641

Weight: <None>
Min Conc: <None>

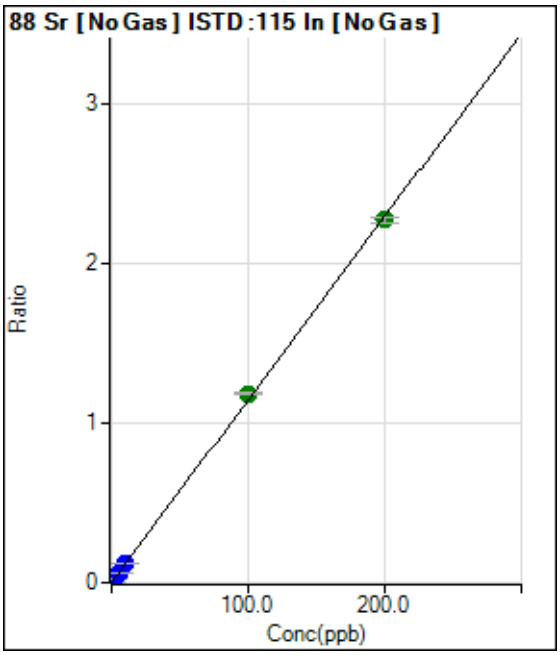


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0001	P	38.6
2	☐	2.000	1.097	133.33	0.0002	P	36.9
3	☐	5.000	4.398	303.34	0.0005	P	22.2
4	☐	10.000	10.503	650.03	0.0009	P	21.3
5	☐	100.000	93.929	4797.61	0.0073	P	6.0
6	☐	200.000	203.034	10023.90	0.0157	P	2.8

y = 7.6528E-005 * x + 1.1407E-004
R = 0.9994
DL = 1.727
BEC = 1.491

Weight: <None>
Min Conc: <None>

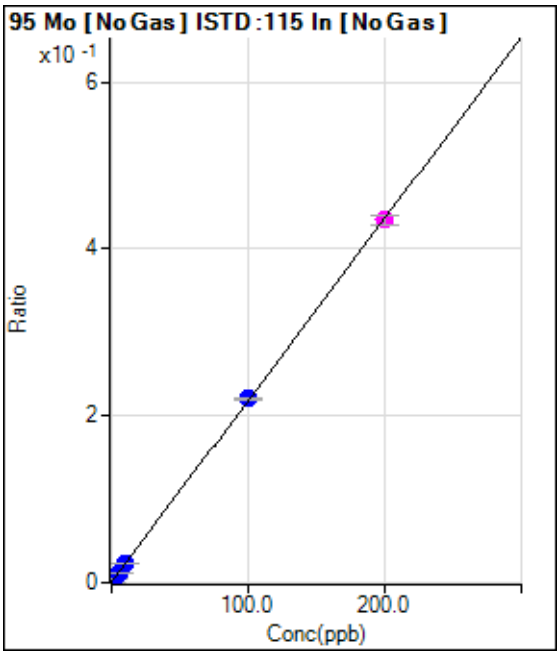
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1906.84	0.0008	P	16.5
2	☐	2.000	1.936	54494.61	0.0231	P	1.3
3	☐	5.000	5.012	136645.26	0.0583	P	1.4
4	☐	10.000	10.230	275629.33	0.1182	P	0.2
5	☐	100.000	103.336	2701756.42	1.1863	A	0.6
6	☐	200.000	198.321	5126052.53	2.2759	A	1.3

y = 0.0115 * x + 8.3973E-004
R = 0.9998
DL = 0.03625
BEC = 0.0732

Weight: <None>
Min Conc: <None>

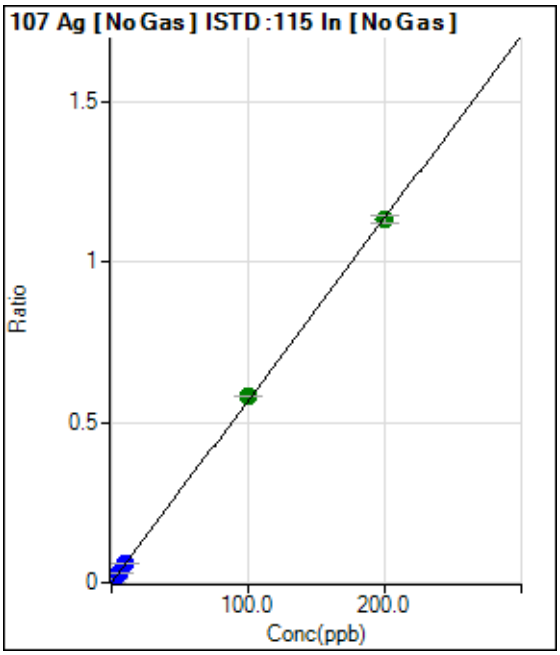


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1484.36	0.0006	P	85.4
2	☐	2.000	1.900	11215.15	0.0047	P	6.8
3	☐	5.000	4.853	26176.08	0.0112	P	5.8
4	☐	10.000	10.051	52463.21	0.0225	P	1.2
5	☐	100.000	101.160	503088.40	0.2209	P	0.8
6	☐	200.000	199.422	979418.94	0.4349	M	2.9

y = 0.0022 * x + 6.0975E-004
R = 1.0000
DL = 0.7176
BEC = 0.28

Weight: <None>
Min Conc: <None>

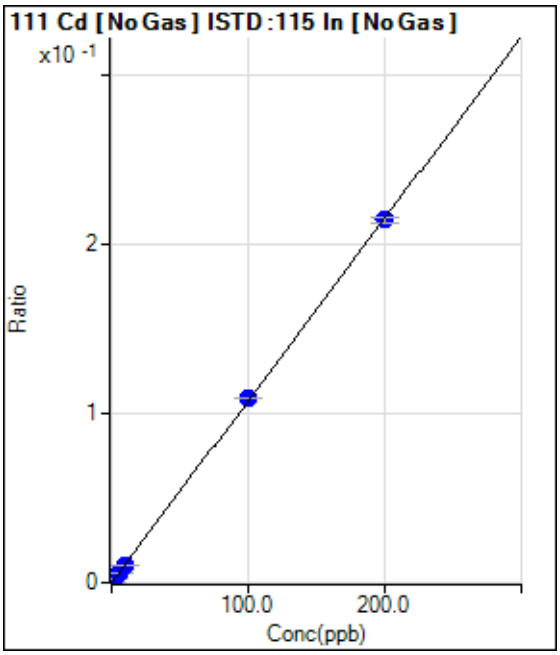
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0001	P	21.4
2	☐	2.000	2.024	27418.78	0.0116	P	4.0
3	☐	5.000	5.103	68171.90	0.0291	P	1.4
4	☐	10.000	10.358	137499.49	0.0590	P	1.0
5	☐	100.000	101.944	1319569.09	0.5794	A	0.2
6	☐	200.000	199.007	2546959.13	1.1310	A	2.3

y = 0.0057 * x + 1.0215E-004
R = 0.9999
DL = 0.01153
BEC = 0.01798

Weight: <None>
Min Conc: <None>

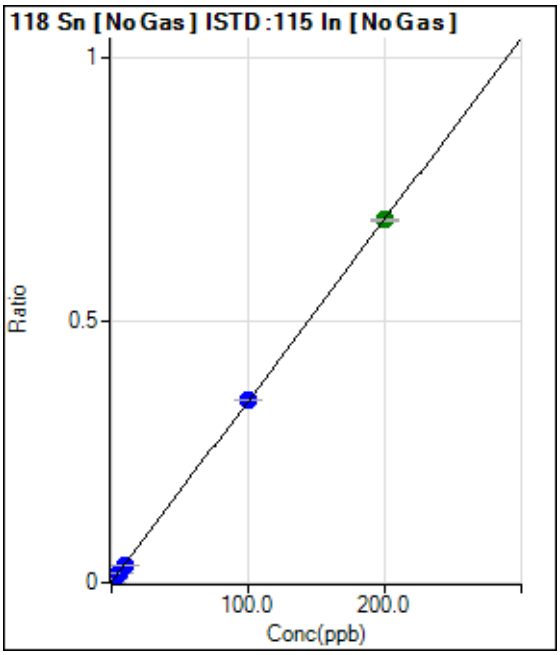


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-0.49	0.0000	P	-88.0
2	☐	2.000	1.971	5003.74	0.0021	P	3.1
3	☐	5.000	4.874	12261.84	0.0052	P	2.0
4	☐	10.000	9.869	24716.42	0.0106	P	2.8
5	☐	100.000	101.290	247760.64	0.1088	P	0.2
6	☐	200.000	199.365	482252.78	0.2141	P	1.8

y = 0.0011 * x - 2.1099E-007
R = 1.0000
DL = 0.0005188
BEC = -0.0001964

Weight: <None>
Min Conc: <None>

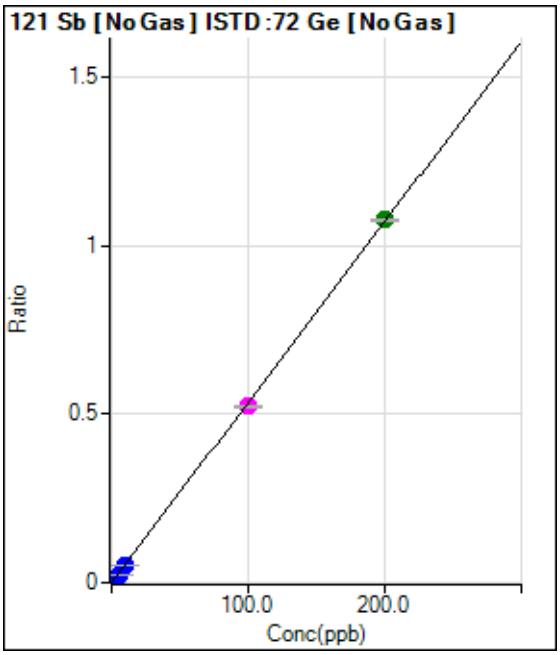
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1506.79	0.0007	P	6.7
2	☐	2.000	1.836	16577.79	0.0070	P	1.3
3	☐	5.000	4.746	40014.55	0.0171	P	1.8
4	☐	10.000	9.709	79875.36	0.0343	P	0.6
5	☐	100.000	100.397	792637.67	0.3480	P	0.4
6	☐	200.000	199.824	1558846.64	0.6920	A	0.8

y = 0.0035 * x + 6.5957E-004
R = 1.0000
DL = 0.03834
BEC = 0.1906

Weight: <None>
Min Conc: <None>

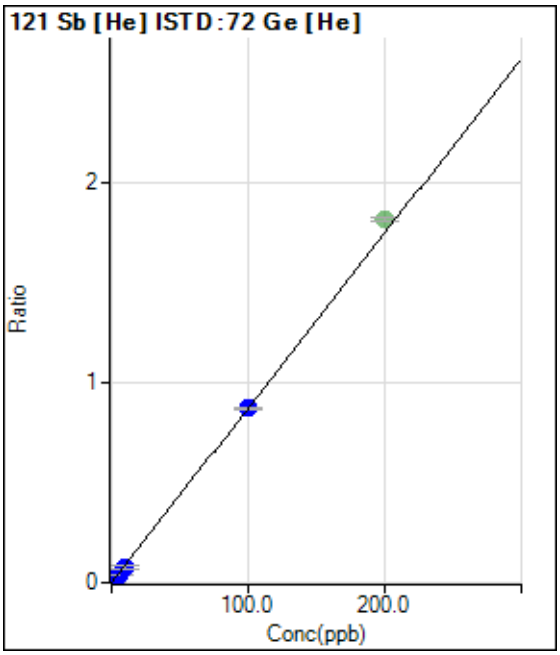


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.01	0.0001	P	11.3
2	☐	2.000	1.776	19721.72	0.0096	P	1.3
3	☐	5.000	4.657	50905.71	0.0250	P	1.0
4	☐	10.000	9.496	103949.07	0.0509	P	1.2
5	☐	100.000	97.633	1044271.49	0.5219	M	0.7
6	☐	200.000	201.220	2101587.26	1.0755	A	0.8

y = 0.0053 * x + 1.0166E-004
R = 0.9999
DL = 0.006471
BEC = 0.01902

Weight: <None>
Min Conc: <None>

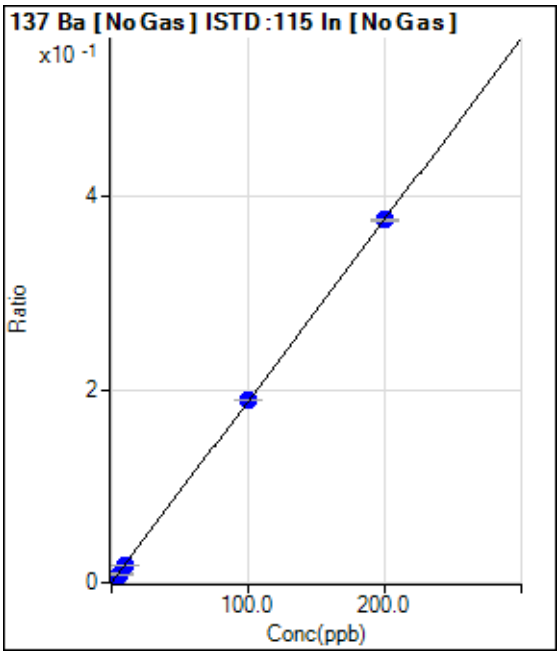
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0002	P	17.6
2	☐	2.000	1.787	10657.86	0.0158	P	2.1
3	☐	5.000	4.756	28150.43	0.0418	P	1.9
4	☐	10.000	8.899	55093.19	0.0780	P	20.4
5	☐	100.000	100.127	575376.76	0.8757	P	1.1
6	☑	200.000		1163436.88	1.8168	A	1.0

y = 0.0087 * x + 2.0861E-004
R = 0.9999
DL = 0.01261
BEC = 0.02386

Weight: <None>
Min Conc: <None>

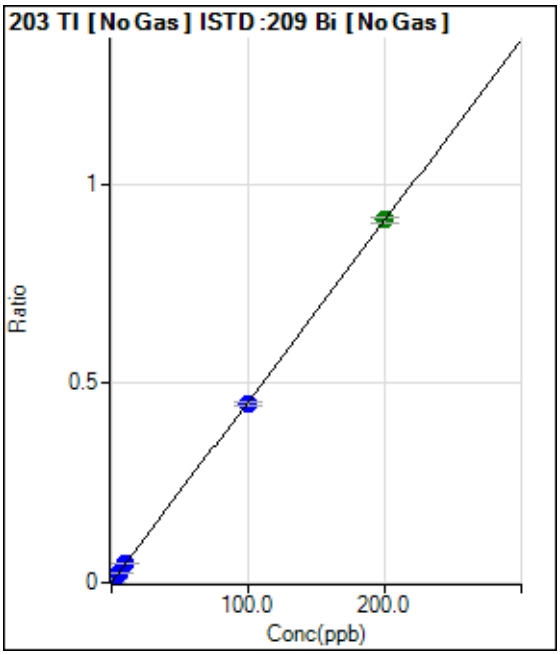


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0001	P	19.6
2	☐	2.000	1.868	8633.05	0.0036	P	3.1
3	☐	5.000	4.692	20973.84	0.0090	P	2.1
4	☐	10.000	9.827	43369.38	0.0186	P	1.2
5	☐	100.000	100.207	428928.59	0.1883	P	0.2
6	☐	200.000	199.914	846024.21	0.3756	P	0.7

y = 0.0019 * x + 1.4254E-004
R = 1.0000
DL = 0.04462
BEC = 0.0759

Weight: <None>
Min Conc: <None>

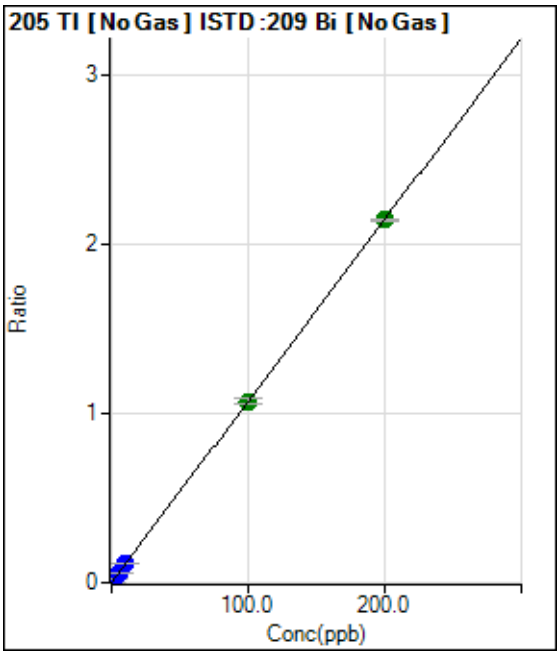
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	370.01	0.0002	P	8.7
2	☐	2.000	1.994	16951.76	0.0093	P	1.4
3	☐	5.000	4.937	41352.21	0.0226	P	2.3
4	☐	10.000	10.378	85458.36	0.0473	P	2.2
5	☐	100.000	99.095	803933.95	0.4498	P	2.1
6	☐	200.000	200.435	1587096.59	0.9096	A	1.5

y = 0.0045 * x + 2.0714E-004
R = 1.0000
DL = 0.01191
BEC = 0.04565

Weight: <None>
Min Conc: <None>

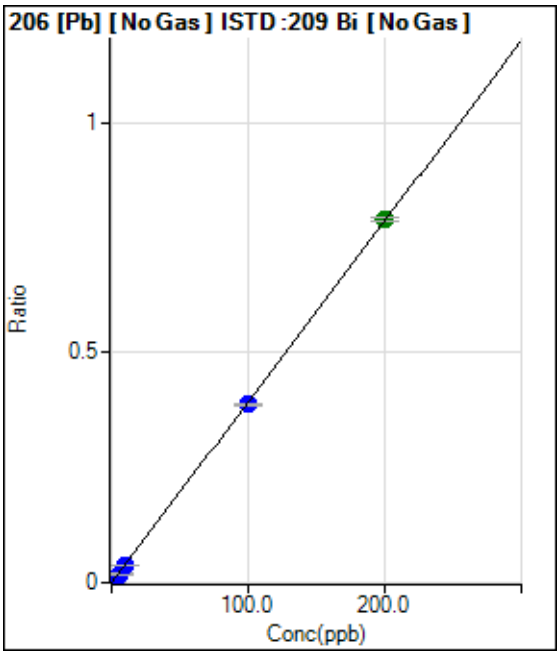


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	866.71	0.0005	P	6.2
2	☐	2.000	2.015	40489.20	0.0221	P	4.1
3	☐	5.000	5.044	99938.11	0.0546	P	3.3
4	☐	10.000	10.517	204929.69	0.1134	P	1.0
5	☐	100.000	100.000	1919446.54	1.0740	A	2.4
6	☐	200.000	199.973	3746394.42	2.1473	A	0.6

y = 0.0107 * x + 4.8273E-004
R = 1.0000
DL = 0.008325
BEC = 0.04497

Weight: <None>
Min Conc: <None>

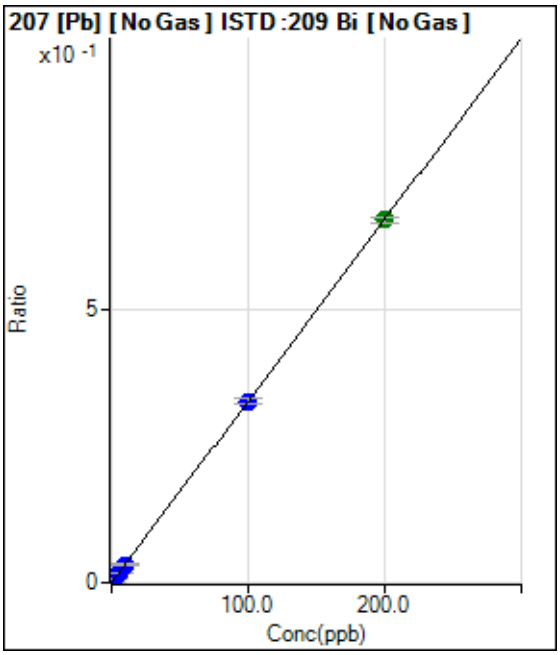
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	303.34	0.0002	P	11.1
2	☐	2.000	1.817	13387.42	0.0073	P	3.3
3	☐	5.000	4.745	34407.80	0.0188	P	4.4
4	☐	10.000	9.792	69852.01	0.0387	P	2.2
5	☐	100.000	98.435	691692.07	0.3870	P	2.1
6	☐	200.000	200.801	1377162.01	0.7893	A	1.2

y = 0.0039 * x + 1.6745E-004
R = 1.0000
DL = 0.01417
BEC = 0.04261

Weight: <None>
Min Conc: <None>

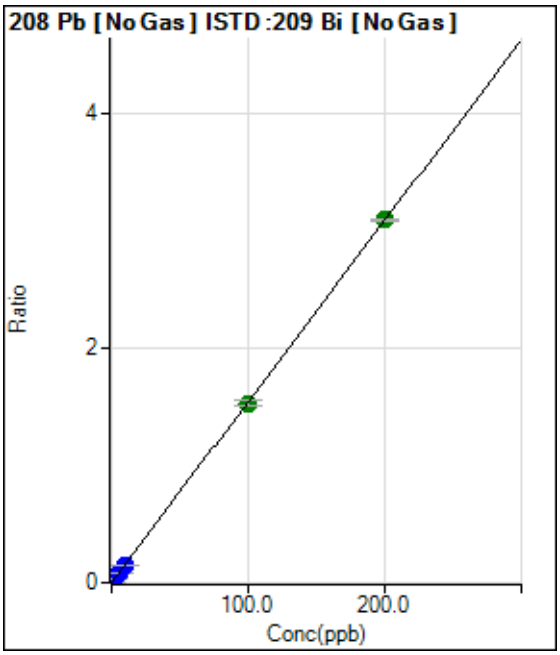


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	200.01	0.0001	P	14.3
2	☐	2.000	1.875	11612.23	0.0063	P	5.7
3	☐	5.000	4.920	30133.50	0.0165	P	2.6
4	☐	10.000	9.969	60101.67	0.0333	P	3.0
5	☐	100.000	100.116	595308.46	0.3331	P	2.4
6	☐	200.000	199.947	1160621.42	0.6652	A	1.5

y = 0.0033 * x + 1.1035E-004
R = 1.0000
DL = 0.0142
BEC = 0.03318

Weight: <None>
Min Conc: <None>

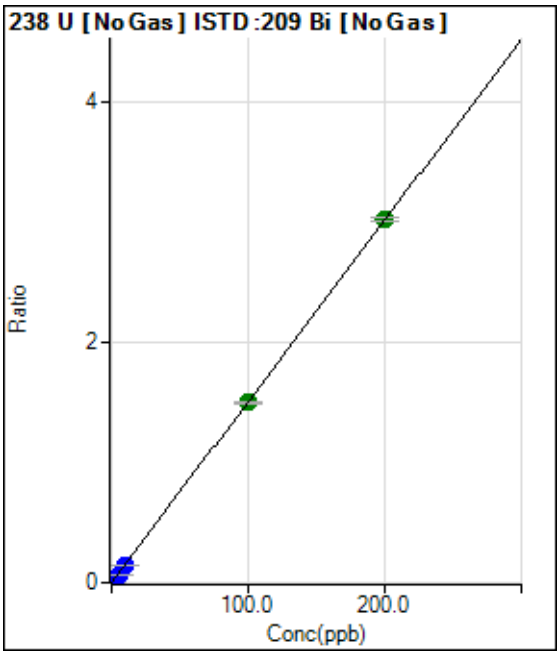
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1033.37	0.0006	P	7.9
2	☐	2.000	1.900	54738.73	0.0299	P	3.9
3	☐	5.000	4.858	138195.36	0.0756	P	3.4
4	☐	10.000	9.899	277128.58	0.1534	P	2.0
5	☐	100.000	98.935	2729739.15	1.5276	A	3.3
6	☐	200.000	200.542	5401373.49	3.0959	A	0.3

y = 0.0154 * x + 5.7360E-004
R = 1.0000
DL = 0.008754
BEC = 0.03716

Weight: <None>
Min Conc: <None>

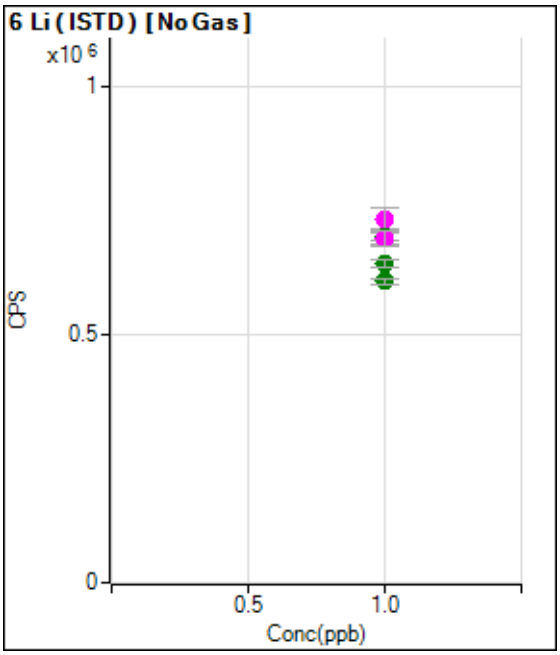


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0000	P	10.1
2	☐	2.000	1.810	50029.13	0.0273	P	2.4
3	☐	5.000	4.665	128583.69	0.0703	P	3.2
4	☐	10.000	9.721	264660.63	0.1465	P	1.3
5	☐	100.000	99.351	2674582.36	1.4964	A	1.7
6	☐	200.000	200.349	5264932.94	3.0175	A	1.0

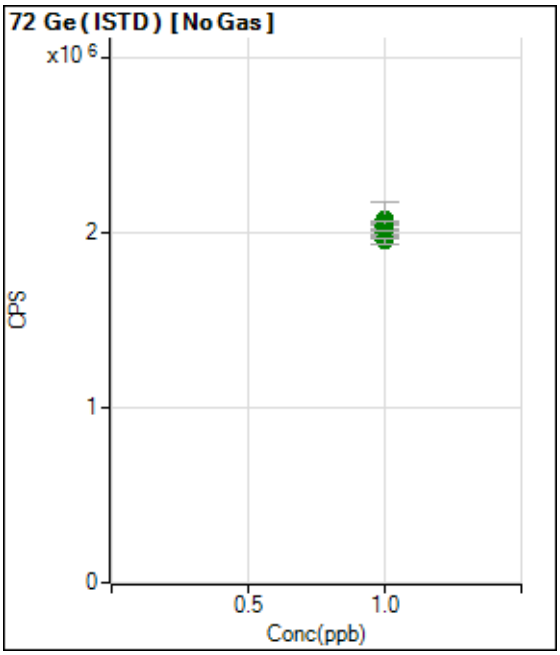
y = 0.0151 * x + 4.8144E-005
R = 1.0000
DL = 0.000968
BEC = 0.003197

Weight: <None>
Min Conc: <None>

Calibration for 019_ICV.d

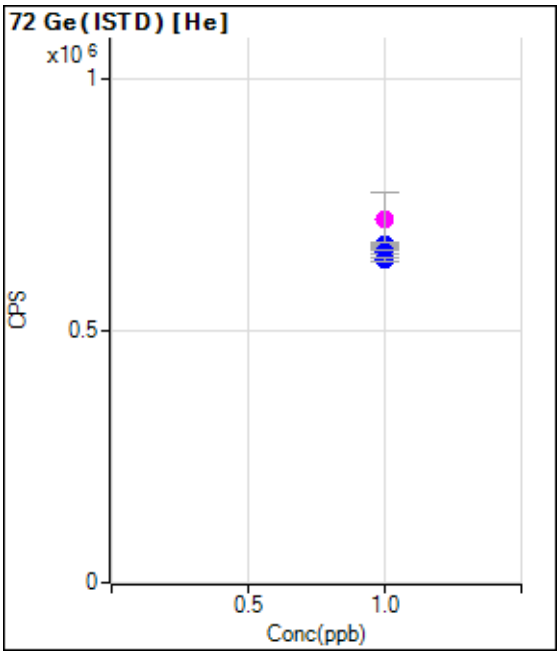


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		732422.23		M	6.8
2	☐	1.000		698765.79		M	4.9
3	☐	1.000		699760.88		A	2.3
4	☐	1.000		694979.85		M	4.7
5	☐	1.000		644655.04		A	2.0
6	☐	1.000		608169.59		A	1.9

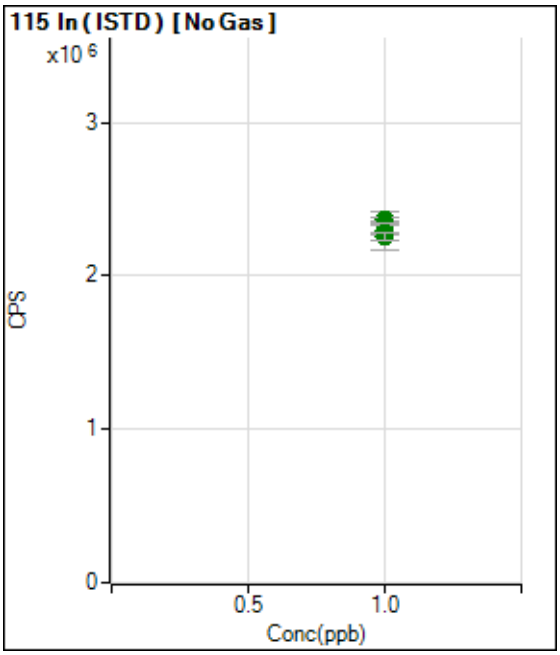


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2074600.49		A	9.7
2	☐	1.000		2056435.33		A	0.6
3	☐	1.000		2037353.25		A	2.1
4	☐	1.000		2044428.20		A	2.2
5	☐	1.000		2001042.26		A	1.1
6	☐	1.000		1953959.66		A	1.5

Calibration for 019_ICV.d

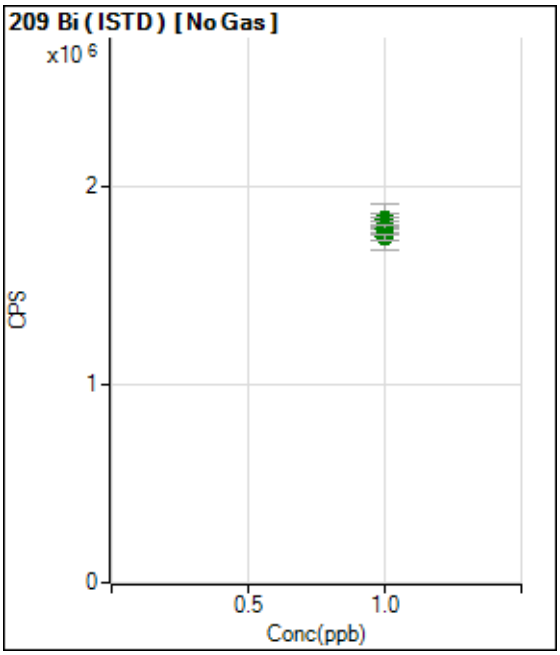


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		670168.95		P	1.2
2	☐	1.000		673050.04		P	0.2
3	☐	1.000		673549.13		P	0.4
4	☐	1.000		720444.47		M	14.8
5	☐	1.000		657079.08		P	0.9
6	☐	1.000		640431.77		P	1.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2295733.04		A	11.1
2	☐	1.000		2364370.89		A	1.7
3	☐	1.000		2342776.53		A	1.0
4	☐	1.000		2332027.96		A	0.5
5	☐	1.000		2277484.65		A	0.4
6	☐	1.000		2252704.24		A	2.0

Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1796280.60		A	12.9
2	☐	1.000		1832388.57		A	3.7
3	☐	1.000		1829832.99		A	2.1
4	☐	1.000		1807412.99		A	2.1
5	☐	1.000		1787858.88		A	2.5
6	☐	1.000		1744659.24		A	1.3

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	008CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:33:42-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	48720	0.02
Be	9	1	No Gas	57	44.95
V	51	2	He	8656	0.03
Cr	52	2	He	21808	0.01
Fe	56	2	He	28316	0.01
Se	78	2	He	222	6.71
As	75	2	He	393	1.29
Ca	44	2	He	1250	0.50
Na	23	2	He	65095	0.00
Mg	24	2	He	907	1.70
K	39	2	He	171351	0.00
Mn	55	2	He	1257	1.11
Co	59	2	He	197	10.45
Ni	60	2	He	567	2.07
Cu	63	2	He	540	0.91
Zn	66	2	He	1273	0.56
Al	27	2	He	1857	0.80
B	11	1	No Gas	15090	0.00
Al	27	1	No Gas	62779	0.06
Si	28	1	No Gas	548199	0.00
Ag	107	1	No Gas	233	8.48
Sr	88	1	No Gas	1907	0.40
Mo	95	1	No Gas	1484	6.44
Sn	118	1	No Gas	1507	0.29
Sb	121	1	No Gas	210	4.54
Ba	137	1	No Gas	327	6.38
Tl	205	1	No Gas	867	1.59
Tl	203	1	No Gas	370	2.19
Pb	208	1	No Gas	1033	1.69
U	238	1	No Gas	87	20.34
Ca	43	2	He	90	44.51
Sb	121	2	He	140	13.50
Ti	47	2	He	17	415.69
Cu	63	1	No Gas	1327	0.62

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	732422	6.79

Calibration Blank Report

Ge	72	2	He	670169	1.21
Ge	72	1	No Gas	2074600	9.65
In	115	1	No Gas	2295733	11.08
Bi	209	1	No Gas	1796281	12.85

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	009CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:35:33-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	008CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	5856	0.03
V	51	2	He	18640	0.01
Cr	52	2	He	29255	0.00
Fe	56	2	He	1081731	0.00
Se	78	2	He	422	0.79
As	75	2	He	2125	0.08
Ca	44	2	He	9607	0.03
Na	23	2	He	245275	0.00
Mg	24	2	He	114471	0.00
K	39	2	He	357656	0.00
Mn	55	2	He	11138	0.02
Co	59	2	He	15886	0.01
Ni	60	2	He	4207	0.14
Cu	63	2	He	9533	0.03
Zn	66	2	He	2757	0.04
Al	27	2	He	2137	0.33
B	11	1	No Gas	28098	0.00
Al	27	1	No Gas	61705	0.02
Si	28	1	No Gas	581996	0.00
Ag	107	1	No Gas	27419	0.01
Cd	111	1	No Gas	5004	0.05
Sr	88	1	No Gas	54495	0.00
Mo	95	1	No Gas	11215	0.05
Sn	118	1	No Gas	16578	0.01
Sb	121	1	No Gas	19722	0.00
Ba	137	1	No Gas	8633	0.06
Tl	205	1	No Gas	40489	0.00
Tl	203	1	No Gas	16952	0.01
Pb	208	1	No Gas	54739	0.00
U	238	1	No Gas	50029	0.00
Ca	43	2	He	567	2.36
Sb	121	2	He	10658	0.02
Cu	63	1	No Gas	21845	0.01

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	698766	4.86	732422	95.40	70	120	
Ge	72	2	He	673050	0.17	670169	100.43	70	120	
Ge	72	1	No Gas	2056435	0.60	2074600	99.12	70	120	

Calibration Standard Report

In	115	1	No Gas	2364371	1.72	2295733	102.99	70	120	
Bi	209	1	No Gas	1832389	3.65	1796281	102.01	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	010CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:37:24-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	008CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	14935	0.01
V	51	2	He	34548	0.00
Cr	52	2	He	48433	0.00
Fe	56	2	He	2638517	0.00
Se	78	2	He	851	0.20
As	75	2	He	4833	0.05
Ca	44	2	He	23353	0.01
Na	23	2	He	526015	0.00
Mg	24	2	He	290932	0.00
K	39	2	He	640027	0.00
Mn	55	2	He	26476	0.01
Co	59	2	He	38739	0.01
Ni	60	2	He	10097	0.02
Cu	63	2	He	23691	0.01
Zn	66	2	He	6448	0.03
Al	27	2	He	3637	0.06
B	11	1	No Gas	50224	0.00
Al	27	1	No Gas	99887	0.00
Si	28	1	No Gas	706863	0.00
Ag	107	1	No Gas	68172	0.00
Cd	111	1	No Gas	12262	0.01
Sr	88	1	No Gas	136645	0.00
Mo	95	1	No Gas	26176	0.02
Sn	118	1	No Gas	40015	0.00
Sb	121	1	No Gas	50906	0.00
Ba	137	1	No Gas	20974	0.01
Tl	205	1	No Gas	99938	0.00
Tl	203	1	No Gas	41352	0.00
Pb	208	1	No Gas	138195	0.00
U	238	1	No Gas	128584	0.00
Ca	43	2	He	1360	0.11
Sb	121	2	He	28150	0.01
Cu	63	1	No Gas	50825	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	699761	2.34	732422	95.54	70	120	
Ge	72	2	He	673549	0.44	670169	100.50	70	120	
Ge	72	1	No Gas	2037353	2.13	2074600	98.20	70	120	

Calibration Standard Report

In	115	1	No Gas	2342777	0.98	2295733	102.05	70	120	
Bi	209	1	No Gas	1829833	2.13	1796281	101.87	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	011CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:39:15-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	008CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	30301	0.00
V	51	2	He	59271	0.01
Cr	52	2	He	76095	0.01
Fe	56	2	He	5129908	0.00
Se	78	2	He	1333	0.16
As	75	2	He	9121	0.05
Ca	44	2	He	44503	0.02
Na	23	2	He	953094	0.00
Mg	24	2	He	567599	0.00
K	39	2	He	1103004	0.00
Mn	55	2	He	49835	0.01
Co	59	2	He	75198	0.01
Ni	60	2	He	18870	0.04
Cu	63	2	He	45911	0.02
Zn	66	2	He	10845	0.04
Al	27	2	He	9332	0.61
B	11	1	No Gas	89691	0.00
Al	27	1	No Gas	167482	0.00
Si	28	1	No Gas	919474	0.00
Ag	107	1	No Gas	137499	0.00
Cd	111	1	No Gas	24716	0.01
Sr	88	1	No Gas	275629	0.00
Mo	95	1	No Gas	52463	0.00
Sn	118	1	No Gas	79875	0.00
Sb	121	1	No Gas	103949	0.00
Ba	137	1	No Gas	43369	0.00
Tl	205	1	No Gas	204930	0.00
Tl	203	1	No Gas	85458	0.00
Pb	208	1	No Gas	277129	0.00
U	238	1	No Gas	264661	0.00
Ca	43	2	He	2590	0.30
Sb	121	2	He	55093	0.01
Cu	63	1	No Gas	101201	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	694980	4.71	732422	94.89	70	120	
Ge	72	2	He	720444	14.75	670169	107.50	70	120	
Ge	72	1	No Gas	2044428	2.22	2074600	98.55	70	120	

Calibration Standard Report

In	115	1	No Gas	2332028	0.54	2295733	101.58	70	120	
Bi	209	1	No Gas	1807413	2.10	1796281	100.62	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	012CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:41:05-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	008CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	295491	0.00
V	51	2	He	522786	0.00
Cr	52	2	He	575192	0.00
Fe	56	2	He	51055389	0.00
Se	78	2	He	11281	0.01
As	75	2	He	88506	0.00
Ca	44	2	He	439857	0.00
Na	23	2	He	8590716	0.00
Mg	24	2	He	5305468	0.00
K	39	2	He	8772880	0.00
Mn	55	2	He	492002	0.00
Co	59	2	He	747910	0.00
Ni	60	2	He	185220	0.00
Cu	63	2	He	445844	0.00
Zn	66	2	He	99889	0.00
Al	27	2	He	43198	0.00
B	11	1	No Gas	757574	0.00
Al	27	1	No Gas	1266669	0.00
Si	28	1	No Gas	3802049	0.00
Ag	107	1	No Gas	1319569	0.00
Cd	111	1	No Gas	247761	0.00
Sr	88	1	No Gas	2701756	0.00
Mo	95	1	No Gas	503088	0.00
Sn	118	1	No Gas	792638	0.00
Sb	121	1	No Gas	1044271	0.00
Ba	137	1	No Gas	428929	0.00
Tl	205	1	No Gas	1919447	0.00
Tl	203	1	No Gas	803934	0.00
Pb	208	1	No Gas	2729739	0.00
U	238	1	No Gas	2674582	0.00
Ca	43	2	He	26102	0.00
Sb	121	2	He	575377	0.00
Cu	63	1	No Gas	968930	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	644655	1.98	732422	88.02	70	120	
Ge	72	2	He	657079	0.88	670169	98.05	70	120	
Ge	72	1	No Gas	2001042	1.08	2074600	96.45	70	120	

Calibration Standard Report

In	115	1	No Gas	2277485	0.39	2295733	99.21	70	120	
Bi	209	1	No Gas	1787859	2.50	1796281	99.53	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:42:52-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	008CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	582160	0.00
V	51	2	He	1028378	0.00
Cr	52	2	He	1120011	0.00
Fe	56	2	He	100341252	0.00
Se	78	2	He	22232	0.00
As	75	2	He	174590	0.00
Ca	44	2	He	866456	0.00
Na	23	2	He	16942639	0.00
Mg	24	2	He	10417297	0.00
K	39	2	He	17424744	0.00
Mn	55	2	He	955443	0.00
Co	59	2	He	1492347	0.00
Ni	60	2	He	358335	0.00
Cu	63	2	He	877206	0.00
Zn	66	2	He	198197	0.00
Al	27	2	He	84184	0.00
B	11	1	No Gas	1466208	0.00
Al	27	1	No Gas	2373116	0.00
Si	28	1	No Gas	6823862	0.00
Ag	107	1	No Gas	2546959	0.00
Cd	111	1	No Gas	482253	0.00
Sr	88	1	No Gas	5126053	0.00
Mo	95	1	No Gas	979419	0.00
Sn	118	1	No Gas	1558847	0.00
Sb	121	1	No Gas	2101587	0.00
Ba	137	1	No Gas	846024	0.00
Tl	205	1	No Gas	3746394	0.00
Tl	203	1	No Gas	1587097	0.00
Pb	208	1	No Gas	5401373	0.00
U	238	1	No Gas	5264933	0.00
Ca	43	2	He	51644	0.00
Sb	121	2	He	1163437	0.00
Cu	63	1	No Gas	1852601	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	608170	1.91	732422	83.04	70	120	
Ge	72	2	He	640432	1.04	670169	95.56	70	120	
Ge	72	1	No Gas	1953960	1.50	2074600	94.18	70	120	

Calibration Standard Report

In	115	1	No Gas	2252704	2.04	2295733	98.13	70	120	
Bi	209	1	No Gas	1744659	1.28	1796281	97.13	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	015_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:51:07-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	008CALB.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	104.442	3.112	1010076	1.78	100	104.4	90	110	
Be	9	1	No Gas	103.456	0.900	305628	0.36	100	103.5	90	110	
V	51	2	He	101.395	0.877	547824	0.64	100	101.4	90	110	
Cr	52	2	He	100.718	0.888	598746	0.47	100	100.7	90	110	
Fe	56	2	He	10286.425	0.996	53916268	0.62	10000	102.9	90	110	
Se	78	2	He	99.564	1.533	11644	2.13	100	99.6	90	110	
As	75	2	He	101.898	1.140	92986	0.47	100	101.9	90	110	
Ca	44	2	He	10426.098	0.647	472033	0.74	10000	104.3	90	110	
Na	23	2	He	10134.681	1.700	8988452	1.57	10000	101.3	90	110	
Mg	24	2	He	10259.026	1.697	5583432	0.94	10000	102.6	90	110	
K	39	2	He	10144.298	1.493	9279992	0.92	10000	101.4	90	110	
Mn	55	2	He	102.061	0.742	510969	0.54	100	102.1	90	110	
Co	59	2	He	100.783	0.644	783266	0.14	100	100.8	90	110	
Ni	60	2	He	101.932	2.055	191569	1.27	100	101.9	90	110	
Cu	63	2	He	101.877	0.340	466864	1.10	100	101.9	90	110	
Zn	66	2	He	100.770	1.821	104601	1.45	100	100.8	90	110	
Al	27	2	He	168.733	0.960	74358	0.45	100	168.7	90	110	ICV Main CR1 Failed
B	11	1	No Gas	496.407	0.925	773216	1.67	500	99.3	90	110	
Al	27	1	No Gas	170.910	0.940	2093737	1.69	100	170.9	90	110	ICV Main CR1 Failed
Si	28	1	No Gas	526.630	0.564	3944051	0.62	500	105.3	90	110	
Ag	107	1	No Gas	100.333	2.042	1290785	1.86	100	100.3	90	110	
Cd	111	1	No Gas	102.250	0.933	248581	0.57	100	102.2	90	110	
Sr	88	1	No Gas	106.935	1.230	2778770	1.49	100	106.9	90	110	
Mo	95	1	No Gas	104.081	0.204	514422	0.65	100	104.1	90	110	
Sn	118	1	No Gas	102.368	0.431	803257	0.71	100	102.4	90	110	
Sb	121	1	No Gas	100.613	1.200	1076896	0.48	100	100.6	90	110	
Ba	137	1	No Gas	102.496	0.972	436052	0.94	100	102.5	90	110	
Tl	205	1	No Gas	101.481	1.732	1971653	0.89	100	101.5	90	110	
Tl	203	1	No Gas	100.830	2.264	827877	0.47	100	100.8	90	110	
Pb	208	1	No Gas	99.305	1.668	2773884	1.29	100	99.3	90	110	
U	238	1	No Gas	100.911	3.044	2748843	0.97	100	100.9	90	110	
Ca	43	2	He	10304.378	2.149	27792	2.82	10000	103.0	90	110	
Sb	121	2	He	101.630	0.974	614049	0.76	100	101.6	90	110	
Ti	47	2	He	99.512	3.479	23480	3.93	100	99.5	90	110	
Cu	63	1	No Gas	103.682	0.127	988983	0.78	100	103.7	90	110	
Se	82	1	No Gas	97.515	1.369	18408	0.69	100	97.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	644797	1.21	732422	88.04	70	120	
Ge	72	2	He	670138	0.78	670169	100.00	70	120	
Ge	72	1	No Gas	2002519	0.85	2074600	96.53	70	120	
In	115	1	No Gas	2263655	0.68	2295733	98.60	70	120	
Bi	209	1	No Gas	1809368	2.09	1796281	100.73	70	120	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	016LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:52:54-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	008CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.841	1.841	18.26	67990	0.00	2	
Be	9	1	No Gas	1.803	1.803	6.26	6101	0.03	2	
V	51	2	He	1.429	1.429	6.81	16558	0.01	2	
Cr	52	2	He	1.058	1.058	21.27	28386	0.00	2	NewName Main CR1 Failed
Fe	56	2	He	201.089	201.089	2.33	1102166	0.02	200	
Se	78	2	He	2.332	2.332	10.29	499	0.47	2	
As	75	2	He	1.876	1.876	2.71	2138	0.09	2	
Ca	44	2	He	185.878	185.878	6.22	9824	1.89	200	
Na	23	2	He	202.803	202.803	1.13	248288	0.08	200	
Mg	24	2	He	211.553	211.553	1.35	118227	0.18	200	
K	39	2	He	202.166	202.166	3.24	359554	0.06	200	
Mn	55	2	He	1.927	1.927	6.19	11085	0.02	2	
Co	59	2	He	1.926	1.926	3.27	15446	0.01	2	
Ni	60	2	He	2.049	2.049	4.05	4491	0.05	2	
Cu	63	2	He	2.051	2.051	3.55	10117	0.02	2	
Zn	66	2	He	1.405	1.405	9.05	2764	0.05	2	
Al	27	2	He	0.543	0.543	86.58	2134	0.03	2	NewName Main CR1 Failed
B	11	1	No Gas	14.625	14.625	9.95	40536	0.04	10	NewName Main CR1 Failed
Al	27	1	No Gas	-0.258	-0.258	-14.35	58704	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	3.736	3.736	25.75	574964	0.00	10	NewName Main CR1 Failed
Ag	107	1	No Gas	2.058	2.058	4.41	27693	0.01	2	
Cd	111	1	No Gas	2.018	2.018	3.58	5091	0.04	2	
Sr	88	1	No Gas	1.953	1.953	1.41	54571	0.00	2	
Mo	95	1	No Gas	1.882	1.882	4.21	11058	0.02	2	
Sn	118	1	No Gas	1.941	1.941	4.55	17312	0.01	2	
Sb	121	1	No Gas	1.901	1.901	5.37	21311	0.01	2	
Ba	137	1	No Gas	1.880	1.880	3.73	8623	0.02	2	
Tl	205	1	No Gas	2.318	2.318	2.47	46932	0.00	2	
Tl	203	1	No Gas	2.270	2.270	2.36	19432	0.01	2	
Pb	208	1	No Gas	1.932	1.932	0.93	56224	0.00	2	
U	238	1	No Gas	1.905	1.905	2.22	53152	0.00	2	
Ca	43	2	He	153.836	153.836	24.49	513	29.97	200	
Sb	121	2	He	1.938	1.938	2.87	12072	0.02	2	
Ti	47	2	He	1.667	1.667	13.66	417	0.40	200	
Cu	63	1	No Gas	2.043	2.043	0.81	21541	0.01	2	
Se	82	1	No Gas	2.051	2.051	14.40	586	0.35	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	733342	4.79	732422	100.13	70	120	
Ge	72	2	He	682893	1.70	670169	101.90	70	120	
Ge	72	1	No Gas	2078471	2.08	2074600	100.19	70	120	
In	115	1	No Gas	2348164	1.13	2295733	102.28	70	120	
Bi	209	1	No Gas	1849770	0.52	1796281	102.98	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	017LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:54:45-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	008CALB.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	5.123	5.123	3.67	96175	0.01	5	
Be	9	1	No Gas	4.649	4.649	2.71	14686	0.03	5	
V	51	2	He	4.257	4.257	1.16	32114	0.01	5	
Cr	52	2	He	4.109	4.109	3.31	46546	0.01	5	
Fe	56	2	He	484.717	484.717	1.10	2635349	0.02	500	
Se	78	2	He	4.783	4.783	8.19	791	0.60	5	
As	75	2	He	4.639	4.639	1.75	4731	0.10	5	
Ca	44	2	He	475.388	475.388	3.08	23310	2.04	500	
Na	23	2	He	501.180	501.180	1.82	519607	0.10	500	
Mg	24	2	He	513.816	513.816	0.60	287873	0.18	500	
K	39	2	He	494.108	494.108	1.73	631126	0.08	500	
Mn	55	2	He	4.813	4.813	0.95	25958	0.02	5	
Co	59	2	He	4.782	4.782	1.17	38331	0.01	5	
Ni	60	2	He	4.993	4.993	3.85	10181	0.05	5	
Cu	63	2	He	4.854	4.854	0.59	23354	0.02	5	
Zn	66	2	He	4.851	4.851	3.21	6412	0.08	5	
Al	27	2	He	3.367	3.367	10.43	3390	0.10	5	NewName2 Main CR1 Failed
B	11	1	No Gas	25.863	25.863	1.37	56378	0.05	25	
Al	27	1	No Gas	3.436	3.436	4.91	104306	0.00	5	NewName2 Main CR1 Failed
Si	28	1	No Gas	21.233	21.233	11.26	692415	0.00	25	
Ag	107	1	No Gas	4.998	4.998	2.34	69067	0.01	5	
Cd	111	1	No Gas	4.579	4.579	2.90	11916	0.04	5	
Sr	88	1	No Gas	4.841	4.841	1.09	136625	0.00	5	
Mo	95	1	No Gas	4.602	4.602	1.48	25765	0.02	5	
Sn	118	1	No Gas	4.713	4.713	0.79	41121	0.01	5	
Sb	121	1	No Gas	4.694	4.694	2.67	52331	0.01	5	
Ba	137	1	No Gas	4.558	4.558	3.74	21081	0.02	5	
Tl	205	1	No Gas	5.100	5.100	1.69	102344	0.00	5	
Tl	203	1	No Gas	5.101	5.101	1.67	43268	0.01	5	
Pb	208	1	No Gas	4.810	4.810	1.94	138626	0.00	5	
U	238	1	No Gas	4.666	4.666	0.95	130297	0.00	5	
Ca	43	2	He	389.820	389.820	7.54	1167	33.41	500	
Sb	121	2	He	4.525	4.525	0.25	28197	0.02	5	
Ti	47	2	He	4.911	4.911	14.23	1207	0.41	5	
Cu	63	1	No Gas	5.052	5.052	1.53	51280	0.01	5	
Se	82	1	No Gas	4.428	4.428	9.61	1046	0.42	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	687054	1.50	732422	93.81	70	120	
Ge	72	2	He	687718	1.34	670169	102.62	70	120	
Ge	72	1	No Gas	2078027	1.12	2074600	100.17	70	120	
In	115	1	No Gas	2423732	2.22	2295733	105.58	70	120	
Bi	209	1	No Gas	1852913	0.74	1796281	103.15	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	018_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T10:56:37-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	008CALB.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	0.069	440.8	47767	2.7	0.5	
Be	9	1	No Gas	0.003	97.7	65	15.4	0.5	
V	51	2	He	-0.467	-5.8	6304	1.7	2.5	
Cr	52	2	He	-1.345	-2.8	14418	1.0	2.5	
Fe	56	2	He	-1.738	-2.0	19634	1.3	100	
Se	78	2	He	0.003	2250.6	227	2.7	1	
As	75	2	He	-0.067	-67.4	340	11.6	2.5	
Ca	44	2	He	-12.143	-18.3	717	14.0	100	
Na	23	2	He	-10.959	-8.9	56662	1.2	100	
Mg	24	2	He	-0.594	-37.9	597	21.2	100	
K	39	2	He	-5.187	-69.6	170344	1.3	100	
Mn	55	2	He	-0.042	-66.6	1070	14.0	2.5	
Co	59	2	He	-0.001	-1011.9	197	25.1	2.5	
Ni	60	2	He	-0.113	-3.1	363	1.6	2.5	
Cu	63	2	He	-0.047	-22.6	333	15.1	1	
Zn	66	2	He	-0.799	-12.8	463	22.7	2.5	
Al	27	2	He	-2.451	-14.1	823	18.9	5	
B	11	1	No Gas	0.673	74.8	15784	1.9	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	-3.260	-0.1	21410	2.9	5	
Si	28	1	No Gas	-7.665	-29.0	493038	0.5	10	
Ag	107	1	No Gas	-0.005	-55.9	180	16.7	2.5	
Cd	111	1	No Gas	-0.003	-271.5	-8	-262.0	1	
Sr	88	1	No Gas	-0.045	-6.1	773	11.7	2.5	
Mo	95	1	No Gas	-0.106	-12.9	893	7.3	2.5	
Sn	118	1	No Gas	-0.039	-64.9	1240	15.9	5	
Sb	121	1	No Gas	0.050	26.2	760	16.2	2.5	
Ba	137	1	No Gas	-0.028	-16.3	213	9.8	2.5	
Tl	205	1	No Gas	0.012	54.9	1130	10.9	1	
Tl	203	1	No Gas	0.015	74.6	503	18.9	1	
Pb	208	1	No Gas	-0.013	-7.9	673	4.8	2.5	
U	238	1	No Gas	0.004	28.0	190	15.8	2.5	
Ca	43	2	He	-27.324	-20.4	17	91.7	100	
Sb	121	2	He	0.054	12.9	477	9.5	2.5	
Ti	47	2	He	-0.001	-1951.1	17	34.6	2.5	
Se	82	1	No Gas	-0.244	-186.0	139	64.9	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	709987	4.22	732422	96.94	70	120	
Ge	72	2	He	684814	0.72	670169	102.19	70	120	
Ge	72	1	No Gas	2058144	3.05	2074600	99.21	70	120	
In	115	1	No Gas	2360320	2.69	2295733	102.81	70	120	
Bi	209	1	No Gas	1839250	1.51	1796281	102.39	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\062323A.b
Acq Date Time	2023-06-23T10:58:30-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	008CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	101.604	3.125	999843	2.56	100	101.6	90	110	
Be	9	1	No Gas	101.254	1.733	303949	0.41	100	101.3	90	110	
V	51	2	He	101.756	1.003	556779	0.74	100	101.8	90	110	
Cr	52	2	He	101.828	1.532	612838	1.07	100	101.8	90	110	
Fe	56	2	He	10150.784	0.627	53888379	0.87	10000	101.5	90	110	
Se	78	2	He	100.206	2.009	11867	1.61	100	100.2	90	110	
As	75	2	He	101.160	1.727	93497	1.28	100	101.2	90	110	
Ca	44	2	He	10099.234	0.381	463123	0.17	10000	101.0	90	110	
Na	23	2	He	10107.265	0.811	9079293	1.05	10000	101.1	90	110	
Mg	24	2	He	10090.972	0.452	5562754	0.91	10000	100.9	90	110	
K	39	2	He	10030.940	0.197	9296165	0.57	10000	100.3	90	110	
Mn	55	2	He	101.947	1.189	516923	0.74	100	101.9	90	110	
Co	59	2	He	101.054	0.105	795432	0.35	100	101.1	90	110	
Ni	60	2	He	101.515	0.469	193246	0.40	100	101.5	90	110	
Cu	63	2	He	101.445	0.756	470812	0.30	100	101.4	90	110	
Zn	66	2	He	101.728	0.285	106939	0.32	100	101.7	90	110	
Al	27	2	He	100.739	0.397	45722	0.12	100	100.7	90	110	
B	11	1	No Gas	481.685	2.643	762636	0.81	500	96.3	90	110	
Al	27	1	No Gas	101.946	2.297	1290837	0.65	100	101.9	90	110	
Si	28	1	No Gas	512.301	3.795	3904982	1.55	500	102.5	90	110	
Ag	107	1	No Gas	102.784	0.592	1357943	0.57	100	102.8	90	110	
Cd	111	1	No Gas	101.308	1.048	252922	0.85	100	101.3	90	110	
Sr	88	1	No Gas	103.740	0.955	2768297	0.79	100	103.7	90	110	
Mo	95	1	No Gas	102.989	0.947	522729	0.73	100	103.0	90	110	
Sn	118	1	No Gas	100.099	1.129	806614	1.01	100	100.1	90	110	
Sb	121	1	No Gas	99.279	0.927	1077839	1.08	100	99.3	90	110	
Ba	137	1	No Gas	100.237	1.069	437922	0.86	100	100.2	90	110	
Tl	205	1	No Gas	102.021	1.383	1973379	2.07	100	102.0	90	110	
Tl	203	1	No Gas	101.435	2.520	829032	1.11	100	101.4	90	110	
Pb	208	1	No Gas	100.384	1.065	2791283	1.07	100	100.4	90	110	
U	238	1	No Gas	99.573	0.159	2701061	1.89	100	99.6	90	110	
Ca	43	2	He	10156.570	0.521	27742	0.45	10000	101.6	90	110	
Sb	121	2	He	98.922	0.612	605344	0.16	100	98.9	90	110	
Ti	47	2	He	101.352	1.645	24218	1.95	100	101.4	90	110	
Cu	63	1	No Gas	102.889	1.727	995315	0.10	100	102.9	90	110	
Se	82	1	No Gas	97.017	3.488	18579	3.70	100	97.0	90	110	

QC ISTD Table

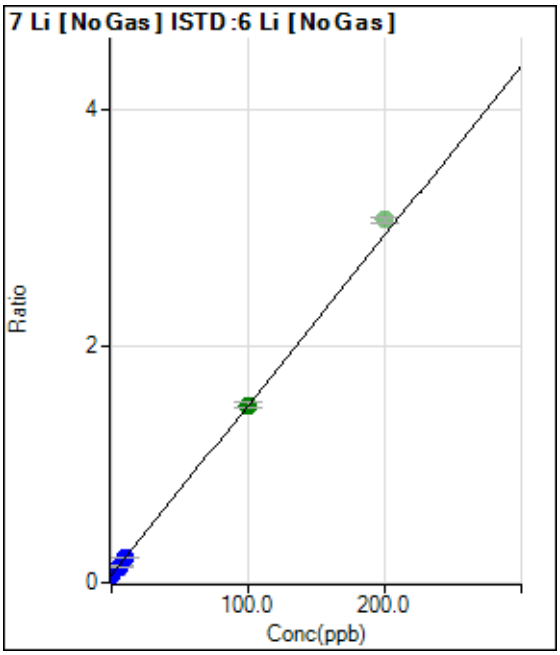
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	655283	1.82	732422	89.47	70	120	
Ge	72	2	He	678705	0.46	670169	101.27	70	120	
Ge	72	1	No Gas	2031263	1.81	2074600	97.91	70	120	
In	115	1	No Gas	2324560	0.22	2295733	101.26	70	120	
Bi	209	1	No Gas	1801081	2.04	1796281	100.27	70	120	

Calibration for 019_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\062323A.b\
Analysis File: 062323A.batch.bin
DA Date-Time: 6/23/2023 11:59:58 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	008CALB.d	CAL BLK	6/23/2023 10:33:42 AM
2	009CALS.d	2/10/200	6/23/2023 10:35:33 AM
3	010CALS.d	5/25/500	6/23/2023 10:37:24 AM
4	011CALS.d	10/50/100	6/23/2023 10:39:15 AM
5	012CALS.d	100/500/10K	6/23/2023 10:41:05 AM
6	013CALS.d	200/1000/20K	6/23/2023 10:42:52 AM

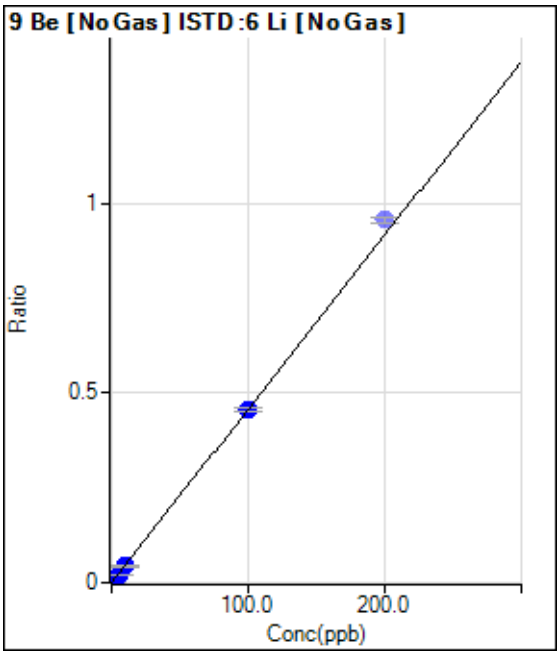
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48719.64	0.0664	P	4.0
2	☐	2.000	2.122	67571.06	0.0969	P	6.3
3	☐	5.000	4.988	96593.38	0.1381	P	1.7
4	☐	10.000	10.131	147096.14	0.2120	P	4.6
5	☐	100.000	99.985	968435.84	1.5028	A	3.0
6	☑	200.000		1868783.10	3.0735	A	1.7

y = 0.0144 * x + 0.0664
R = 1.0000
DL = 0.5587
BEC = 4.623

Weight: <None>
Min Conc: <None>

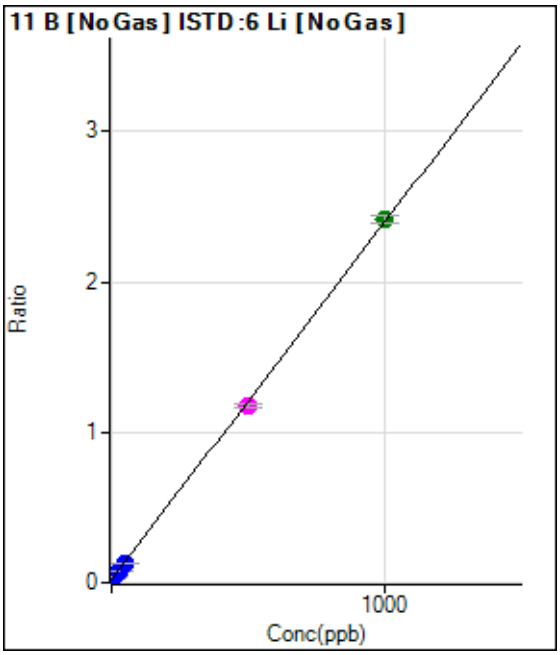


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0001	P	21.3
2	☐	2.000	1.816	5856.26	0.0084	P	6.5
3	☐	5.000	4.643	14934.66	0.0213	P	1.5
4	☐	10.000	9.513	30300.94	0.0437	P	4.3
5	☐	100.000	100.070	295491.05	0.4585	P	2.4
6	☑	200.000		582159.81	0.9574	P	1.8

y = 0.0046 * x + 7.6860E-005
R = 1.0000
DL = 0.01071
BEC = 0.01678

Weight: <None>
Min Conc: <None>

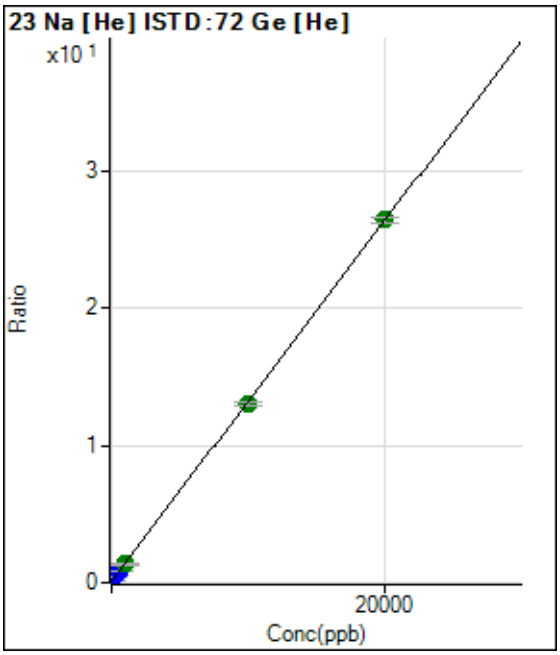
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15089.84	0.0207	P	6.6
2	☐	10.000	8.264	28098.08	0.0403	P	5.6
3	☐	25.000	21.540	50224.41	0.0718	P	2.6
4	☐	50.000	45.714	89690.59	0.1292	P	3.4
5	☐	500.000	486.467	757574.47	1.1755	M	3.0
6	☐	1000.000	1007.085	1466208.05	2.4115	A	2.1

y = 0.0024 * x + 0.0207
R = 0.9999
DL = 1.735
BEC = 8.705

Weight: <None>
Min Conc: <None>

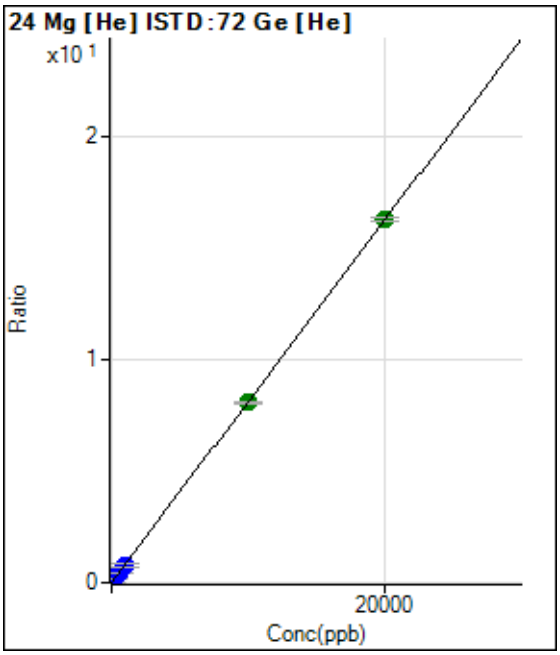


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	65095.11	0.0971	P	1.5
2	☐	200.000	203.419	245275.43	0.3644	P	1.0
3	☐	500.000	520.441	526015.06	0.7810	P	0.4
4	☐	1000.000	949.527	953094.13	1.3447	A	16.7
5	☐	10000.000	9877.897	8590716.33	13.0759	A	2.4
6	☐	20000.000	20063.030	16942639.33	26.4583	A	1.9

y = 0.0013 * x + 0.0971
R = 1.0000
DL = 3.315
BEC = 73.93

Weight: <None>
Min Conc: <None>

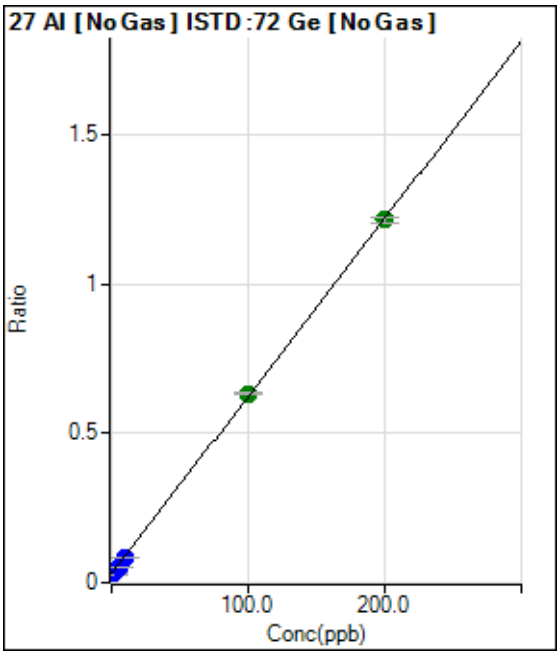
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	906.71	0.0014	P	15.6
2	☐	200.000	207.767	114471.00	0.1701	P	1.2
3	☐	500.000	530.211	290931.92	0.4319	P	1.1
4	☐	1000.000	986.845	567598.67	0.8027	P	19.0
5	☐	10000.000	9941.287	5305467.84	8.0745	A	1.1
6	☐	20000.000	20029.181	10417297.35	16.2666	A	1.0

y = 8.1208E-004 * x + 0.0014
R = 1.0000
DL = 0.7799
BEC = 1.666

Weight: <None>
Min Conc: <None>

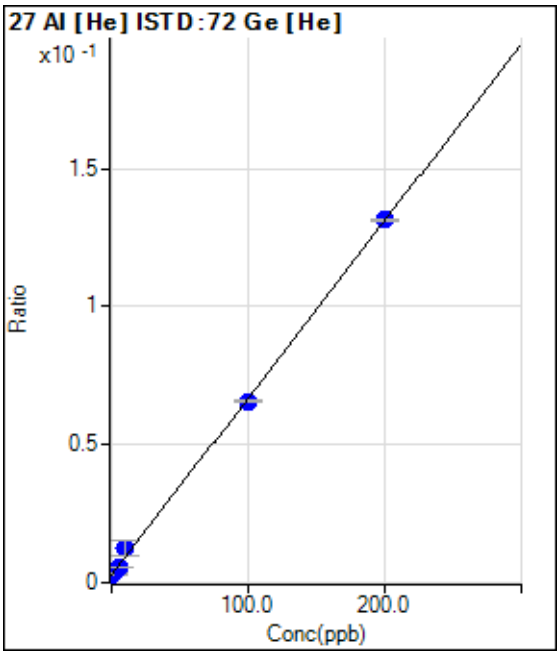


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	62778.60	0.0298	P	27.8
2	☐	2.000	0.037	61704.70	0.0300	P	11.3
3	☐	5.000	3.240	99886.82	0.0490	P	0.5
4	☐	10.000	8.778	167481.76	0.0819	P	2.3
5	☐	100.000	101.506	1266668.86	0.6330	A	0.9
6	☐	200.000	199.372	2373116.37	1.2147	A	1.6

y = 0.0059 * x + 0.0298
R = 0.9999
DL = 4.175
BEC = 5.011

Weight: <None>
Min Conc: <None>

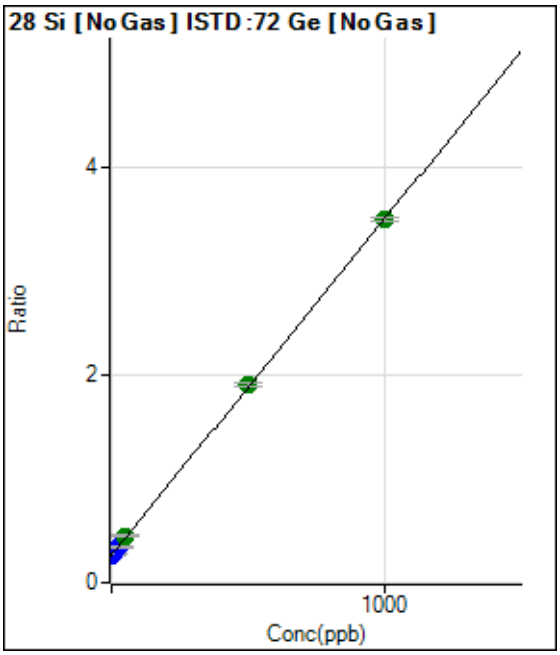
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1856.85	0.0028	P	15.7
2	☐	2.000	0.626	2136.89	0.0032	P	7.1
3	☐	5.000	4.097	3637.22	0.0054	P	2.2
4	☐	10.000	15.109	9331.94	0.0125	P	41.1
5	☐	100.000	98.206	43197.53	0.0657	P	0.3
6	☐	200.000	200.678	84183.57	0.1314	P	0.3

y = 6.4120E-004 * x + 0.0028
R = 0.9995
DL = 2.039
BEC = 4.325

Weight: <None>
Min Conc: <None>

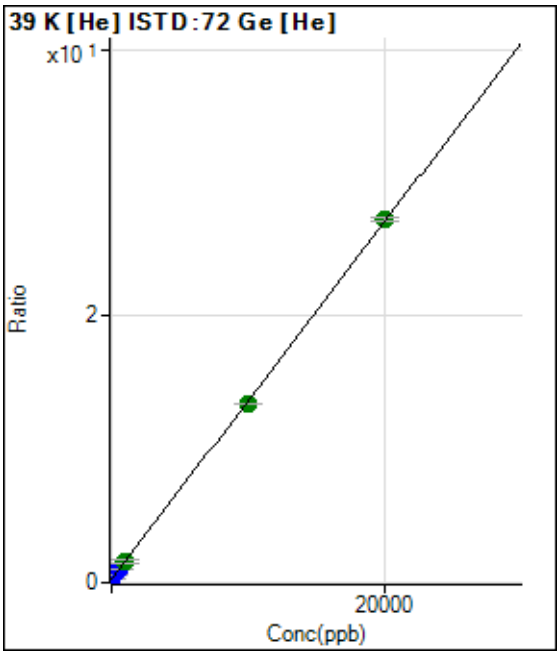


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	548199.47	0.2645	P	4.1
2	☐	10.000	5.714	581996.12	0.2830	P	2.1
3	☐	25.000	25.471	706862.70	0.3470	P	4.7
4	☐	50.000	57.210	919473.94	0.4497	A	1.8
5	☐	500.000	505.218	3802049.21	1.9003	A	1.7
6	☐	1000.000	997.062	6823861.98	3.4927	A	1.1

y = 0.0032 * x + 0.2645
R = 0.9999
DL = 10.08
BEC = 81.7

Weight: <None>
Min Conc: <None>

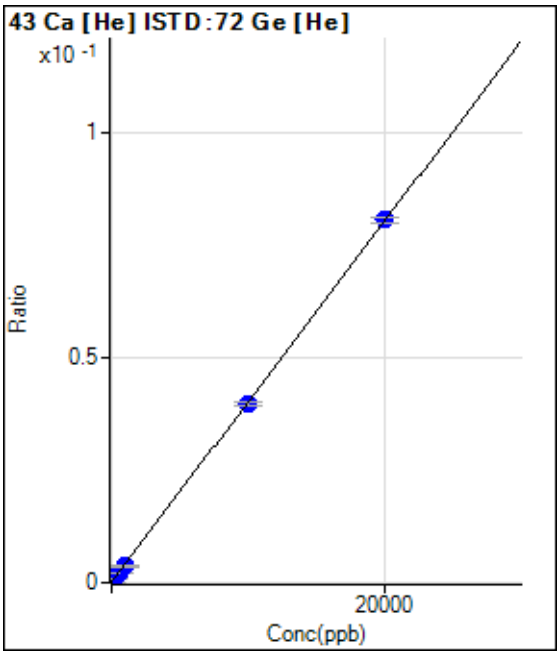
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	171351.35	0.2557	P	1.7
2	☐	200.000	205.737	357656.27	0.5314	P	0.6
3	☐	500.000	518.298	640026.62	0.9502	P	0.3
4	☐	1000.000	972.160	1103003.53	1.5584	A	17.9
5	☐	10000.000	9773.024	8772879.87	13.3513	A	0.1
6	☐	20000.000	20114.365	17424743.91	27.2084	A	1.2

y = 0.0013 * x + 0.2557
R = 0.9999
DL = 9.678
BEC = 190.8

Weight: <None>
Min Conc: <None>

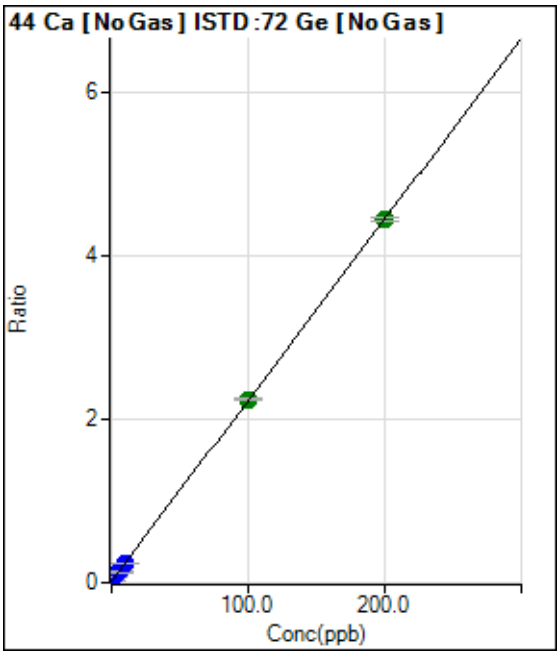


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0001	P	38.8
2	☐	200.000	176.533	566.69	0.0008	P	13.4
3	☐	500.000	470.054	1360.09	0.0020	P	1.9
4	☐	1000.000	880.805	2590.29	0.0037	P	20.1
5	☐	10000.000	9870.582	26101.85	0.0397	P	1.8
6	☐	20000.000	20071.652	51643.60	0.0806	P	1.4

y = 4.0113E-006 * x + 1.3389E-004
R = 1.0000
DL = 38.84
BEC = 33.38

Weight: <None>
Min Conc: <None>

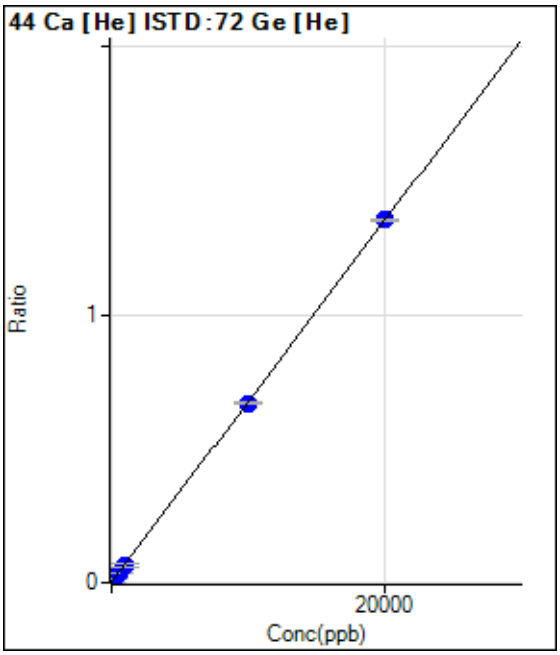
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37431.56	0.0182	P	9.5
2	☐	2.000	1.903	123869.87	0.0602	P	1.0
3	☐	5.000	5.058	264793.57	0.1300	P	3.1
4	☐	10.000	10.245	500305.01	0.2448	P	1.6
5	☐	100.000	100.510	4484488.68	2.2413	A	1.3
6	☐	200.000	199.732	8666991.75	4.4359	A	1.2

y = 0.0221 * x + 0.0182
R = 1.0000
DL = 0.2342
BEC = 0.8206

Weight: <None>
Min Conc: <None>

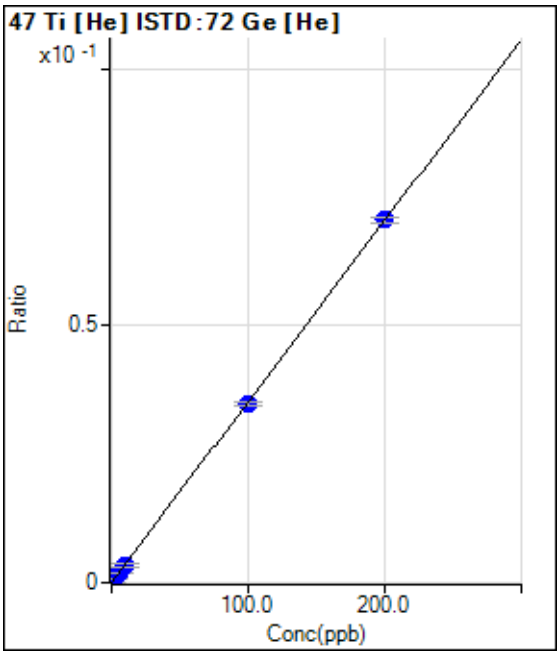


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1250.08	0.0019	P	5.9
2	☐	200.000	184.145	9606.86	0.0143	P	3.1
3	☐	500.000	486.873	23353.42	0.0347	P	1.7
4	☐	1000.000	906.283	44502.57	0.0629	P	19.1
5	☐	10000.000	9907.321	439856.95	0.6694	P	0.9
6	☐	20000.000	20051.512	866456.24	1.3530	P	0.9

y = 6.7382E-005 * x + 0.0019
R = 1.0000
DL = 4.899
BEC = 27.68

Weight: <None>
Min Conc: <None>

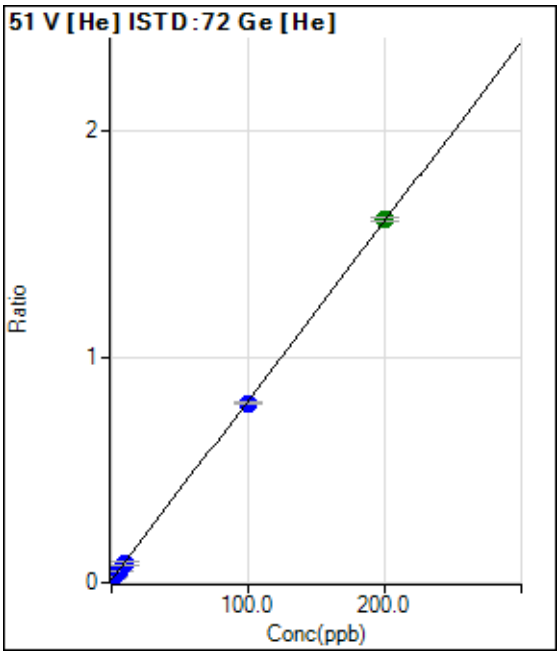
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	68.0
2	☐	2.000	1.774	436.68	0.0006	P	24.4
3	☐	5.000	5.108	1226.75	0.0018	P	7.8
4	☐	10.000	9.216	2313.57	0.0033	P	17.9
5	☐	100.000	99.029	22906.13	0.0349	P	2.1
6	☐	200.000	200.524	45194.52	0.0706	P	1.5

y = 3.5182E-004 * x + 2.4734E-005
R = 1.0000
DL = 0.1434
BEC = 0.0703

Weight: <None>
Min Conc: <None>

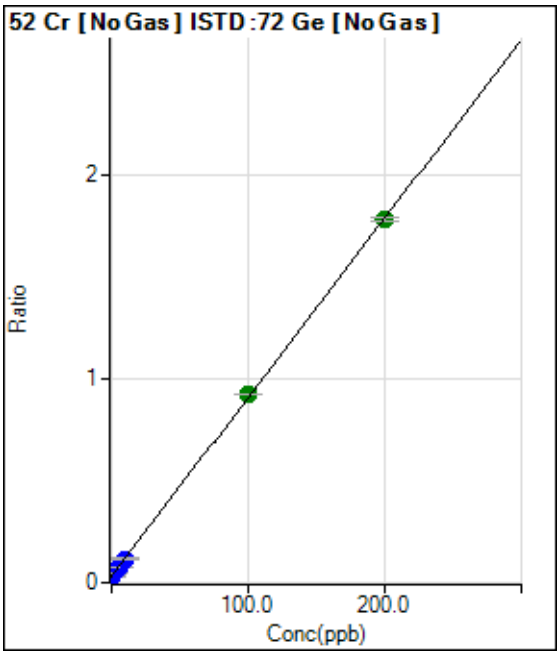


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8656.11	0.0129	P	1.4
2	☐	2.000	1.863	18640.49	0.0277	P	0.9
3	☐	5.000	4.836	34547.85	0.0513	P	0.5
4	☐	10.000	8.935	59271.34	0.0838	P	18.8
5	☐	100.000	98.639	522786.28	0.7956	P	0.7
6	☐	200.000	200.739	1028377.77	1.6058	A	1.2

y = 0.0079 * x + 0.0129
R = 1.0000
DL = 0.06985
BEC = 1.628

Weight: <None>
Min Conc: <None>

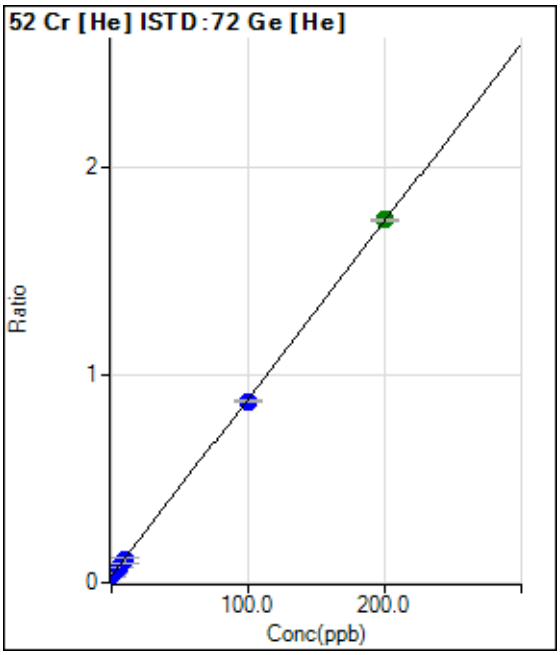
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	65895.60	0.0320	P	13.9
2	☐	2.000	1.232	88125.90	0.0429	P	0.8
3	☐	5.000	4.545	146459.16	0.0719	P	2.1
4	☐	10.000	9.689	239155.77	0.1170	P	2.5
5	☐	100.000	101.569	1846541.95	0.9228	A	0.6
6	☐	200.000	199.250	3476680.26	1.7795	A	1.1

y = 0.0088 * x + 0.0320
R = 0.9999
DL = 1.524
BEC = 3.654

Weight: <None>
Min Conc: <None>

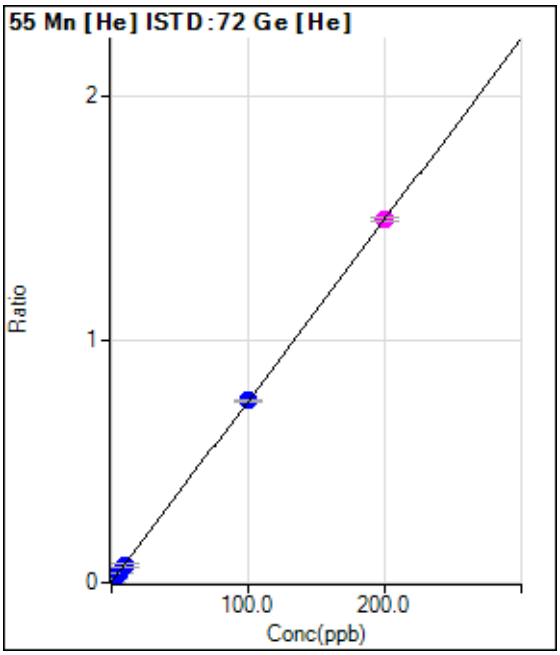


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21807.59	0.0325	P	3.4
2	☐	2.000	1.277	29254.89	0.0435	P	1.3
3	☐	5.000	4.604	48432.50	0.0719	P	1.5
4	☐	10.000	8.787	76095.19	0.1077	P	19.7
5	☐	100.000	98.602	575192.45	0.8754	P	0.7
6	☐	200.000	200.777	1120010.74	1.7488	A	0.2

y = 0.0085 * x + 0.0325
R = 1.0000
DL = 0.3919
BEC = 3.808

Weight: <None>
Min Conc: <None>

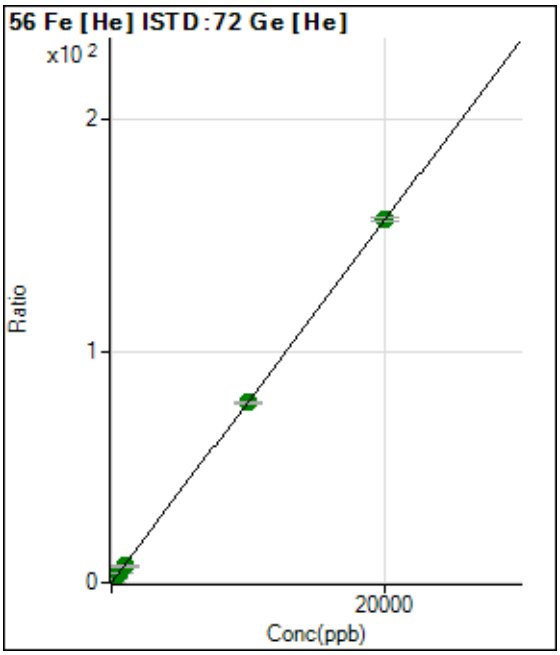
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1256.75	0.0019	P	12.9
2	☐	2.000	1.969	11138.06	0.0165	P	2.0
3	☐	5.000	5.022	26476.00	0.0393	P	3.1
4	☐	10.000	9.207	49834.62	0.0705	P	19.3
5	☐	100.000	100.222	492002.10	0.7488	P	1.4
6	☐	200.000	199.928	955443.32	1.4919	M	0.9

y = 0.0075 * x + 0.0019
R = 1.0000
DL = 0.09696
BEC = 0.2514

Weight: <None>
Min Conc: <None>

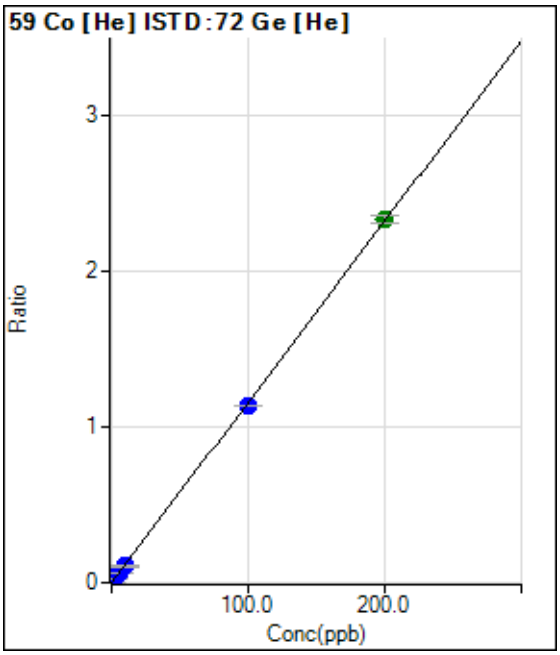


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28316.38	0.0423	P	3.6
2	☐	200.000	200.177	1081730.71	1.6072	A	1.0
3	☐	500.000	495.692	2638517.25	3.9174	A	1.3
4	☐	1000.000	920.756	5129907.53	7.2405	A	17.2
5	☐	10000.000	9933.628	51055389.24	77.7007	A	0.5
6	☐	20000.000	20037.254	100341251.84	156.6882	A	1.1

y = 0.0078 * x + 0.0423
R = 1.0000
DL = 0.5877
BEC = 5.406

Weight: <None>
Min Conc: <None>

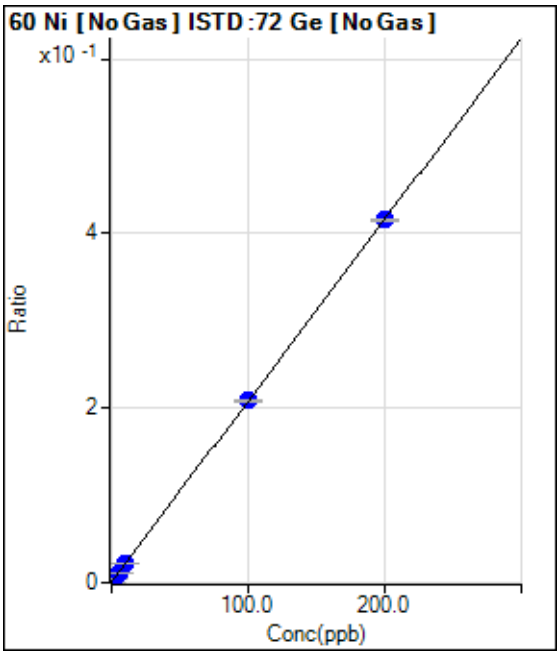
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0003	P	21.5
2	☐	2.000	2.010	15886.12	0.0236	P	1.0
3	☐	5.000	4.935	38738.71	0.0575	P	1.7
4	☐	10.000	9.153	75198.01	0.1064	P	19.7
5	☐	100.000	98.141	747910.12	1.1382	P	0.5
6	☐	200.000	200.973	1492347.22	2.3305	A	2.0

y = 0.0116 * x + 2.9389E-004
R = 0.9999
DL = 0.01633
BEC = 0.02535

Weight: <None>
Min Conc: <None>

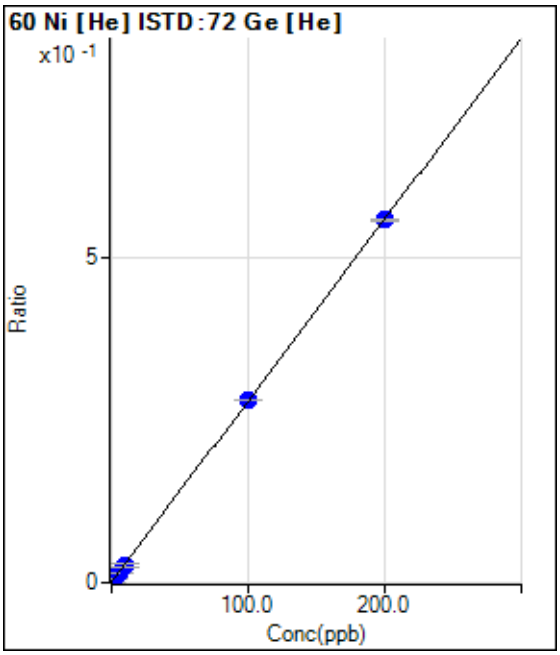


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1220.09	0.0006	P	1.4
2	☐	2.000	2.073	10060.53	0.0049	P	2.3
3	☐	5.000	5.151	22986.35	0.0113	P	1.4
4	☐	10.000	10.207	44526.34	0.0218	P	0.9
5	☐	100.000	100.136	417210.04	0.2085	P	0.9
6	☐	200.000	199.917	812168.09	0.4157	P	0.8

y = 0.0021 * x + 5.8769E-004
R = 1.0000
DL = 0.01149
BEC = 0.283

Weight: <None>
Min Conc: <None>

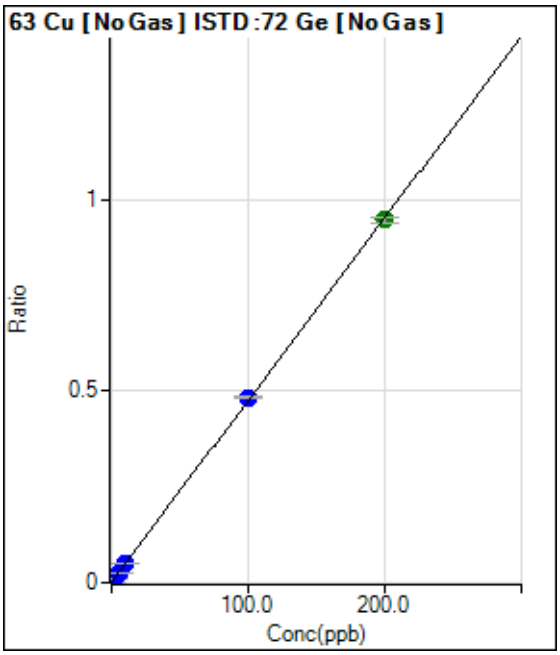
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	566.69	0.0008	P	12.9
2	☐	2.000	1.933	4207.38	0.0063	P	5.9
3	☐	5.000	5.058	10097.26	0.0150	P	2.0
4	☐	10.000	9.250	18870.14	0.0267	P	20.0
5	☐	100.000	100.502	185219.62	0.2819	P	0.9
6	☐	200.000	199.786	358334.62	0.5595	P	0.5

y = 0.0028 * x + 8.4648E-004
R = 1.0000
DL = 0.1168
BEC = 0.3027

Weight: <None>
Min Conc: <None>

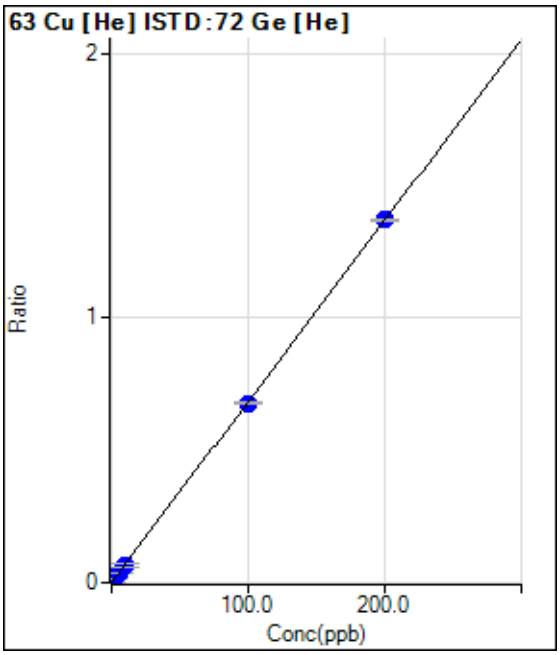


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1326.76	0.0006	P	15.8
2	☐	2.000	2.097	21844.52	0.0106	P	1.4
3	☐	5.000	5.110	50825.17	0.0250	P	2.7
4	☐	10.000	10.272	101201.27	0.0495	P	2.4
5	☐	100.000	101.654	968930.04	0.4842	P	0.5
6	☐	200.000	199.156	1852601.33	0.9481	A	1.4

y = 0.0048 * x + 6.4524E-004
R = 1.0000
DL = 0.06438
BEC = 0.1356

Weight: <None>
Min Conc: <None>

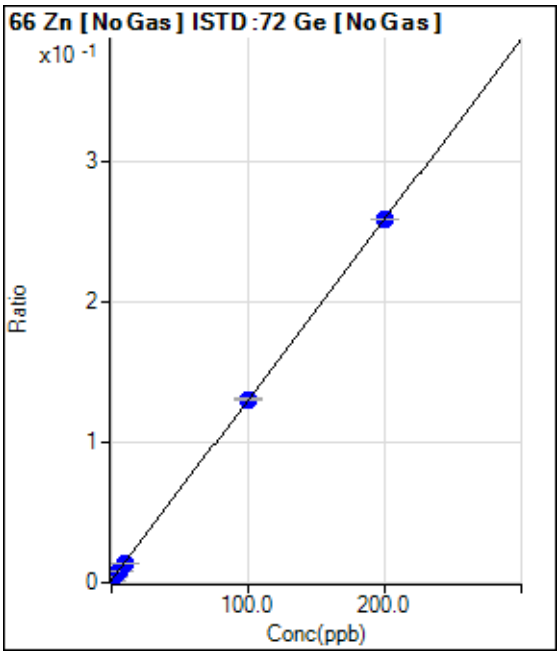
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	540.02	0.0008	P	4.2
2	☐	2.000	1.956	9533.49	0.0142	P	2.9
3	☐	5.000	5.031	23690.98	0.0352	P	2.6
4	☐	10.000	9.387	45911.48	0.0649	P	19.1
5	☐	100.000	99.226	445844.09	0.6786	P	0.7
6	☐	200.000	200.417	877205.74	1.3697	P	0.7

y = 0.0068 * x + 8.0566E-004
R = 1.0000
DL = 0.01478
BEC = 0.118

Weight: <None>
Min Conc: <None>

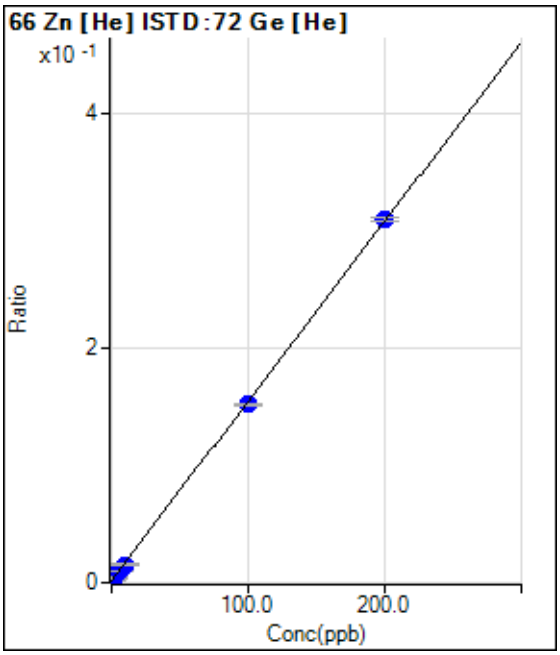


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3307.14	0.0016	P	8.6
2	☐	2.000	1.604	7535.56	0.0037	P	4.8
3	☐	5.000	4.863	15996.36	0.0079	P	1.3
4	☐	10.000	9.649	28620.55	0.0140	P	2.7
5	☐	100.000	100.372	261352.83	0.1306	P	0.5
6	☐	200.000	199.839	504989.04	0.2584	P	0.1

y = 0.0013 * x + 0.0016
R = 1.0000
DL = 0.3206
BEC = 1.247

Weight: <None>
Min Conc: <None>

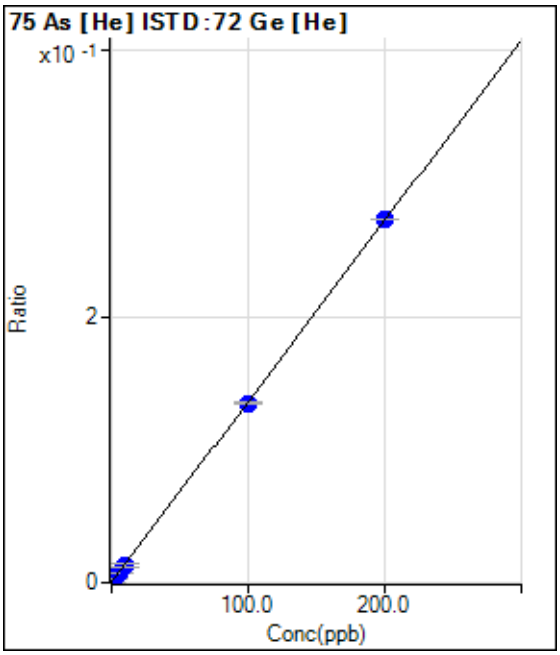
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1273.42	0.0019	P	6.1
2	☐	2.000	1.436	2756.99	0.0041	P	1.0
3	☐	5.000	5.015	6448.32	0.0096	P	1.8
4	☐	10.000	8.767	10844.56	0.0153	P	17.4
5	☐	100.000	98.101	99888.75	0.1520	P	0.6
6	☐	200.000	201.016	198197.41	0.3095	P	1.0

y = 0.0015 * x + 0.0019
R = 0.9999
DL = 0.2262
BEC = 1.241

Weight: <None>
Min Conc: <None>

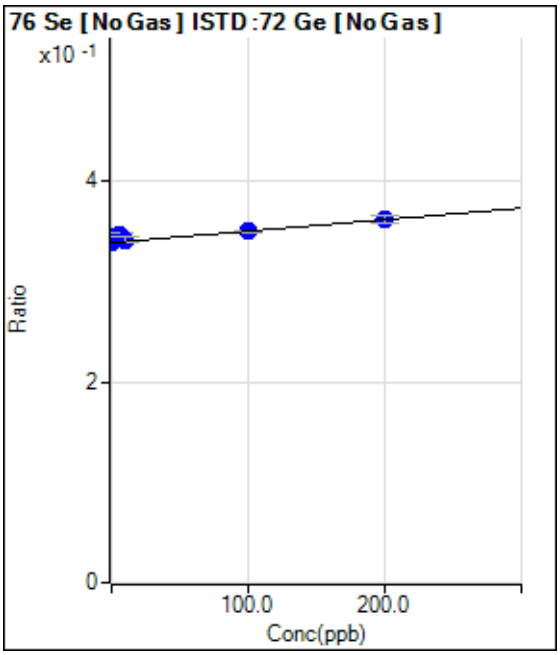


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	393.34	0.0006	P	5.2
2	☐	2.000	1.895	2124.62	0.0032	P	1.4
3	☐	5.000	4.859	4833.12	0.0072	P	2.2
4	☐	10.000	9.064	9120.89	0.0129	P	17.3
5	☐	100.000	98.900	88505.60	0.1347	P	0.7
6	☐	200.000	200.602	174589.72	0.2726	P	0.0

y = 0.0014 * x + 5.8697E-004
R = 1.0000
DL = 0.06761
BEC = 0.4329

Weight: <None>
Min Conc: <None>

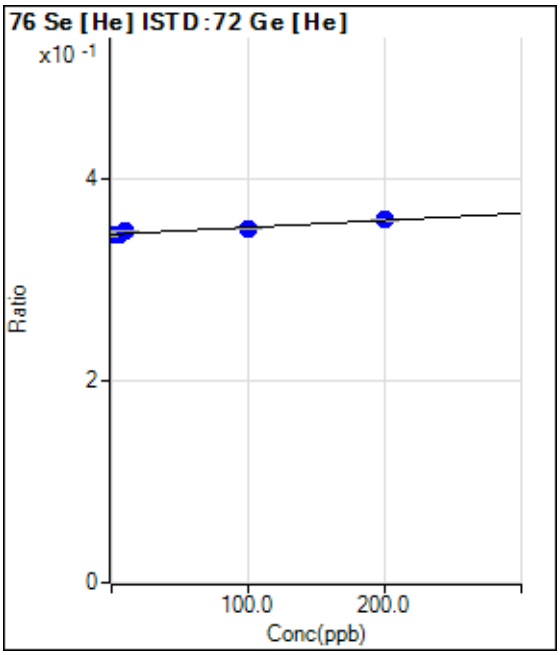
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	702827.59	0.3388	P	0.7
2	☐	2.000	56.540	710122.25	0.3453	P	1.1
3	☐	5.000	73.119	707262.91	0.3472	P	1.1
4	☐	10.000	23.141	697966.37	0.3415	P	1.6
5	☐	100.000	99.851	700908.14	0.3503	P	0.5
6	☐	200.000	197.169	706068.84	0.3614	P	2.2

y = 1.1460E-004 * x + 0.3388
R = 0.9275
DL = 60.35
BEC = 2957

Weight: <None>
Min Conc: <None>

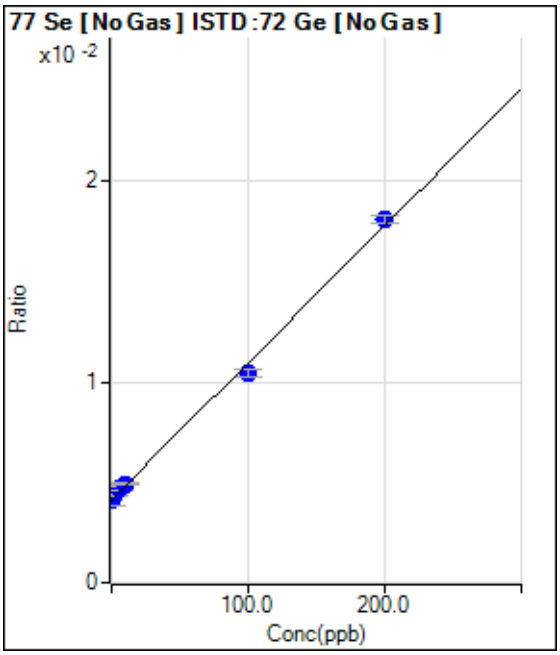


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	231275.95	0.3451	P	0.6
2	☐	2.000	-14.953	231558.56	0.3440	P	0.8
3	☐	5.000	6.454	232734.30	0.3455	P	1.1
4	☐	10.000	46.104	250988.19	0.3483	P	0.3
5	☐	100.000	86.580	230696.68	0.3511	P	0.7
6	☐	200.000	205.038	230137.54	0.3593	P	0.3

y = 6.9564E-005 * x + 0.3451
R = 0.9736
DL = 84.8
BEC = 4961

Weight: <None>
Min Conc: <None>

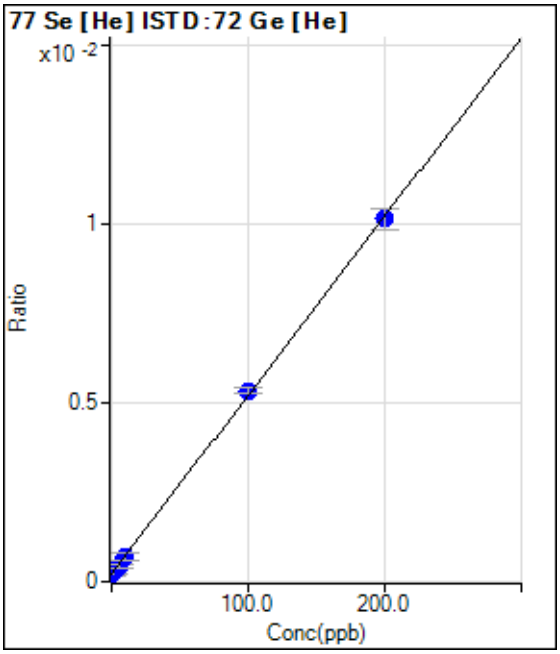
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8519.52	0.0041	P	16.3
2	☐	2.000	2.688	8906.44	0.0043	P	2.8
3	☐	5.000	7.625	9513.58	0.0047	P	3.9
4	☐	10.000	11.091	10030.60	0.0049	P	1.4
5	☐	100.000	91.713	20846.47	0.0104	P	3.6
6	☐	200.000	204.016	35346.52	0.0181	P	2.2

y = 6.8356E-005 * x + 0.0041
R = 0.9986
DL = 29.63
BEC = 60.68

Weight: <None>
Min Conc: <None>

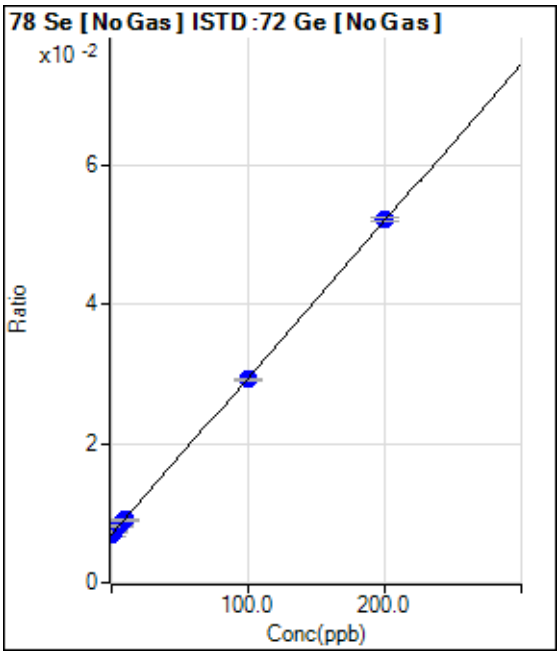


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0002	P	45.1
2	☐	2.000	1.357	193.34	0.0003	P	35.1
3	☐	5.000	4.129	286.68	0.0004	P	22.8
4	☐	10.000	9.363	480.02	0.0007	P	30.2
5	☐	100.000	102.677	3507.19	0.0053	P	3.0
6	☐	200.000	198.721	6484.99	0.0101	P	5.8

y = 4.9854E-005 * x + 2.1955E-004
R = 0.9998
DL = 5.956
BEC = 4.404

Weight: <None>
Min Conc: <None>

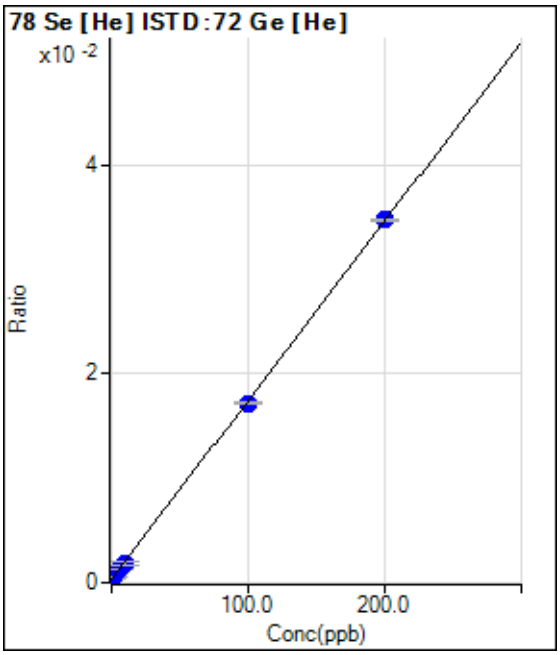
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14297.81	0.0069	P	10.3
2	☐	2.000	1.467	14945.17	0.0073	P	2.1
3	☐	5.000	5.621	16710.62	0.0082	P	3.5
4	☐	10.000	9.334	18483.00	0.0090	P	1.2
5	☐	100.000	98.766	58443.56	0.0292	P	1.4
6	☐	200.000	200.640	101940.24	0.0522	P	1.0

y = 2.2546E-004 * x + 0.0069
R = 1.0000
DL = 9.502
BEC = 30.77

Weight: <None>
Min Conc: <None>

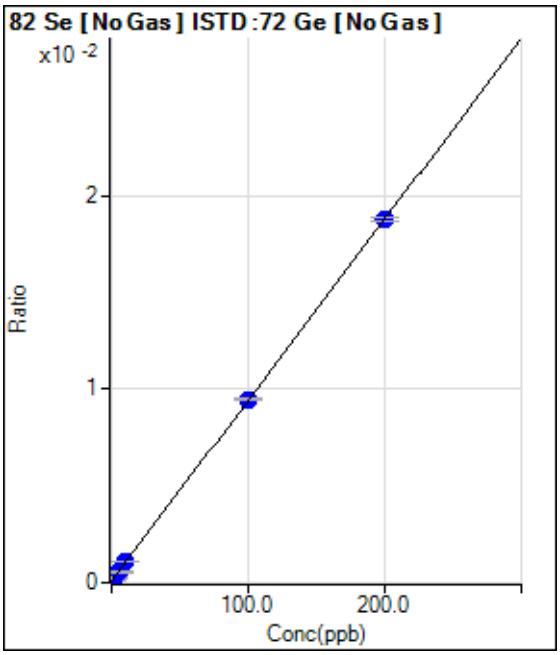


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	222.00	0.0003	P	15.7
2	☐	2.000	1.726	422.01	0.0006	P	3.3
3	☐	5.000	5.448	851.36	0.0013	P	2.1
4	☐	10.000	9.022	1332.74	0.0019	P	14.2
5	☐	100.000	98.365	11281.40	0.0172	P	1.1
6	☐	200.000	200.858	22231.62	0.0347	P	0.6

y = 1.7118E-004 * x + 3.3153E-004
R = 0.9999
DL = 0.9107
BEC = 1.937

Weight: <None>
Min Conc: <None>

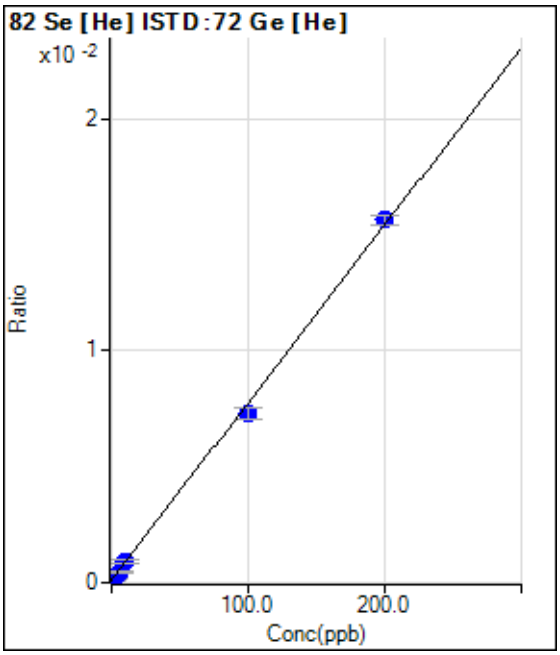
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	181.69	0.0001	P	55.9
2	☐	2.000	1.617	495.10	0.0002	P	17.2
3	☐	5.000	4.916	1115.70	0.0005	P	18.0
4	☐	10.000	10.603	2206.21	0.0011	P	4.1
5	☐	100.000	100.486	18952.86	0.0095	P	1.6
6	☐	200.000	199.733	36606.23	0.0187	P	0.9

y = 9.3352E-005 * x + 9.0001E-005
R = 1.0000
DL = 1.618
BEC = 0.9641

Weight: <None>
Min Conc: <None>

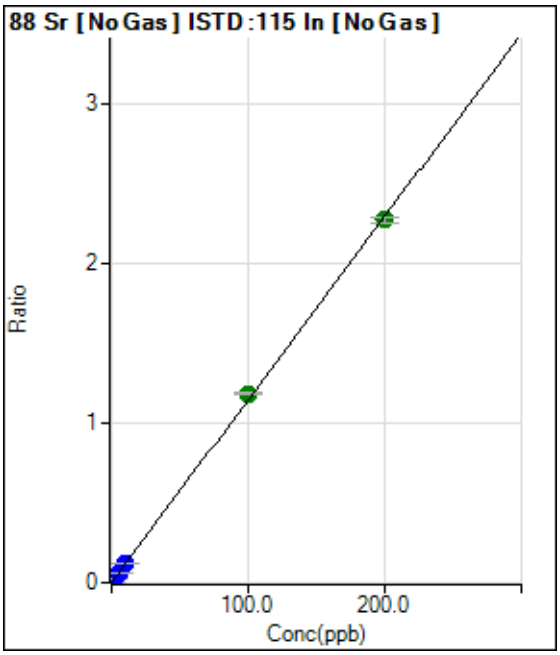


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0001	P	38.6
2	☐	2.000	1.097	133.33	0.0002	P	36.9
3	☐	5.000	4.398	303.34	0.0005	P	22.2
4	☐	10.000	10.503	650.03	0.0009	P	21.3
5	☐	100.000	93.929	4797.61	0.0073	P	6.0
6	☐	200.000	203.034	10023.90	0.0157	P	2.8

y = 7.6528E-005 * x + 1.1407E-004
R = 0.9994
DL = 1.727
BEC = 1.491

Weight: <None>
Min Conc: <None>

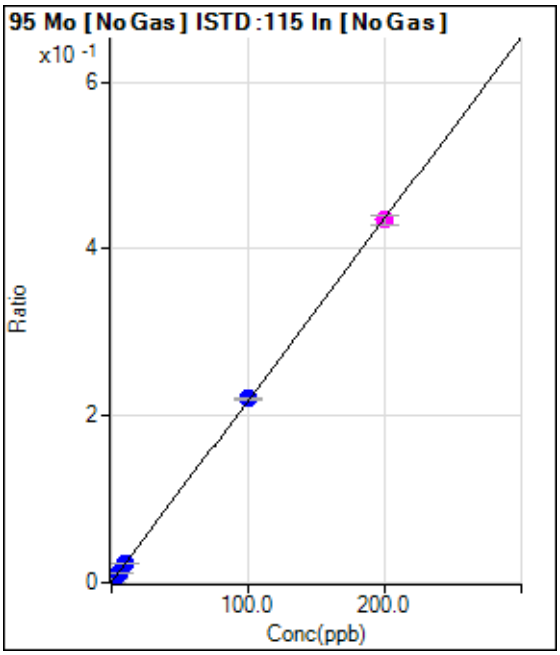
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1906.84	0.0008	P	16.5
2	☐	2.000	1.936	54494.61	0.0231	P	1.3
3	☐	5.000	5.012	136645.26	0.0583	P	1.4
4	☐	10.000	10.230	275629.33	0.1182	P	0.2
5	☐	100.000	103.336	2701756.42	1.1863	A	0.6
6	☐	200.000	198.321	5126052.53	2.2759	A	1.3

y = 0.0115 * x + 8.3973E-004
R = 0.9998
DL = 0.03625
BEC = 0.0732

Weight: <None>
Min Conc: <None>

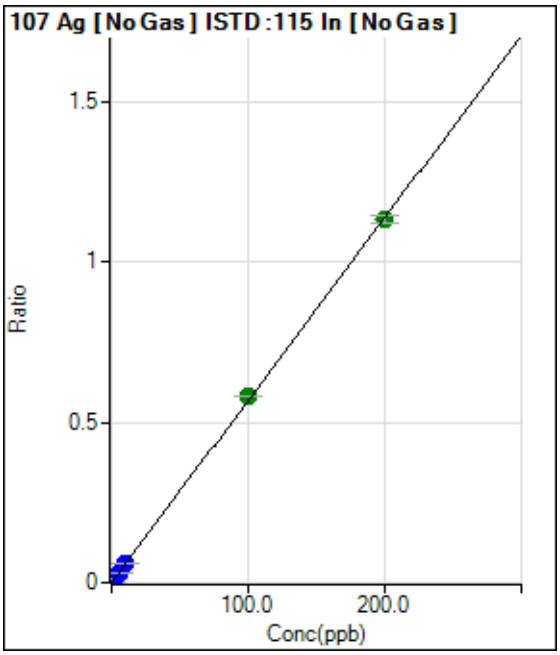


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1484.36	0.0006	P	85.4
2	☐	2.000	1.900	11215.15	0.0047	P	6.8
3	☐	5.000	4.853	26176.08	0.0112	P	5.8
4	☐	10.000	10.051	52463.21	0.0225	P	1.2
5	☐	100.000	101.160	503088.40	0.2209	P	0.8
6	☐	200.000	199.422	979418.94	0.4349	M	2.9

y = 0.0022 * x + 6.0975E-004
R = 1.0000
DL = 0.7176
BEC = 0.28

Weight: <None>
Min Conc: <None>

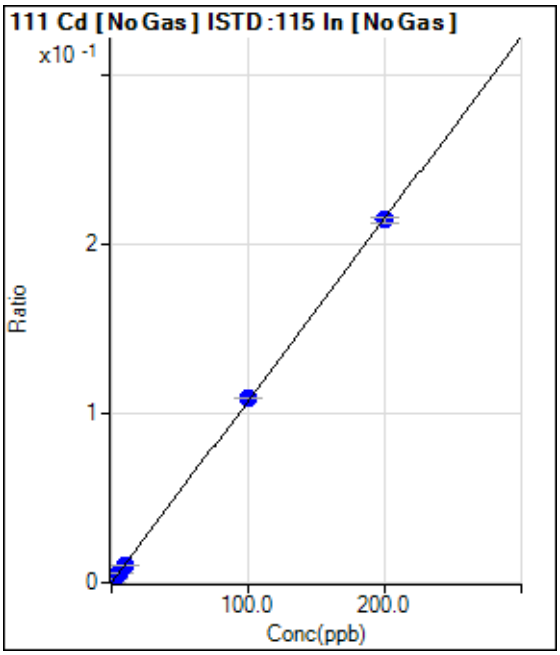
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0001	P	21.4
2	☐	2.000	2.024	27418.78	0.0116	P	4.0
3	☐	5.000	5.103	68171.90	0.0291	P	1.4
4	☐	10.000	10.358	137499.49	0.0590	P	1.0
5	☐	100.000	101.944	1319569.09	0.5794	A	0.2
6	☐	200.000	199.007	2546959.13	1.1310	A	2.3

y = 0.0057 * x + 1.0215E-004
R = 0.9999
DL = 0.01153
BEC = 0.01798

Weight: <None>
Min Conc: <None>

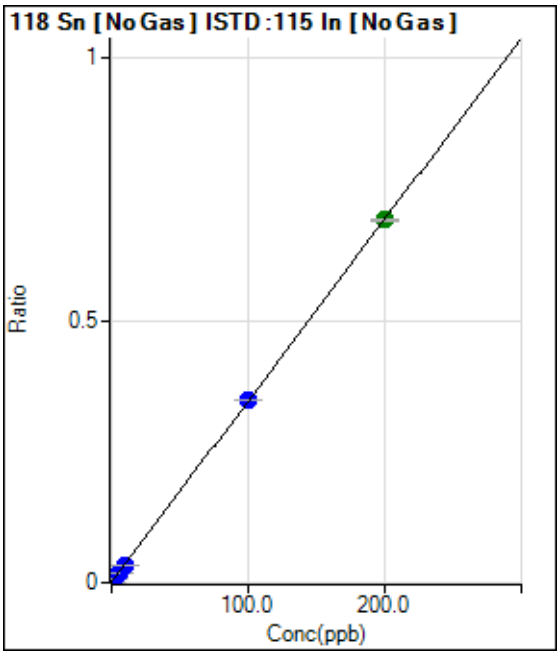


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-0.49	0.0000	P	-88.0
2	☐	2.000	1.971	5003.74	0.0021	P	3.1
3	☐	5.000	4.874	12261.84	0.0052	P	2.0
4	☐	10.000	9.869	24716.42	0.0106	P	2.8
5	☐	100.000	101.290	247760.64	0.1088	P	0.2
6	☐	200.000	199.365	482252.78	0.2141	P	1.8

y = 0.0011 * x - 2.1099E-007
R = 1.0000
DL = 0.0005188
BEC = -0.0001964

Weight: <None>
Min Conc: <None>

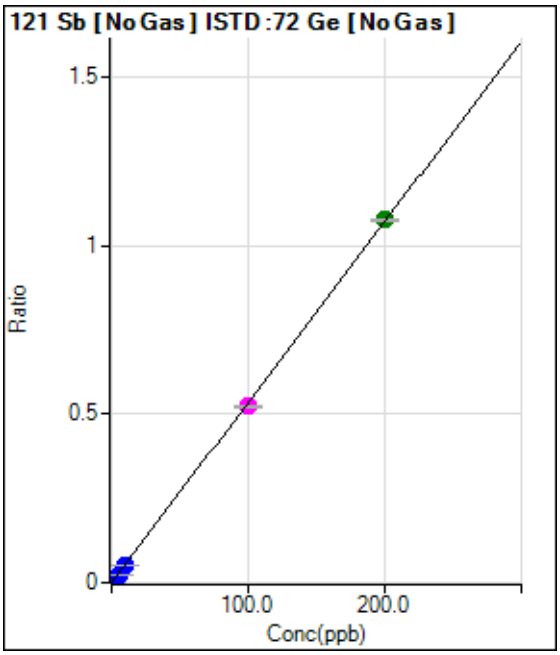
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1506.79	0.0007	P	6.7
2	☐	2.000	1.836	16577.79	0.0070	P	1.3
3	☐	5.000	4.746	40014.55	0.0171	P	1.8
4	☐	10.000	9.709	79875.36	0.0343	P	0.6
5	☐	100.000	100.397	792637.67	0.3480	P	0.4
6	☐	200.000	199.824	1558846.64	0.6920	A	0.8

y = 0.0035 * x + 6.5957E-004
R = 1.0000
DL = 0.03834
BEC = 0.1906

Weight: <None>
Min Conc: <None>

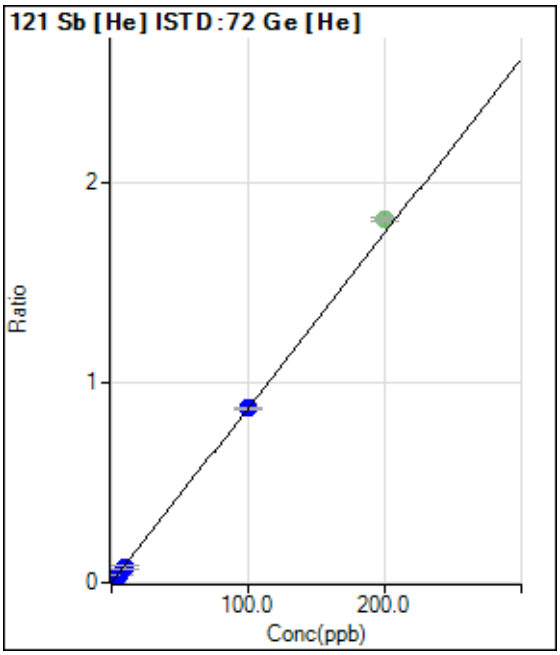


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.01	0.0001	P	11.3
2	☐	2.000	1.776	19721.72	0.0096	P	1.3
3	☐	5.000	4.657	50905.71	0.0250	P	1.0
4	☐	10.000	9.496	103949.07	0.0509	P	1.2
5	☐	100.000	97.633	1044271.49	0.5219	M	0.7
6	☐	200.000	201.220	2101587.26	1.0755	A	0.8

y = 0.0053 * x + 1.0166E-004
R = 0.9999
DL = 0.006471
BEC = 0.01902

Weight: <None>
Min Conc: <None>

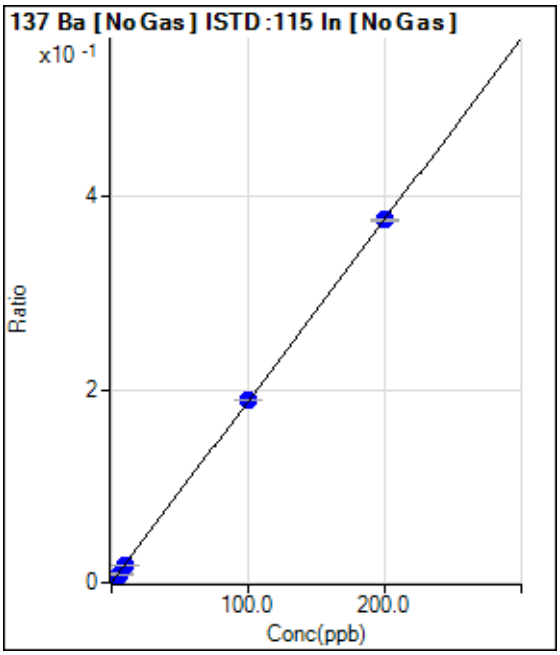
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0002	P	17.6
2	☐	2.000	1.787	10657.86	0.0158	P	2.1
3	☐	5.000	4.756	28150.43	0.0418	P	1.9
4	☐	10.000	8.899	55093.19	0.0780	P	20.4
5	☐	100.000	100.127	575376.76	0.8757	P	1.1
6	☑	200.000		1163436.88	1.8168	A	1.0

y = 0.0087 * x + 2.0861E-004
R = 0.9999
DL = 0.01261
BEC = 0.02386

Weight: <None>
Min Conc: <None>

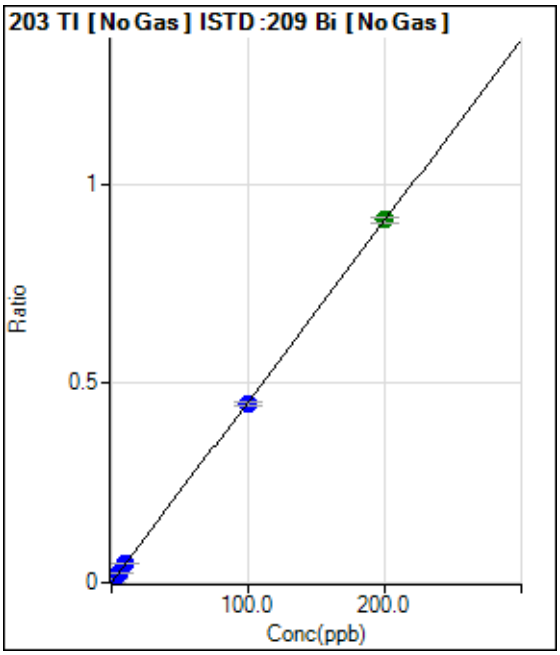


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0001	P	19.6
2	☐	2.000	1.868	8633.05	0.0036	P	3.1
3	☐	5.000	4.692	20973.84	0.0090	P	2.1
4	☐	10.000	9.827	43369.38	0.0186	P	1.2
5	☐	100.000	100.207	428928.59	0.1883	P	0.2
6	☐	200.000	199.914	846024.21	0.3756	P	0.7

y = 0.0019 * x + 1.4254E-004
R = 1.0000
DL = 0.04462
BEC = 0.0759

Weight: <None>
Min Conc: <None>

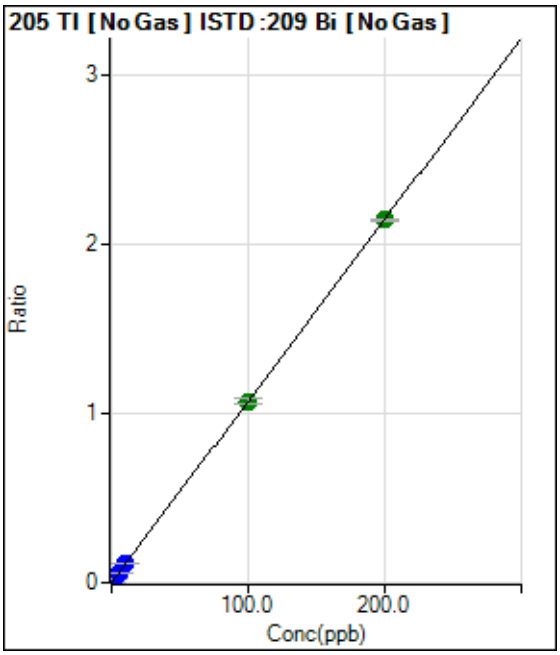
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	370.01	0.0002	P	8.7
2	☐	2.000	1.994	16951.76	0.0093	P	1.4
3	☐	5.000	4.937	41352.21	0.0226	P	2.3
4	☐	10.000	10.378	85458.36	0.0473	P	2.2
5	☐	100.000	99.095	803933.95	0.4498	P	2.1
6	☐	200.000	200.435	1587096.59	0.9096	A	1.5

y = 0.0045 * x + 2.0714E-004
R = 1.0000
DL = 0.01191
BEC = 0.04565

Weight: <None>
Min Conc: <None>

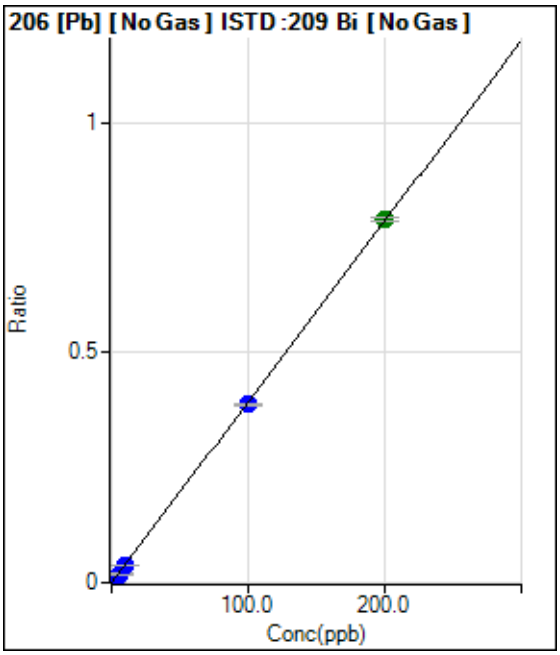


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	866.71	0.0005	P	6.2
2	☐	2.000	2.015	40489.20	0.0221	P	4.1
3	☐	5.000	5.044	99938.11	0.0546	P	3.3
4	☐	10.000	10.517	204929.69	0.1134	P	1.0
5	☐	100.000	100.000	1919446.54	1.0740	A	2.4
6	☐	200.000	199.973	3746394.42	2.1473	A	0.6

y = 0.0107 * x + 4.8273E-004
R = 1.0000
DL = 0.008325
BEC = 0.04497

Weight: <None>
Min Conc: <None>

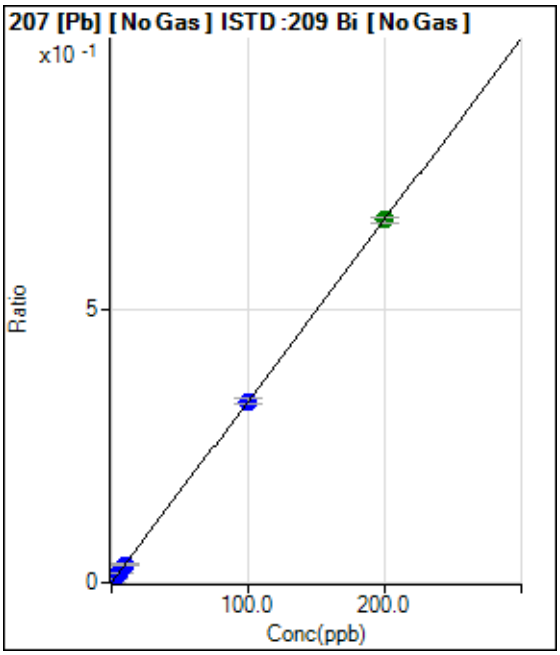
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	303.34	0.0002	P	11.1
2	☐	2.000	1.817	13387.42	0.0073	P	3.3
3	☐	5.000	4.745	34407.80	0.0188	P	4.4
4	☐	10.000	9.792	69852.01	0.0387	P	2.2
5	☐	100.000	98.435	691692.07	0.3870	P	2.1
6	☐	200.000	200.801	1377162.01	0.7893	A	1.2

y = 0.0039 * x + 1.6745E-004
R = 1.0000
DL = 0.01417
BEC = 0.04261

Weight: <None>
Min Conc: <None>

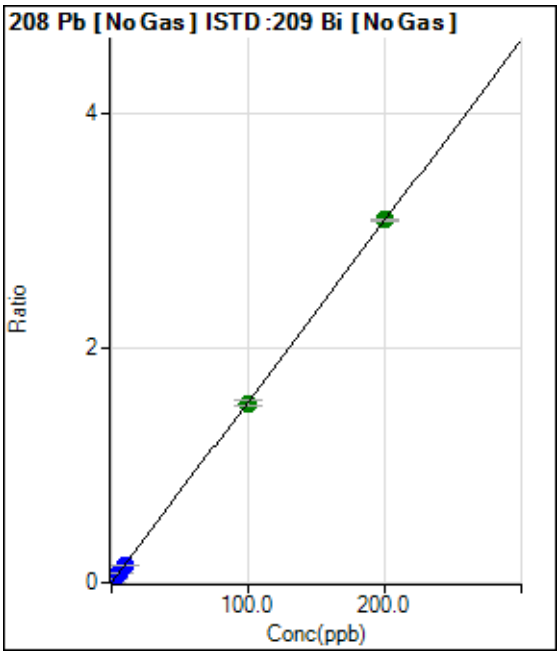


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	200.01	0.0001	P	14.3
2	☐	2.000	1.875	11612.23	0.0063	P	5.7
3	☐	5.000	4.920	30133.50	0.0165	P	2.6
4	☐	10.000	9.969	60101.67	0.0333	P	3.0
5	☐	100.000	100.116	595308.46	0.3331	P	2.4
6	☐	200.000	199.947	1160621.42	0.6652	A	1.5

y = 0.0033 * x + 1.1035E-004
R = 1.0000
DL = 0.0142
BEC = 0.03318

Weight: <None>
Min Conc: <None>

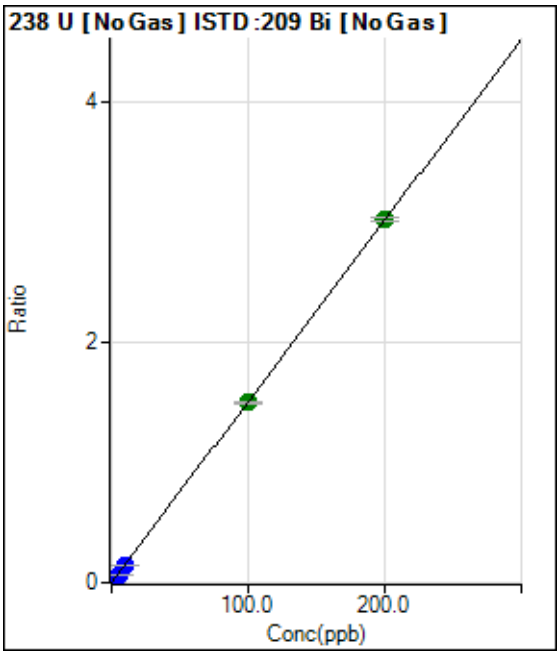
Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1033.37	0.0006	P	7.9
2	☐	2.000	1.900	54738.73	0.0299	P	3.9
3	☐	5.000	4.858	138195.36	0.0756	P	3.4
4	☐	10.000	9.899	277128.58	0.1534	P	2.0
5	☐	100.000	98.935	2729739.15	1.5276	A	3.3
6	☐	200.000	200.542	5401373.49	3.0959	A	0.3

y = 0.0154 * x + 5.7360E-004
R = 1.0000
DL = 0.008754
BEC = 0.03716

Weight: <None>
Min Conc: <None>

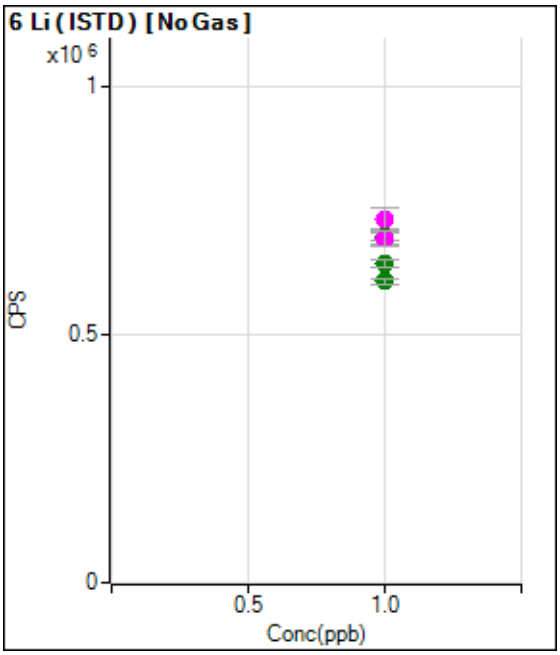


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0000	P	10.1
2	☐	2.000	1.810	50029.13	0.0273	P	2.4
3	☐	5.000	4.665	128583.69	0.0703	P	3.2
4	☐	10.000	9.721	264660.63	0.1465	P	1.3
5	☐	100.000	99.351	2674582.36	1.4964	A	1.7
6	☐	200.000	200.349	5264932.94	3.0175	A	1.0

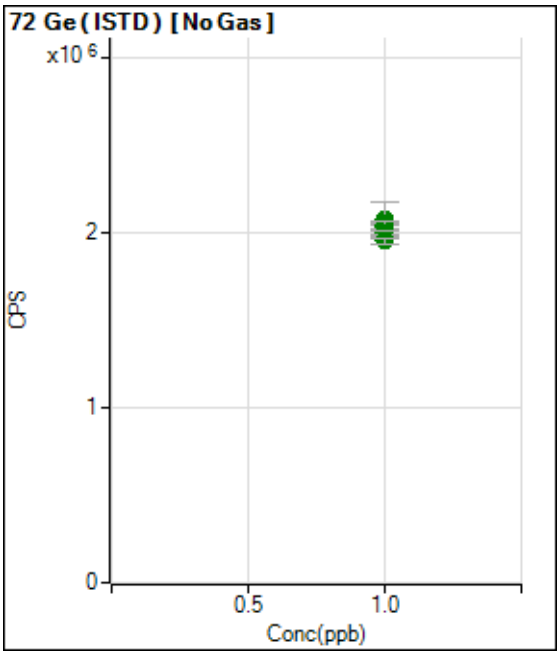
y = 0.0151 * x + 4.8144E-005
R = 1.0000
DL = 0.000968
BEC = 0.003197

Weight: <None>
Min Conc: <None>

Calibration for 019_ICV.d

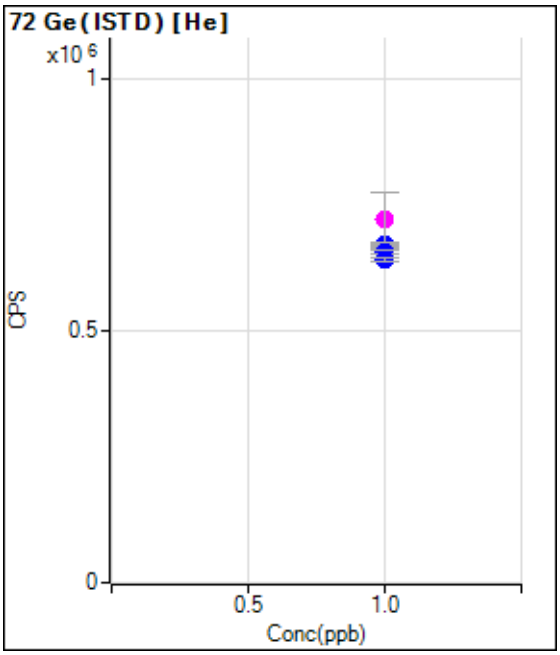


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		732422.23		M	6.8
2	☐	1.000		698765.79		M	4.9
3	☐	1.000		699760.88		A	2.3
4	☐	1.000		694979.85		M	4.7
5	☐	1.000		644655.04		A	2.0
6	☐	1.000		608169.59		A	1.9

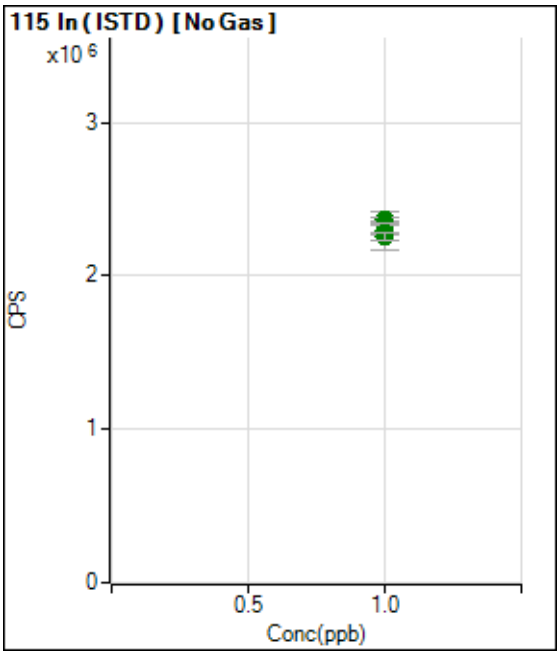


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2074600.49		A	9.7
2	☐	1.000		2056435.33		A	0.6
3	☐	1.000		2037353.25		A	2.1
4	☐	1.000		2044428.20		A	2.2
5	☐	1.000		2001042.26		A	1.1
6	☐	1.000		1953959.66		A	1.5

Calibration for 019_ICV.d

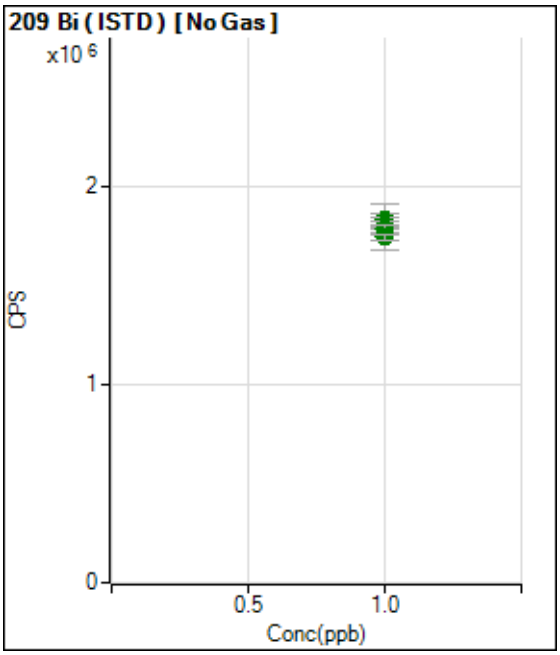


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		670168.95		P	1.2
2	☐	1.000		673050.04		P	0.2
3	☐	1.000		673549.13		P	0.4
4	☐	1.000		720444.47		M	14.8
5	☐	1.000		657079.08		P	0.9
6	☐	1.000		640431.77		P	1.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2295733.04		A	11.1
2	☐	1.000		2364370.89		A	1.7
3	☐	1.000		2342776.53		A	1.0
4	☐	1.000		2332027.96		A	0.5
5	☐	1.000		2277484.65		A	0.4
6	☐	1.000		2252704.24		A	2.0

Calibration for 019_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1796280.60		A	12.9
2	☐	1.000		1832388.57		A	3.7
3	☐	1.000		1829832.99		A	2.1
4	☐	1.000		1807412.99		A	2.1
5	☐	1.000		1787858.88		A	2.5
6	☐	1.000		1744659.24		A	1.3

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	021ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T11:02:08-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	008CALB.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	-0.022	-120.0	46746	1.4	0	ICSA Main CR1 Failed
Be	9	1	No Gas	-0.004	-102.9	42	30.2	0	ICSA Main CR1 Failed
V	51	2	He	-0.085	-20.7	8147	1.4	0	ICSA Main CR1 Failed
Cr	52	2	He	1.290	6.9	29008	1.2	0	ICSA Main CR1 Failed
Fe	56	2	He	98465.967	0.8	512463992	0.5	0	
Se	78	2	He	0.169	58.0	240	4.6	0	ICSA Main CR1 Failed
As	75	2	He	0.286	12.0	649	4.2	0	ICSA Main CR1 Failed
Ca	44	2	He	95859.517	1.4	4301127	1.4	0	
Na	23	2	He	99508.967	0.7	87100995	0.1	0	
Mg	24	2	He	98186.593	0.8	53079521	0.2	0	
K	39	2	He	98006.476	1.0	87591615	0.6	0	
Mn	55	2	He	1.140	2.6	6902	2.4	0	ICSA Main CR1 Failed
Co	59	2	He	0.576	5.2	4638	4.4	0	ICSA Main CR1 Failed
Ni	60	2	He	1.003	4.2	2430	2.9	0	ICSA Main CR1 Failed
Cu	63	2	He	0.877	9.9	4524	8.2	0	ICSA Main CR1 Failed
Zn	66	2	He	2.725	4.8	4041	3.9	0	ICSA Main CR1 Failed
Al	27	2	He	94600.829	1.4	40380394	1.0	0	
B	11	1	No Gas	3.262	18.3	20079	3.5	0	
Al	27	1	No Gas	95792.298	0.8	1123040143	0.6	0	
Si	28	1	No Gas	17.242	4.3	631910	1.0	0	ICSA Main CR1 Failed
Ag	107	1	No Gas	0.174	4.2	2404	3.1	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	0.612	22.9	1448	21.0	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.751	2.3	122220	0.4	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	1992.869	1.7	9586865	0.8	0	
Sn	118	1	No Gas	0.053	60.7	1864	15.4	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.371	4.0	4107	3.5	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.649	6.3	3010	7.5	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.039	5.2	1470	1.4	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.039	4.1	627	0.9	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.200	5.3	5951	6.6	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.014	24.9	427	18.8	0	ICSA Main CR1 Failed
Ca	43	2	He	96277.487	0.8	257174	0.3	0	
Sb	121	2	He	0.392	15.5	2490	15.0	0	ICSA Main CR1 Failed
Ti	47	2	He	2054.500	0.0	481194	0.6	0	
Se	82	1	No Gas	-0.447	-109.8	95	94.8	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	707205	1.90	732422	96.56	70	120	
Ge	72	2	He	665705	0.58	670169	99.33	70	120	
Ge	72	1	No Gas	1972598	0.26	2074600	95.08	70	120	
In	115	1	No Gas	2209426	2.39	2295733	96.24	70	120	
Bi	209	1	No Gas	1626741	2.14	1796281	90.56	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	022ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T11:04:01-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	008CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	96.060	2.330	978326	0.75	100	96.1	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	94.211	1.866	291981	0.87	100	94.2	80	120	
V	51	2	He	99.129	1.271	544539	0.39	100	99.1	80	120	
Cr	52	2	He	98.861	0.966	597744	0.19	100	98.9	80	120	
Fe	56	2	He	107617.506	1.471	573027098	0.58	100	107617.5	80	120	
Se	78	2	He	98.396	1.231	11699	2.02	100	98.4	80	120	
As	75	2	He	98.752	0.697	91607	0.21	100	98.8	80	120	
Ca	44	2	He	104272.216	0.813	4786662	0.11	100	104272.2	80	120	
Na	23	2	He	108678.386	0.950	97321745	0.06	100	108678.4	80	120	
Mg	24	2	He	106862.439	1.676	59103811	0.83	100	106862.4	80	120	
K	39	2	He	106694.890	0.760	97549252	0.33	100	106694.9	80	120	
Mn	55	2	He	98.490	0.856	501219	0.65	100	98.5	80	120	
Co	59	2	He	96.252	0.171	760350	0.89	100	96.3	80	120	
Ni	60	2	He	94.726	1.581	180992	1.05	100	94.7	80	120	
Cu	63	2	He	94.396	0.131	439707	0.92	100	94.4	80	120	
Zn	66	2	He	97.108	0.284	102505	0.89	100	97.1	80	120	
Al	27	2	He	93427.418	1.408	40801798	0.57	100	93427.4	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	450.791	3.171	737805	2.30	100	450.8	80	120	
Al	27	1	No Gas	95512.740	0.763	1164895449	1.20	100	95512.7	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	519.010	1.134	3991077	1.27	100	519.0	80	120	
Ag	107	1	No Gas	92.264	2.611	1189589	2.41	100	92.3	80	120	
Cd	111	1	No Gas	98.697	1.400	240472	1.35	100	98.7	80	120	
Sr	88	1	No Gas	107.768	2.384	2806002	0.77	100	107.8	80	120	
Mo	95	1	No Gas	2115.782	1.549	10452899	1.12	100	2115.8	80	120	ICSB Main CR1 Failed
Sn	118	1	No Gas	99.102	1.300	779392	1.60	100	99.1	80	120	
Sb	121	1	No Gas	97.104	1.591	1065084	1.37	100	97.1	80	120	
Ba	137	1	No Gas	100.579	1.798	428811	1.19	100	100.6	80	120	
Tl	205	1	No Gas	97.266	1.213	1784734	1.78	100	97.3	80	120	
Tl	203	1	No Gas	95.927	0.879	743898	1.27	100	95.9	80	120	
Pb	208	1	No Gas	99.553	1.634	2625789	0.83	100	99.6	80	120	
U	238	1	No Gas	101.500	1.798	2611542	1.74	100	101.5	80	120	
Ca	43	2	He	104905.915	0.904	286698	0.05	100	104905.9	80	120	
Sb	121	2	He	96.404	0.567	592055	1.09	100	96.4	80	120	
Ti	47	2	He	2137.118	0.383	512135	0.84	100	2137.1	80	120	
Cu	63	1	No Gas	96.217	0.729	940577	0.86	100	96.2	80	120	
Se	82	1	No Gas	98.059	0.698	18969	0.37	100	98.1	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	676505	1.46	732422	92.37	70	120	
Ge	72	2	He	681126	0.88	670169	101.63	70	120	
Ge	72	1	No Gas	2052053	0.72	2074600	98.91	70	120	
In	115	1	No Gas	2269049	2.53	2295733	98.84	70	120	
Bi	209	1	No Gas	1708540	2.03	1796281	95.12	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	186CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T19:58:42-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	53145	0.00
Be	9	1	No Gas	28	343.03
V	51	2	He	8925	0.02
Cr	52	2	He	22793	0.01
Fe	56	2	He	34040	0.01
Se	78	2	He	175	8.03
As	75	2	He	400	2.35
Ca	44	2	He	1140	1.02
Na	23	2	He	44585	0.00
Mg	24	2	He	813	0.38
K	39	2	He	172016	0.00
Mn	55	2	He	1140	3.39
Co	59	2	He	180	13.45
Ni	60	2	He	870	1.97
Cu	63	2	He	673	1.50
Zn	66	2	He	1403	0.16
Al	27	2	He	2174	0.23
B	11	1	No Gas	5633	0.09
Al	27	1	No Gas	63016	0.00
Si	28	1	No Gas	391550	0.00
Ag	107	1	No Gas	323	3.87
Sr	88	1	No Gas	2524	0.07
Mo	95	1	No Gas	1634	2.69
Sn	118	1	No Gas	2091	1.41
Sb	121	1	No Gas	193	4.09
Ba	137	1	No Gas	813	1.60
Tl	205	1	No Gas	220	9.47
Tl	203	1	No Gas	97	32.69
Pb	208	1	No Gas	1147	0.94
U	238	1	No Gas	23	382.35
Ca	43	2	He	63	57.58
Sb	121	2	He	80	56.34
Ti	47	2	He	3	5196.15
Cu	63	1	No Gas	1994	0.56

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	727884	3.53

Calibration Blank Report

Ge	72	2	He	688825	1.10
Ge	72	1	No Gas	2274784	2.32
In	115	1	No Gas	2833982	1.98
Bi	209	1	No Gas	2325618	1.84

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	187CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:00:33-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	6417	0.03
V	51	2	He	19840	0.01
Cr	52	2	He	30641	0.00
Fe	56	2	He	1198261	0.00
Se	78	2	He	437	1.63
As	75	2	He	2246	0.16
Ca	44	2	He	10121	0.02
Na	23	2	He	245378	0.00
Mg	24	2	He	123977	0.00
K	39	2	He	362602	0.00
Mn	55	2	He	11412	0.02
Co	59	2	He	17114	0.03
Ni	60	2	He	5258	0.05
Cu	63	2	He	11015	0.06
Zn	66	2	He	3064	0.11
Al	27	2	He	2414	0.21
B	11	1	No Gas	21547	0.01
Al	27	1	No Gas	73624	0.01
Si	28	1	No Gas	469297	0.00
Ag	107	1	No Gas	35495	0.00
Cd	111	1	No Gas	6292	0.02
Sr	88	1	No Gas	68404	0.00
Mo	95	1	No Gas	14078	0.01
Sn	118	1	No Gas	20763	0.01
Sb	121	1	No Gas	26133	0.01
Ba	137	1	No Gas	11369	0.03
Tl	205	1	No Gas	54657	0.00
Tl	203	1	No Gas	23112	0.00
Pb	208	1	No Gas	75343	0.00
U	238	1	No Gas	69021	0.00
Ca	43	2	He	603	1.77
Sb	121	2	He	12846	0.01
Cu	63	1	No Gas	25411	0.01

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	709827	3.44	727884	97.52	70	120	
Ge	72	2	He	689959	1.26	688825	100.16	70	120	
Ge	72	1	No Gas	2235346	1.34	2274784	98.27	70	120	

Calibration Standard Report

In	115	1	No Gas	2818107	1.83	2833982	99.44	70	120	
Bi	209	1	No Gas	2310441	2.27	2325618	99.35	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	188CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:02:24-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	16094	0.01
V	51	2	He	35581	0.00
Cr	52	2	He	48861	0.00
Fe	56	2	He	2778661	0.00
Se	78	2	He	718	1.18
As	75	2	He	4893	0.08
Ca	44	2	He	23086	0.01
Na	23	2	He	525454	0.00
Mg	24	2	He	297043	0.00
K	39	2	He	635309	0.00
Mn	55	2	He	26917	0.01
Co	59	2	He	40524	0.01
Ni	60	2	He	11158	0.04
Cu	63	2	He	25484	0.01
Zn	66	2	He	6812	0.08
Al	27	2	He	3841	0.09
B	11	1	No Gas	47401	0.00
Al	27	1	No Gas	132308	0.01
Si	28	1	No Gas	586003	0.00
Ag	107	1	No Gas	85438	0.00
Cd	111	1	No Gas	15626	0.01
Sr	88	1	No Gas	166816	0.00
Mo	95	1	No Gas	32385	0.01
Sn	118	1	No Gas	51143	0.00
Sb	121	1	No Gas	63651	0.00
Ba	137	1	No Gas	27396	0.01
Tl	205	1	No Gas	136006	0.00
Tl	203	1	No Gas	56993	0.00
Pb	208	1	No Gas	184696	0.00
U	238	1	No Gas	170829	0.00
Ca	43	2	He	1407	1.23
Sb	121	2	He	30242	0.01
Cu	63	1	No Gas	57642	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	707028	1.34	727884	97.13	70	120	
Ge	72	2	He	686567	0.70	688825	99.67	70	120	
Ge	72	1	No Gas	2245249	1.91	2274784	98.70	70	120	

Calibration Standard Report

In	115	1	No Gas	2790983	1.28	2833982	98.48	70	120	
Bi	209	1	No Gas	2310524	1.31	2325618	99.35	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	189CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:04:15-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	32843	0.00
V	51	2	He	65775	0.00
Cr	52	2	He	85613	0.00
Fe	56	2	He	5753488	0.00
Se	78	2	He	1471	0.57
As	75	2	He	9937	0.02
Ca	44	2	He	47760	0.01
Na	23	2	He	1030499	0.00
Mg	24	2	He	625492	0.00
K	39	2	He	1146458	0.00
Mn	55	2	He	54729	0.00
Co	59	2	He	85246	0.00
Ni	60	2	He	21514	0.02
Cu	63	2	He	52378	0.00
Zn	66	2	He	12760	0.01
Al	27	2	He	6305	0.03
B	11	1	No Gas	92274	0.00
Al	27	1	No Gas	191479	0.00
Si	28	1	No Gas	795710	0.00
Ag	107	1	No Gas	171524	0.00
Cd	111	1	No Gas	32021	0.00
Sr	88	1	No Gas	340669	0.00
Mo	95	1	No Gas	65534	0.01
Sn	118	1	No Gas	102360	0.00
Sb	121	1	No Gas	135970	0.00
Ba	137	1	No Gas	56102	0.00
Tl	205	1	No Gas	281979	0.00
Tl	203	1	No Gas	116436	0.00
Pb	208	1	No Gas	380558	0.00
U	238	1	No Gas	355336	0.00
Ca	43	2	He	2700	0.14
Sb	121	2	He	65078	0.00
Cu	63	1	No Gas	116260	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	721497	1.90	727884	99.12	70	120	
Ge	72	2	He	680690	0.88	688825	98.82	70	120	
Ge	72	1	No Gas	2297225	0.62	2274784	100.99	70	120	

Calibration Standard Report

In	115	1	No Gas	2801664	0.75	2833982	98.86	70	120	
Bi	209	1	No Gas	2322453	1.31	2325618	99.86	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	190CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:06:05-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	311604	0.00
V	51	2	He	556253	0.00
Cr	52	2	He	623036	0.00
Fe	56	2	He	54990981	0.00
Se	78	2	He	12258	0.00
As	75	2	He	92792	0.00
Ca	44	2	He	455510	0.00
Na	23	2	He	9096933	0.00
Mg	24	2	He	5560512	0.00
K	39	2	He	9099584	0.00
Mn	55	2	He	520447	0.00
Co	59	2	He	822679	0.00
Ni	60	2	He	202680	0.00
Cu	63	2	He	491972	0.00
Zn	66	2	He	109522	0.00
Al	27	2	He	43833	0.01
B	11	1	No Gas	829200	0.00
Al	27	1	No Gas	1325303	0.00
Si	28	1	No Gas	3948193	0.00
Ag	107	1	No Gas	1581425	0.00
Cd	111	1	No Gas	314287	0.00
Sr	88	1	No Gas	3206866	0.00
Mo	95	1	No Gas	612301	0.00
Sn	118	1	No Gas	991873	0.00
Sb	121	1	No Gas	1303297	0.00
Ba	137	1	No Gas	536758	0.00
Tl	205	1	No Gas	2430416	0.00
Tl	203	1	No Gas	1019164	0.00
Pb	208	1	No Gas	3612127	0.00
U	238	1	No Gas	3416511	0.00
Ca	43	2	He	26756	0.00
Sb	121	2	He	650956	0.00
Cu	63	1	No Gas	1064658	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	676464	1.95	727884	92.94	70	120	
Ge	72	2	He	670813	0.92	688825	97.39	70	120	
Ge	72	1	No Gas	2206419	1.48	2274784	96.99	70	120	

Calibration Standard Report

In	115	1	No Gas	2726317	1.61	2833982	96.20	70	120	
Bi	209	1	No Gas	2273960	0.15	2325618	97.78	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	191CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:07:51-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	631101	0.00
V	51	2	He	1106601	0.00
Cr	52	2	He	1239337	0.00
Fe	56	2	He	111534698	0.00
Se	78	2	He	24963	0.01
As	75	2	He	190617	0.00
Ca	44	2	He	916865	0.00
Na	23	2	He	18566486	0.00
Mg	24	2	He	11064307	0.00
K	39	2	He	17918948	0.00
Mn	55	2	He	1058775	0.00
Co	59	2	He	1671795	0.00
Ni	60	2	He	406414	0.00
Cu	63	2	He	994178	0.00
Zn	66	2	He	219631	0.00
Al	27	2	He	88554	0.00
B	11	1	No Gas	1647852	0.00
Al	27	1	No Gas	2645317	0.00
Si	28	1	No Gas	7480295	0.00
Ag	107	1	No Gas	3173506	0.00
Cd	111	1	No Gas	637792	0.00
Sr	88	1	No Gas	6374754	0.00
Mo	95	1	No Gas	1218668	0.00
Sn	118	1	No Gas	1993858	0.00
Sb	121	1	No Gas	2677881	0.00
Ba	137	1	No Gas	1098493	0.00
Tl	205	1	No Gas	4904957	0.00
Tl	203	1	No Gas	2101805	0.00
Pb	208	1	No Gas	7438280	0.00
U	238	1	No Gas	6918674	0.00
Ca	43	2	He	53705	0.00
Sb	121	2	He	1341783	0.00
Cu	63	1	No Gas	2099829	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	635990	3.40	727884	87.38	70	120	
Ge	72	2	He	667379	0.75	688825	96.89	70	120	
Ge	72	1	No Gas	2183891	1.87	2274784	96.00	70	120	

Calibration Standard Report

In	115	1	No Gas	2697089	1.72	2833982	95.17	70	120	
Bi	209	1	No Gas	2224216	2.14	2325618	95.64	70	120	

Sample Report

Sample Table

Sample Name	LLCCV5
Data File Name	195LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:15:00-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	186CALB.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	4.735	4.735	5.47	102917	0.00	5	
Be	9	1	No Gas	4.469	4.469	3.22	15699	0.03	5	
V	51	2	He	4.407	4.407	1.21	34102	0.01	5	
Cr	52	2	He	4.123	4.123	3.13	48948	0.01	5	
Fe	56	2	He	483.273	483.273	1.50	2824359	0.02	500	
Se	78	2	He	4.938	4.938	3.07	809	0.61	5	
As	75	2	He	4.692	4.692	3.10	5011	0.09	5	
Ca	44	2	He	471.498	471.498	5.97	23530	2.00	500	
Na	23	2	He	498.229	498.229	1.61	521981	0.10	500	
Mg	24	2	He	514.438	514.438	1.76	296708	0.17	500	
K	39	2	He	479.812	479.812	0.94	616165	0.08	500	
Mn	55	2	He	4.701	4.701	2.65	26870	0.02	5	
Co	59	2	He	4.719	4.719	1.69	41006	0.01	5	
Ni	60	2	He	5.043	5.043	1.54	11488	0.04	5	
Cu	63	2	He	4.764	4.764	2.76	25204	0.02	5	
Zn	66	2	He	4.766	4.766	2.81	6805	0.07	5	
Al	27	2	He	3.888	3.888	8.51	3921	0.10	5	
B	11	1	No Gas	28.532	28.532	3.09	57803	0.05	25	
Al	27	1	No Gas	4.158	4.158	2.05	119332	0.00	5	
Si	28	1	No Gas	24.711	24.711	4.82	577578	0.00	25	
Ag	107	1	No Gas	5.068	5.068	2.82	85267	0.01	5	
Cd	111	1	No Gas	4.626	4.626	2.02	15536	0.03	5	
Sr	88	1	No Gas	4.826	4.826	1.30	165277	0.00	5	
Mo	95	1	No Gas	4.823	4.823	2.52	32700	0.01	5	
Sn	118	1	No Gas	4.834	4.834	9.32	52916	0.01	5	
Sb	121	1	No Gas	4.632	4.632	2.54	64673	0.01	5	
Ba	137	1	No Gas	4.595	4.595	5.24	27346	0.02	5	
Tl	205	1	No Gas	5.285	5.285	2.00	138816	0.00	5	
Tl	203	1	No Gas	5.140	5.140	1.46	57610	0.01	5	
Pb	208	1	No Gas	4.687	4.687	2.18	186741	0.00	5	
U	238	1	No Gas	4.626	4.626	2.84	170990	0.00	5	
Ca	43	2	He	488.545	488.545	7.39	1423	34.32	500	
Sb	121	2	He	4.424	4.424	2.29	30713	0.01	5	
Ti	47	2	He	4.854	4.854	9.33	1203	0.40	5	
Cu	63	1	No Gas	5.060	5.060	2.42	57635	0.01	5	
Se	82	1	No Gas	5.683	5.683	8.65	1709	0.33	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	717326	3.61	727884	98.55	70	120	
Ge	72	2	He	693783	0.51	688825	100.72	70	120	
Ge	72	1	No Gas	2287515	1.15	2274784	100.56	70	120	

Sample Report

In	115	1	No Gas	2857041	1.49	2833982	100.81	70	120	
Bi	209	1	No Gas	2392309	1.91	2325618	102.87	70	120	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	197LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:20:12-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	186CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.778	1.778	9.53	71815	0.00	2	
Be	9	1	No Gas	1.696	1.696	4.52	6011	0.03	2	
V	51	2	He	1.497	1.497	2.68	17467	0.01	2	
Cr	52	2	He	0.921	0.921	12.13	28670	0.00	2	NewName Main CR1 Failed
Fe	56	2	He	187.153	187.153	2.55	1111494	0.02	200	
Se	78	2	He	2.015	2.015	24.43	434	0.46	2	
As	75	2	He	1.728	1.728	5.43	2094	0.08	2	
Ca	44	2	He	169.991	169.991	4.71	9193	1.85	200	
Na	23	2	He	188.216	188.216	0.73	224452	0.08	200	
Mg	24	2	He	195.602	195.602	1.09	112984	0.17	200	
K	39	2	He	182.579	182.579	2.41	340755	0.05	200	
Mn	55	2	He	1.717	1.717	2.37	10514	0.02	2	
Co	59	2	He	1.776	1.776	1.05	15496	0.01	2	
Ni	60	2	He	1.957	1.957	3.73	4981	0.04	2	
Cu	63	2	He	1.866	1.866	4.26	10251	0.02	2	
Zn	66	2	He	1.262	1.262	14.05	2834	0.04	2	NewName Main CR1 Failed
Al	27	2	He	0.357	0.357	57.23	2340	0.02	2	NewName Main CR1 Failed
B	11	1	No Gas	11.447	11.447	1.74	26687	0.04	10	
Al	27	1	No Gas	5.353	5.353	145.96	133724	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	8.321	8.321	11.92	448311	0.00	10	
Ag	107	1	No Gas	1.950	1.950	1.51	33296	0.01	2	
Cd	111	1	No Gas	1.716	1.716	2.31	5805	0.03	2	
Sr	88	1	No Gas	1.823	1.823	1.60	64559	0.00	2	
Mo	95	1	No Gas	1.735	1.735	3.37	12930	0.01	2	
Sn	118	1	No Gas	1.734	1.734	1.57	20526	0.01	2	
Sb	121	1	No Gas	1.801	1.801	2.07	24854	0.01	2	
Ba	137	1	No Gas	1.708	1.708	1.87	10771	0.02	2	
Tl	205	1	No Gas	2.069	2.069	1.62	53920	0.00	2	
Tl	203	1	No Gas	2.017	2.017	1.57	22424	0.01	2	
Pb	208	1	No Gas	1.811	1.811	1.56	72134	0.00	2	
U	238	1	No Gas	1.796	1.796	2.36	65693	0.00	2	
Ca	43	2	He	141.821	141.821	18.04	457	31.05	200	
Sb	121	2	He	1.657	1.657	1.50	11519	0.01	2	
Ti	47	2	He	1.826	1.826	23.63	453	0.40	200	
Cu	63	1	No Gas	1.998	1.998	2.04	23587	0.01	2	
Se	82	1	No Gas	1.623	1.623	8.80	712	0.23	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	721662	1.94	727884	99.15	70	120	
Ge	72	2	He	691681	1.05	688825	100.41	70	120	
Ge	72	1	No Gas	2250219	0.76	2274784	98.92	70	120	
In	115	1	No Gas	2880934	1.19	2833982	101.66	70	120	
Bi	209	1	No Gas	2367158	1.44	2325618	101.79	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	198_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:22:03-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	92.769	3.523	1012409	2.21	100	92.8	90	110	
Be	9	1	No Gas	91.672	2.373	312232	0.37	100	91.7	90	110	
V	51	2	He	97.280	1.545	560783	1.28	100	97.3	90	110	
Cr	52	2	He	96.284	1.520	627107	1.46	100	96.3	90	110	
Fe	56	2	He	9586.944	1.657	55132063	0.93	10000	95.9	90	110	
Se	78	2	He	94.976	0.558	12288	1.50	100	95.0	90	110	
As	75	2	He	94.893	1.041	93176	0.85	100	94.9	90	110	
Ca	44	2	He	9620.733	1.069	455863	0.54	10000	96.2	90	110	
Na	23	2	He	9597.096	1.509	9193149	1.19	10000	96.0	90	110	
Mg	24	2	He	9639.099	1.129	5520486	1.58	10000	96.4	90	110	
K	39	2	He	9815.815	1.259	9192420	0.72	10000	98.2	90	110	
Mn	55	2	He	96.150	1.122	524898	0.65	100	96.1	90	110	
Co	59	2	He	96.352	2.107	830045	1.84	100	96.4	90	110	
Ni	60	2	He	96.731	1.828	203481	1.66	100	96.7	90	110	
Cu	63	2	He	96.800	0.853	496749	0.81	100	96.8	90	110	
Zn	66	2	He	96.333	1.149	109902	0.28	100	96.3	90	110	
Al	27	2	He	92.986	1.677	43435	2.56	100	93.0	90	110	
B	11	1	No Gas	457.675	4.117	819265	2.00	500	91.5	90	110	
Al	27	1	No Gas	97.717	1.813	1339896	2.99	100	97.7	90	110	
Si	28	1	No Gas	500.573	2.521	4001295	0.25	500	100.1	90	110	
Ag	107	1	No Gas	98.072	1.139	1600917	0.44	100	98.1	90	110	
Cd	111	1	No Gas	96.642	1.535	316272	1.41	100	96.6	90	110	
Sr	88	1	No Gas	98.301	1.935	3229804	1.63	100	98.3	90	110	
Mo	95	1	No Gas	98.535	0.929	619209	0.29	100	98.5	90	110	
Sn	118	1	No Gas	97.780	0.586	1003247	0.27	100	97.8	90	110	
Sb	121	1	No Gas	97.553	2.355	1320389	0.66	100	97.6	90	110	
Ba	137	1	No Gas	96.207	0.742	541779	0.80	100	96.2	90	110	
Tl	205	1	No Gas	95.469	1.813	2402711	1.11	100	95.5	90	110	
Tl	203	1	No Gas	94.650	0.714	1016355	1.20	100	94.7	90	110	
Pb	208	1	No Gas	96.830	1.682	3680007	1.12	100	96.8	90	110	
U	238	1	No Gas	97.236	1.527	3448741	0.81	100	97.2	90	110	
Ca	43	2	He	9571.127	3.150	26576	3.12	10000	95.7	90	110	
Sb	121	2	He	94.224	1.126	649559	0.64	100	94.2	90	110	
Ti	47	2	He	95.207	1.437	23444	1.12	100	95.2	90	110	
Cu	63	1	No Gas	100.424	2.844	1075425	0.94	100	100.4	90	110	
Se	82	1	No Gas	97.705	3.283	23353	1.28	100	97.7	90	110	

QC ISTD Table

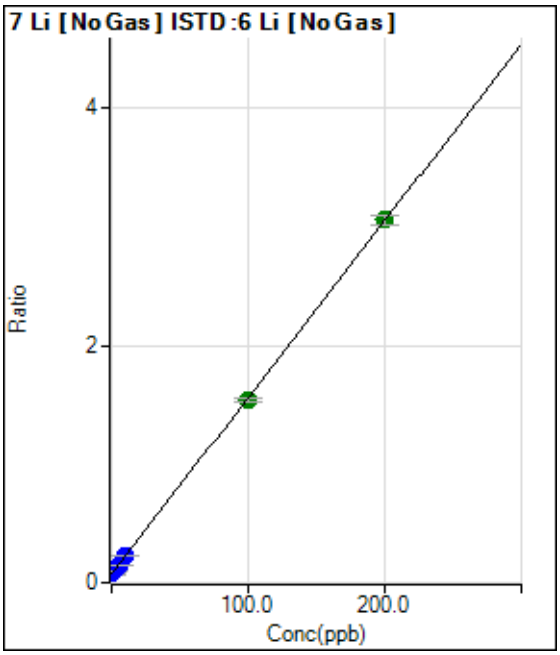
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	696394	2.06	727884	95.67	70	120	
Ge	72	2	He	690690	1.01	688825	100.27	70	120	
Ge	72	1	No Gas	2224458	2.26	2274784	97.79	70	120	
In	115	1	No Gas	2781718	0.85	2833982	98.16	70	120	
Bi	209	1	No Gas	2295418	0.72	2325618	98.70	70	120	

Calibration for 198_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\062323A.b\
Analysis File: 062323A.batch.bin
DA Date-Time: 6/23/2023 11:59:58 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	186CALB.d	CAL BLK	6/23/2023 7:58:42 PM
2	187CALS.d	2/10/200	6/23/2023 8:00:33 PM
3	188CALS.d	5/25/500	6/23/2023 8:02:24 PM
4	189CALS.d	10/50/100	6/23/2023 8:04:15 PM
5	190CALS.d	100/500/10K	6/23/2023 8:06:05 PM
6	191CALS.d	200/1000/20K	6/23/2023 8:07:51 PM

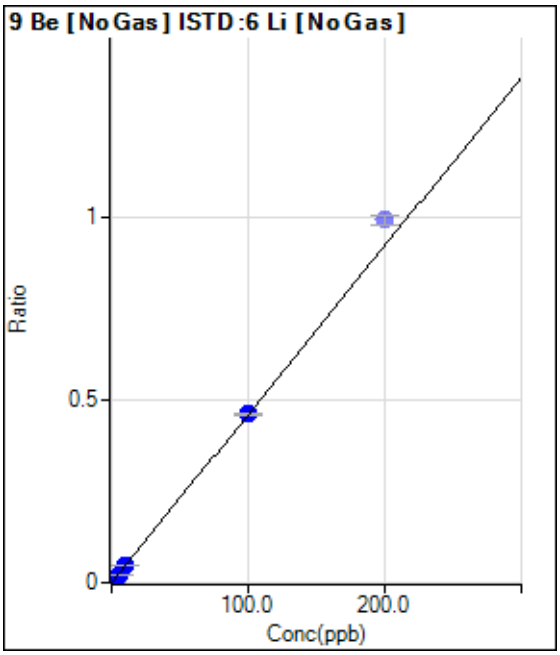
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53144.77	0.0731	P	3.1
2	☐	2.000	2.027	73240.70	0.1032	P	3.8
3	☐	5.000	4.990	104173.63	0.1474	P	2.2
4	☐	10.000	10.011	160246.06	0.2221	P	0.9
5	☐	100.000	98.707	1043329.07	1.5427	A	2.0
6	☐	200.000	200.646	1945309.71	3.0605	A	2.9

y = 0.0149 * x + 0.0731
R = 1.0000
DL = 0.4572
BEC = 4.907

Weight: <None>
Min Conc: <None>

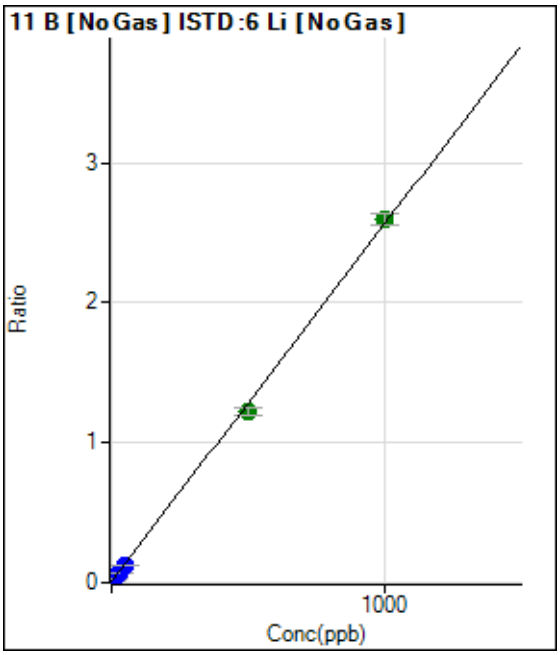


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28.33	0.0000	P	94.0
2	☐	2.000	1.956	6416.51	0.0090	P	4.5
3	☐	5.000	4.934	16094.26	0.0228	P	1.4
4	☐	10.000	9.876	32843.33	0.0455	P	1.5
5	☐	100.000	100.017	311604.41	0.4607	P	1.4
6	☑	200.000		631100.99	0.9929	P	2.8

y = 0.0046 * x + 3.8121E-005
R = 1.0000
DL = 0.02333
BEC = 0.008276

Weight: <None>
Min Conc: <None>

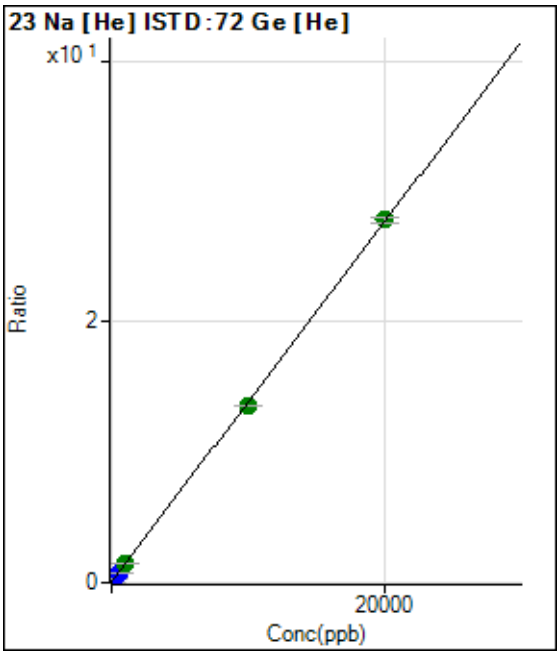
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5632.84	0.0077	P	2.3
2	☐	10.000	8.864	21546.59	0.0304	P	4.5
3	☐	25.000	23.214	47401.41	0.0670	P	0.9
4	☐	50.000	47.038	92273.96	0.1279	P	1.8
5	☐	500.000	476.887	829199.60	1.2262	A	4.6
6	☐	1000.000	1011.761	1647852.01	2.5928	A	3.0

y = 0.0026 * x + 0.0077
R = 0.9996
DL = 0.2104
BEC = 3.028

Weight: <None>
Min Conc: <None>

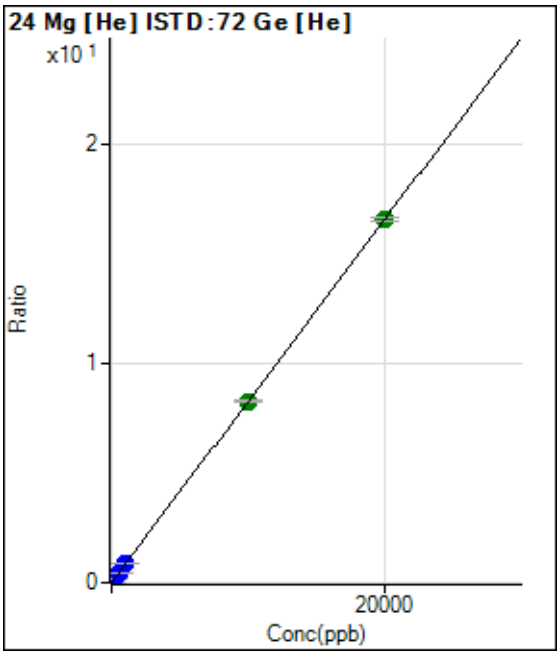


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44584.75	0.0647	P	0.4
2	☐	200.000	210.831	245378.38	0.3557	P	3.1
3	☐	500.000	507.597	525454.27	0.7653	P	0.4
4	☐	1000.000	1050.044	1030498.92	1.5140	A	3.2
5	☐	10000.000	9778.639	9096932.78	13.5615	A	0.7
6	☐	20000.000	20107.880	18566486.39	27.8182	A	1.3

y = 0.0014 * x + 0.0647
R = 0.9999
DL = 0.5619
BEC = 46.9

Weight: <None>
Min Conc: <None>

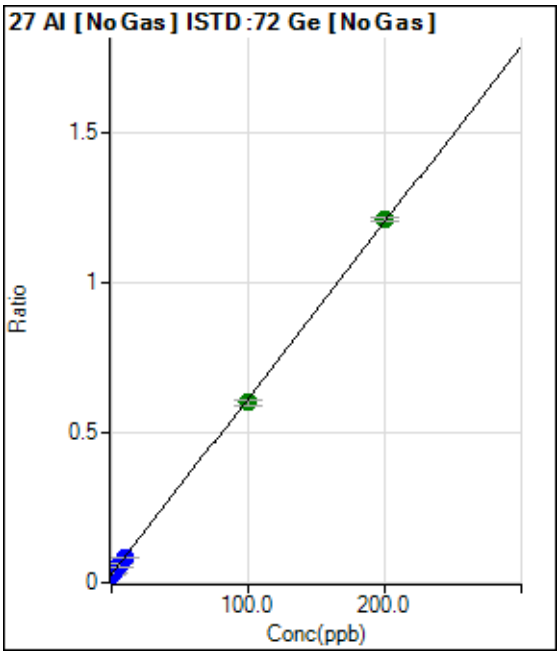
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	813.37	0.0012	P	3.6
2	☐	200.000	215.340	123977.08	0.1797	P	1.8
3	☐	500.000	520.428	297043.23	0.4327	P	0.9
4	☐	1000.000	1106.955	625491.50	0.9189	P	0.6
5	☐	10000.000	9996.172	5560511.79	8.2887	A	1.2
6	☐	20000.000	19995.902	11064307.34	16.5792	A	1.2

y = 8.2907E-004 * x + 0.0012
R = 1.0000
DL = 0.1559
BEC = 1.425

Weight: <None>
Min Conc: <None>

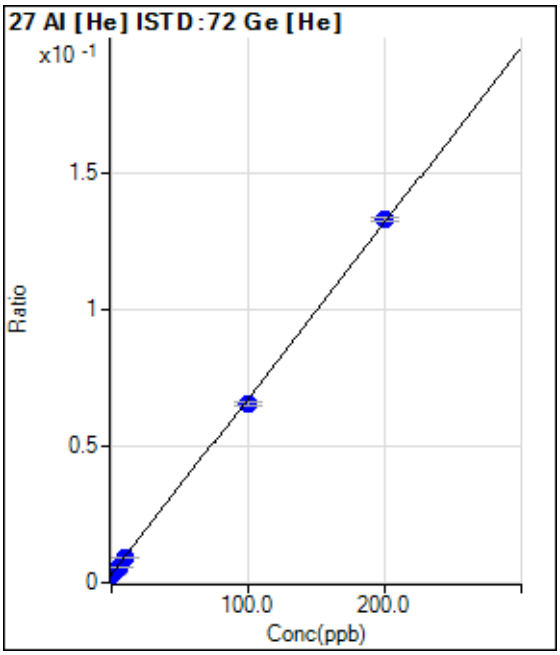


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63015.94	0.0277	P	4.6
2	☐	2.000	0.885	73624.33	0.0329	P	4.5
3	☐	5.000	5.311	132308.28	0.0589	P	18.0
4	☐	10.000	9.461	191479.34	0.0834	P	0.9
5	☐	100.000	97.454	1325303.05	0.6008	A	2.4
6	☐	200.000	201.303	2645316.84	1.2115	A	1.2

y = 0.0059 * x + 0.0277
R = 0.9999
DL = 0.644
BEC = 4.714

Weight: <None>
Min Conc: <None>

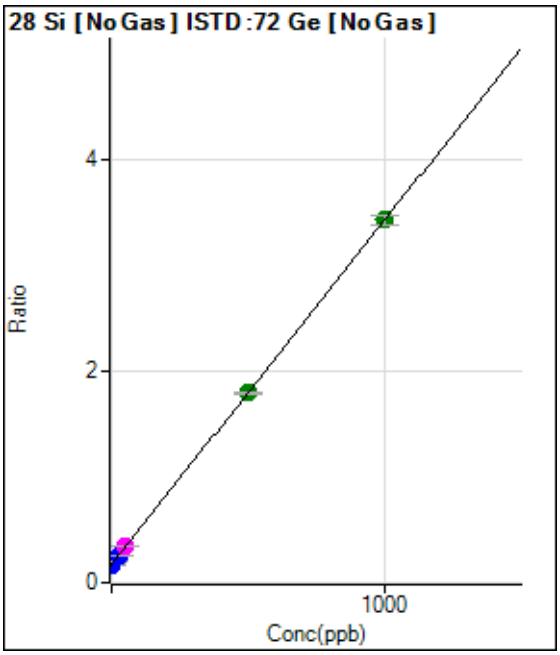
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2173.54	0.0032	P	4.0
2	☐	2.000	0.533	2413.59	0.0035	P	4.0
3	☐	5.000	3.797	3840.60	0.0056	P	2.9
4	☐	10.000	9.511	6304.86	0.0093	P	2.5
5	☐	100.000	96.812	43832.79	0.0653	P	1.4
6	☐	200.000	201.663	88553.96	0.1327	P	1.1

y = 6.4230E-004 * x + 0.0032
R = 0.9998
DL = 0.5865
BEC = 4.911

Weight: <None>
Min Conc: <None>

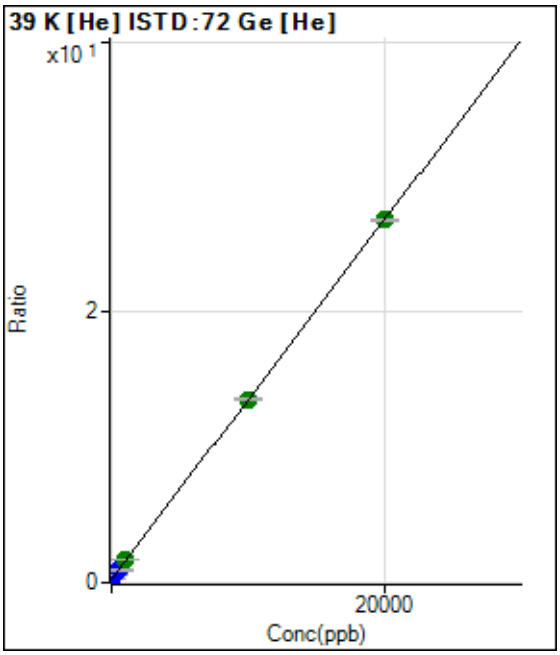


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	391549.89	0.1722	P	2.6
2	☐	10.000	11.610	469297.40	0.2099	P	2.4
3	☐	25.000	27.323	586002.88	0.2610	P	0.7
4	☐	50.000	53.589	795710.07	0.3464	M	1.6
5	☐	500.000	497.572	3948192.55	1.7896	A	1.6
6	☐	1000.000	1000.960	7480294.68	3.4260	A	2.5

y = 0.0033 * x + 0.1722
R = 1.0000
DL = 4.149
BEC = 52.97

Weight: <None>
Min Conc: <None>

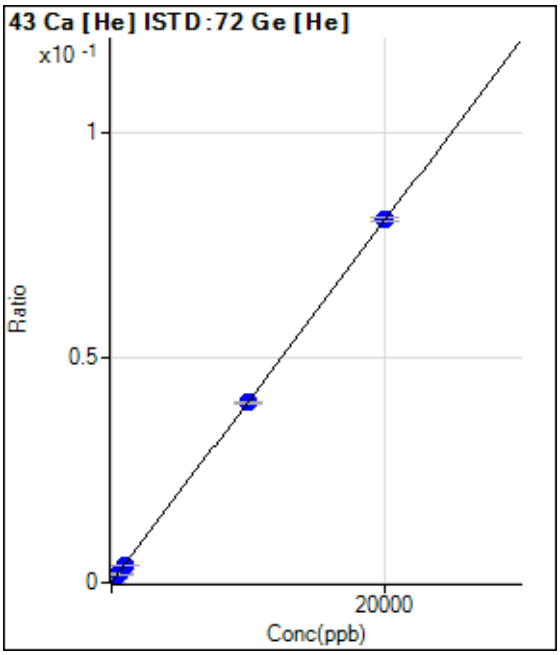
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	172015.96	0.2497	P	0.8
2	☐	200.000	207.332	362602.29	0.5256	P	1.7
3	☐	500.000	507.761	635309.21	0.9253	P	1.0
4	☐	1000.000	1078.274	1146458.27	1.6844	A	2.8
5	☐	10000.000	10007.048	9099583.62	13.5644	A	0.8
6	☐	20000.000	19992.295	17918947.65	26.8500	A	0.4

y = 0.0013 * x + 0.2497
R = 1.0000
DL = 4.524
BEC = 187.7

Weight: <None>
Min Conc: <None>

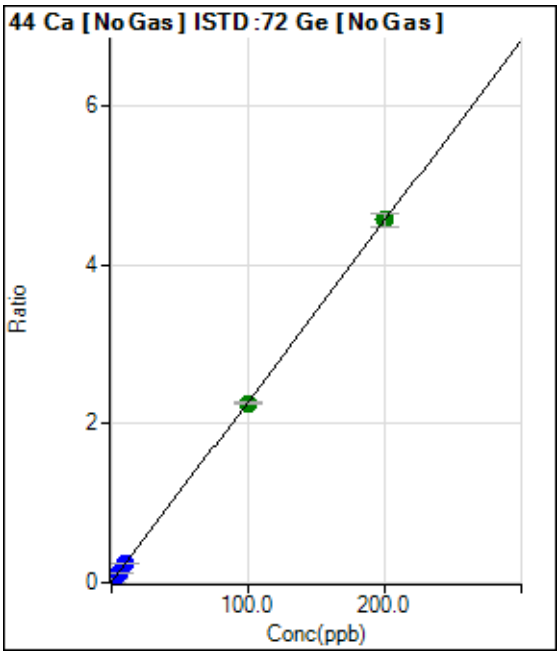


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	37.5
2	☐	200.000	195.247	603.36	0.0009	P	11.7
3	☐	500.000	487.527	1406.76	0.0020	P	16.6
4	☐	1000.000	965.975	2700.32	0.0040	P	2.8
5	☐	10000.000	9922.530	26756.27	0.0399	P	0.9
6	☐	20000.000	20040.795	53704.76	0.0805	P	1.1

y = 4.0107E-006 * x + 9.2167E-005
R = 1.0000
DL = 25.88
BEC = 22.98

Weight: <None>
Min Conc: <None>

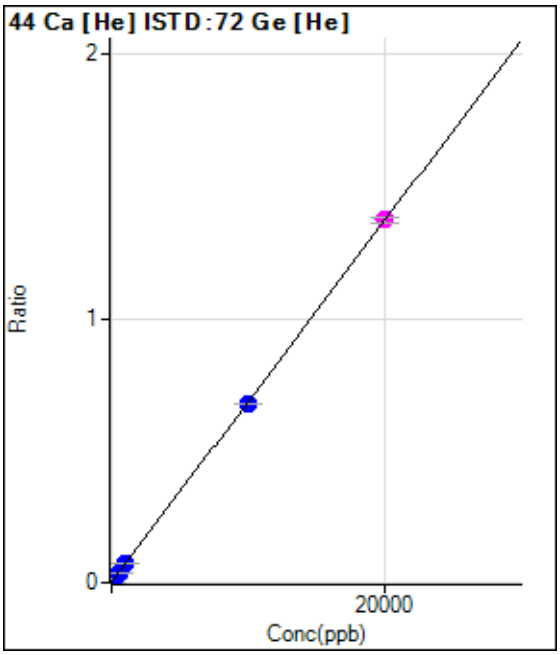
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17561.50	0.0077	P	3.4
2	☐	2.000	1.991	118321.74	0.0529	P	0.3
3	☐	5.000	5.172	280957.17	0.1252	P	2.0
4	☐	10.000	10.550	568031.81	0.2473	P	3.5
5	☐	100.000	98.835	4968424.72	2.2520	A	0.9
6	☐	200.000	200.551	9958115.06	4.5617	A	3.5

y = 0.0227 * x + 0.0077
R = 1.0000
DL = 0.03512
BEC = 0.3402

Weight: <None>
Min Conc: <None>

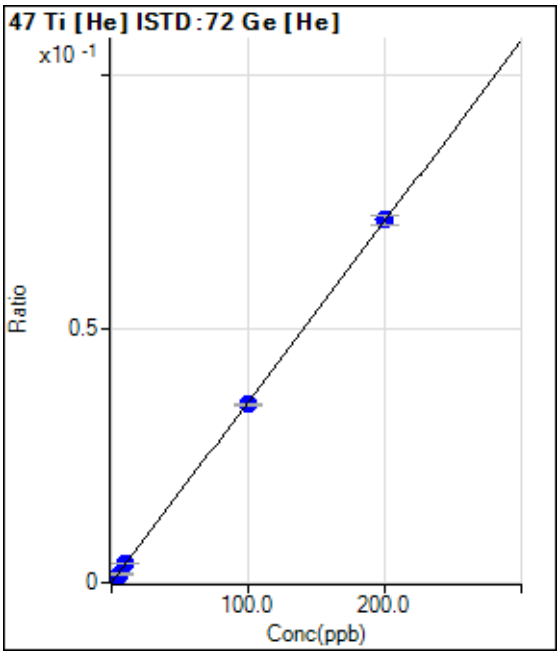


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1140.09	0.0017	P	10.5
2	☐	200.000	190.163	10120.54	0.0147	P	0.7
3	☐	500.000	467.217	23086.21	0.0336	P	2.6
4	☐	1000.000	1001.014	47759.98	0.0702	P	2.1
5	☐	10000.000	9898.291	455509.85	0.6790	P	0.4
6	☐	20000.000	20051.721	916865.06	1.3739	M	1.3

y = 6.8435E-005 * x + 0.0017
R = 1.0000
DL = 7.638
BEC = 24.17

Weight: <None>
Min Conc: <None>

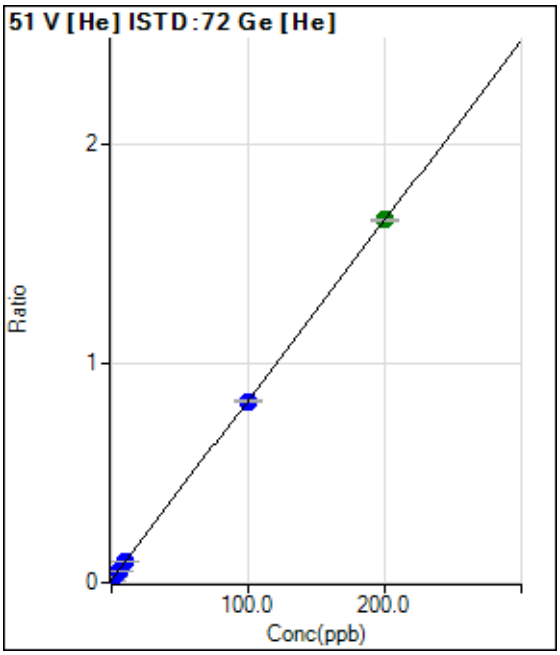
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.141	530.02	0.0008	P	5.6
3	☐	5.000	4.753	1166.74	0.0017	P	5.6
4	☐	10.000	10.523	2556.95	0.0038	P	1.5
5	☐	100.000	98.433	23543.84	0.0351	P	1.6
6	☐	200.000	200.762	47759.72	0.0716	P	2.8

y = 3.5648E-004 * x + 4.8934E-006
R = 0.9999
DL = 0.07133
BEC = 0.01373

Weight: <None>
Min Conc: <None>

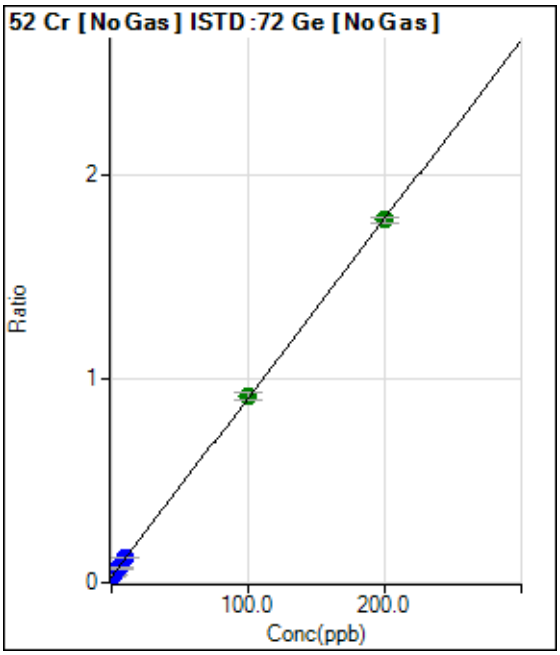


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8925.17	0.0130	P	2.9
2	☐	2.000	1.923	19839.93	0.0288	P	0.6
3	☐	5.000	4.732	35580.52	0.0518	P	0.9
4	☐	10.000	10.188	65774.53	0.0966	P	1.6
5	☐	100.000	99.381	556252.97	0.8292	P	0.7
6	☐	200.000	200.308	1106600.79	1.6582	A	0.8

y = 0.0082 * x + 0.0130
R = 1.0000
DL = 0.1381
BEC = 1.578

Weight: <None>
Min Conc: <None>

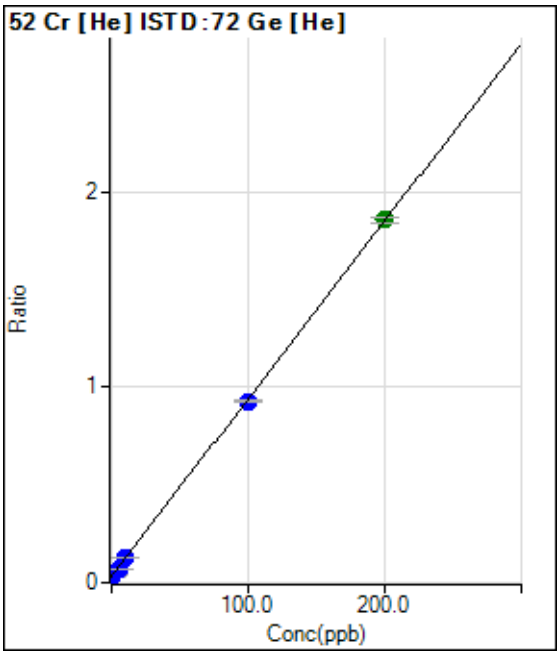
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67516.41	0.0297	P	2.2
2	☐	2.000	1.383	93487.96	0.0418	P	0.6
3	☐	5.000	4.700	159253.79	0.0709	P	0.9
4	☐	10.000	10.127	272340.92	0.1186	P	0.8
5	☐	100.000	101.005	2020405.18	0.9160	A	3.4
6	☐	200.000	199.505	3887110.36	1.7803	A	1.9

y = 0.0088 * x + 0.0297
R = 1.0000
DL = 0.2281
BEC = 3.384

Weight: <None>
Min Conc: <None>

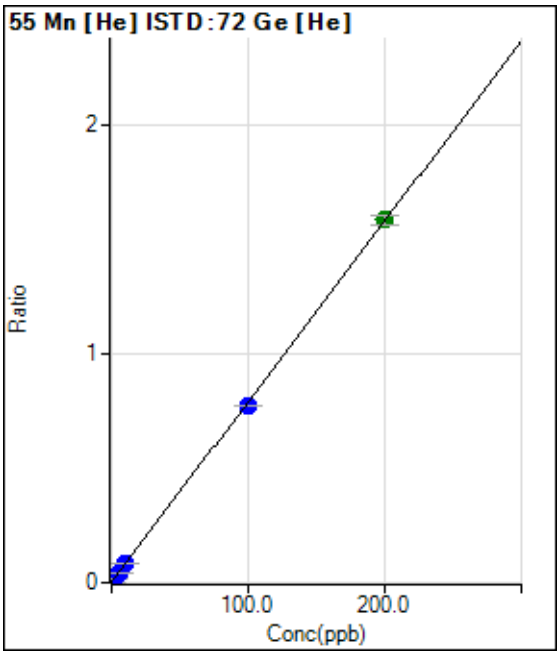


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22792.57	0.0331	P	1.6
2	☐	2.000	1.246	30641.25	0.0444	P	1.1
3	☐	5.000	4.190	48860.76	0.0712	P	0.2
4	☐	10.000	10.200	85613.27	0.1258	P	1.7
5	☐	100.000	98.575	623035.76	0.9288	P	0.5
6	☐	200.000	200.730	1239336.96	1.8570	A	1.5

y = 0.0091 * x + 0.0331
R = 1.0000
DL = 0.1752
BEC = 3.642

Weight: <None>
Min Conc: <None>

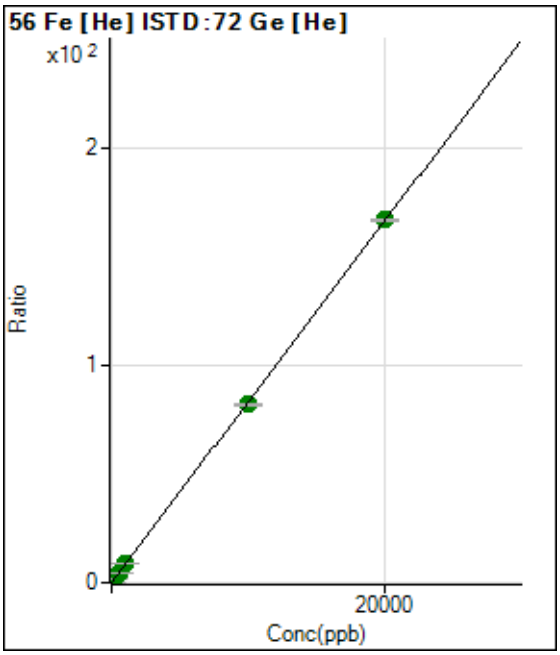
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1140.41	0.0017	P	39.6
2	☐	2.000	1.887	11411.60	0.0165	P	1.1
3	☐	5.000	4.760	26916.82	0.0392	P	1.4
4	☐	10.000	9.984	54729.47	0.0804	P	0.7
5	☐	100.000	98.156	520447.21	0.7758	P	0.5
6	☐	200.000	200.930	1058774.62	1.5864	A	2.5

y = 0.0079 * x + 0.0017
R = 0.9999
DL = 0.2497
BEC = 0.2104

Weight: <None>
Min Conc: <None>

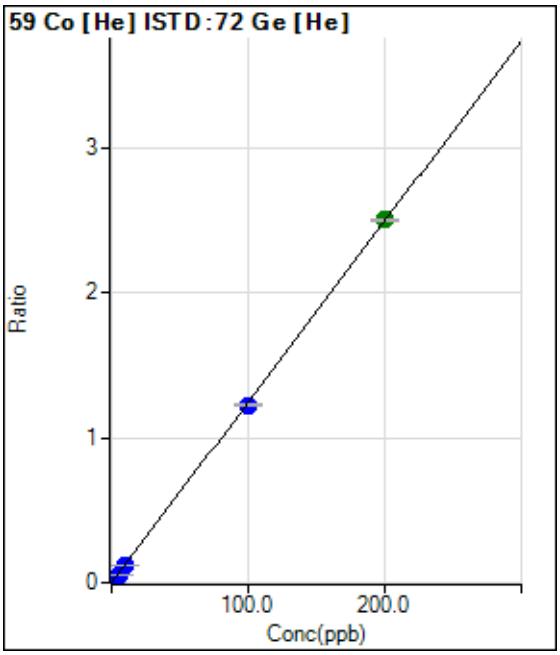


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34039.66	0.0494	P	3.4
2	☐	200.000	202.821	1198261.02	1.7372	A	5.0
3	☐	500.000	480.371	2778660.79	4.0470	A	1.3
4	☐	1000.000	1009.778	5753488.04	8.4525	A	0.6
5	☐	10000.000	9845.365	54990980.85	81.9800	A	0.7
6	☐	20000.000	20077.291	111534698.34	167.1275	A	0.8

y = 0.0083 * x + 0.0494
R = 1.0000
DL = 0.6126
BEC = 5.94

Weight: <None>
Min Conc: <None>

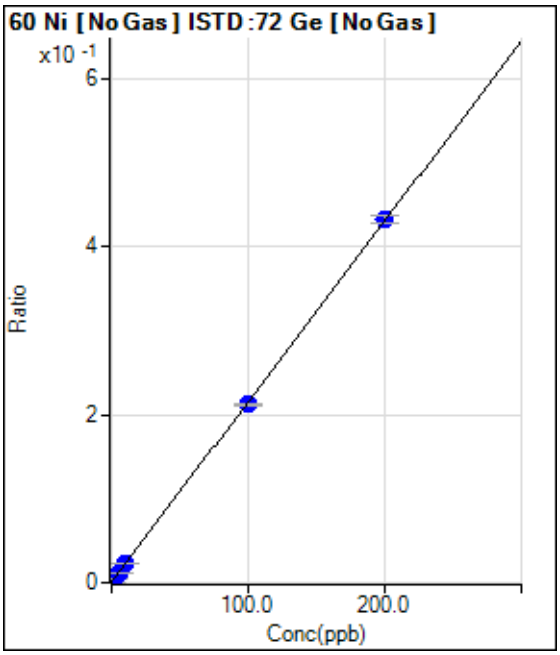
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180.01	0.0003	P	25.1
2	☐	2.000	1.969	17114.35	0.0248	P	5.7
3	☐	5.000	4.711	40523.92	0.0590	P	2.4
4	☐	10.000	10.021	85245.75	0.1252	P	0.8
5	☐	100.000	98.322	822679.39	1.2264	P	0.5
6	☐	200.000	200.845	1671795.08	2.5050	A	0.7

y = 0.0125 * x + 2.6177E-004
R = 1.0000
DL = 0.01579
BEC = 0.02099

Weight: <None>
Min Conc: <None>

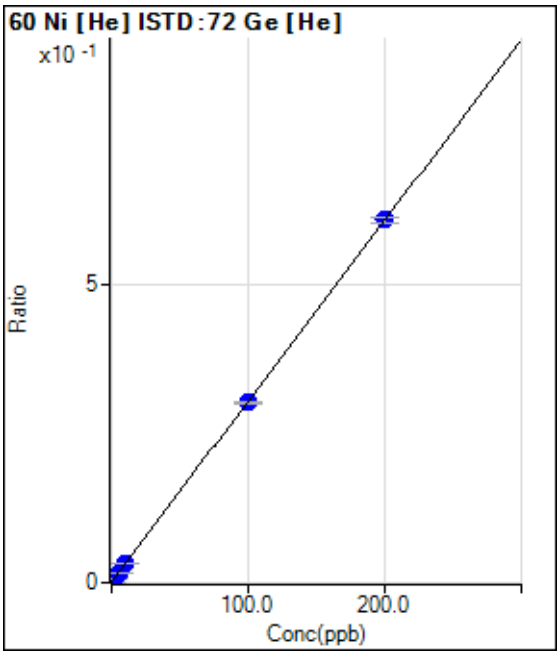


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2286.91	0.0010	P	5.3
2	☐	2.000	2.137	12495.94	0.0056	P	3.7
3	☐	5.000	5.152	27087.27	0.0121	P	1.0
4	☐	10.000	10.076	51985.93	0.0226	P	0.8
5	☐	100.000	98.605	469143.90	0.2126	P	1.0
6	☐	200.000	200.688	942663.79	0.4318	P	2.1

y = 0.0021 * x + 0.0010
R = 1.0000
DL = 0.07481
BEC = 0.468

Weight: <None>
Min Conc: <None>

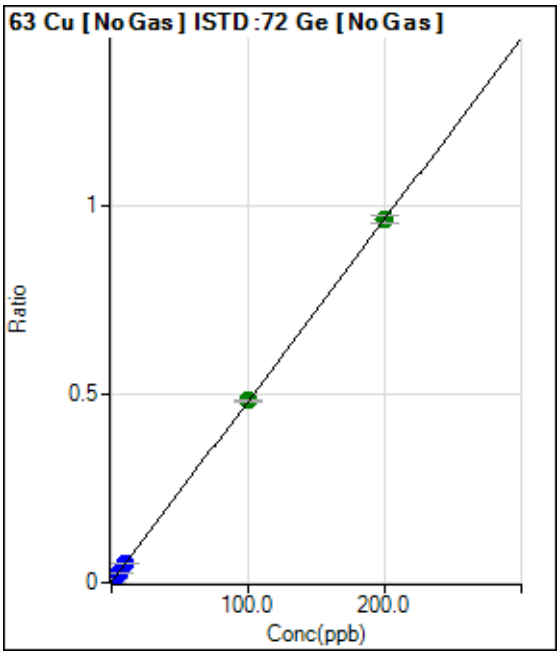
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	870.04	0.0013	P	17.9
2	☐	2.000	2.097	5257.79	0.0076	P	3.6
3	☐	5.000	4.941	11158.11	0.0162	P	3.4
4	☐	10.000	10.005	21513.98	0.0316	P	5.0
5	☐	100.000	99.207	202680.38	0.3021	P	0.7
6	☐	200.000	200.397	406413.66	0.6090	P	1.3

y = 0.0030 * x + 0.0013
R = 1.0000
DL = 0.2239
BEC = 0.4169

Weight: <None>
Min Conc: <None>

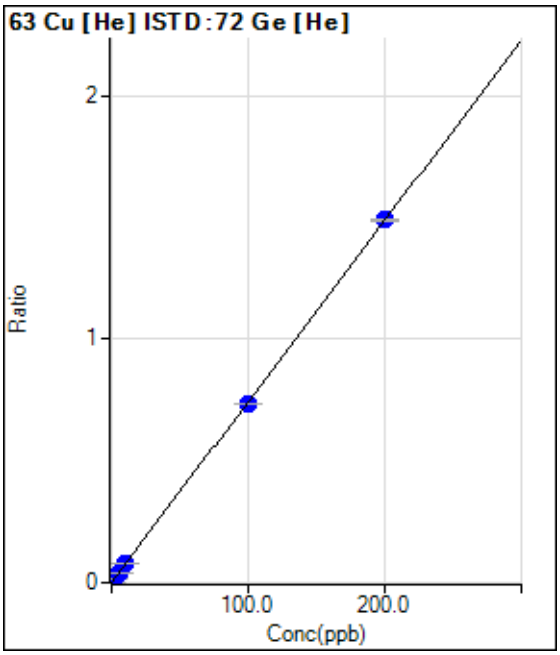


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1993.51	0.0009	P	9.2
2	☐	2.000	2.183	25410.72	0.0114	P	0.8
3	☐	5.000	5.159	57642.20	0.0257	P	2.6
4	☐	10.000	10.346	116260.12	0.0506	P	2.1
5	☐	100.000	100.204	1064657.72	0.4826	A	1.6
6	☐	200.000	199.875	2099828.93	0.9618	A	2.1

y = 0.0048 * x + 8.7521E-004
R = 1.0000
DL = 0.04998
BEC = 0.1821

Weight: <None>
Min Conc: <None>

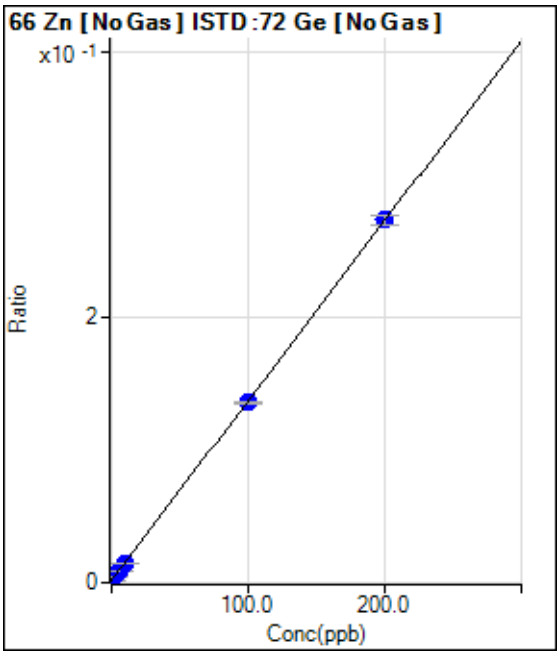
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	673.36	0.0010	P	9.9
2	☐	2.000	2.020	11014.64	0.0160	P	6.8
3	☐	5.000	4.871	25484.21	0.0371	P	1.7
4	☐	10.000	10.239	52377.62	0.0770	P	1.5
5	☐	100.000	98.707	491971.86	0.7334	P	0.3
6	☐	200.000	200.637	994178.00	1.4897	P	0.7

y = 0.0074 * x + 9.7746E-004
R = 1.0000
DL = 0.03926
BEC = 0.1317

Weight: <None>
Min Conc: <None>

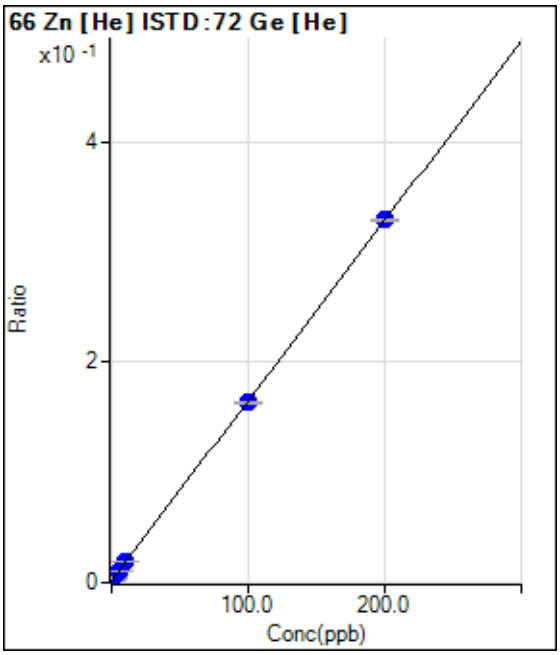


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3920.64	0.0017	P	3.4
2	☐	2.000	1.512	8422.76	0.0038	P	1.5
3	☐	5.000	4.983	19000.25	0.0085	P	1.3
4	☐	10.000	9.644	33916.02	0.0148	P	1.1
5	☐	100.000	98.859	298694.58	0.1354	P	1.9
6	☐	200.000	200.594	595934.47	0.2730	P	2.6

y = 0.0014 * x + 0.0017
R = 1.0000
DL = 0.129
BEC = 1.275

Weight: <None>
Min Conc: <None>

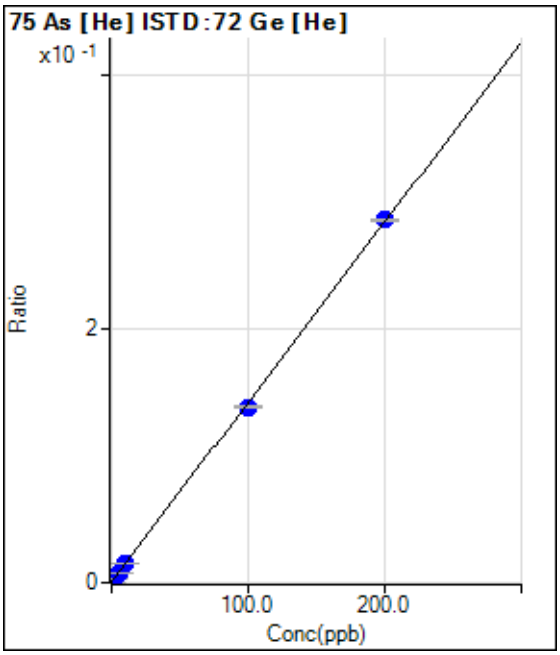
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1403.43	0.0020	P	1.6
2	☐	2.000	1.475	3063.74	0.0044	P	4.8
3	☐	5.000	4.835	6811.85	0.0099	P	5.0
4	☐	10.000	10.245	12759.57	0.0187	P	0.7
5	☐	100.000	98.869	109522.45	0.1633	P	0.6
6	☐	200.000	200.563	219631.28	0.3291	P	0.4

y = 0.0016 * x + 0.0020
R = 1.0000
DL = 0.05953
BEC = 1.249

Weight: <None>
Min Conc: <None>

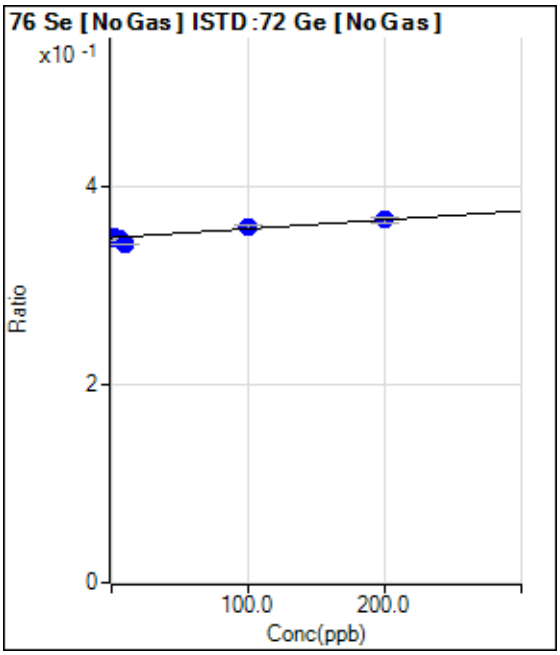


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	400.01	0.0006	P	8.4
2	☐	2.000	1.889	2245.76	0.0033	P	2.4
3	☐	5.000	4.625	4893.13	0.0071	P	4.1
4	☐	10.000	9.904	9937.03	0.0146	P	2.6
5	☐	100.000	97.312	92791.71	0.1383	P	1.1
6	☐	200.000	201.359	190617.36	0.2856	P	0.5

y = 0.0014 * x + 5.8042E-004
R = 0.9999
DL = 0.1038
BEC = 0.41

Weight: <None>
Min Conc: <None>

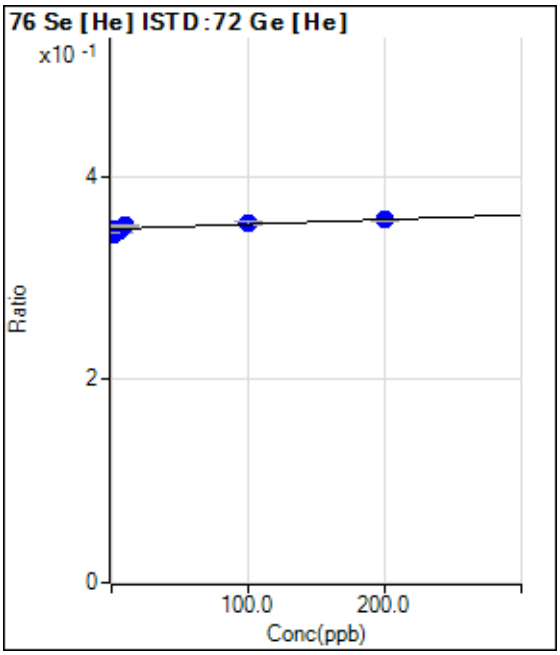
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	791894.80	0.3482	P	1.3
2	☐	2.000	2.204	778686.00	0.3484	P	1.3
3	☐	5.000	-14.599	778728.89	0.3469	P	0.6
4	☐	10.000	-73.839	784521.32	0.3415	P	0.4
5	☐	100.000	112.861	790657.10	0.3584	P	1.2
6	☐	200.000	198.249	799348.74	0.3661	P	1.9

y = 9.0363E-005 * x + 0.3482
R = 0.9430
DL = 147.2
BEC = 3853

Weight: <None>
Min Conc: <None>

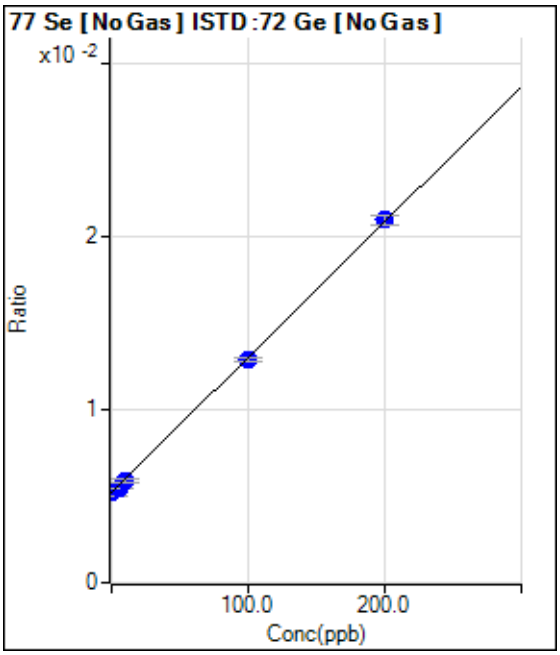


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	239986.44	0.3484	P	0.1
2	☐	2.000	-105.713	236974.40	0.3435	P	0.2
3	☐	5.000	-48.240	237662.30	0.3461	P	1.1
4	☐	10.000	67.959	239307.86	0.3516	P	0.4
5	☐	100.000	117.203	237383.62	0.3539	P	1.0
6	☐	200.000	190.909	238459.11	0.3573	P	0.8

y = 4.6663E-005 * x + 0.3484
R = 0.8573
DL = 22.43
BEC = 7466

Weight: <None>
Min Conc: <None>

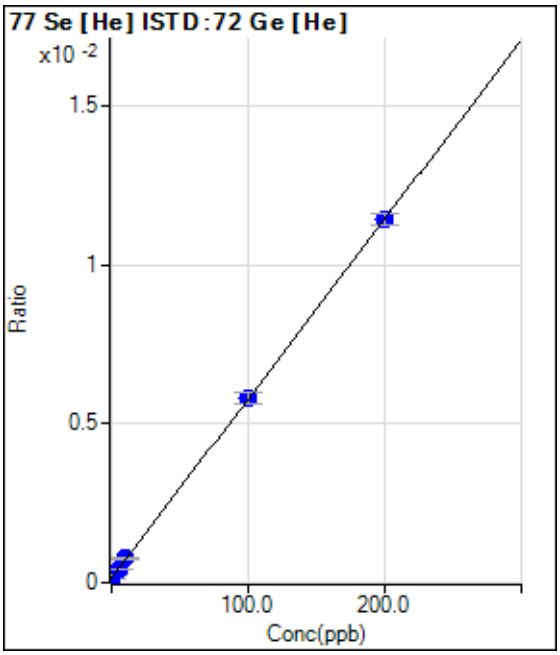
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11892.18	0.0052	P	9.3
2	☐	2.000	0.703	11812.08	0.0053	P	8.9
3	☐	5.000	2.669	12219.09	0.0054	P	1.0
4	☐	10.000	8.345	13520.39	0.0059	P	3.6
5	☐	100.000	97.777	28393.50	0.0129	P	1.8
6	☐	200.000	201.266	45741.16	0.0210	P	3.0

y = 7.8102E-005 * x + 0.0052
R = 0.9999
DL = 18.65
BEC = 67.01

Weight: <None>
Min Conc: <None>

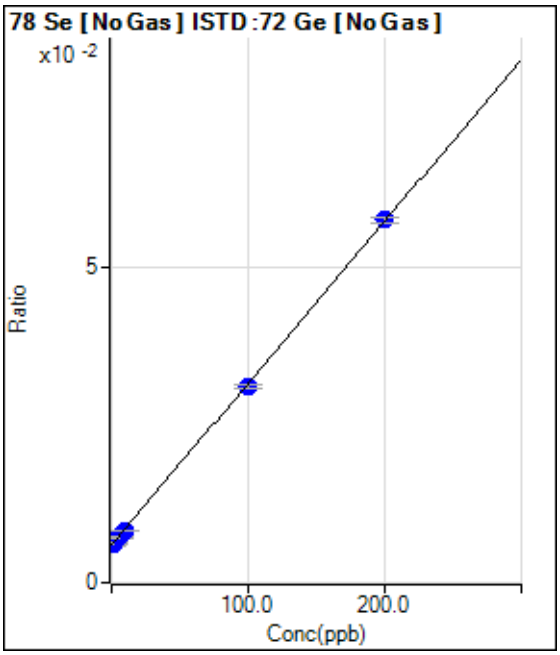


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0001	P	21.7
2	☐	2.000	2.554	193.34	0.0003	P	30.5
3	☐	5.000	4.826	280.01	0.0004	P	3.0
4	☐	10.000	11.040	516.69	0.0008	P	11.4
5	☐	100.000	100.499	3897.31	0.0058	P	6.5
6	☐	200.000	199.698	7615.60	0.0114	P	3.2

y = 5.6457E-005 * x + 1.3535E-004
R = 1.0000
DL = 1.559
BEC = 2.397

Weight: <None>
Min Conc: <None>

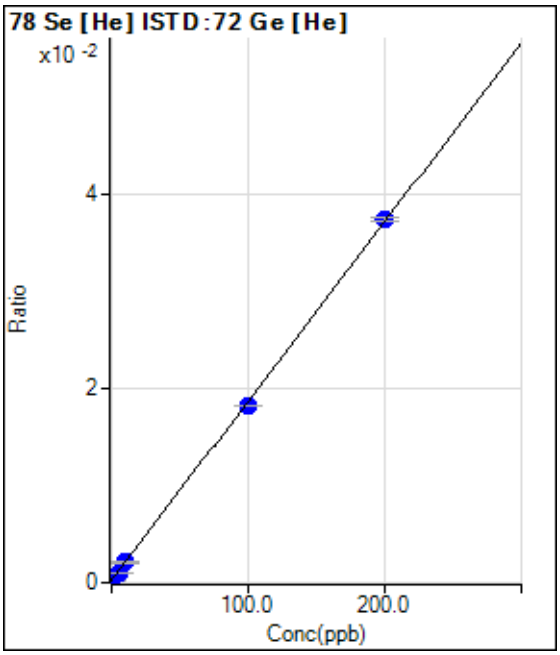
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13610.38	0.0060	P	4.9
2	☐	2.000	0.878	13877.35	0.0062	P	7.0
3	☐	5.000	5.047	16336.80	0.0073	P	4.1
4	☐	10.000	9.090	19103.83	0.0083	P	1.4
5	☐	100.000	98.172	68691.34	0.0311	P	1.7
6	☐	200.000	200.969	125493.75	0.0575	P	1.3

y = 2.5619E-004 * x + 0.0060
R = 0.9999
DL = 3.451
BEC = 23.37

Weight: <None>
Min Conc: <None>

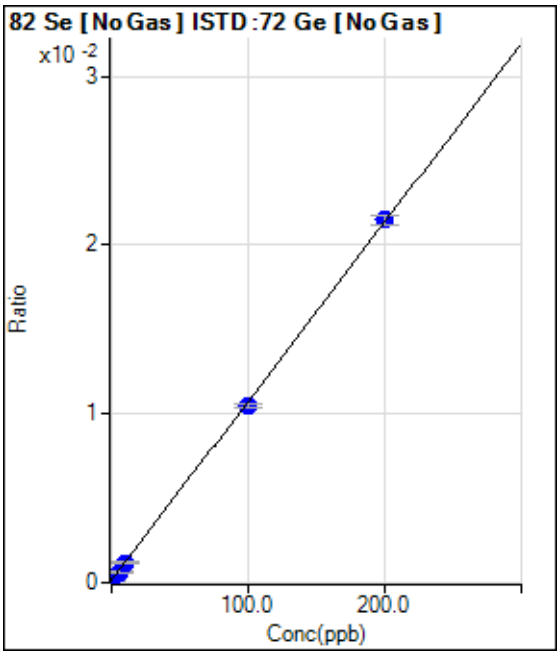


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	175.33	0.0003	P	15.1
2	☐	2.000	2.055	437.34	0.0006	P	8.3
3	☐	5.000	4.283	718.02	0.0010	P	8.2
4	☐	10.000	10.332	1471.42	0.0022	P	9.0
5	☐	100.000	97.590	12257.59	0.0183	P	0.6
6	☐	200.000	201.206	24963.02	0.0374	P	1.1

y = 1.8464E-004 * x + 2.5482E-004
R = 0.9999
DL = 0.6251
BEC = 1.38

Weight: <None>
Min Conc: <None>

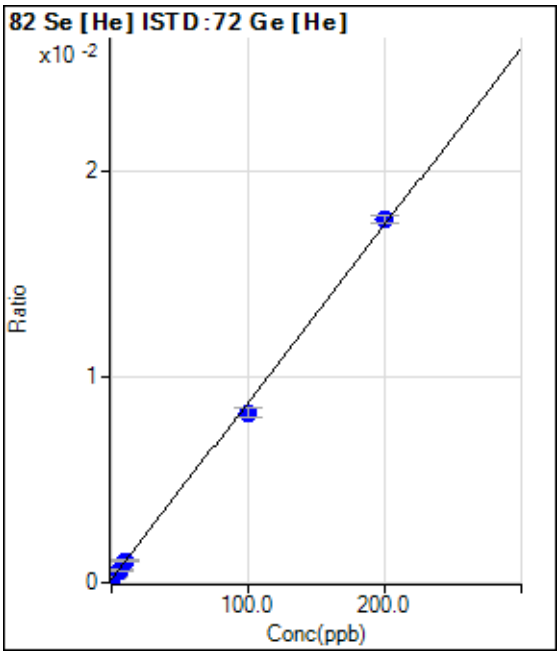
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	328.94	0.0001	P	25.0
2	☐	2.000	1.842	758.66	0.0003	P	13.4
3	☐	5.000	4.485	1392.16	0.0006	P	9.0
4	☐	10.000	9.847	2729.03	0.0012	P	7.9
5	☐	100.000	97.261	23065.87	0.0105	P	2.2
6	☐	200.000	201.392	46928.38	0.0215	P	2.9

y = 1.0602E-004 * x + 1.4435E-004
R = 0.9999
DL = 1.02
BEC = 1.362

Weight: <None>
Min Conc: <None>

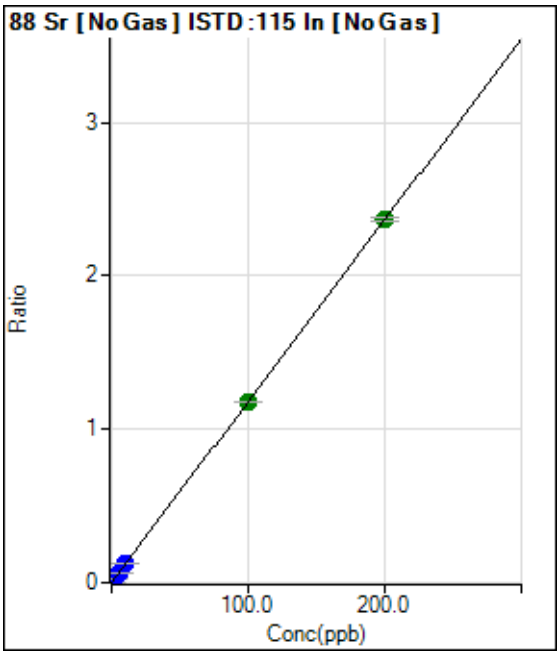


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0002	P	13.8
2	☐	2.000	2.068	236.67	0.0003	P	31.0
3	☐	5.000	4.924	403.35	0.0006	P	7.5
4	☐	10.000	10.462	723.37	0.0011	P	6.1
5	☐	100.000	94.065	5527.90	0.0082	P	4.9
6	☐	200.000	202.945	11742.00	0.0176	P	2.2

y = 8.5880E-005 * x + 1.6460E-004
R = 0.9994
DL = 0.7937
BEC = 1.917

Weight: <None>
Min Conc: <None>

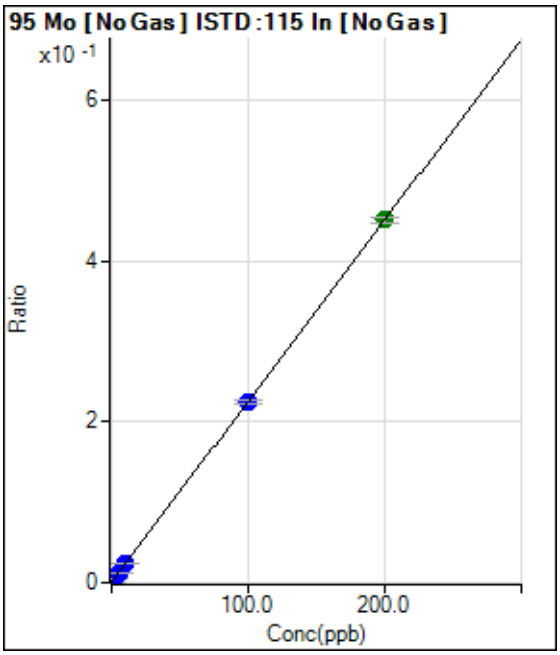
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2523.62	0.0009	P	2.0
2	☐	2.000	1.981	68404.43	0.0243	P	1.8
3	☐	5.000	4.989	166815.55	0.0598	P	1.5
4	☐	10.000	10.227	340668.89	0.1216	P	0.9
5	☐	100.000	99.580	3206866.20	1.1762	A	0.2
6	☐	200.000	200.199	6374754.49	2.3639	A	1.2

y = 0.0118 * x + 8.9061E-004
R = 1.0000
DL = 0.004473
BEC = 0.07546

Weight: <None>
Min Conc: <None>

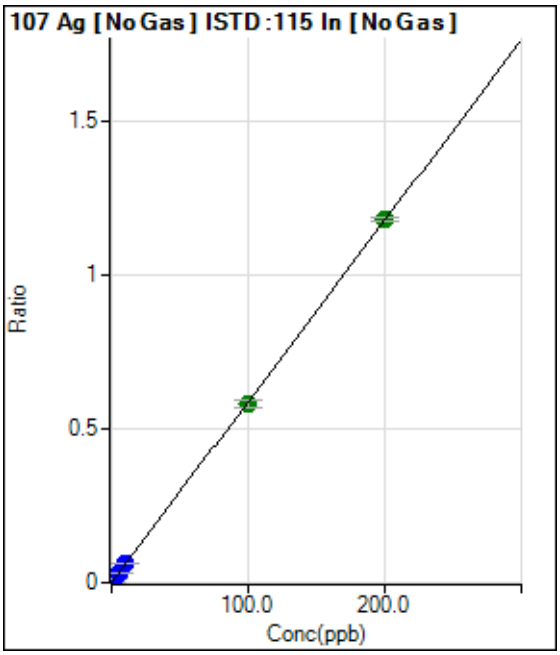


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1633.92	0.0006	P	45.4
2	☐	2.000	1.960	14077.66	0.0050	P	2.7
3	☐	5.000	4.894	32384.82	0.0116	P	4.6
4	☐	10.000	10.123	65533.89	0.0234	P	3.2
5	☐	100.000	99.435	612300.63	0.2246	P	2.1
6	☐	200.000	200.279	1218668.08	0.4519	A	1.6

y = 0.0023 * x + 5.7901E-004
R = 1.0000
DL = 0.35
BEC = 0.257

Weight: <None>
Min Conc: <None>

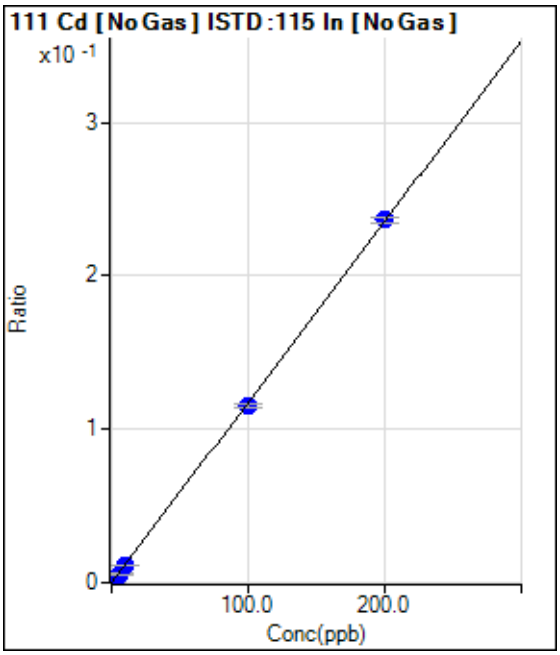
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	323.34	0.0001	P	14.0
2	☐	2.000	2.127	35494.67	0.0126	P	1.7
3	☐	5.000	5.198	85438.03	0.0306	P	0.9
4	☐	10.000	10.415	171523.55	0.0612	P	1.4
5	☐	100.000	98.871	1581425.18	0.5802	A	4.0
6	☐	200.000	200.537	3173506.10	1.1768	A	1.0

y = 0.0059 * x + 1.1425E-004
R = 1.0000
DL = 0.008176
BEC = 0.01947

Weight: <None>
Min Conc: <None>

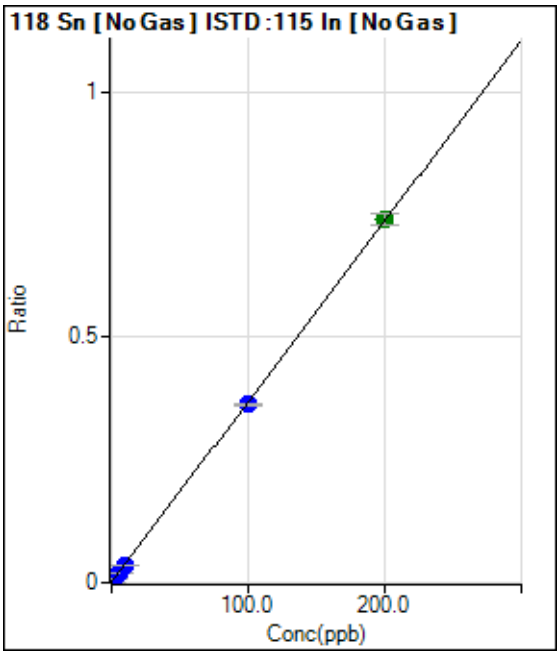


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-11.95	0.0000	P	-89.9
2	☐	2.000	1.902	6291.76	0.0022	P	2.0
3	☐	5.000	4.763	15626.03	0.0056	P	2.3
4	☐	10.000	9.718	32021.17	0.0114	P	0.9
5	☐	100.000	97.996	314287.05	0.1153	P	1.3
6	☐	200.000	201.023	637792.42	0.2365	P	1.4

y = 0.0012 * x - 4.2512E-006
R = 0.9999
DL = 0.009742
BEC = -0.003613

Weight: <None>
Min Conc: <None>

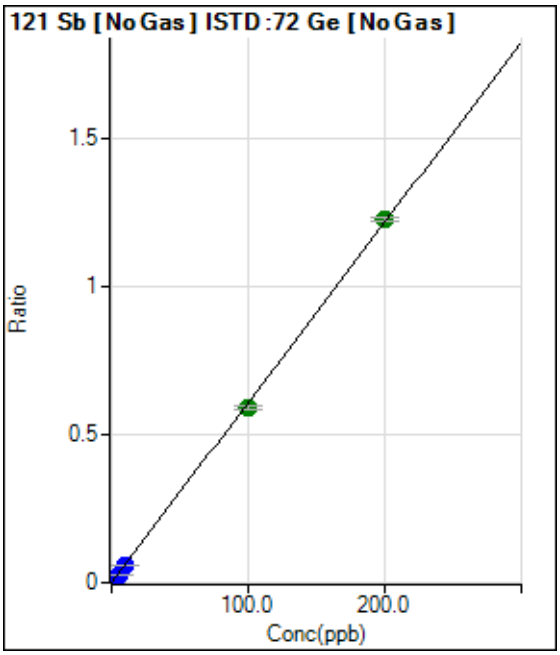
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2091.05	0.0007	P	31.0
2	☐	2.000	1.801	20763.31	0.0074	P	2.4
3	☐	5.000	4.777	51143.16	0.0183	P	0.0
4	☐	10.000	9.724	102359.80	0.0365	P	0.2
5	☐	100.000	98.647	991872.75	0.3639	P	1.1
6	☐	200.000	200.698	1993857.52	0.7395	A	3.2

y = 0.0037 * x + 7.3992E-004
R = 1.0000
DL = 0.1869
BEC = 0.201

Weight: <None>
Min Conc: <None>

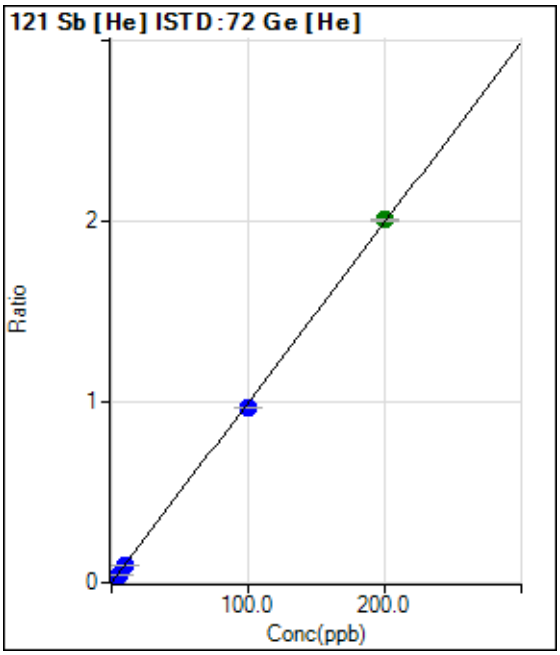


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	193.34	0.0001	P	7.7
2	☐	2.000	1.907	26133.07	0.0117	P	2.3
3	☐	5.000	4.644	63650.98	0.0283	P	0.6
4	☐	10.000	9.712	135969.59	0.0592	P	0.8
5	☐	100.000	97.058	1303297.38	0.5908	A	1.6
6	☐	200.000	201.495	2677881.00	1.2264	A	1.2

y = 0.0061 * x + 8.5002E-005
R = 0.9999
DL = 0.00321
BEC = 0.01397

Weight: <None>
Min Conc: <None>

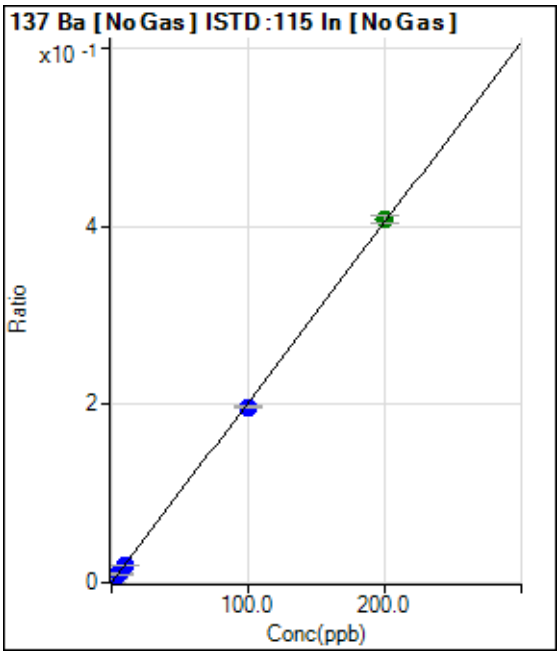
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	46.1
2	☐	2.000	1.854	12846.49	0.0186	P	1.6
3	☐	5.000	4.402	30241.91	0.0441	P	2.0
4	☐	10.000	9.569	65077.79	0.0956	P	2.2
5	☐	100.000	97.218	650956.20	0.9704	P	0.3
6	☐	200.000	201.429	1341782.69	2.0105	A	0.7

y = 0.0100 * x + 1.1652E-004
R = 0.9999
DL = 0.01616
BEC = 0.01168

Weight: <None>
Min Conc: <None>

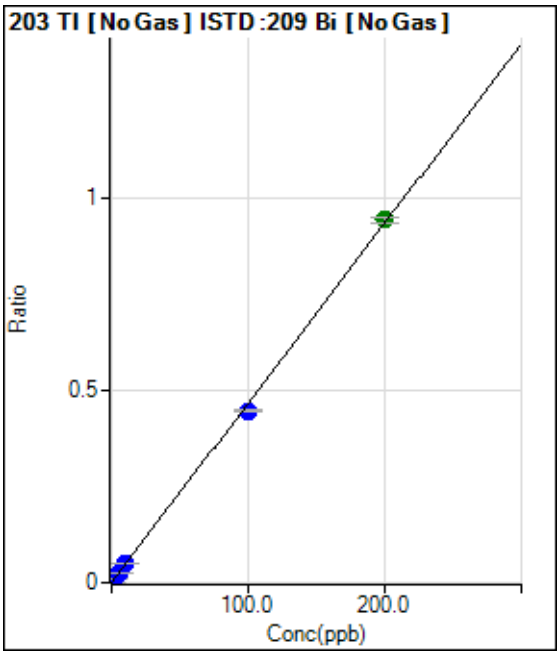


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	813.37	0.0003	P	12.6
2	☐	2.000	1.854	11368.50	0.0040	P	2.1
3	☐	5.000	4.714	27395.92	0.0098	P	2.6
4	☐	10.000	9.764	56101.53	0.0200	P	0.6
5	☐	100.000	97.264	536757.77	0.1969	P	1.2
6	☐	200.000	201.388	1098493.29	0.4074	A	2.2

y = 0.0020 * x + 2.8690E-004
R = 0.9999
DL = 0.05367
BEC = 0.1419

Weight: <None>
Min Conc: <None>

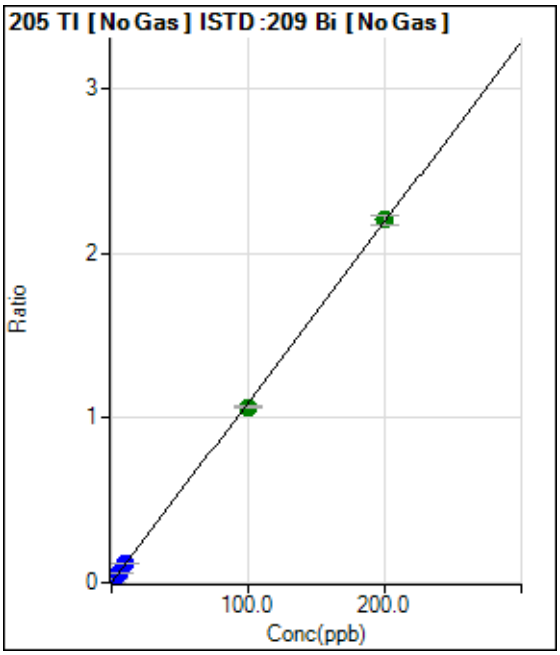
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0000	P	31.6
2	☐	2.000	2.130	23111.64	0.0100	P	1.5
3	☐	5.000	5.265	56993.28	0.0247	P	1.9
4	☐	10.000	10.711	116435.90	0.0501	P	1.7
5	☐	100.000	95.809	1019163.73	0.4482	P	0.2
6	☐	200.000	202.052	2101805.44	0.9451	A	1.8

y = 0.0047 * x + 4.1592E-005
R = 0.9997
DL = 0.008419
BEC = 0.008892

Weight: <None>
Min Conc: <None>

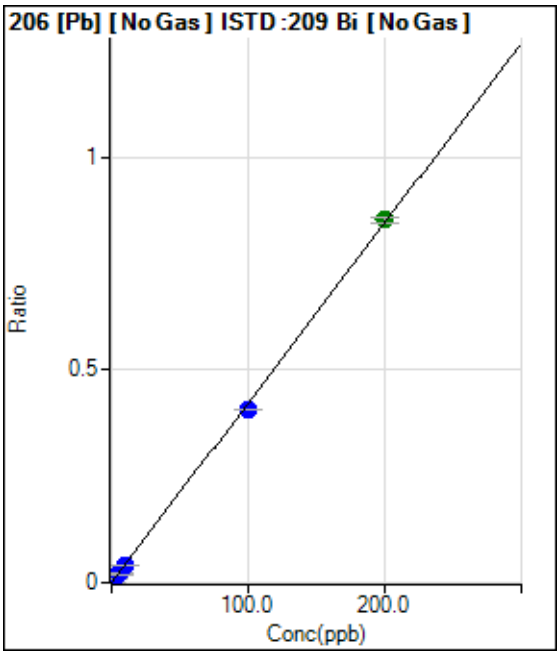


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	220.01	0.0001	P	20.9
2	☐	2.000	2.150	54656.69	0.0237	P	3.4
3	☐	5.000	5.360	136006.29	0.0589	P	0.7
4	☐	10.000	11.066	281979.23	0.1214	P	1.2
5	☐	100.000	97.473	2430415.74	1.0688	A	1.4
6	☐	200.000	201.200	4904957.11	2.2061	A	2.6

y = 0.0110 * x + 9.4649E-005
R = 0.9999
DL = 0.005415
BEC = 0.008633

Weight: <None>
Min Conc: <None>

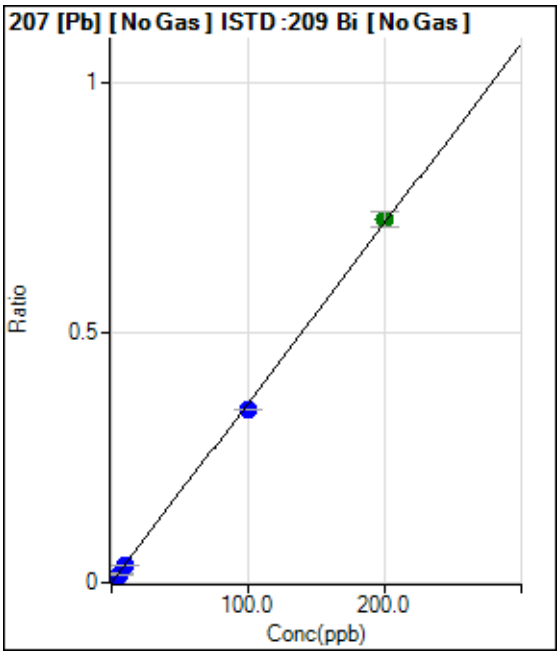
Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0001	P	11.8
2	☐	2.000	1.946	19241.79	0.0083	P	1.8
3	☐	5.000	4.792	47055.98	0.0204	P	1.9
4	☐	10.000	9.934	97778.42	0.0421	P	1.6
5	☐	100.000	96.434	927477.46	0.4079	P	0.1
6	☐	200.000	201.792	1897662.11	0.8534	A	1.5

y = 0.0042 * x + 1.0048E-004
R = 0.9998
DL = 0.00839
BEC = 0.02376

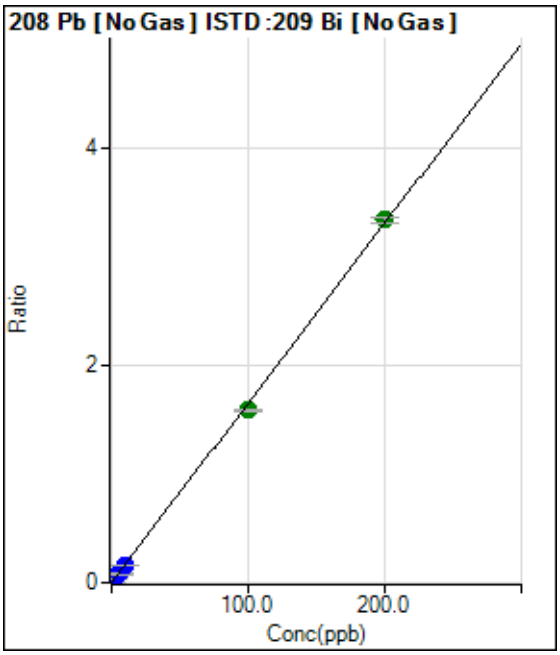
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0001	P	18.9
2	☐	2.000	1.941	16344.28	0.0071	P	1.7
3	☐	5.000	4.771	39840.66	0.0172	P	2.0
4	☐	10.000	9.819	82176.45	0.0354	P	2.3
5	☐	100.000	96.199	786442.49	0.3458	P	0.8
6	☐	200.000	201.916	1613459.45	0.7258	A	4.1

y = 0.0036 * x + 9.8812E-005
R = 0.9997
DL = 0.01562
BEC = 0.02749

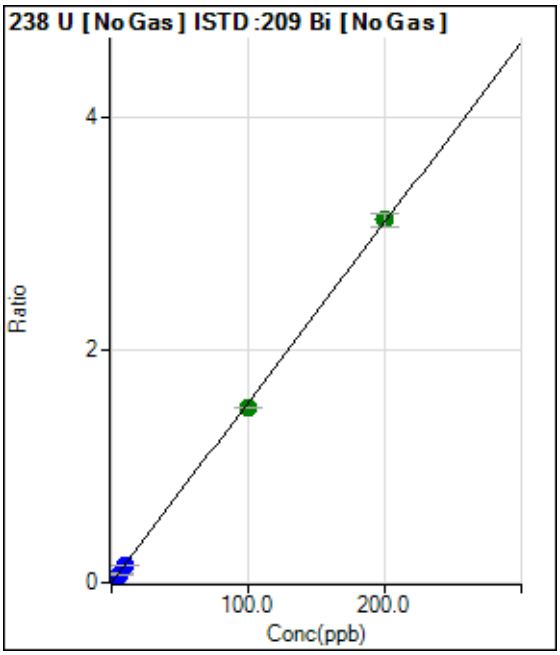
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1146.72	0.0005	P	9.4
2	☐	2.000	1.941	75342.95	0.0326	P	2.1
3	☐	5.000	4.799	184695.53	0.0799	P	0.6
4	☐	10.000	9.871	380557.71	0.1639	P	1.3
5	☐	100.000	95.934	3612126.95	1.5885	A	0.3
6	☐	200.000	202.045	7438280.04	3.3449	A	1.5

y = 0.0166 * x + 4.9269E-004
R = 0.9997
DL = 0.008423
BEC = 0.02976

Weight: <None>
Min Conc: <None>

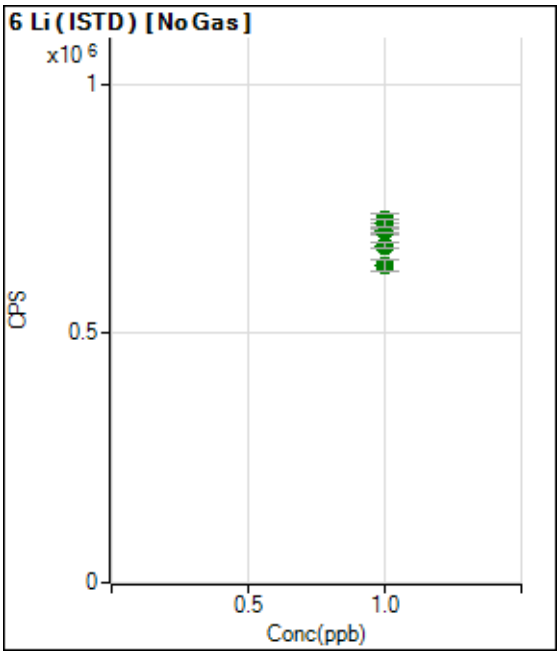


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	88.6
2	☐	2.000	1.933	69021.01	0.0299	P	3.0
3	☐	5.000	4.785	170828.61	0.0739	P	1.4
4	☐	10.000	9.901	355335.59	0.1530	P	1.0
5	☐	100.000	97.230	3416511.20	1.5025	A	0.6
6	☐	200.000	201.396	6918674.27	3.1121	A	3.5

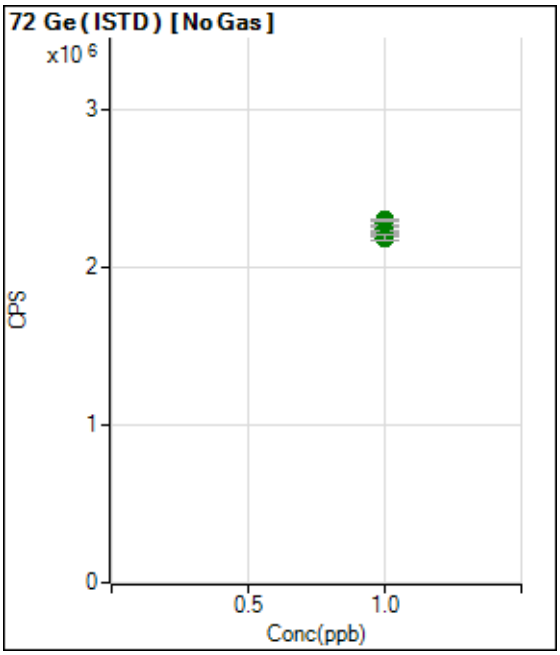
y = 0.0155 * x + 1.0034E-005
R = 0.9999
DL = 0.001726
BEC = 0.0006494

Weight: <None>
Min Conc: <None>

Calibration for 198_ICV.d

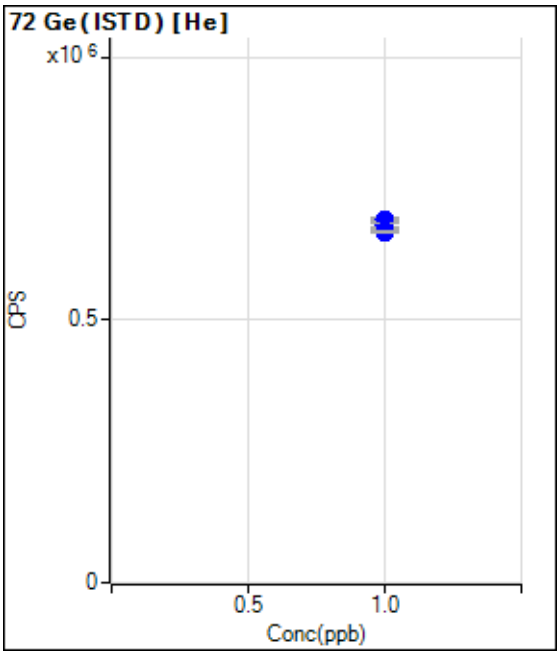


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		727883.56		A	3.5
2	☐	1.000		709827.00		A	3.4
3	☐	1.000		707027.76		A	1.3
4	☐	1.000		721497.40		A	1.9
5	☐	1.000		676463.76		A	2.0
6	☐	1.000		635990.01		A	3.4

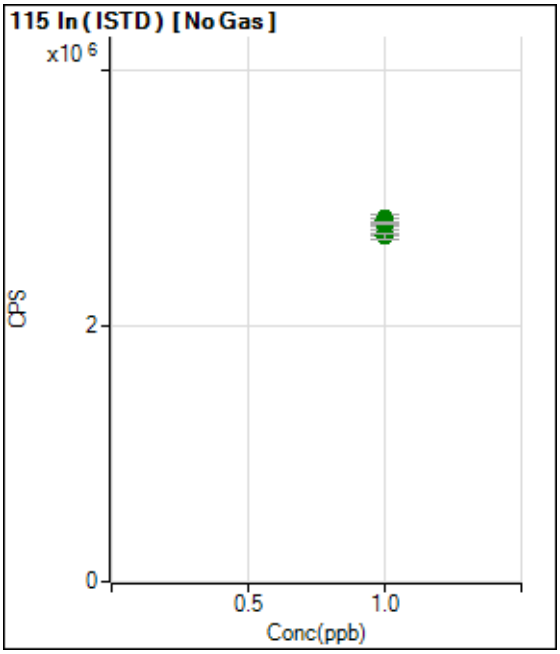


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2274783.93		A	2.3
2	☐	1.000		2235345.65		A	1.3
3	☐	1.000		2245248.66		A	1.9
4	☐	1.000		2297224.86		A	0.6
5	☐	1.000		2206418.51		A	1.5
6	☐	1.000		2183890.59		A	1.9

Calibration for 198_ICV.d

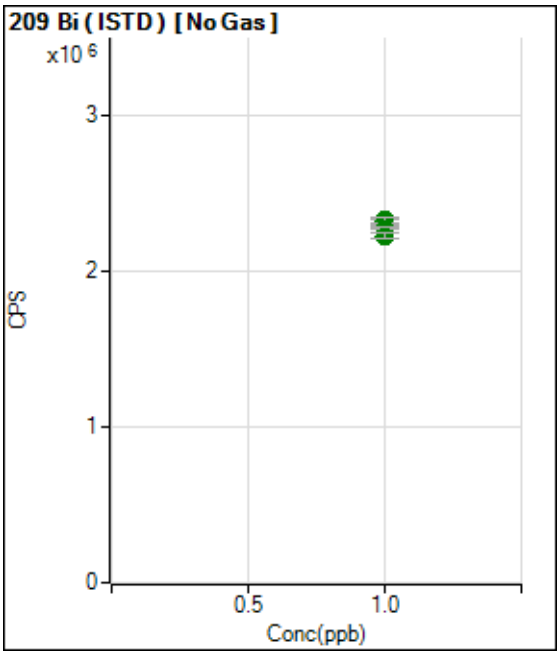


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		688824.96		P	1.1
2	☐	1.000		689959.49		P	1.3
3	☐	1.000		686566.81		P	0.7
4	☐	1.000		680689.73		P	0.9
5	☐	1.000		670813.12		P	0.9
6	☐	1.000		667378.87		P	0.8



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2833981.52		A	2.0
2	☐	1.000		2818107.39		A	1.8
3	☐	1.000		2790983.43		A	1.3
4	☐	1.000		2801664.11		A	0.7
5	☐	1.000		2726317.49		A	1.6
6	☐	1.000		2697089.39		A	1.7

Calibration for 198_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2325618.40		A	1.8
2	☐	1.000		2310440.70		A	2.3
3	☐	1.000		2310523.51		A	1.3
4	☐	1.000		2322452.52		A	1.3
5	☐	1.000		2273960.33		A	0.2
6	☐	1.000		2224216.27		A	2.1

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	199_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T20:23:50-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	-0.133	-13.4	52201	1.6	0.5	
Be	9	1	No Gas	0.014	40.0	77	24.7	0.5	
V	51	2	He	-0.371	-5.8	6900	2.1	2.5	
Cr	52	2	He	-0.809	-6.6	17919	1.9	2.5	
Fe	56	2	He	-0.413	-14.3	32015	1.6	100	
Se	78	2	He	0.139	129.5	195	12.3	1	
As	75	2	He	-0.031	-70.3	373	5.4	2.5	
Ca	44	2	He	-3.450	-38.1	987	5.8	100	
Na	23	2	He	-3.624	-15.5	41576	1.9	100	
Mg	24	2	He	0.158	70.9	913	7.1	100	
K	39	2	He	-13.587	-14.0	161261	1.5	100	
Mn	55	2	He	0.000	-8498.7	1153	10.8	2.5	
Co	59	2	He	0.001	1045.5	187	25.3	2.5	
Ni	60	2	He	0.126	67.7	1147	16.2	2.5	
Cu	63	2	He	-0.028	-62.3	533	17.0	1	
Zn	66	2	He	-0.603	-7.9	733	6.9	2.5	
Al	27	2	He	-0.029	-895.9	2184	5.8	5	
B	11	1	No Gas	6.804	9.0	18437	5.0	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	0.186	54.9	65939	0.4	5	
Si	28	1	No Gas	-1.240	-179.6	384707	2.1	10	
Ag	107	1	No Gas	0.007	33.0	443	8.5	2.5	
Cd	111	1	No Gas	-0.030	-34.8	-114	-30.1	1	
Sr	88	1	No Gas	-0.006	-29.5	2344	1.8	2.5	
Mo	95	1	No Gas	0.008	633.7	1710	17.5	2.5	
Sn	118	1	No Gas	0.025	54.6	2390	6.6	5	
Sb	121	1	No Gas	0.108	21.9	1697	17.0	2.5	
Ba	137	1	No Gas	-0.056	-34.4	497	23.2	2.5	
Tl	205	1	No Gas	0.613	32.8	16011	32.6	1	
Tl	203	1	No Gas	0.621	40.8	6922	40.5	1	
Pb	208	1	No Gas	0.005	80.3	1337	11.2	2.5	
U	238	1	No Gas	0.029	40.6	1087	39.9	2.5	
Ca	43	2	He	-7.475	-153.2	43	74.2	100	
Sb	121	2	He	0.087	9.9	683	9.3	2.5	
Ti	47	2	He	0.053	115.3	17	91.7	2.5	
Se	82	1	No Gas	-1.083	-34.5	68	132.8	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	734324	1.23	727884	100.88	70	120	
Ge	72	2	He	696090	0.58	688825	101.05	70	120	
Ge	72	1	No Gas	2289185	2.37	2274784	100.63	70	120	
In	115	1	No Gas	2870927	0.90	2833982	101.30	70	120	
Bi	209	1	No Gas	2346528	0.48	2325618	100.90	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	246_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T21:51:44-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
n	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	95.288	0.929	955739	0.65	100	95.3	90	110	
Be	9	1	No Gas	94.867	1.879	297340	1.41	100	94.9	90	110	
V	51	2	He	99.872	1.503	550801	0.88	100	99.9	90	110	
Cr	52	2	He	104.747	1.507	651022	0.78	100	104.7	90	110	
Fe	56	2	He	9968.838	1.548	54869313	0.87	10000	99.7	90	110	
Se	78	2	He	98.615	2.482	12204	2.13	100	98.6	90	110	
As	75	2	He	98.302	1.890	92365	1.20	100	98.3	90	110	
Ca	44	2	He	9793.572	2.407	444114	1.84	10000	97.9	90	110	
Na	23	2	He	9863.903	2.128	9042019	1.53	10000	98.6	90	110	
Mg	24	2	He	9858.128	2.496	5403211	2.00	10000	98.6	90	110	
K	39	2	He	9869.823	2.394	8845271	1.67	10000	98.7	90	110	
Mn	55	2	He	99.200	1.703	518281	1.11	100	99.2	90	110	
Co	59	2	He	99.458	1.296	820051	0.64	100	99.5	90	110	
Ni	60	2	He	106.222	1.326	213779	0.76	100	106.2	90	110	
Cu	63	2	He	101.062	1.487	496330	0.87	100	101.1	90	110	
Zn	66	2	He	100.617	1.193	109808	0.53	100	100.6	90	110	
Al	27	2	He	96.746	0.229	43164	0.68	100	96.7	90	110	
B	11	1	No Gas	496.316	0.914	817490	2.21	500	99.3	90	110	
Al	27	1	No Gas	100.704	3.472	1370092	1.21	100	100.7	90	110	
Si	28	1	No Gas	501.234	2.654	3982459	1.27	5000	10.0	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	99.743	3.430	1672830	1.23	100	99.7	90	110	
Cd	111	1	No Gas	99.219	2.928	333625	0.65	100	99.2	90	110	
Sr	88	1	No Gas	100.717	2.710	3400240	0.37	100	100.7	90	110	
Mo	95	1	No Gas	99.543	2.253	642799	0.67	100	99.5	90	110	
Sn	118	1	No Gas	100.484	3.835	1059084	1.41	100	100.5	90	110	
Sb	121	1	No Gas	104.414	3.300	1404603	0.18	100	104.4	90	110	
Ba	137	1	No Gas	100.238	2.961	579936	0.67	100	100.2	90	110	
Tl	205	1	No Gas	97.624	7.508	2626584	0.92	100	97.6	90	110	
Tl	203	1	No Gas	94.059	7.805	1079482	1.09	100	94.1	90	110	
Pb	208	1	No Gas	97.201	7.850	3948388	0.77	100	97.2	90	110	
U	238	1	No Gas	99.962	8.020	3789203	1.27	100	100.0	90	110	
Ca	43	2	He	9959.136	5.506	26459	4.83	10000	99.6	90	110	
Sb	121	2	He	98.790	1.192	651825	0.57	100	98.8	90	110	
Ti	47	2	He	100.431	3.938	23667	3.43	100	100.4	90	110	
Cu	63	1	No Gas	102.891	4.162	1094918	0.92	100	102.9	90	110	
Se	82	1	No Gas	104.144	0.384	24742	3.74	100	104.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	640709	1.41	727884	88.02	70	120	
Ge	72	2	He	661063	0.68	688825	95.97	70	120	
Ge	72	1	No Gas	2211804	3.52	2274784	97.23	70	120	
In	115	1	No Gas	2859382	2.46	2833982	100.90	70	120	
Bi	209	1	No Gas	2462766	7.38	2325618	105.90	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	247_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T21:53:31-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	-0.338	-16.5	48446	2.3	0.5	
Be	9	1	No Gas	0.015	40.7	80	27.2	0.5	
V	51	2	He	-0.002	-1543.2	8643	3.1	2.5	
Cr	52	2	He	-0.528	-11.0	18890	2.8	2.5	
Fe	56	2	He	1.554	10.9	41627	1.4	100	
Se	78	2	He	0.140	8.2	187	0.6	2	
As	75	2	He	0.024	59.5	410	2.2	2.5	
Ca	44	2	He	170.498	155.3	8978	136.6	100	CCB Main CR1 Failed
Na	23	2	He	86.037	4.3	122463	1.7	100	
Mg	24	2	He	2.902	10.0	2394	5.5	100	
K	39	2	He	-5.405	-83.9	161894	1.5	100	
Mn	55	2	He	0.136	23.4	1823	9.0	2.5	
Co	59	2	He	0.009	73.3	247	20.8	2.5	
Ni	60	2	He	0.753	19.2	2367	11.5	2.5	
Cu	63	2	He	0.035	60.2	823	12.4	2	
Zn	66	2	He	0.765	14.4	2194	5.7	2.5	
Al	27	2	He	0.833	49.4	2464	7.5	5	
B	11	1	No Gas	10.273	3.0	24203	3.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	1.281	7.9	76316	1.5	5	
Si	28	1	No Gas	0.983	38.4	379717	0.6	10	
Ag	107	1	No Gas	0.006	61.3	427	14.1	2.5	
Cd	111	1	No Gas	-0.002	-1029.8	-19	-367.6	1	
Sr	88	1	No Gas	0.047	18.2	4151	7.4	2.5	
Mo	95	1	No Gas	0.019	95.3	1787	7.2	2.5	
Sn	118	1	No Gas	0.161	14.4	3824	6.9	5	
Sb	121	1	No Gas	0.106	8.7	1583	7.6	2.5	
Ba	137	1	No Gas	0.007	165.3	867	8.2	2.5	
Tl	205	1	No Gas	0.921	17.3	24619	20.7	1	
Tl	203	1	No Gas	0.891	22.2	10178	25.6	1	
Pb	208	1	No Gas	0.007	78.9	1453	15.5	2.5	
U	238	1	No Gas	0.035	27.2	1333	29.8	2.5	
Ca	43	2	He	19.326	61.6	113	28.4	100	
Sb	121	2	He	0.096	13.9	717	12.5	2.5	
Ti	47	2	He	0.056	43.2	17	34.6	2.5	
Cu	63	1	No Gas	0.096	29.0	2897	10.0	2.5	
Se	82	1	No Gas	-0.276	-41.4	249	10.7	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	712052	1.14	727884	97.82	70	120	
Ge	72	2	He	667601	1.27	688825	96.92	70	120	
Ge	72	1	No Gas	2164992	0.20	2274784	95.17	70	120	
In	115	1	No Gas	2871007	0.60	2833982	101.31	70	120	
Bi	209	1	No Gas	2406742	3.60	2325618	103.49	70	120	

Sample Report

Sample Table

Sample Name	MBLK-196499
Data File Name	248SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T21:55:28-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	-0.293	-0.293	-124.77	48426	0.00	2000	
Be	9	1	No Gas	0.005	0.005	40.10	45	0.01	2000	
V	51	2	He	0.061	0.061	15.82	9006	0.00	2000	
Cr	52	2	He	-1.091	-1.091	-4.99	15506	-0.01	2000	
Fe	56	2	He	-1.339	-1.339	-10.28	25608	-0.01	200000	
Se	78	2	He	0.146	0.146	154.47	189	0.08	2000	
As	75	2	He	0.006	0.006	188.98	394	0.00	2000	
Ca	44	2	He	-12.159	-12.159	-18.52	550	-2.21	200000	
Na	23	2	He	62.928	62.928	6.36	101390	0.06	200000	
Mg	24	2	He	2.813	2.813	3.20	2350	0.12	200000	
K	39	2	He	-9.026	-9.026	-14.96	159043	-0.01	200000	
Mn	55	2	He	-0.044	-0.044	-42.31	877	-0.01	2000	
Co	59	2	He	-0.010	-0.010	-22.41	90	-0.01	2000	
Ni	60	2	He	-0.041	-0.041	-59.76	763	-0.01	2000	
Cu	63	2	He	-0.029	-0.029	-38.99	510	-0.01	2000	
Zn	66	2	He	-0.605	-0.605	-6.20	703	-0.09	2000	
Al	27	2	He	-1.661	-1.661	-13.25	1397	-0.12	2000	
B	11	1	No Gas	7.368	7.368	8.61	18738	0.04	2000	
Al	27	1	No Gas	-1.577	-1.577	-2.89	42278	0.00	2000	
Si	28	1	No Gas	7.111	7.111	33.41	447474	0.00	2000	
Ag	107	1	No Gas	-0.006	-0.006	-35.84	240	0.00	2000	
Cd	111	1	No Gas	-0.001	-0.001	-789.72	-15	0.00	2000	
Sr	88	1	No Gas	-0.028	-0.028	-10.51	1667	0.00	2000	
Mo	95	1	No Gas	-0.088	-0.088	-36.65	1137	-0.01	2000	
Sn	118	1	No Gas	-0.040	-0.040	-51.49	1760	0.00	2000	
Sb	121	1	No Gas	0.024	0.024	23.75	527	0.00	2000	
Ba	137	1	No Gas	-0.071	-0.071	-3.67	430	-0.02	2000	
Tl	205	1	No Gas	0.107	0.107	9.78	3284	0.00	2000	
Tl	203	1	No Gas	0.107	0.107	12.57	1393	0.01	2000	
Pb	208	1	No Gas	-0.014	-0.014	-14.30	667	0.00	2000	
U	238	1	No Gas	0.006	0.006	14.38	270	0.00	2000	
Ca	43	2	He	-1.818	-1.818	-324.80	57	-3.21	200000	
Sb	121	2	He	0.022	0.022	17.15	227	0.01	2000	
Ti	47	2	He	0.056	0.056	113.58	17	0.33	2000	
Cu	63	1	No Gas	-0.019	-0.019	-105.35	1797	0.00	2000	
Zn	66	1	No Gas	-0.622	-0.622	-2.24	2024	-0.03	2000	
Se	82	1	No Gas	-0.246	-0.246	-123.57	272	-0.09	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	706604	4.75	727884	97.08	70	120	
Ge	72	2	He	669048	1.16	688825	97.13	70	120	
Ge	72	1	No Gas	2293103	3.56	2274784	100.81	70	120	
In	115	1	No Gas	2982699	2.97	2833982	105.25	70	120	

Sample Report

Bi	209	1	No Gas	2592858	6.90	2325618	111.49	70	120	

Sample Report

Sample Table

Sample Name	LCS-196499
Data File Name	249SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T21:57:25-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	-0.315	-0.315	-102.62	50693	0.00	2000	
Be	9	1	No Gas	43.244	43.244	3.71	156984	0.03	2000	
V	51	2	He	49.130	49.130	1.21	288108	0.02	2000	
Cr	52	2	He	48.397	48.397	2.04	327082	0.01	2000	
Fe	56	2	He	5000.504	5000.504	1.45	28819639	0.02	200000	
Se	78	2	He	51.496	51.496	3.96	6752	0.76	2000	
As	75	2	He	49.352	49.352	1.79	48726	0.10	2000	
Ca	44	2	He	4803.243	4803.243	1.48	228530	2.10	200000	
Na	23	2	He	5007.961	5007.961	2.20	4826013	0.10	200000	
Mg	24	2	He	5069.343	5069.343	1.55	2908077	0.17	200000	
K	39	2	He	4949.515	4949.515	2.41	4727981	0.10	200000	
Mn	55	2	He	48.988	48.988	1.60	268422	0.02	2000	
Co	59	2	He	50.227	50.227	2.75	433440	0.01	2000	
Ni	60	2	He	50.661	50.661	3.47	107142	0.05	2000	
Cu	63	2	He	51.580	51.580	3.02	265400	0.02	2000	
Zn	66	2	He	51.763	51.763	2.35	59802	0.09	2000	
Al	27	2	He	101.220	101.220	2.07	47153	0.21	2000	
B	11	1	No Gas	5.768	5.768	6.51	16672	0.03	2000	
Al	27	1	No Gas	102.394	102.394	2.87	1483529	0.01	2000	
Si	28	1	No Gas	149.312	149.312	2.10	1549276	0.01	2000	
Ag	107	1	No Gas	49.039	49.039	2.16	877976	0.01	2000	
Cd	111	1	No Gas	49.579	49.579	2.58	177895	0.03	2000	
Sr	88	1	No Gas	0.040	0.040	7.33	4174	0.00	2000	
Mo	95	1	No Gas	48.575	48.575	3.24	335559	0.01	2000	
Sn	118	1	No Gas	-0.067	-0.067	-15.24	1503	0.00	2000	
Sb	121	1	No Gas	52.311	52.311	2.83	750065	0.01	2000	
Ba	137	1	No Gas	48.761	48.761	2.76	301485	0.02	2000	
Tl	205	1	No Gas	44.046	44.046	9.46	1259898	0.00	2000	
Tl	203	1	No Gas	43.398	43.398	8.80	529790	0.01	2000	
Pb	208	1	No Gas	47.846	47.846	7.64	2069392	0.00	2000	
U	238	1	No Gas	0.004	0.004	24.71	173	0.00	2000	
Ca	43	2	He	4842.768	4842.768	0.70	13500	35.87	200000	
Sb	121	2	He	49.438	49.438	0.88	341406	0.01	2000	
Ti	47	2	He	48.584	48.584	4.32	11982	0.41	2000	
Cu	63	1	No Gas	52.673	52.673	3.34	598429	0.01	2000	
Zn	66	1	No Gas	51.417	51.417	3.71	167790	0.03	2000	
Se	82	1	No Gas	52.482	52.482	3.99	13443	0.39	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	742510	3.29	727884	102.01	70	120	
Ge	72	2	He	691802	0.89	688825	100.43	70	120	
Ge	72	1	No Gas	2356942	3.51	2274784	103.61	70	120	
In	115	1	No Gas	3051260	2.71	2833982	107.67	70	120	

Sample Report

Bi	209	1	No Gas	2622541	8.58	2325618	112.77	70	120	

Sample Report

Sample Table

Sample Name	HS23060757-08SD
Data File Name	251SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:01:15-05:00
Sample Type	Sample
Dilution	5
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	-0.555	-2.775	-12.65	47482	0.00	2000	
Be	9	1	No Gas	0.002	0.012	172.74	37	0.01	2000	
V	51	2	He	0.203	1.015	16.29	9949	0.00	2000	
Cr	52	2	He	-0.682	-3.412	-21.69	18286	0.00	2000	
Fe	56	2	He	195.024	975.118	4.31	1137157	0.02	200000	
Se	78	2	He	0.191	0.957	25.55	197	0.10	2000	
As	75	2	He	61.916	309.582	3.85	59994	0.10	2000	
Ca	44	2	He	12717.115	63585.573	2.15	593000	2.14	200000	
Na	23	2	He	1634.904	8174.520	1.83	1578684	0.10	200000	
Mg	24	2	He	738.302	3691.511	2.97	417047	0.18	200000	
K	39	2	He	443.781	2218.907	2.68	571411	0.08	200000	
Mn	55	2	He	27.035	135.174	2.04	146141	0.02	2000	
Co	59	2	He	0.065	0.326	29.10	730	0.01	2000	
Ni	60	2	He	0.239	1.196	23.38	1353	0.02	2000	
Cu	63	2	He	-0.015	-0.077	-87.33	587	0.00	2000	
Zn	66	2	He	-0.251	-1.257	-11.67	1107	-0.02	2000	
Al	27	2	He	8.081	40.406	8.52	5675	0.14	2000	
B	11	1	No Gas	31.880	159.402	3.01	65298	0.05	2000	
Al	27	1	No Gas	8.821	44.104	5.77	182532	0.00	2000	
Si	28	1	No Gas	737.268	3686.339	3.37	5892525	0.01	2000	
Ag	107	1	No Gas	-0.005	-0.023	-39.96	263	0.00	2000	
Cd	111	1	No Gas	-0.023	-0.115	-71.73	-95	0.02	2000	
Sr	88	1	No Gas	41.747	208.734	4.29	1494585	0.00	2000	
Mo	95	1	No Gas	0.015	0.075	354.42	1864	0.00	2000	
Sn	118	1	No Gas	0.101	0.505	25.48	3361	0.00	2000	
Sb	121	1	No Gas	0.088	0.439	13.97	1420	0.01	2000	
Ba	137	1	No Gas	6.048	30.238	3.35	37899	0.02	2000	
Tl	205	1	No Gas	0.131	0.655	2.63	4007	0.00	2000	
Tl	203	1	No Gas	0.137	0.684	4.20	1784	0.01	2000	
Pb	208	1	No Gas	-0.006	-0.029	-56.15	1033	0.00	2000	
U	238	1	No Gas	0.006	0.031	18.68	273	0.00	2000	
Ca	43	2	He	12718.309	63591.546	2.54	34754	36.60	200000	
Sb	121	2	He	0.093	0.467	7.42	713	0.01	2000	
Ti	47	2	He	0.151	0.756	1.46	40	0.38	2000	
Cu	63	1	No Gas	0.009	0.044	275.91	2104	0.00	2000	
Zn	66	1	No Gas	-0.283	-1.415	-25.86	3074	-0.01	2000	
Se	82	1	No Gas	-0.334	-1.668	-65.84	249	-0.13	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	732608	3.76	727884	100.65	70	120	
Ge	72	2	He	680203	1.35	688825	98.75	70	120	
Ge	72	1	No Gas	2295333	3.26	2274784	100.90	70	120	
In	115	1	No Gas	3031949	4.93	2833982	106.99	70	120	

Sample Report

Bi	209	1	No Gas	2621207	8.05	2325618	112.71	70	120	

Sample Report

Sample Table

Sample Name	HS23060757-08MS
Data File Name	252SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:03:11-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	-0.214	-0.214	-111.15	50196	0.00	2000	
Be	9	1	No Gas	44.715	44.715	1.80	157183	0.03	2000	
V	51	2	He	51.310	51.310	1.34	291121	0.02	2000	
Cr	52	2	He	50.040	50.040	0.64	326896	0.02	2000	
Fe	56	2	He	6047.354	6047.354	0.83	33759663	0.02	200000	
Se	78	2	He	51.094	51.094	0.97	6493	0.79	2000	
As	75	2	He	381.013	381.013	0.92	361853	0.11	2000	
Ca	44	2	He	69490.562	69490.562	0.68	3188295	2.18	200000	
Na	23	2	He	13195.241	13195.241	1.66	12249363	0.11	200000	
Mg	24	2	He	8583.343	8583.343	0.32	4769932	0.18	200000	
K	39	2	He	7264.292	7264.292	2.13	6645017	0.11	200000	
Mn	55	2	He	189.529	189.529	0.92	1002953	0.02	2000	
Co	59	2	He	50.867	50.867	1.34	425309	0.01	2000	
Ni	60	2	He	52.022	52.022	0.88	106581	0.05	2000	
Cu	63	2	He	51.584	51.584	0.12	257167	0.02	2000	
Zn	66	2	He	53.560	53.560	1.65	59905	0.09	2000	
Al	27	2	He	142.582	142.582	8.96	63517	0.22	2000	
B	11	1	No Gas	144.408	144.408	1.99	270628	0.05	2000	
Al	27	1	No Gas	133.114	133.114	4.85	1879417	0.01	2000	
Si	28	1	No Gas	3862.740	3862.740	2.87	29528750	0.01	2000	>LDR
Ag	107	1	No Gas	49.397	49.397	3.07	864982	0.01	2000	
Cd	111	1	No Gas	50.883	50.883	3.80	178549	0.03	2000	
Sr	88	1	No Gas	210.293	210.293	2.75	7408068	0.00	2000	
Mo	95	1	No Gas	50.827	50.827	3.88	343323	0.01	2000	
Sn	118	1	No Gas	-0.078	-0.078	-17.58	1343	-0.01	2000	
Sb	121	1	No Gas	54.069	54.069	2.98	763516	0.01	2000	
Ba	137	1	No Gas	82.525	82.525	3.57	498471	0.02	2000	
Tl	205	1	No Gas	53.834	53.834	6.73	1505457	0.00	2000	
Tl	203	1	No Gas	52.851	52.851	6.72	630544	0.01	2000	
Pb	208	1	No Gas	48.911	48.911	6.86	2065765	0.00	2000	
U	238	1	No Gas	0.026	0.026	2.19	1060	0.00	2000	
Ca	43	2	He	70482.743	70482.743	1.44	189513	37.19	200000	
Sb	121	2	He	51.657	51.657	1.37	345581	0.01	2000	
Ti	47	2	He	51.652	51.652	3.61	12342	0.42	2000	
Cu	63	1	No Gas	52.616	52.616	3.28	588773	0.01	2000	
Zn	66	1	No Gas	53.839	53.839	3.99	172849	0.03	2000	
Se	82	1	No Gas	53.951	53.951	2.51	13606	0.40	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	718580	1.95	727884	98.72	70	120	
Ge	72	2	He	670181	0.83	688825	97.29	70	120	
Ge	72	1	No Gas	2321538	3.96	2274784	102.06	70	120	
In	115	1	No Gas	2985773	4.23	2833982	105.36	70	120	

Sample Report

Bi	209	1	No Gas	2558902	7.64	2325618	110.03	70	120	

Sample Report

Sample Table

Sample Name	HS23060757-08MSD
Data File Name	253SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:05:05-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	-0.398	-0.398	-19.47	48099	0.00	2000	
Be	9	1	No Gas	43.542	43.542	0.81	152605	0.03	2000	
V	51	2	He	50.724	50.724	2.01	285104	0.02	2000	
Cr	52	2	He	49.591	49.591	1.76	321026	0.02	2000	
Fe	56	2	He	5984.931	5984.931	0.99	33088025	0.02	200000	
Se	78	2	He	50.768	50.768	2.37	6390	0.79	2000	
As	75	2	He	379.450	379.450	1.69	356876	0.11	2000	
Ca	44	2	He	69614.393	69614.393	2.67	3162908	2.20	200000	
Na	23	2	He	13046.339	13046.339	2.55	11993564	0.11	200000	
Mg	24	2	He	8427.001	8427.001	2.51	4637561	0.18	200000	
K	39	2	He	7177.144	7177.144	1.71	6503506	0.11	200000	
Mn	55	2	He	182.086	182.086	3.24	954209	0.02	2000	
Co	59	2	He	50.239	50.239	1.76	415980	0.01	2000	
Ni	60	2	He	51.326	51.326	1.31	104146	0.05	2000	
Cu	63	2	He	51.388	51.388	1.34	253712	0.02	2000	
Zn	66	2	He	52.900	52.900	2.79	58603	0.09	2000	
Al	27	2	He	155.075	155.075	17.01	68232	0.23	2000	
B	11	1	No Gas	140.826	140.826	1.50	263241	0.05	2000	
Al	27	1	No Gas	133.296	133.296	3.41	1806478	0.01	2000	
Si	28	1	No Gas	3937.070	3937.070	2.78	28872829	0.01	2000	>LDR
Ag	107	1	No Gas	49.084	49.084	3.48	841325	0.01	2000	
Cd	111	1	No Gas	51.007	51.007	3.26	175243	0.03	2000	
Sr	88	1	No Gas	212.425	212.425	3.51	7324098	0.00	2000	
Mo	95	1	No Gas	50.634	50.634	3.81	334840	0.02	2000	
Sn	118	1	No Gas	0.039	0.039	70.52	2584	0.00	2000	
Sb	121	1	No Gas	55.762	55.762	3.35	755535	0.01	2000	
Ba	137	1	No Gas	83.525	83.525	3.84	493835	0.02	2000	
Tl	205	1	No Gas	53.421	53.421	4.66	1474562	0.00	2000	
Tl	203	1	No Gas	52.241	52.241	6.11	614707	0.01	2000	
Pb	208	1	No Gas	48.813	48.813	7.36	2032281	0.00	2000	
U	238	1	No Gas	0.024	0.024	9.29	973	0.00	2000	
Ca	43	2	He	70383.893	70383.893	1.52	187411	37.56	200000	
Sb	121	2	He	51.365	51.365	0.33	340317	0.02	2000	
Ti	47	2	He	50.527	50.527	2.57	11959	0.42	2000	
Cu	63	1	No Gas	53.429	53.429	3.23	573720	0.01	2000	
Zn	66	1	No Gas	53.764	53.764	3.40	165651	0.03	2000	
Se	82	1	No Gas	54.103	54.103	5.13	13085	0.41	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	716328	1.84	727884	98.41	70	120	
Ge	72	2	He	663710	0.40	688825	96.35	70	120	
Ge	72	1	No Gas	2227479	3.44	2274784	97.92	70	120	
In	115	1	No Gas	2922762	3.92	2833982	103.13	70	120	

Sample Report

Bi	209	1	No Gas	2522526	7.17	2325618	108.47	70	120	

Sample Report

Sample Table

Sample Name	HS23060757-08PDS
Data File Name	254SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:06:59-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	-0.365	-0.365	-21.84	47736	0.00	2000	
Be	9	1	No Gas	79.646	79.646	1.28	274893	0.03	2000	
V	51	2	He	94.178	94.178	1.96	514286	0.02	2000	
Cr	52	2	He	92.349	92.349	1.82	570354	0.02	2000	
Fe	56	2	He	10281.067	10281.067	1.69	55978724	0.02	200000	
Se	78	2	He	96.973	96.973	3.33	11873	0.82	2000	
As	75	2	He	423.920	423.920	1.48	392793	0.11	2000	
Ca	44	2	He	74142.876	74142.876	2.02	3318941	2.23	200000	
Na	23	2	He	17072.794	17072.794	1.95	15451070	0.11	200000	
Mg	24	2	He	12652.014	12652.014	2.45	6859507	0.18	200000	
K	39	2	He	11198.338	11198.338	2.80	9905559	0.11	200000	
Mn	55	2	He	230.013	230.013	2.15	1187349	0.02	2000	
Co	59	2	He	93.486	93.486	1.85	762516	0.01	2000	
Ni	60	2	He	93.678	93.678	1.88	186600	0.05	2000	
Cu	63	2	He	94.679	94.679	1.04	460046	0.02	2000	
Zn	66	2	He	97.189	97.189	1.07	104977	0.09	2000	
Al	27	2	He	134.932	134.932	2.47	58744	0.23	2000	
B	11	1	No Gas	140.200	140.200	2.13	258144	0.05	2000	
Al	27	1	No Gas	135.435	135.435	2.18	1825332	0.01	2000	
Si	28	1	No Gas	3869.831	3869.831	1.73	28245270	0.01	2000	>LDR
Ag	107	1	No Gas	93.753	93.753	2.39	1573980	0.01	2000	
Cd	111	1	No Gas	94.042	94.042	3.84	316380	0.03	2000	
Sr	88	1	No Gas	211.106	211.106	3.71	7128043	0.00	2000	
Mo	95	1	No Gas	94.047	94.047	4.00	607618	0.02	2000	
Sn	118	1	No Gas	0.044	0.044	27.84	2577	0.00	2000	
Sb	121	1	No Gas	95.157	95.157	2.52	1282899	0.01	2000	
Ba	137	1	No Gas	126.467	126.467	3.96	731826	0.02	2000	
Tl	205	1	No Gas	98.204	98.204	4.00	2690923	0.00	2000	
Tl	203	1	No Gas	96.545	96.545	4.75	1128332	0.01	2000	
Pb	208	1	No Gas	90.164	90.164	4.86	3729660	0.00	2000	
U	238	1	No Gas	0.023	0.023	10.46	917	0.00	2000	
Ca	43	2	He	74607.792	74607.792	2.32	195721	38.12	200000	
Sb	121	2	He	91.756	91.756	1.69	598901	0.02	2000	
Ti	47	2	He	93.418	93.418	3.20	21778	0.43	2000	
Cu	63	1	No Gas	96.165	96.165	2.50	1025796	0.01	2000	
Zn	66	1	No Gas	97.328	97.328	2.12	295309	0.03	2000	
Se	82	1	No Gas	100.502	100.502	1.96	23927	0.42	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	705600	2.48	727884	96.94	70	120	
Ge	72	2	He	653999	1.19	688825	94.94	70	120	
Ge	72	1	No Gas	2215636	2.55	2274784	97.40	70	120	
In	115	1	No Gas	2862605	4.25	2833982	101.01	70	120	

Sample Report

Bi	209	1	No Gas	2502764	5.69	2325618	107.62	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	255_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:08:46-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
n	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	85.995	2.354	893259	0.56	100	86.0	90	110	CCV Main CR1-2 Failed
Be	9	1	No Gas	86.754	1.788	280143	0.35	100	86.8	90	110	CCV Main CR1-2 Failed
V	51	2	He	99.573	1.766	538652	1.17	100	99.6	90	110	
Cr	52	2	He	105.093	1.603	640590	0.94	100	105.1	90	110	
Fe	56	2	He	9986.075	1.459	53912106	0.95	10000	99.9	90	110	
Se	78	2	He	98.717	0.519	11983	0.75	100	98.7	90	110	
As	75	2	He	98.662	1.878	90927	1.18	100	98.7	90	110	
Ca	44	2	He	9758.941	1.917	434078	1.34	10000	97.6	90	110	
Na	23	2	He	9645.450	1.726	8673449	1.10	10000	96.5	90	110	
Mg	24	2	He	9762.110	2.929	5247868	2.24	10000	97.6	90	110	
K	39	2	He	9806.103	2.871	8620816	2.23	10000	98.1	90	110	
Mn	55	2	He	99.389	1.973	509309	1.24	100	99.4	90	110	
Co	59	2	He	100.096	1.205	809504	0.50	100	100.1	90	110	
Ni	60	2	He	107.015	1.056	211247	0.59	100	107.0	90	110	
Cu	63	2	He	101.582	1.599	489318	0.86	100	101.6	90	110	
Zn	66	2	He	100.647	0.794	107738	0.22	100	100.6	90	110	
Al	27	2	He	95.038	1.923	41623	1.29	100	95.0	90	110	
B	11	1	No Gas	447.094	4.682	758818	2.90	500	89.4	90	110	CCV Main CR1-2 Failed
Al	27	1	No Gas	97.697	1.950	1300659	1.29	100	97.7	90	110	
Si	28	1	No Gas	483.685	2.230	3767526	0.71	5000	9.7	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	100.007	4.606	1672027	1.39	100	100.0	90	110	
Cd	111	1	No Gas	99.835	3.618	334699	0.38	100	99.8	90	110	
Sr	88	1	No Gas	101.864	2.971	3429085	0.41	100	101.9	90	110	
Mo	95	1	No Gas	100.391	3.430	646279	0.09	100	100.4	90	110	
Sn	118	1	No Gas	100.308	5.141	1053938	2.15	100	100.3	90	110	
Sb	121	1	No Gas	107.463	4.251	1412515	3.44	100	107.5	90	110	
Ba	137	1	No Gas	100.803	3.350	581504	0.04	100	100.8	90	110	
Tl	205	1	No Gas	101.108	2.600	2708118	0.56	100	101.1	90	110	
Tl	203	1	No Gas	98.945	1.839	1130805	1.33	100	98.9	90	110	
Pb	208	1	No Gas	100.534	3.761	4065166	0.74	100	100.5	90	110	
U	238	1	No Gas	103.058	3.024	3889761	0.89	100	103.1	90	110	
Ca	43	2	He	9798.113	2.580	25537	1.94	10000	98.0	90	110	
Sb	121	2	He	102.378	1.877	662533	1.14	100	102.4	90	110	
Ti	47	2	He	98.974	1.108	22879	0.46	100	99.0	90	110	
Cu	63	1	No Gas	102.558	2.415	1066608	0.18	100	102.6	90	110	
Se	82	1	No Gas	103.452	1.427	24004	2.20	100	103.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	660196	2.15	727884	90.70	70	120	
Ge	72	2	He	648402	0.74	688825	94.13	70	120	
Ge	72	1	No Gas	2160320	2.34	2274784	94.97	70	120	
In	115	1	No Gas	2851859	3.40	2833982	100.63	70	120	
Bi	209	1	No Gas	2444040	3.18	2325618	105.09	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	256_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:10:34-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	-0.621	-4.3	43537	0.3	0.5	
Be	9	1	No Gas	0.028	30.3	118	23.3	0.5	
V	51	2	He	-0.328	-5.5	6872	2.5	2.5	
Cr	52	2	He	-0.691	-7.1	17942	0.9	2.5	
Fe	56	2	He	2.156	0.8	45082	1.4	100	
Se	78	2	He	0.102	122.5	183	9.9	2	
As	75	2	He	0.010	477.4	398	10.3	2.5	
Ca	44	2	He	13.915	20.8	1743	7.1	100	
Na	23	2	He	27.124	7.7	68347	1.3	100	
Mg	24	2	He	2.891	7.3	2394	4.6	100	
K	39	2	He	-14.950	-17.8	153788	0.5	100	
Mn	55	2	He	0.133	7.3	1813	4.1	2.5	
Co	59	2	He	0.017	45.6	313	21.2	2.5	
Ni	60	2	He	1.236	67.3	3358	50.7	2.5	
Cu	63	2	He	0.058	1.8	940	1.1	2	
Zn	66	2	He	0.833	17.2	2274	8.0	2.5	
Al	27	2	He	4.538	142.4	4035	66.8	5	
B	11	1	No Gas	9.775	5.5	22321	5.1	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	1.047	9.1	73658	3.5	5	
Si	28	1	No Gas	-1.498	-66.3	363722	2.1	10	
Ag	107	1	No Gas	0.015	10.1	577	3.6	2.5	
Cd	111	1	No Gas	-0.013	-207.4	-55	-159.9	1	
Sr	88	1	No Gas	0.060	67.0	4604	29.0	2.5	
Mo	95	1	No Gas	0.045	34.5	1954	5.5	2.5	
Sn	118	1	No Gas	0.162	25.9	3844	12.1	5	
Sb	121	1	No Gas	0.297	8.7	4114	7.4	2.5	
Ba	137	1	No Gas	0.016	92.5	917	9.1	2.5	
Tl	205	1	No Gas	0.919	17.4	25434	21.1	1	
Tl	203	1	No Gas	0.916	21.1	10825	24.8	1	
Pb	208	1	No Gas	0.018	82.7	1954	29.2	2.5	
U	238	1	No Gas	0.036	37.8	1437	41.3	2.5	
Ca	43	2	He	14.285	93.6	100	36.1	100	
Sb	121	2	He	0.293	7.0	2034	5.4	2.5	
Ti	47	2	He	0.056	114.1	17	91.7	2.5	
Cu	63	1	No Gas	0.062	40.1	2550	12.0	2.5	
Se	82	1	No Gas	-0.611	-56.0	172	45.2	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	682186	0.90	727884	93.72	70	120	
Ge	72	2	He	669182	1.49	688825	97.15	70	120	
Ge	72	1	No Gas	2173920	1.88	2274784	95.57	70	120	
In	115	1	No Gas	2873522	0.72	2833982	101.40	70	120	
Bi	209	1	No Gas	2490566	3.80	2325618	107.09	70	120	

Sample Report

Sample Table

Sample Name	HS23060739-01
Data File Name	259SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:16:25-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	69.819	69.819	4.25	720937	0.01	2000	
Be	9	1	No Gas	0.100	0.100	5.45	342	0.03	2000	
V	51	2	He	3.095	3.095	0.42	26061	0.01	2000	
Cr	52	2	He	129.421	129.421	1.28	821017	0.02	2000	
Fe	56	2	He	830.134	830.134	0.93	4724691	0.02	200000	
Se	78	2	He	0.231	0.231	108.38	202	0.11	2000	
As	75	2	He	0.273	0.273	9.72	657	0.04	2000	
Ca	44	2	He	22940.042	22940.042	1.79	1067195	2.15	200000	
Na	23	2	He	116729.742	116729.742	1.32	109446918	0.11	200000	
Mg	24	2	He	24324.948	24324.948	1.39	13695057	0.18	200000	
K	39	2	He	2332.641	2332.641	4.20	2276803	0.10	200000	
Mn	55	2	He	93.789	93.789	2.60	503402	0.02	2000	
Co	59	2	He	3.540	3.540	1.59	30157	0.01	2000	
Ni	60	2	He	78.377	78.377	0.99	162270	0.05	2000	
Cu	63	2	He	2.026	2.026	2.16	10871	0.02	2000	
Zn	66	2	He	21.766	21.766	3.47	25484	0.09	2000	
Al	27	2	He	6.026	6.026	7.41	4771	0.13	2000	
B	11	1	No Gas	14.524	14.524	5.05	29060	0.05	2000	
Al	27	1	No Gas	6.986	6.986	0.73	158616	0.00	2000	
Si	28	1	No Gas	31205.449	31205.449	1.01	234246037	0.01	2000	>LDR
Ag	107	1	No Gas	0.018	0.018	13.17	637	0.00	2000	
Cd	111	1	No Gas	0.827	0.827	2.42	2783	0.03	2000	
Sr	88	1	No Gas	579.198	579.198	2.49	19635416	0.00	2000	
Mo	95	1	No Gas	2.254	2.254	2.34	16257	0.01	2000	
Sn	118	1	No Gas	-0.051	-0.051	-42.65	1590	0.00	2000	
Sb	121	1	No Gas	0.080	0.080	3.38	1323	0.01	2000	
Ba	137	1	No Gas	928.436	928.436	3.29	5389767	0.02	2000	
Tl	205	1	No Gas	0.059	0.059	10.17	1793	0.00	2000	
Tl	203	1	No Gas	0.063	0.063	10.15	813	0.01	2000	
Pb	208	1	No Gas	0.152	0.152	5.41	7251	0.00	2000	
U	238	1	No Gas	0.047	0.047	2.73	1774	0.00	2000	
Ca	43	2	He	23219.340	23219.340	2.69	63296	36.68	200000	
Sb	121	2	He	0.086	0.086	8.64	663	0.01	2000	
Ti	47	2	He	4.240	4.240	11.08	1030	0.41	2000	
Cu	63	1	No Gas	3.558	3.558	1.85	41457	0.01	2000	
Zn	66	1	No Gas	21.759	21.759	0.68	71809	0.03	2000	
Se	82	1	No Gas	2.434	2.434	47.90	926	0.26	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	648795	4.83	727884	89.13	70	120	
Ge	72	2	He	679083	0.71	688825	98.59	70	120	
Ge	72	1	No Gas	2305506	1.19	2274784	101.35	70	120	
In	115	1	No Gas	2873020	2.81	2833982	101.38	70	120	
Bi	209	1	No Gas	2407984	4.93	2325618	103.54	70	120	

Sample Report

Sample Table

Sample Name	HS23060739-04
Data File Name	260SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:18:24-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 196499
ISTD Ref FileName	186CALB.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	235.817	235.817	5.84	2202798	0.01	2000	
Be	9	1	No Gas	0.022	0.022	18.21	90	0.02	2000	
V	51	2	He	0.957	0.957	6.50	13680	0.01	2000	
Cr	52	2	He	21.989	21.989	2.09	153023	0.01	2000	
Fe	56	2	He	7083.612	7083.612	0.71	38764058	0.02	200000	
Se	78	2	He	0.070	0.070	155.25	176	0.04	2000	
As	75	2	He	2.789	2.789	2.13	2976	0.09	2000	
Ca	44	2	He	24922.067	24922.067	1.50	1121782	2.22	200000	
Na	23	2	He	126853.974	126853.974	1.20	115086438	0.11	200000	
Mg	24	2	He	15121.151	15121.151	0.94	8237904	0.18	200000	
K	39	2	He	136706.158	136706.158	1.13	119676925	0.11	200000	
Mn	55	2	He	369.912	369.912	1.57	1918179	0.02	2000	
Co	59	2	He	3.825	3.825	4.83	31520	0.01	2000	
Ni	60	2	He	2.562	2.562	5.70	5935	0.04	2000	
Cu	63	2	He	0.156	0.156	30.30	1403	0.01	2000	
Zn	66	2	He	5.591	5.591	11.50	7329	0.08	2000	
Al	27	2	He	23.891	23.891	15.31	12163	0.20	2000	
B	11	1	No Gas	38.473	38.473	4.64	65199	0.06	2000	
Al	27	1	No Gas	23.231	23.231	4.92	375391	0.01	2000	
Si	28	1	No Gas	12817.360	12817.360	3.04	95613122	0.01	2000	>LDR
Ag	107	1	No Gas	-0.005	-0.005	-39.83	243	0.00	2000	
Cd	111	1	No Gas	0.011	0.011	95.96	24	0.05	2000	
Sr	88	1	No Gas	781.804	781.804	3.77	26151043	0.00	2000	
Mo	95	1	No Gas	0.492	0.492	3.79	4788	0.01	2000	
Sn	118	1	No Gas	-0.051	-0.051	-23.91	1560	0.00	2000	
Sb	121	1	No Gas	0.069	0.069	6.86	1150	0.01	2000	
Ba	137	1	No Gas	571.326	571.326	4.44	3272604	0.02	2000	
Tl	205	1	No Gas	0.022	0.022	35.45	810	0.00	2000	
Tl	203	1	No Gas	0.015	0.015	38.23	267	0.01	2000	
Pb	208	1	No Gas	0.236	0.236	12.28	10639	0.00	2000	
U	238	1	No Gas	0.034	0.034	13.48	1277	0.00	2000	
Ca	43	2	He	25319.682	25319.682	2.20	66785	37.91	200000	
Sb	121	2	He	0.086	0.086	4.51	640	0.01	2000	
Ti	47	2	He	1.965	1.965	6.11	463	0.42	2000	
Cu	63	1	No Gas	1.749	1.749	4.49	21213	0.01	2000	
Zn	66	1	No Gas	5.492	5.492	5.64	20906	0.03	2000	
Se	82	1	No Gas	4.517	4.517	19.07	1419	0.32	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	615907	5.84	727884	84.62	70	120	
Ge	72	2	He	657035	0.79	688825	95.38	70	120	
Ge	72	1	No Gas	2287467	4.84	2274784	100.56	70	120	
In	115	1	No Gas	2836705	4.54	2833982	100.10	70	120	
Bi	209	1	No Gas	2430807	8.17	2325618	104.52	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	267_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:31:50-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
n	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	85.101	2.129	864425	1.84	100	85.1	90	110	CCV Main CR1-2 Failed
Be	9	1	No Gas	86.163	1.512	271926	1.70	100	86.2	90	110	CCV Main CR1-2 Failed
V	51	2	He	97.989	2.379	514157	1.16	100	98.0	90	110	
Cr	52	2	He	103.027	2.711	609361	1.31	100	103.0	90	110	
Fe	56	2	He	9826.307	2.704	51440274	1.40	10000	98.3	90	110	
Se	78	2	He	97.924	2.254	11528	1.01	100	97.9	90	110	
As	75	2	He	96.939	2.886	86636	1.62	100	96.9	90	110	
Ca	44	2	He	9549.353	2.168	411918	0.95	10000	95.5	90	110	
Na	23	2	He	9509.166	1.827	8292874	0.76	10000	95.1	90	110	
Mg	24	2	He	9730.327	3.734	5072365	2.87	10000	97.3	90	110	
K	39	2	He	9519.811	2.692	8120291	1.38	10000	95.2	90	110	
Mn	55	2	He	98.336	2.113	488679	0.80	100	98.3	90	110	
Co	59	2	He	98.785	2.911	774644	1.60	100	98.8	90	110	
Ni	60	2	He	104.880	2.217	200771	0.90	100	104.9	90	110	
Cu	63	2	He	100.427	2.349	469110	1.08	100	100.4	90	110	
Zn	66	2	He	100.326	1.572	104150	0.80	100	100.3	90	110	
Al	27	2	He	96.516	6.944	40945	5.37	100	96.5	90	110	
B	11	1	No Gas	458.351	2.725	760229	0.92	500	91.7	90	110	
Al	27	1	No Gas	97.594	4.660	1256177	0.77	100	97.6	90	110	
Si	28	1	No Gas	491.847	7.565	3697593	4.92	5000	9.8	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	99.535	2.808	1639664	0.68	100	99.5	90	110	
Cd	111	1	No Gas	99.972	3.024	330141	0.17	100	100.0	90	110	
Sr	88	1	No Gas	98.963	3.856	3280635	1.15	100	99.0	90	110	
Mo	95	1	No Gas	98.529	3.293	624766	0.49	100	98.5	90	110	
Sn	118	1	No Gas	101.482	3.081	1050585	0.35	100	101.5	90	110	
Sb	121	1	No Gas	108.797	3.313	1383187	1.32	100	108.8	90	110	
Ba	137	1	No Gas	100.972	2.532	573779	0.60	100	101.0	90	110	
Tl	205	1	No Gas	98.558	4.894	2723846	0.37	100	98.6	90	110	
Tl	203	1	No Gas	97.468	1.757	1150473	3.47	100	97.5	90	110	
Pb	208	1	No Gas	97.482	4.368	4068943	0.67	100	97.5	90	110	
U	238	1	No Gas	101.803	4.256	3965774	0.44	100	101.8	90	110	
Ca	43	2	He	9569.148	2.472	24188	1.72	10000	95.7	90	110	
Sb	121	2	He	101.672	2.871	638009	1.56	100	101.7	90	110	
Ti	47	2	He	96.545	0.955	21644	0.80	100	96.5	90	110	
Cu	63	1	No Gas	104.085	3.056	1046997	0.70	100	104.1	90	110	
Se	82	1	No Gas	103.246	0.472	23183	3.75	100	103.2	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	645225	2.91	727884	88.64	70	120	
Ge	72	2	He	628837	1.30	688825	91.29	70	120	
Ge	72	1	No Gas	2090372	3.79	2274784	91.89	70	120	
In	115	1	No Gas	2808549	3.00	2833982	99.10	70	120	
Bi	209	1	No Gas	2524305	4.68	2325618	108.54	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	268_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:33:38-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	-0.598	-9.9	42258	4.5	0.5	
Be	9	1	No Gas	0.018	19.2	80	16.5	0.5	
V	51	2	He	-0.223	-19.3	7092	2.7	2.5	
Cr	52	2	He	-0.681	-9.9	17151	1.7	2.5	
Fe	56	2	He	1.374	20.5	38792	3.0	100	
Se	78	2	He	-0.015	-649.8	161	7.3	2	
As	75	2	He	0.020	349.5	388	16.2	2.5	
Ca	44	2	He	10.082	30.1	1493	8.0	100	
Na	23	2	He	20.433	5.1	59236	0.7	100	
Mg	24	2	He	4.124	84.1	2922	61.6	100	
K	39	2	He	-17.343	-16.0	144482	0.8	100	
Mn	55	2	He	0.109	16.7	1603	4.8	2.5	
Co	59	2	He	0.010	32.9	243	9.5	2.5	
Ni	60	2	He	0.775	12.6	2304	7.7	2.5	
Cu	63	2	He	0.043	46.9	827	11.0	2	
Zn	66	2	He	0.781	15.1	2110	5.0	2.5	
Al	27	2	He	0.646	172.6	2274	19.4	5	
B	11	1	No Gas	7.309	1.9	17389	3.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	2.236	109.5	88690	38.8	5	
Si	28	1	No Gas	-5.431	-13.5	332759	1.8	10	
Ag	107	1	No Gas	0.002	131.8	363	8.8	2.5	
Cd	111	1	No Gas	0.001	1567.1	-8	-734.8	1	
Sr	88	1	No Gas	0.033	5.1	3711	5.2	2.5	
Mo	95	1	No Gas	0.033	221.5	1907	27.9	2.5	
Sn	118	1	No Gas	0.218	61.3	4471	30.4	5	
Sb	121	1	No Gas	0.109	5.4	1610	1.6	2.5	
Ba	137	1	No Gas	0.006	89.3	867	2.7	2.5	
Tl	205	1	No Gas	0.987	25.5	29311	34.0	1	
Tl	203	1	No Gas	0.913	27.7	11586	36.2	1	
Pb	208	1	No Gas	0.003	109.0	1417	2.7	2.5	
U	238	1	No Gas	0.041	49.3	1754	57.4	2.5	
Ca	43	2	He	14.875	57.1	97	21.5	100	
Sb	121	2	He	0.106	8.2	750	7.4	2.5	
Ti	47	2	He	0.045	149.9	13	114.6	2.5	
Cu	63	1	No Gas	0.034	62.2	2237	6.7	2.5	
Se	82	1	No Gas	-0.820	-65.3	122	99.3	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	658408	3.31	727884	90.46	70	120	
Ge	72	2	He	637487	0.84	688825	92.55	70	120	
Ge	72	1	No Gas	2153950	3.31	2274784	94.69	70	120	
In	115	1	No Gas	2908672	3.80	2833982	102.64	70	120	
Bi	209	1	No Gas	2648169	8.42	2325618	113.87	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	272_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:41:16-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
n	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	87.802	2.459	874012	1.58	100	87.8	90	110	CCV Main CR1-2 Failed
Be	9	1	No Gas	92.122	1.526	268706	0.85	100	92.1	90	110	
V	51	2	He	98.111	2.507	518332	1.12	100	98.1	90	110	
Cr	52	2	He	103.393	2.155	615708	0.91	100	103.4	90	110	
Fe	56	2	He	9943.501	3.337	52409661	1.95	10000	99.4	90	110	
Se	78	2	He	97.172	3.278	11519	2.34	100	97.2	90	110	
As	75	2	He	97.206	2.472	87477	1.13	100	97.2	90	110	
Ca	44	2	He	9496.013	1.832	412465	0.59	10000	95.0	90	110	
Na	23	2	He	9436.402	1.906	8286682	1.12	10000	94.4	90	110	
Mg	24	2	He	9541.189	2.399	5008396	1.19	10000	95.4	90	110	
K	39	2	He	9502.561	3.155	8161486	1.76	10000	95.0	90	110	
Mn	55	2	He	98.945	2.987	495050	1.59	100	98.9	90	110	
Co	59	2	He	99.092	2.536	782449	1.22	100	99.1	90	110	
Ni	60	2	He	106.574	2.622	205406	1.42	100	106.6	90	110	
Cu	63	2	He	100.583	2.354	473082	0.99	100	100.6	90	110	
Zn	66	2	He	99.672	2.854	104181	1.43	100	99.7	90	110	
Al	27	2	He	92.768	2.570	39717	1.05	100	92.8	90	110	
B	11	1	No Gas	462.722	1.767	753491	0.61	500	92.5	90	110	
Al	27	1	No Gas	97.210	2.144	1254446	2.82	100	97.2	90	110	
Si	28	1	No Gas	476.483	0.513	3602112	1.65	5000	9.5	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	100.742	0.731	1664689	1.07	100	100.7	90	110	
Cd	111	1	No Gas	100.154	2.374	331724	0.72	100	100.2	90	110	
Sr	88	1	No Gas	100.117	2.144	3329406	1.17	100	100.1	90	110	
Mo	95	1	No Gas	99.645	1.734	633776	0.13	100	99.6	90	110	
Sn	118	1	No Gas	100.976	2.749	1048465	1.55	100	101.0	90	110	
Sb	121	1	No Gas	110.601	2.022	1408795	1.86	100	110.6	90	110	CCV Main CR1-2 Failed
Ba	137	1	No Gas	101.778	1.351	580086	0.85	100	101.8	90	110	
Tl	205	1	No Gas	99.353	3.855	2743450	1.18	100	99.4	90	110	
Tl	203	1	No Gas	98.741	2.964	1163424	1.08	100	98.7	90	110	
Pb	208	1	No Gas	99.585	4.239	4151754	0.30	100	99.6	90	110	
U	238	1	No Gas	102.716	4.497	3996191	0.64	100	102.7	90	110	
Ca	43	2	He	9356.078	0.507	23818	1.08	10000	93.6	90	110	
Sb	121	2	He	102.000	2.046	644536	0.80	100	102.0	90	110	
Ti	47	2	He	95.814	1.570	21627	0.55	100	95.8	90	110	
Cu	63	1	No Gas	102.753	2.910	1035496	2.30	100	102.8	90	110	
Se	82	1	No Gas	104.300	1.356	23443	0.69	100	104.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	633358	2.31	727884	87.01	70	120	
Ge	72	2	He	633187	1.38	688825	91.92	70	120	
Ge	72	1	No Gas	2092881	1.31	2274784	92.00	70	120	
In	115	1	No Gas	2815912	1.64	2833982	99.36	70	120	
Bi	209	1	No Gas	2520777	4.06	2325618	108.39	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	273_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T22:43:03-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	-0.622	-9.7	41315	2.0	0.5	
Be	9	1	No Gas	0.016	24.7	73	17.2	0.5	
V	51	2	He	-0.276	-19.2	6927	5.0	2.5	
Cr	52	2	He	-0.820	-7.8	16597	1.0	2.5	
Fe	56	2	He	1.137	18.1	38127	2.6	100	
Se	78	2	He	-0.159	-13.5	146	2.7	2	
As	75	2	He	-0.021	-199.1	357	9.2	2.5	
Ca	44	2	He	7.884	7.9	1420	0.7	100	
Na	23	2	He	13.941	8.5	54363	0.9	100	
Mg	24	2	He	1.554	18.8	1600	11.0	100	
K	39	2	He	-24.123	-18.4	140895	1.4	100	
Mn	55	2	He	0.128	28.4	1730	10.7	2.5	
Co	59	2	He	0.008	28.0	237	8.8	2.5	
Ni	60	2	He	0.643	10.5	2084	7.6	2.5	
Cu	63	2	He	0.040	20.6	827	4.9	2	
Zn	66	2	He	0.774	1.7	2137	0.7	2.5	
Al	27	2	He	0.481	41.2	2244	4.9	5	
B	11	1	No Gas	6.984	5.5	16565	4.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.797	3.2	69064	1.3	5	
Si	28	1	No Gas	-4.563	-8.7	335348	0.3	10	
Ag	107	1	No Gas	0.008	73.2	453	21.8	2.5	
Cd	111	1	No Gas	0.000	30747.7	-12	-351.8	1	
Sr	88	1	No Gas	0.038	10.1	3757	2.0	2.5	
Mo	95	1	No Gas	-0.007	-387.3	1590	11.5	2.5	
Sn	118	1	No Gas	0.145	11.0	3594	6.0	5	
Sb	121	1	No Gas	0.111	9.5	1617	7.5	2.5	
Ba	137	1	No Gas	0.015	35.9	893	4.7	2.5	
Tl	205	1	No Gas	0.890	18.2	25056	21.5	1	
Tl	203	1	No Gas	0.867	17.6	10421	21.3	1	
Pb	208	1	No Gas	0.004	57.2	1423	8.8	2.5	
U	238	1	No Gas	0.036	28.8	1453	32.0	2.5	
Ca	43	2	He	6.442	537.4	77	118.4	100	
Sb	121	2	He	0.096	10.1	697	8.3	2.5	
Ti	47	2	He	0.044	55.9	13	43.3	2.5	
Cu	63	1	No Gas	0.029	91.7	2160	11.5	2.5	
Se	82	1	No Gas	-0.879	-40.8	109	73.5	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	647442	0.86	727884	88.95	70	120	
Ge	72	2	He	647522	1.28	688825	94.00	70	120	
Ge	72	1	No Gas	2131171	1.14	2274784	93.69	70	120	
In	115	1	No Gas	2816929	1.40	2833982	99.40	70	120	
Bi	209	1	No Gas	2534517	3.80	2325618	108.98	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	311_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-23T23:59:15-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	186CALB.d
n	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	92.707	3.966	764113	1.40	100	92.7	90	110	
Be	9	1	No Gas	90.115	4.390	218198	0.68	100	90.1	90	110	
V	51	2	He	98.914	2.171	434546	0.78	100	98.9	90	110	
Cr	52	2	He	104.250	1.509	516167	0.13	100	104.3	90	110	
Fe	56	2	He	10042.866	2.157	44026541	1.15	10000	100.4	90	110	
Se	78	2	He	96.870	4.186	9549	2.78	100	96.9	90	110	
As	75	2	He	98.073	2.847	73391	1.52	100	98.1	90	110	
Ca	44	2	He	9516.450	2.474	343733	1.11	10000	95.2	90	110	
Na	23	2	He	9429.633	1.266	6886708	0.11	10000	94.3	90	110	
Mg	24	2	He	9519.075	1.882	4155630	0.55	10000	95.2	90	110	
K	39	2	He	9464.941	1.447	6762008	0.31	10000	94.6	90	110	
Mn	55	2	He	98.810	1.697	411191	0.44	100	98.8	90	110	
Co	59	2	He	99.844	1.766	655686	0.42	100	99.8	90	110	
Ni	60	2	He	106.965	2.431	171448	1.18	100	107.0	90	110	
Cu	63	2	He	102.026	1.868	399082	0.51	100	102.0	90	110	
Zn	66	2	He	101.338	1.418	88081	0.17	100	101.3	90	110	
Al	27	2	He	92.370	1.200	32899	0.37	100	92.4	90	110	
B	11	1	No Gas	453.833	4.655	613520	0.46	500	90.8	90	110	
Al	27	1	No Gas	93.720	5.032	1051914	0.99	100	93.7	90	110	
Si	28	1	No Gas	449.683	3.837	2970607	1.30	5000	9.0	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	96.954	5.344	1388258	0.98	100	97.0	90	110	
Cd	111	1	No Gas	98.053	6.525	281328	0.42	100	98.1	90	110	
Sr	88	1	No Gas	99.068	4.940	2855705	1.49	100	99.1	90	110	
Mo	95	1	No Gas	97.128	5.563	535356	0.74	100	97.1	90	110	
Sn	118	1	No Gas	101.248	5.220	911178	1.00	100	101.2	90	110	
Sb	121	1	No Gas	108.096	4.175	1195938	1.09	100	108.1	90	110	
Ba	137	1	No Gas	101.083	6.578	499001	0.92	100	101.1	90	110	
Tl	205	1	No Gas	97.081	7.952	2368195	1.87	100	97.1	90	110	
Tl	203	1	No Gas	95.824	7.417	997435	0.93	100	95.8	90	110	
Pb	208	1	No Gas	97.303	7.376	3585071	0.87	100	97.3	90	110	
U	238	1	No Gas	101.900	10.011	3498588	2.02	100	101.9	90	110	
Ca	43	2	He	9553.109	3.232	20218	1.97	10000	95.5	90	110	
Sb	121	2	He	104.791	1.723	550696	0.53	100	104.8	90	110	
Ti	47	2	He	96.694	2.329	18152	2.29	100	96.7	90	110	
Cu	63	1	No Gas	100.644	4.888	880847	0.99	100	100.6	90	110	
Se	82	1	No Gas	100.950	4.440	19724	3.76	100	100.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	526424	5.10	727884	72.32	70	120	
Ge	72	2	He	526575	1.36	688825	76.45	70	120	
Ge	72	1	No Gas	1819787	4.31	2274784	80.00	70	120	
In	115	1	No Gas	2445302	6.26	2833982	86.29	70	120	
Bi	209	1	No Gas	2234562	8.55	2325618	96.08	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	312_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-24T00:01:04-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	-0.455	-16.0	34846	1.6	0.5	
Be	9	1	No Gas	0.030	22.0	93	17.2	0.5	
V	51	2	He	-0.236	-8.2	5917	1.7	2.5	
Cr	52	2	He	-0.755	-13.7	14091	4.3	2.5	
Fe	56	2	He	2.669	13.7	38464	3.4	100	
Se	78	2	He	0.300	63.2	167	12.0	2	
As	75	2	He	-0.033	-151.7	287	12.9	2.5	
Ca	44	2	He	9.589	30.5	1240	7.8	100	
Na	23	2	He	58.623	3.0	78216	1.7	100	
Mg	24	2	He	2.994	18.4	1967	12.2	100	
K	39	2	He	-1.856	-302.5	132775	2.2	100	
Mn	55	2	He	0.111	25.9	1363	9.3	2.5	
Co	59	2	He	0.007	93.4	190	24.1	2.5	
Ni	60	2	He	0.733	5.5	1873	4.3	2.5	
Cu	63	2	He	0.051	34.3	727	10.3	2	
Zn	66	2	He	0.658	37.4	1670	12.5	2.5	
Al	27	2	He	0.985	24.8	2034	3.6	5	
B	11	1	No Gas	12.741	5.3	21181	4.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	1.642	6.5	65939	1.6	5	
Si	28	1	No Gas	-1.067	-173.4	297661	2.8	10	
Ag	107	1	No Gas	0.011	28.8	417	12.1	2.5	
Cd	111	1	No Gas	-0.007	-133.0	-29	-88.1	1	
Sr	88	1	No Gas	0.041	17.2	3254	3.6	2.5	
Mo	95	1	No Gas	0.075	46.3	1770	13.2	2.5	
Sn	118	1	No Gas	0.158	11.6	3120	7.2	5	
Sb	121	1	No Gas	0.111	12.3	1340	11.5	2.5	
Ba	137	1	No Gas	0.007	287.0	710	14.8	2.5	
Tl	205	1	No Gas	0.992	23.6	23517	26.1	1	
Tl	203	1	No Gas	0.932	26.3	9434	28.7	1	
Pb	208	1	No Gas	0.010	21.7	1387	3.0	2.5	
U	238	1	No Gas	0.045	34.3	1523	36.5	2.5	
Ca	43	2	He	1.776	147.0	53	10.8	100	
Sb	121	2	He	0.095	7.3	573	7.0	2.5	
Ti	47	2	He	0.021	284.1	7	173.2	2.5	
Cu	63	1	No Gas	0.064	28.0	2084	6.6	2.5	
Se	82	1	No Gas	-0.618	-48.2	139	40.2	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	525684	0.40	727884	72.22	70	120	
Ge	72	2	He	537061	0.88	688825	77.97	70	120	
Ge	72	1	No Gas	1764451	0.71	2274784	77.57	70	120	
In	115	1	No Gas	2360083	2.60	2833982	83.28	70	120	
Bi	209	1	No Gas	2134660	2.59	2325618	91.79	70	120	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	313LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-24T00:02:56-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	186CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.286	1.286	5.56	48613	0.00	2	NewName Main CR1 Failed
Be	9	1	No Gas	1.723	1.723	1.64	4204	0.04	2	
V	51	2	He	1.627	1.627	2.78	14251	0.01	2	
Cr	52	2	He	0.812	0.812	6.57	21911	0.00	2	NewName Main CR1 Failed
Fe	56	2	He	202.729	202.729	2.15	940063	0.02	200	
Se	78	2	He	2.107	2.107	7.23	349	0.60	2	
As	75	2	He	1.767	1.767	3.40	1668	0.11	2	
Ca	44	2	He	171.793	171.793	7.24	7259	2.37	200	
Na	23	2	He	239.243	239.243	2.17	213808	0.11	200	
Mg	24	2	He	199.468	199.468	1.10	90170	0.22	200	
K	39	2	He	185.586	185.586	3.82	268887	0.07	200	
Mn	55	2	He	1.808	1.808	6.63	8616	0.02	2	
Co	59	2	He	1.940	1.940	3.12	13240	0.01	2	
Ni	60	2	He	1.840	1.840	9.28	3704	0.05	2	
Cu	63	2	He	2.065	2.065	1.82	8826	0.02	2	
Zn	66	2	He	1.157	1.157	19.70	2124	0.05	2	NewName Main CR1 Failed
Al	27	2	He	0.325	0.325	150.26	1820	0.02	2	NewName Main CR1 Failed
B	11	1	No Gas	18.260	18.260	2.24	28673	0.06	10	NewName Main CR1 Failed
Al	27	1	No Gas	0.822	0.822	29.32	57342	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	7.738	7.738	17.61	347745	0.00	10	
Ag	107	1	No Gas	2.182	2.182	2.83	31067	0.01	2	
Cd	111	1	No Gas	2.019	2.019	5.07	5707	0.04	2	
Sr	88	1	No Gas	2.036	2.036	0.63	59954	0.00	2	
Mo	95	1	No Gas	1.918	1.918	7.10	11782	0.02	2	
Sn	118	1	No Gas	2.050	2.050	3.10	19932	0.01	2	
Sb	121	1	No Gas	2.172	2.172	1.14	23451	0.01	2	
Ba	137	1	No Gas	2.048	2.048	3.08	10651	0.02	2	
Tl	205	1	No Gas	2.359	2.359	2.91	56451	0.00	2	
Tl	203	1	No Gas	2.319	2.319	2.62	23683	0.01	2	
Pb	208	1	No Gas	2.015	2.015	3.90	73563	0.00	2	
U	238	1	No Gas	2.094	2.094	4.07	70369	0.00	2	
Ca	43	2	He	164.230	164.230	10.56	407	40.38	200	
Sb	121	2	He	1.967	1.967	3.98	10688	0.02	2	
Ti	47	2	He	2.213	2.213	22.65	430	0.51	200	
Cu	63	1	No Gas	2.190	2.190	1.64	20098	0.01	2	
Se	82	1	No Gas	2.231	2.231	32.10	669	0.33	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	527207	0.94	727884	72.43	70	120	
Ge	72	2	He	541421	0.83	688825	78.60	70	120	
Ge	72	1	No Gas	1762753	2.76	2274784	77.49	70	120	
In	115	1	No Gas	2406444	3.11	2833982	84.91	70	120	
Bi	209	1	No Gas	2175859	3.69	2325618	93.56	70	120	

Sample Report

Sample Table

Sample Name	LLCCV5
Data File Name	314LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-24T00:04:47-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	186CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	3.974	3.974	1.21	70592	0.01	5	
Be	9	1	No Gas	4.352	4.352	1.69	10724	0.04	5	
V	51	2	He	4.468	4.468	2.58	26813	0.02	5	
Cr	52	2	He	4.155	4.155	3.15	38254	0.01	5	
Fe	56	2	He	483.437	483.437	1.65	2199085	0.02	500	
Se	78	2	He	5.007	5.007	11.78	637	0.79	5	
As	75	2	He	4.485	4.485	2.33	3742	0.12	5	
Ca	44	2	He	442.307	442.307	3.31	17238	2.57	500	
Na	23	2	He	522.286	522.286	1.08	424225	0.12	500	
Mg	24	2	He	495.656	495.656	1.69	222537	0.22	500	
K	39	2	He	466.883	466.883	1.71	470303	0.10	500	
Mn	55	2	He	4.660	4.660	4.12	20739	0.02	5	
Co	59	2	He	4.832	4.832	1.26	32683	0.01	5	
Ni	60	2	He	4.955	4.955	3.19	8796	0.06	5	
Cu	63	2	He	5.042	5.042	2.80	20733	0.02	5	
Zn	66	2	He	4.513	4.513	4.11	5074	0.09	5	
Al	27	2	He	3.324	3.324	21.19	2857	0.12	5	NewName2 Main CR1 Failed
B	11	1	No Gas	29.542	29.542	2.27	44412	0.07	25	
Al	27	1	No Gas	3.924	3.924	7.25	89483	0.00	5	
Si	28	1	No Gas	21.676	21.676	11.66	427506	0.01	25	
Ag	107	1	No Gas	5.246	5.246	2.90	75408	0.01	5	
Cd	111	1	No Gas	4.927	4.927	3.25	14140	0.03	5	
Sr	88	1	No Gas	4.992	4.992	2.73	145988	0.00	5	
Mo	95	1	No Gas	4.845	4.845	3.03	28060	0.02	5	
Sn	118	1	No Gas	5.008	5.008	2.10	46814	0.01	5	
Sb	121	1	No Gas	5.585	5.585	3.78	60021	0.01	5	
Ba	137	1	No Gas	5.067	5.067	4.36	25696	0.02	5	
Tl	205	1	No Gas	5.502	5.502	5.70	135695	0.00	5	
Tl	203	1	No Gas	5.347	5.347	4.35	56297	0.01	5	
Pb	208	1	No Gas	4.878	4.878	5.44	182447	0.00	5	
U	238	1	No Gas	4.997	4.997	5.64	173432	0.00	5	
Ca	43	2	He	454.210	454.210	8.88	1033	43.95	500	
Sb	121	2	He	4.824	4.824	2.87	26063	0.02	5	
Ti	47	2	He	4.679	4.679	1.01	903	0.52	5	
Cu	63	1	No Gas	5.341	5.341	5.30	46757	0.01	5	
Se	82	1	No Gas	5.242	5.242	10.90	1232	0.43	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	533845	2.31	727884	73.34	70	120	
Ge	72	2	He	540017	0.50	688825	78.40	70	120	
Ge	72	1	No Gas	1763235	3.85	2274784	77.51	70	120	
In	115	1	No Gas	2441770	2.28	2833982	86.16	70	120	
Bi	209	1	No Gas	2251075	6.28	2325618	96.79	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	315ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-24T00:06:39-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	-0.392	-24.3	34816	2.0	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.004	98.0	30	33.3	0	ICSA Main CR1 Failed
V	51	2	He	0.668	8.5	9741	0.3	0	ICSA Main CR1 Failed
Cr	52	2	He	1.260	12.3	23517	0.5	0	ICSA Main CR1 Failed
Fe	56	2	He	99632.329	2.7	437864367	0.2	0	
Se	78	2	He	0.336	15.2	167	3.0	0	ICSA Main CR1 Failed
As	75	2	He	0.317	24.1	544	12.4	0	ICSA Main CR1 Failed
Ca	44	2	He	93694.712	1.6	3387621	1.3	0	
Na	23	2	He	94569.264	2.3	68967081	0.5	0	
Mg	24	2	He	95785.758	3.4	41931779	0.9	0	
K	39	2	He	95347.124	2.7	67124309	0.2	0	
Mn	55	2	He	1.253	1.8	6098	2.2	0	ICSA Main CR1 Failed
Co	59	2	He	0.606	5.1	4131	3.8	0	ICSA Main CR1 Failed
Ni	60	2	He	0.994	7.4	2264	8.1	0	ICSA Main CR1 Failed
Cu	63	2	He	0.828	7.8	3761	6.0	0	ICSA Main CR1 Failed
Zn	66	2	He	2.673	5.3	3377	1.0	0	ICSA Main CR1 Failed
Al	27	2	He	89584.308	3.6	30382927	1.2	0	
B	11	1	No Gas	10.204	2.4	17509	1.5	0	
Al	27	1	No Gas	90100.196	3.3	926430173	1.0	0	
Si	28	1	No Gas	25.018	8.5	443329	1.0	0	
Ag	107	1	No Gas	0.160	17.3	2390	12.6	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	0.306	102.4	817	102.3	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	4.884	5.3	132979	1.2	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	1999.920	4.1	10241585	0.5	0	
Sn	118	1	No Gas	0.049	29.9	2090	4.6	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.328	6.6	3644	9.0	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.769	7.8	4184	4.6	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.052	17.6	1310	8.7	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.046	16.0	513	9.8	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.194	8.5	7358	6.6	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.016	8.3	513	9.8	0	ICSA Main CR1 Failed
Ca	43	2	He	93329.607	2.2	197733	0.6	0	
Sb	121	2	He	0.308	10.3	1683	7.3	0	ICSA Main CR1 Failed
Ti	47	2	He	2026.207	2.4	381459	0.7	0	
Se	82	1	No Gas	-0.142	-181.3	225	18.6	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	518129	3.35	727884	71.18	70	120	
Ge	72	2	He	528338	2.78	688825	76.70	70	120	
Ge	72	1	No Gas	1749751	3.44	2274784	76.92	70	120	
In	115	1	No Gas	2274941	4.18	2833982	80.27	70	120	
Bi	209	1	No Gas	1995071	7.40	2325618	85.79	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	316ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq Date Time	2023-06-24T00:08:33-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	186CALB.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	93.421	0.642	754775	0.78	100	93.4	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	92.146	0.459	218834	0.51	100	92.1	80	120	
V	51	2	He	97.444	1.416	445758	0.51	100	97.4	80	120	
Cr	52	2	He	96.391	1.096	498183	0.12	100	96.4	80	120	
Fe	56	2	He	106674.960	1.063	486578206	0.40	100	106675.0	80	120	ICSB Main CR1 Failed
Se	78	2	He	96.584	1.046	9914	0.46	100	96.6	80	120	
As	75	2	He	97.095	1.401	75648	0.29	100	97.1	80	120	
Ca	44	2	He	101206.220	2.577	3796738	1.85	100	101206.2	80	120	ICSB Main CR1 Failed
Na	23	2	He	101850.411	1.809	77081857	1.16	100	101850.4	80	120	ICSB Main CR1 Failed
Mg	24	2	He	102291.308	1.016	46483809	1.03	100	102291.3	80	120	ICSB Main CR1 Failed
K	39	2	He	102327.218	1.300	74757306	0.30	100	102327.2	80	120	ICSB Main CR1 Failed
Mn	55	2	He	95.469	1.534	413598	0.55	100	95.5	80	120	
Co	59	2	He	97.049	1.630	663457	0.66	100	97.0	80	120	
Ni	60	2	He	95.600	0.255	159609	0.92	100	95.6	80	120	
Cu	63	2	He	94.798	1.034	386064	0.48	100	94.8	80	120	
Zn	66	2	He	97.725	1.469	88464	1.28	100	97.7	80	120	
Al	27	2	He	87884.614	1.493	30939289	0.36	100	87884.6	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	460.954	0.399	611177	0.40	100	461.0	80	120	
Al	27	1	No Gas	92474.104	1.685	947365373	0.75	100	92474.1	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	499.199	1.280	3127108	0.97	100	499.2	80	120	
Ag	107	1	No Gas	97.725	1.654	1319502	1.88	100	97.7	80	120	
Cd	111	1	No Gas	101.622	1.491	275097	2.21	100	101.6	80	120	
Sr	88	1	No Gas	108.625	1.813	2951557	0.86	100	108.6	80	120	
Mo	95	1	No Gas	2117.014	1.549	10976352	1.51	100	2117.0	80	120	
Sn	118	1	No Gas	105.659	1.413	896472	0.77	100	105.7	80	120	
Sb	121	1	No Gas	113.411	2.090	1202486	0.64	100	113.4	80	120	
Ba	137	1	No Gas	106.929	1.565	497966	1.55	100	106.9	80	120	
Tl	205	1	No Gas	101.729	7.705	2247806	1.68	100	101.7	80	120	
Tl	203	1	No Gas	100.228	5.531	945762	1.83	100	100.2	80	120	
Pb	208	1	No Gas	102.365	5.885	3418094	0.84	100	102.4	80	120	
U	238	1	No Gas	111.284	5.980	3467777	0.79	100	111.3	80	120	
Ca	43	2	He	101642.340	1.965	223467	0.82	100	101642.3	80	120	
Sb	121	2	He	101.249	2.137	553874	1.26	100	101.2	80	120	
Ti	47	2	He	2078.693	1.153	406142	0.23	100	2078.7	80	120	ICSB Main CR1 Failed
Cu	63	1	No Gas	103.652	1.266	869638	0.78	100	103.7	80	120	
Se	82	1	No Gas	109.127	2.871	20407	2.41	100	109.1	80	120	

QC ISTD Table

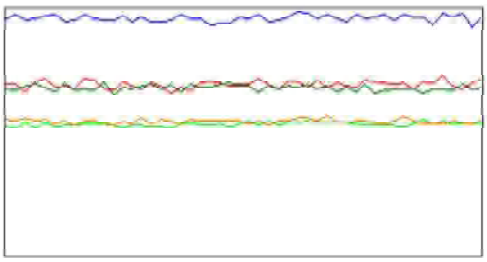
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	515559	0.61	727884	70.83	70	120	
Ge	72	2	He	548131	1.14	688825	79.57	70	120	
Ge	72	1	No Gas	1742454	2.00	2274784	76.60	70	120	
In	115	1	No Gas	2301039	2.15	2833982	81.19	70	120	
Bi	209	1	No Gas	2022115	6.88	2325618	86.95	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\062323A.b
Acq. Date-Time	6/23/2023 9:58:34 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	5000	3474	34742.29		
24	20000	10695	106952.52		
59	20000	19261	192614.81		
115	50000	27316	273161.26		
208	20000	13639	136387.41		

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

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	2.092	5.000	
24	1.471	5.000	
59	1.417	5.000	
115	1.537	5.000	
208	1.709	5.000	

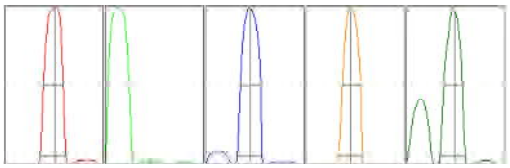
Mass	Background	Background (Required)	Background (Flag)
9	1.500		
24	2.100		
59	0.500		
115	1.300		
208	2.700		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.583 %
Doubly Charged	70 / 140 0.945 %

Tune Check Report

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	3500.44	9.05	8.90 - 9.10	
24	11119.18	23.90	23.90 - 24.10	
59	20365.94	58.90	58.90 - 59.10	
115	28794.80	114.90	114.90 - 115.10	
208	13657.50	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.62	0.781		
24	0.64	0.741		
59	0.60	0.739		
115	0.54	0.719		
208	0.56	0.771		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.50 L/min	Dilution Gas	0.57 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	15.8 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-50 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	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	134	Axis Gain	1.0003	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.06		

Hardware Settings

Torch

Torch H	0.6 mm	Torch V	-0.8 mm

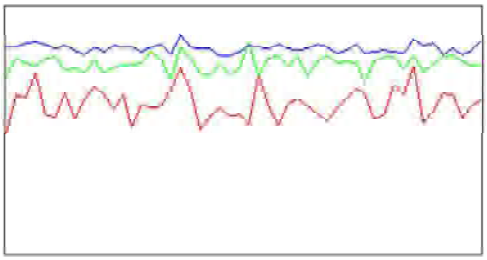
EM

Discriminator	4.5 mV	Analog HV	3041 V	Pulse HV	1648 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	200	122	1217.85		
24	1000	770	7697.31		
59	10000	8323	83234.63		

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

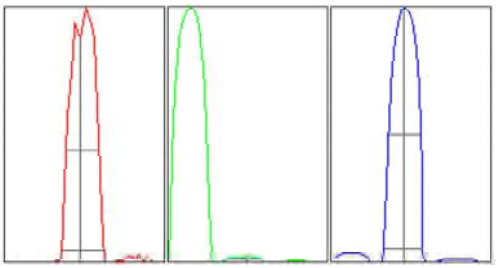
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	10.417	5.000	Fail
24	4.144	5.000	
59	2.088	5.000	

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

Oxide/Doubly Charged Ratio

Oxide	156 / 140 2.698 %
Doubly Charged	70 / 140 0.919 %

Resolution/Axis



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

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	116.26	8.95	8.90 - 9.10	
24	732.23	24.00	23.90 - 24.10	
59	8446.78	58.90	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.63	0.784		
24	0.65	0.744		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.60	0.737		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.50 L/min	Dilution Gas	0.57 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.8 V	Deflect	0.9 V
Extract 2	-200.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-90 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	3.8 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	134	Axis Gain	1.0003	QP Bias	-15.0 V
Mass Offset	125	Axis Offset	0.06		

Hardware Settings

Torch

Torch H	0.6 mm	Torch V	-0.8 mm

EM

Discriminator	4.5 mV	Analog HV	3041 V	Pulse HV	1648 V

HS23060739-E2300559 Perchlorate Report IV

ALS WO# HS23060739

June 26, 2023 Service Request No:E2300559

James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099

Laboratory Results for: HS23060739

Dear James,

Enclosed are the results of the sample(s) submitted to our laboratory June 14, 2023
For your reference, these analyses have been assigned our service request number **E2300559.**

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.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300559
Project:	HS23060739	**Date Received:**	06/14/23
Sample Matrix:	Ground Water		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/14/23.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2300301: 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 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:**E2300559
Project: HS23060739

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300559-001	MW5_060923	6/9/2023	0650
E2300559-002	18CPTMW08DW_060923	6/9/2023	0735
E2300559-003	18CPTMW08SW_060923	6/9/2023	0820
E2300559-004	18CPTMW04SW_060923	6/9/2023	0905
E2300559-005	18CPTMW04_060923	6/9/2023	0955
E2300559-006	18CPTMW04_060923_a	6/9/2023	0955

Service Request Summary

Folder #: **E2300559**
Client Name: ALS Environmental - US
Project Name: HS23060739
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 06/14/23
Internal Due Date: 6/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23060739
EDD: BASIC_WQC_CASNo_LOD

6 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2300559-001	MW5_060923	Ground Water	06/09/23 0650	**IV**
E2300559-002	18CPTMW08DW_060923	Ground Water	06/09/23 0735	**IV**
E2300559-003	18CPTMW08SW_060923	Ground Water	06/09/23 0820	**IV**
E2300559-004	18CPTMW04SW_060923	Ground Water	06/09/23 0905	**IV**
E2300559-005	18CPTMW04_060923	Ground Water	06/09/23 0955	**IV**
E2300559-006	18CPTMW04_060923_a	Ground Water	06/09/23 0955	**IV**

Service Request Summary

Folder #: **E2300559**
Client Name: ALS Environmental - US
Project Name: HS23060739
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 06/14/23
Internal Due Date: 6/26/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23060739
EDD: BASIC_WQC_CASNo_LOD

6 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
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	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
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
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2022	6/30/2023
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	6/30/2023
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2023	6/30/2023
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-016	6/30/2023
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
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: Texas **COC ID:** 22014

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@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:	HS23060739
TSR:	Holly Tignac

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23060739-01**	**MW5_060923**	**Groundwater**	**09 Jun 2023 06:50**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
2.	**HS23060739-02**	**18CPTMW08DW_060923**	**Groundwater**	**09 Jun 2023 07:35**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
3.	**HS23060739-03**	**18CPTMW085W_060923**	**Groundwater**	**09 Jun 2023 08:20**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
4.	**HS23060739-04**	**18CPTMW045W_060923**	**Groundwater**	**09 Jun 2023 09:05**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
5.	**HS23060739-05**	**18CPTMW04_060923**	**Groundwater**	**09 Jun 2023 09:55**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023
6.	**HS23060739-06**	**18CPTMW04_060923_a**	**Groundwater**	**09 Jun 2023 09:55**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			26 Jun 2023

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

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: Texas

COC ID: 22014

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 6-14-23 1800

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

ALS Environmental

Cooler Receipt Form

Project Chemist DG

Client/Project AES

Thermometer ID IR31

Date/Time Received: 6.14.23 Initials: CG Date/Time Logged in: 6.14.23 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ☒ Courier (AES) ○ 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		6.14.23	1801	CG	0.9	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
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 Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 421526 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 6/21/23 08:36

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300548-001	01MW4C03012305	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2300548-002	01MW4C05012305	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2300548-003	01MW4C10012305	.02	6850/ClO4 DOD			Ground Water	10mL	
4	E2300549-001	01M4C02012305	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2300549-002	01M4C04012305	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2300549-003	01M4C06012305	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2300549-004	EB01	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2300557-001	Well Water	.01	6850/ClO4			Water	10mL	
9	E2300559-001	MW5_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2300559-002	18CPTMW08DW_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2300559-003	18CPTMW08SW_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2300559-004	18CPTMW04SW_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2300559-005	18CPTMW04_060923	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2300559-006	18CPTMW04_060923_a	.01	6850/ClO4 DOD			Ground Water	10mL	
15	EQ2300301-01	MB		6850/ClO4			Liquid	10mL	
16	EQ2300301-02	LCS		6850/ClO4			Liquid	10mL	
17	EQ2300301-03	DLCS		6850/ClO4			Liquid	10mL	
18	EQ2300301-04	01MW4C10012305 MS	.02	6850/ClO4 DOD			Liquid	10mL	
19	EQ2300301-05	01MW4C10012305 DMS	.02	6850/ClO4 DOD			Liquid	10mL	
20	K2306641-001	LGAC-INF-061223	.01	6850/ClO4			Water	10mL	
21	K2306641-002	LGAC-INT1-061223	.01	6850/ClO4			Water	10mL	
22	K2306641-003	LGAC-INT2-061223	.01	6850/ClO4			Water	10mL	
23	K2306921-001	LGAC-INF-061923	.01	6850/ClO4			Water	10mL	
24	K2306921-002	LGAC-INT1-061923	.01	6850/ClO4			Water	10mL	
25	K2306921-003	LGAC-INT2-061923	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300301-02	1.00µL	EQ2300301-02	1.00µL	EQ2300301-03	1.00µL	EQ2300301-03	1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300548-001	100.00µL	E2300548-002	100.00µL	E2300548-003	100.00µL	E2300549-001	100.00µL	E2300549-003	100.00µL	E2300549-004	100.00µL
E2300557-001	100.00µL	E2300559-001	100.00µL	E2300559-002	100.00µL	E2300559-003	100.00µL	E2300559-004	100.00µL	E2300559-005	100.00µL
E2300559-006	100.00µL	EQ2300301-01	100.00µL	EQ2300301-01	100.00µL	EQ2300301-02	100.00µL	EQ2300301-02	100.00µL	EQ2300301-03	100.00µL

Preparation Information Benchsheet

Prep Run#: 421526 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 6/21/23 08:36

EQ2300301-03	100.00µL	K2306641-001	100.00µL	K2306641-002	100.00µL	K2306641-003	100.00µL	K2306921-002	100.00µL

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229314)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45um syringe (229005)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 6/21/23 08:36
Finished: 6/22/23 09:01
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0650
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	MW5_060923	**Units:**	µg/L
Lab Code:	E2300559-001	**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	**22100**		100	50.0	25.0	1000	6/21/23	6/23/23 17:10	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0735
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW08DW_060923	**Units:**	µg/L
Lab Code:	E2300559-002	**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	**6000**		50.0	25.0	12.5	500	6/21/23	6/23/23 17:15	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0820
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW08SW_060923	**Units:**	µg/L
Lab Code:	E2300559-003	**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	**13700**		100	50.0	25.0	1000	6/21/23	6/23/23 17:21	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0905
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW04SW_060923	**Units:**	µg/L
Lab Code:	E2300559-004	**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	6/21/23	6/23/23 17:26	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0955
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW04_060923	**Units:**	µg/L
Lab Code:	E2300559-005	**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	**302**		1.00	0.500	0.250	10	6/21/23	6/23/23 17:32	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	6/ 9/23 0955
Sample Matrix:	Ground Water	**Date Received:**	6/14/23
Sample Name:	18CPTMW04_060923_a	**Units:**	µg/L
Lab Code:	E2300559-006	**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	**341**		1.00	0.500	0.250	10	6/21/23	6/23/23 17:37	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300301-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	6/21/23	6/23/23 15:46	421526	808638	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23060739
Sample Matrix: Ground Water

Service Request: E2300559
Date Analyzed: 6/23/23

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: 421526

	Lab Control Sample EQ2300301-02			Duplicate Lab Control Sample EQ2300301-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.102	0.100	102	0.111	0.100	111	84 - 119	9	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:**	E2300559
Project:	HS23060739	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300301-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.102**		0.100	0.0500	0.0250	1	6/21/23	6/23/23 18:27	421526	808638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300301-03	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	6/21/23	6/23/23 16:09	421526	808638	

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

20230623-808638

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/23/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300010

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	PERCHLORATE1		20230623-002	Perchlorate6850c.lcm	1x	227245	6/23/2023 14:23
2	PERCHLORATE2		20230623-003	Perchlorate6850c.lcm	1x	227246	6/23/2023 14:28
3	PERCHLORATE3		20230623-004	Perchlorate6850c.lcm	1x	227247	6/23/2023 14:34
4	PERCHLORATE4		20230623-005	Perchlorate6850c.lcm	1x	227248	6/23/2023 14:39
5	PERCHLORATE5		20230623-006	Perchlorate6850c.lcm	1x	227249	6/23/2023 14:45
6	PERCHLORATE6		20230623-007	Perchlorate6850c.lcm	1x	227250	6/23/2023 14:50
7	PERCHLORATE7		20230623-008	Perchlorate6850c.lcm	1x	227251	6/23/2023 14:56
8	PERCHLORATE8		20230623-009	Perchlorate6850c.lcm	1x	227252	6/23/2023 15:01
9	PERCHLORATE9		20230623-010	Perchlorate6850c.lcm	1x	227253	6/23/2023 15:07
10	PERCHLORATE10		20230623-011	Perchlorate6850c.lcm	1x	227254	6/23/2023 15:13
11	PERCHLORATEICV		20230623-012	Perchlorate6850c.lcm	1x	227256	6/23/2023 15:18
12	LODV		20230623-013	Perchlorate6850c.lcm	1x	227501	6/23/2023 15:24
13	IB		20230623-014	Perchlorate6850c.lcm	1x		6/23/2023 15:29
14	ICS		20230623-015	Perchlorate6850c.lcm	1x	32103024	6/23/2023 15:35
15	CCV		20230623-016	Perchlorate6850c.lcm	1x	227251	6/23/2023 15:41
16	EQ2300301-01		20230623-017	Perchlorate6850c.lcm	1x		6/23/2023 15:46
17	EQ2300301-02		20230623-018	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 15:52
18	EQ2300301-03		20230623-019	Perchlorate6850c.lcm	1x		6/23/2023 16:09
19	E2300548-001		20230623-020	Perchlorate6850c.lcm	1x		6/23/2023 16:03
20	E2300548-002		20230623-021	Perchlorate6850c.lcm	1x		6/23/2023 16:14
21	E2300548-003		20230623-022	Perchlorate6850c.lcm	1x	DNU-IS	6/23/2023 16:20
22	EQ2300301-04		20230623-023	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 16:25
23	EQ2300301-05		20230623-024	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 16:31
24	E2300549-001		20230623-025	Perchlorate6850c.lcm	1x	227251	6/23/2023 16:36
25	E2300549-002		20230623-026	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 16:42
26	CCV		20230623-027	Perchlorate6850c.lcm	1x	227251	6/23/2023 16:47
27	E2300549-003		20230623-028	Perchlorate6850c.lcm	1x		6/23/2023 16:53
28	E2300549-004		20230623-029	Perchlorate6850c.lcm	1x		6/23/2023 16:58
29	E2300557-001		20230623-030	Perchlorate6850c.lcm	1x		6/23/2023 17:04
30	E2300559-001		20230623-031	Perchlorate6850c.lcm	1000x		6/23/2023 17:10
31	E2300559-002		20230623-032	Perchlorate6850c.lcm	500x		6/23/2023 17:15
32	E2300559-003		20230623-033	Perchlorate6850c.lcm	1000x		6/23/2023 17:21
33	E2300559-004		20230623-034	Perchlorate6850c.lcm	1x		6/23/2023 17:26
34	E2300559-005		20230623-035	Perchlorate6850c.lcm	10x		6/23/2023 17:32
35	E2300559-006		20230623-036	Perchlorate6850c.lcm	10x		6/23/2023 17:37
36	K2306641-001		20230623-037	Perchlorate6850c.lcm	1x		6/23/2023 17:43
37	CCV		20230623-038	Perchlorate6850c.lcm	1x	227251	6/23/2023 17:48

20230623-808638

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/23/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300010

Mobile Phases : **A:**20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
38	K2306641-002		20230623-039	Perchlorate6850c.lcm	1x		6/23/2023 17:54
39	K2306641-003		20230623-040	Perchlorate6850c.lcm	1x		6/23/2023 17:59
40	K2306921-001		20230623-041	Perchlorate6850c.lcm	1x	DNU-IS	6/23/2023 18:05
41	K2306921-002		20230623-042	Perchlorate6850c.lcm	1x		6/23/2023 18:11
42	K2306921-003		20230623-043	Perchlorate6850c.lcm	1x	DNU-IS	6/23/2023 18:16
43	E2300548-003		20230623-044	Perchlorate6850c.lcm	1x		6/23/2023 18:22
44	EQ2300301-02		20230623-045	Perchlorate6850c.lcm	1x		6/23/2023 18:27
45	CCV		20230623-049	Perchlorate6850c.lcm	1x	227251	6/23/2023 18:49

Initial Calibration - Detailed Report

Calibration ID: EC2300010 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2300010-01	PERCHLORATE1	20230623-002	06/23/2023 14:23
02	EC2300010-02	PERCHLORATE2	20230623-003	06/23/2023 14:28
03	EC2300010-03	PERCHLORATE3	20230623-004	06/23/2023 14:34
04	EC2300010-04	PERCHLORATE4	20230623-005	06/23/2023 14:39
05	EC2300010-05	PERCHLORATE5	20230623-006	06/23/2023 14:45
06	EC2300010-06	PERCHLORATE6	20230623-007	06/23/2023 14:50
07	EC2300010-07	PERCHLORATE7	20230623-008	06/23/2023 14:56
08	EC2300010-08	PERCHLORATE8	20230623-009	06/23/2023 15:01
09	EC2300010-09	PERCHLORATE9	20230623-010	06/23/2023 15:07
10	EC2300010-10	PERCHLORATE10	20230623-011	06/23/2023 15:13

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

Perchlorate **Average RF** **RSD = 8.061** **Average RF = 0.1579**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1838	02	0.5000	0.1777	03	0.7000	0.1443	04	1.0000	0.1544
05	2.0000	0.1586	06	5.0000	0.1522	07	10.0000	0.1523	08	20.0000	0.154
09	30.0000	0.1479	10	50.0000	0.1539						

Analyte

Perchlorate RSE = 8.06

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.116	16.4	02	0.5000	0.563	12.6	03	0.7000	0.640	-8.6
04	1.0000	0.978	-2.2	05	2.0000	2.01	0.4	06	5.0000	4.82	-3.6
07	10.0000	9.64	-3.6	08	20.0000	19.5	-2.5	09	30.0000	28.1	-6.3
10	50.0000	48.7	-2.6								

Initial Calibration Verification Summary Report

Calibration ID:	EC2300010	**Instrument ID:**	E-LCMS-01
Datafile ID:	20230623-012	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2300010-11	T	Average RF	10	9.670	ng/mL	-3.3	<= 15

Insight Report

Printed at 6/26/2023 9:45:37 AM

Method File: I:\LCMS01\DATA\20230623\20230623.lcm
Project File: I:\LCMS01\DATA\20230623\20230623.damlp

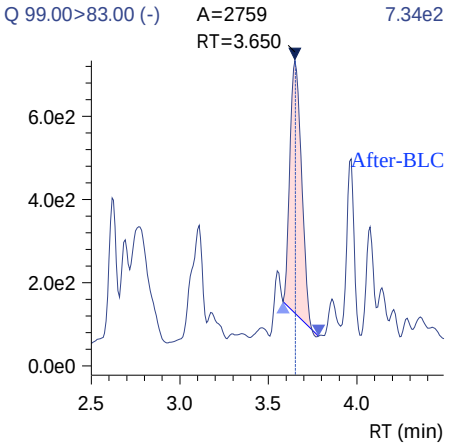
PERCHLORATE1

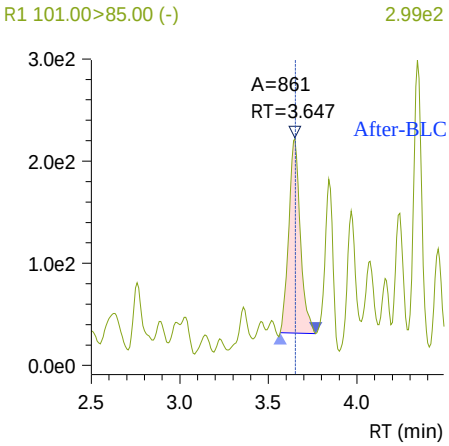
Sample ID: PERCHLORATE1
Date Acquired: 6/23/2023 2:23:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-002.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.650	2759	150098	0.1164	ng/mL	101.00 >85.00	31.22	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.649	1500 98	150098	1.0000	ng/mL	----	----	

Perchlorate

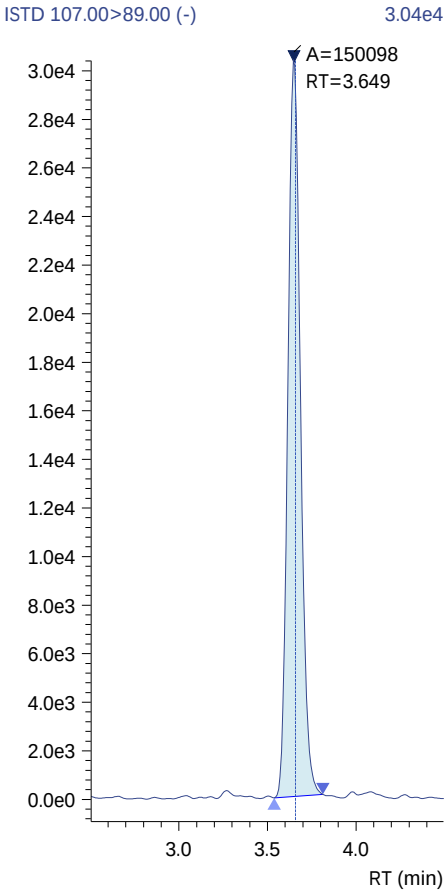
Conc 0.1164
R#1 31.22 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:48:04 AM

Method File: I:\LCMS01\DATA\20230623\20230623.lcm
Project File: I:\LCMS01\DATA\20230623\20230623.damlp

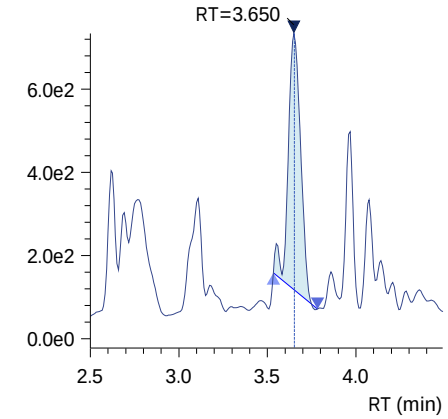
PERCHLORATE1

Sample ID: PERCHLORATE1
Date Acquired: 6/23/2023 2:23:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-002.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 2

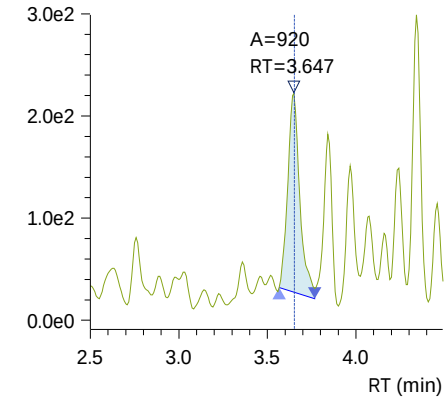
Perchlorate

Conc 0.1244
R#1 30.91 (35.79)

Q 99.00>83.00 (-) A=2976 7.34e2



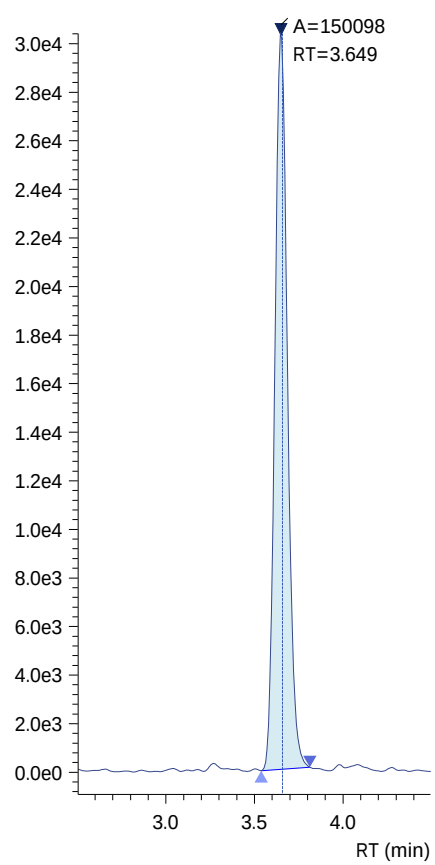
R1 101.00>85.00 (-) 2.99e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.04e4



Insight Report

Printed at 6/26/2023 9:45:37 AM

PERCHLORATE2

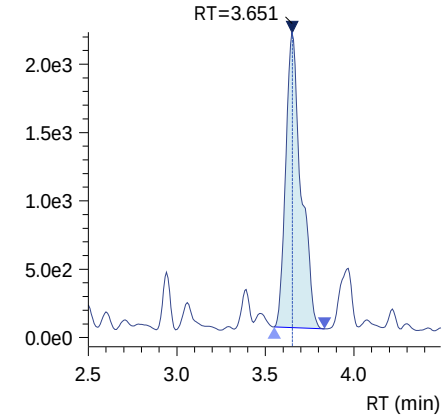
Sample ID: PERCHLORATE2
Date Acquired: 6/23/2023 2:28:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-003.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.651	12988	146157	0.5627	ng/mL	101.00 >85.00	36.23	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.648	1461 57	146157	1.0000	ng/mL	----	----	

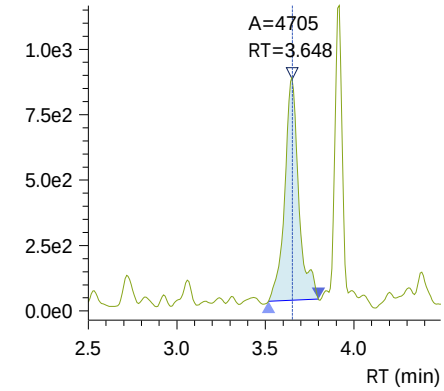
Perchlorate

Conc 0.5627
R#1 36.23 (35.79)

Q 99.00>83.00 (-) A=12988 2.23e3



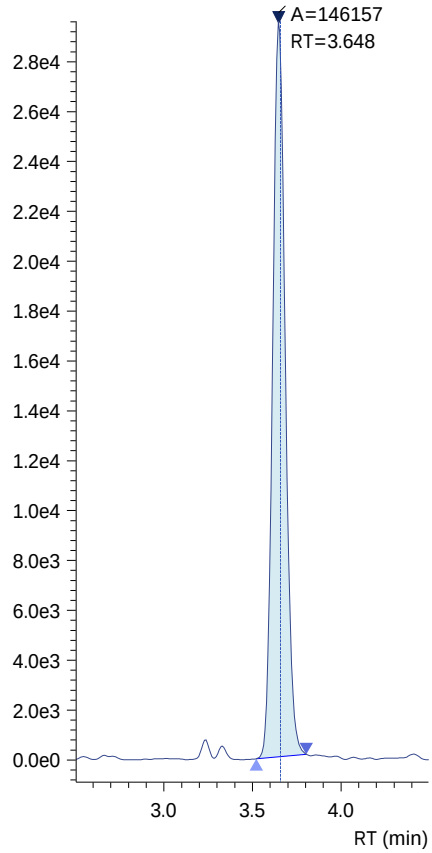
R1 101.00>85.00 (-) 1.17e3



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.96e4



Insight Report

Printed at 6/26/2023 9:45:37 AM

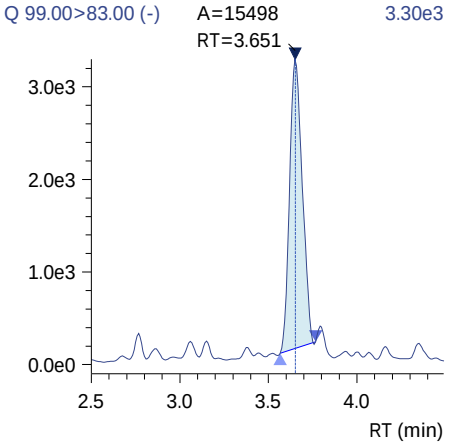
PERCHLORATE3

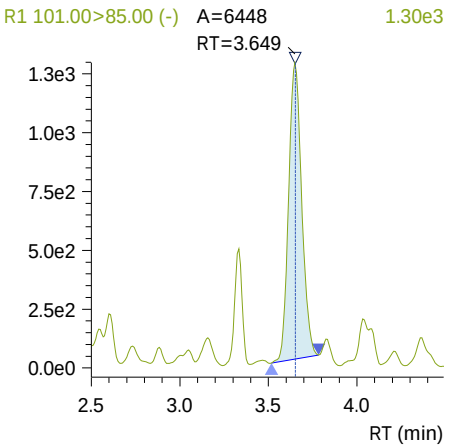
Sample ID: PERCHLORATE3
Date Acquired: 6/23/2023 2:34:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-004.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.651	15498	153437	0.6397	ng/mL	101.00 >85.00	41.61	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.648	1534 37	153437	1.0000	ng/mL	----	----	

Perchlorate

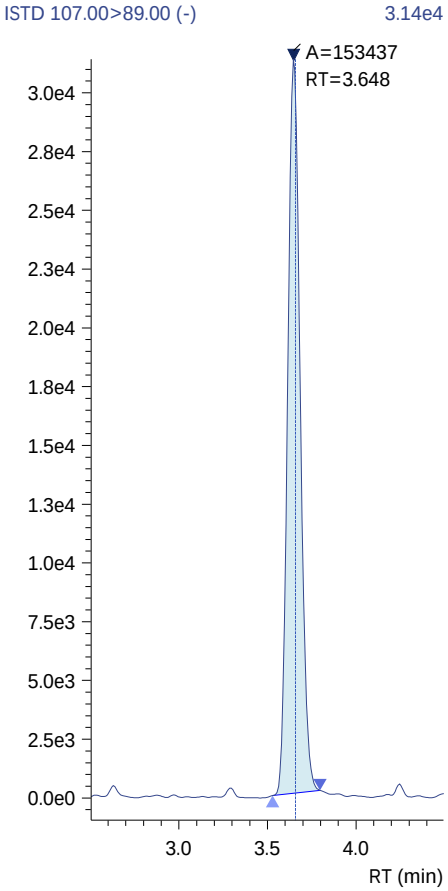
Conc 0.6397
R#1 41.61 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

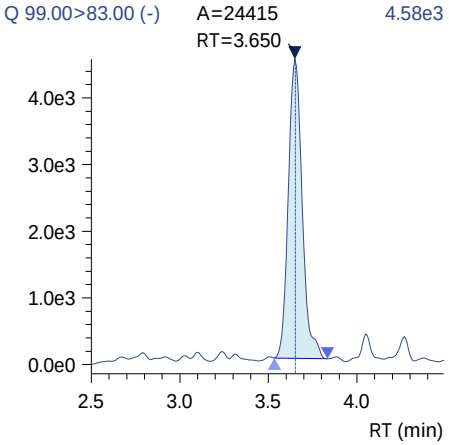
PERCHLORATE4

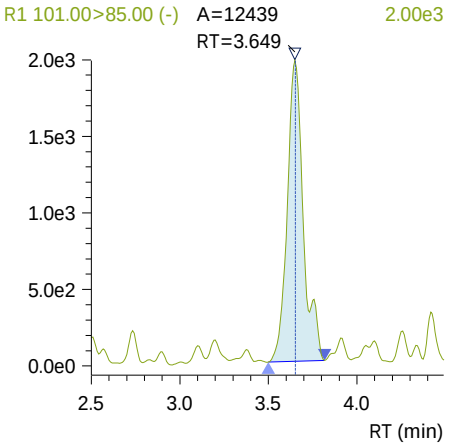
Sample ID: PERCHLORATE4
Date Acquired: 6/23/2023 2:39:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-005.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.650	24415	158135	0.9778	ng/mL	101.00 >85.00	50.95	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.647	1581 35	158135	1.0000	ng/mL	----	----	

Perchlorate

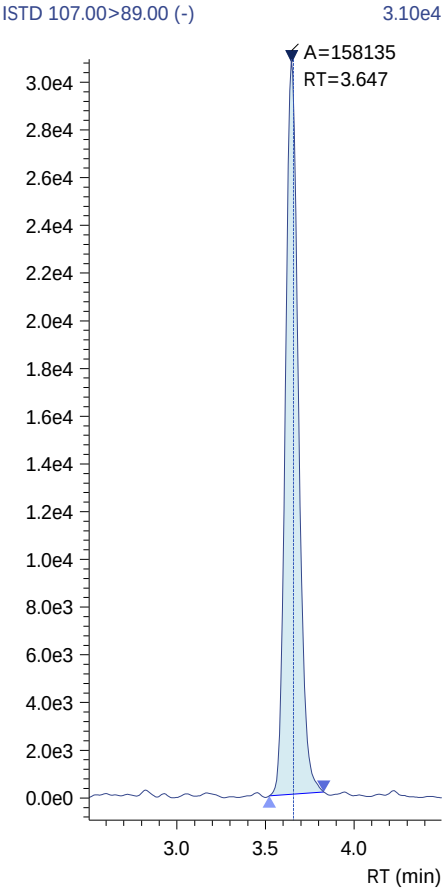
Conc 0.9778
R#1 50.95 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

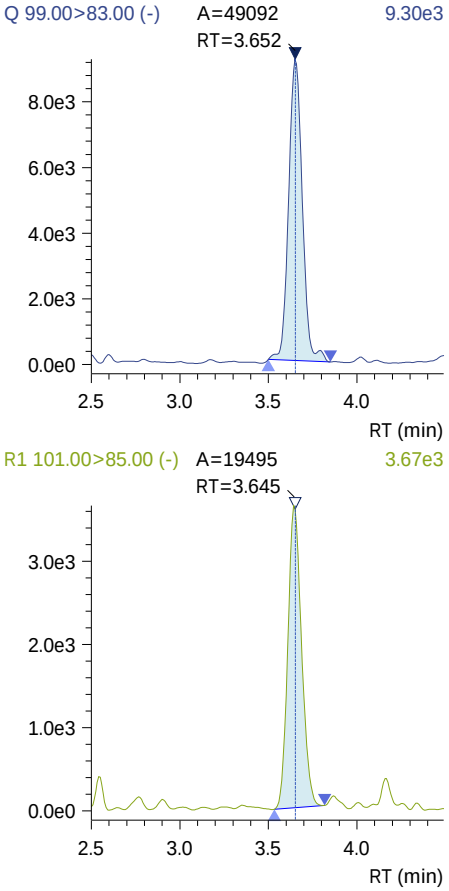
PERCHLORATE5

Sample ID: PERCHLORATE5
Date Acquired: 6/23/2023 2:45:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-006.lcd
Vial: 5 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.652	49092	154771	2.0088	ng/mL	101.00 >85.00	39.71	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.647	154771	154771	1.0000	ng/mL	----	----	

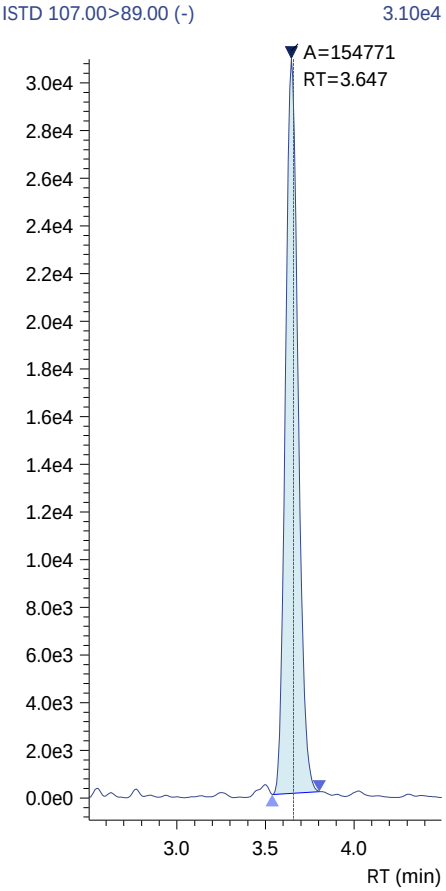
Perchlorate

Conc 2.0088
R#1 39.71 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

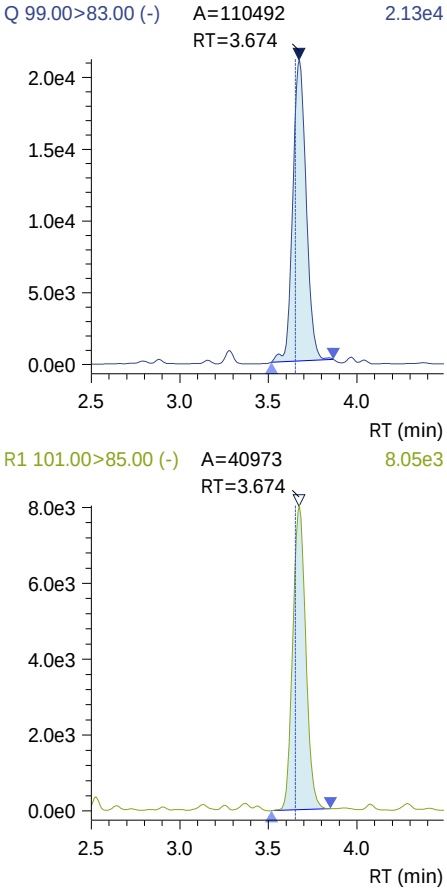
PERCHLORATE6

Sample ID: PERCHLORATE6
Date Acquired: 6/23/2023 2:50:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-007.lcd
Vial: 6 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.674	110492	145205	4.8190	ng/mL	101.00 >85.00	37.08	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.670	145205	145205	1.0000	ng/mL	----	----	

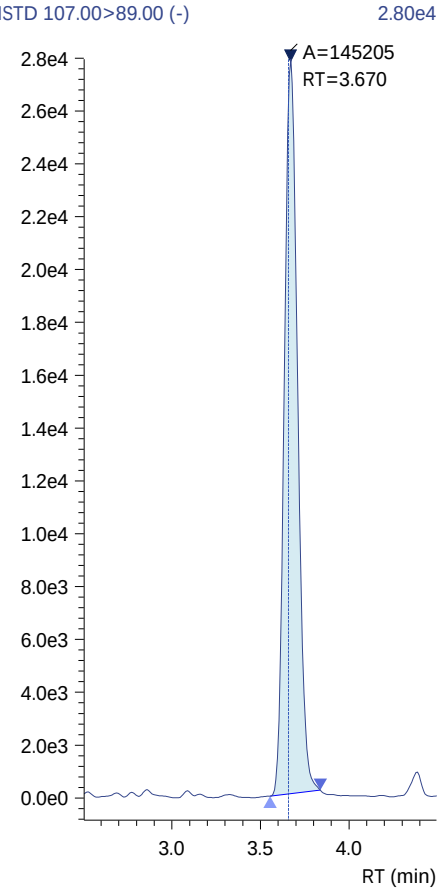
Perchlorate

Conc 4.8190
R#1 37.08 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

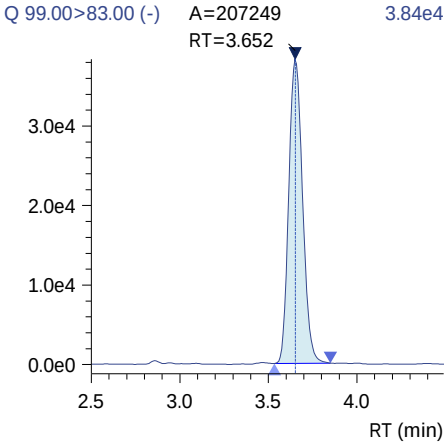
PERCHLORATE7

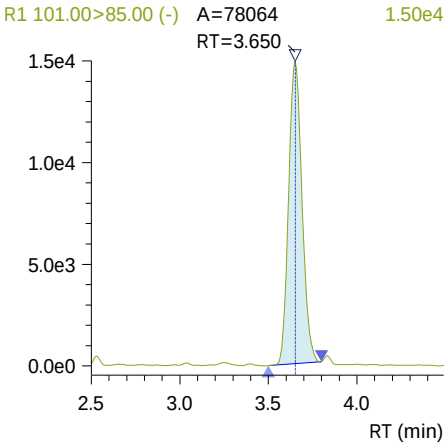
Sample ID: PERCHLORATE7
Date Acquired: 6/23/2023 2:56:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-008.lcd
Vial: 7 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.652	207249	136114	9.6427	ng/mL	101.00 >85.00	37.67	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.648	136114	136114	1.0000	ng/mL	----	----	

Perchlorate

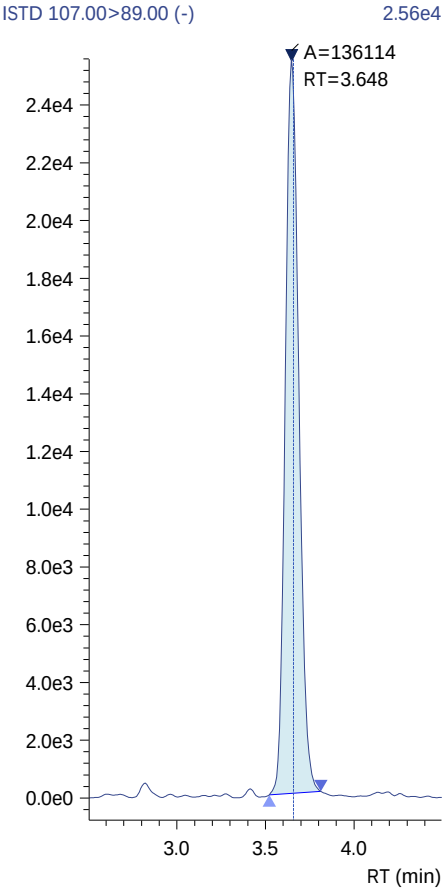
Conc 9.6427
R#1 37.67 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

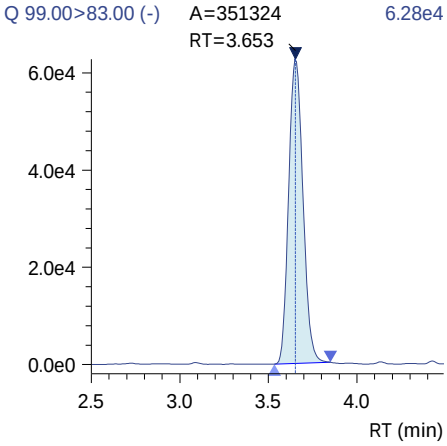
PERCHLORATE8

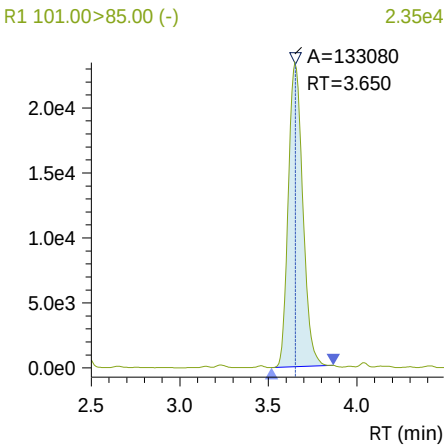
Sample ID: PERCHLORATE8
Date Acquired: 6/23/2023 3:01:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-009.lcd
Vial: 8 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.653	351324	114068	19.5054	ng/mL	101.00 >85.00	37.88	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.647	114068	114068	1.0000	ng/mL	----	----	

Perchlorate

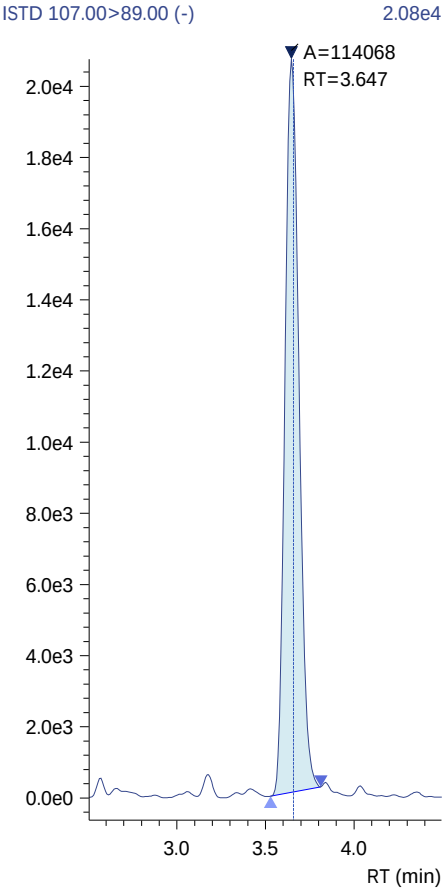
Conc 19.5054
R#1 37.88 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

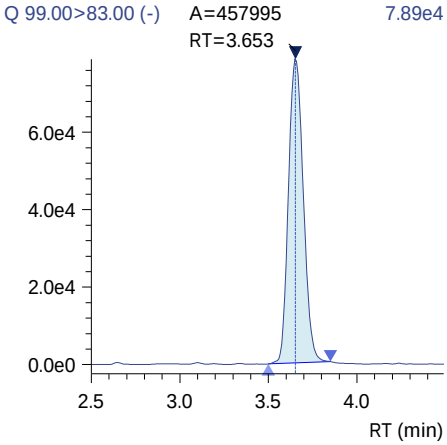
PERCHLORATE9

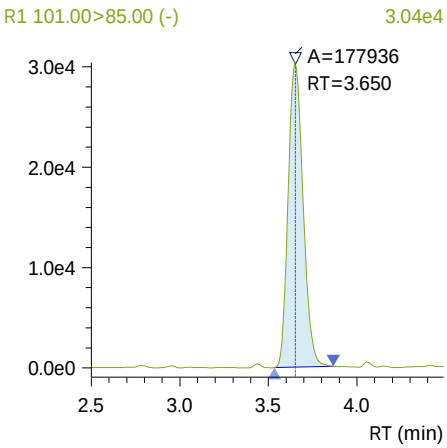
Sample ID: PERCHLORATE9
Date Acquired: 6/23/2023 3:07:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-010.lcd
Vial: 9 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.653	457995	103207	28.1035	ng/mL	101.00 >85.00	38.85	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.650	103207	103207	1.0000	ng/mL	----	----	

Perchlorate

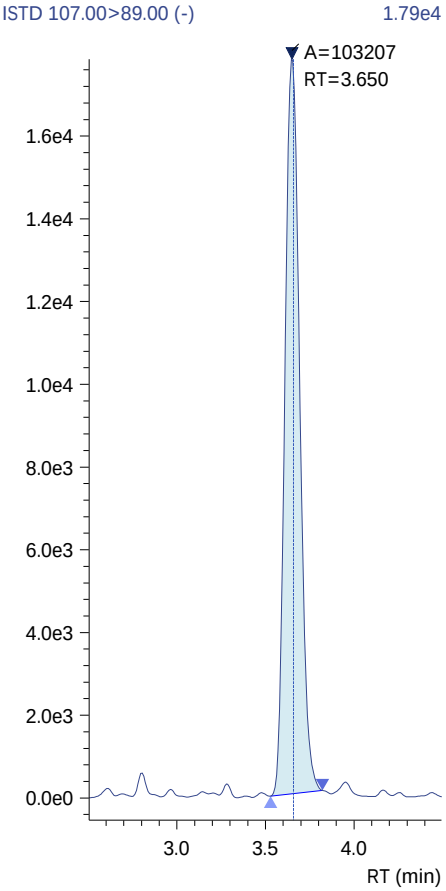
Conc 28.1035
R#1 38.85 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

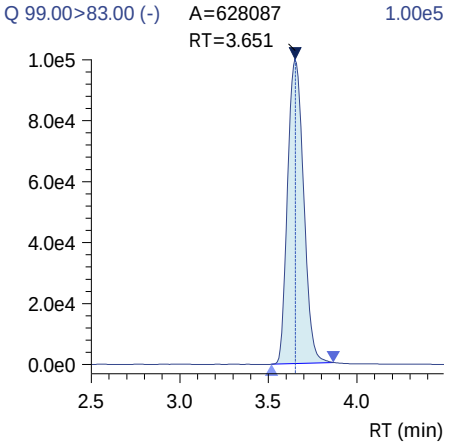
PERCHLORATE10

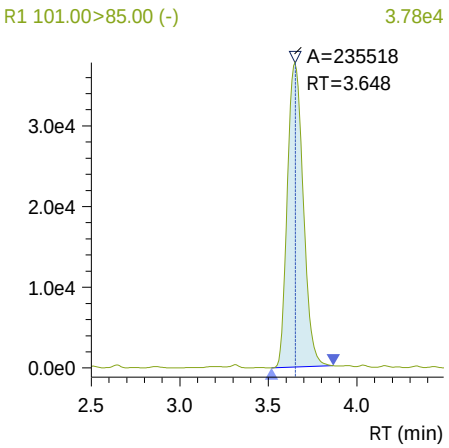
Sample ID: PERCHLORATE10
Date Acquired: 6/23/2023 3:13:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-011.lcd
Vial: 10 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.651	6280 87	81644	48.71 99	ng/mL	101.00 >85.00	37.50	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.645	81644	81644	1.0000	ng/mL	----	----	

Perchlorate

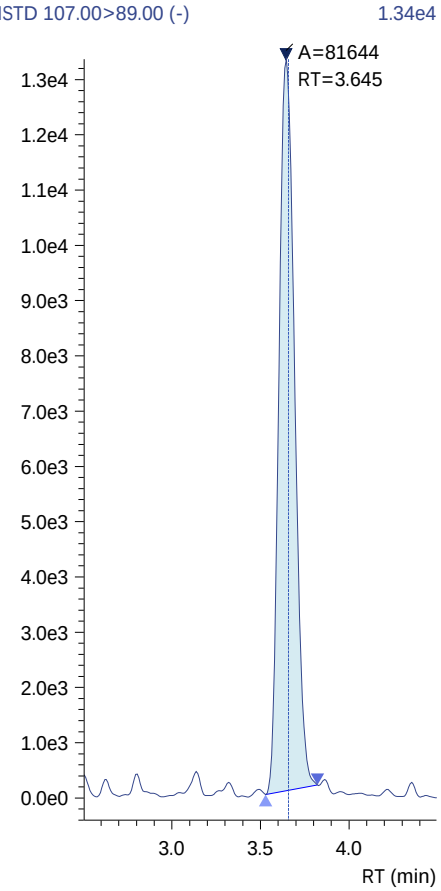
Conc 48.7199
R#1 37.50 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

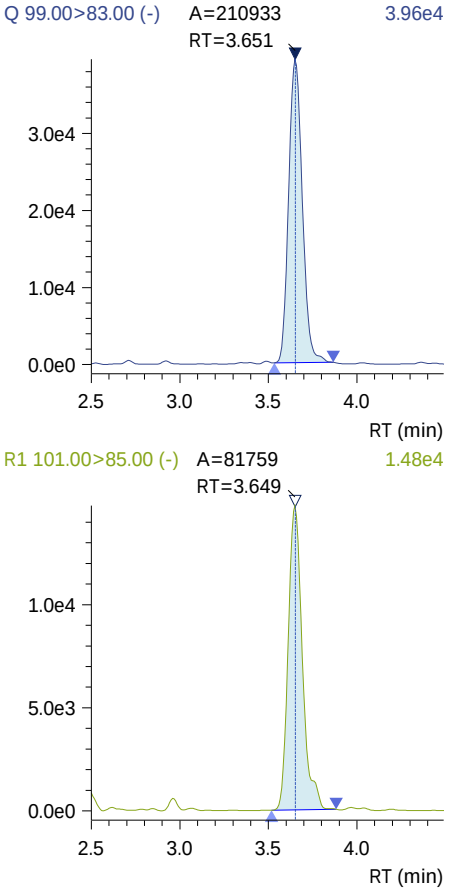
PERCHLORATEICV

Sample ID: PERCHLORATEICV
Date Acquired: 6/23/2023 3:18:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-012.lcd
Vial: 11 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.651	210933	138145	9.6698	ng/mL	101.00 >85.00	38.76	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.646	138145	138145	1.0000	ng/mL	----	----	

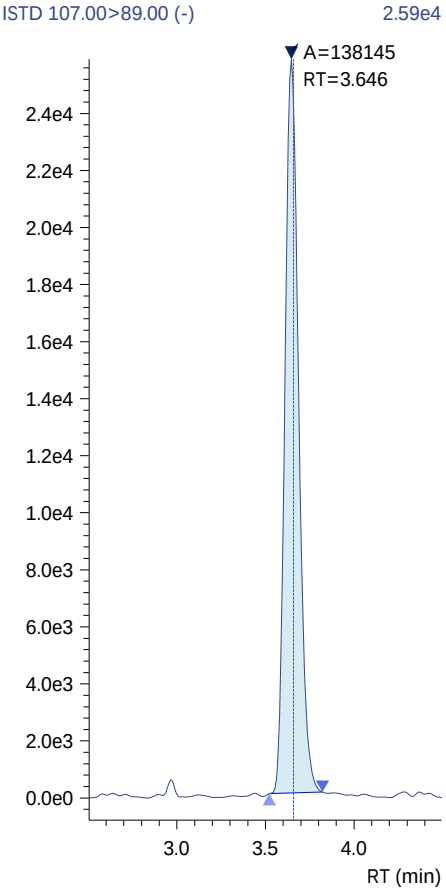
Perchlorate

Conc 9.6698
R#1 38.76 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



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

20230623-808638

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/23/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300010

Mobile Phases : A:20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
1	PERCHLORATE1		20230623-002	Perchlorate6850c.lcm	1x	227245	6/23/2023 14:23
2	PERCHLORATE2		20230623-003	Perchlorate6850c.lcm	1x	227246	6/23/2023 14:28
3	PERCHLORATE3		20230623-004	Perchlorate6850c.lcm	1x	227247	6/23/2023 14:34
4	PERCHLORATE4		20230623-005	Perchlorate6850c.lcm	1x	227248	6/23/2023 14:39
5	PERCHLORATE5		20230623-006	Perchlorate6850c.lcm	1x	227249	6/23/2023 14:45
6	PERCHLORATE6		20230623-007	Perchlorate6850c.lcm	1x	227250	6/23/2023 14:50
7	PERCHLORATE7		20230623-008	Perchlorate6850c.lcm	1x	227251	6/23/2023 14:56
8	PERCHLORATE8		20230623-009	Perchlorate6850c.lcm	1x	227252	6/23/2023 15:01
9	PERCHLORATE9		20230623-010	Perchlorate6850c.lcm	1x	227253	6/23/2023 15:07
10	PERCHLORATE10		20230623-011	Perchlorate6850c.lcm	1x	227254	6/23/2023 15:13
11	PERCHLORATEICV		20230623-012	Perchlorate6850c.lcm	1x	227256	6/23/2023 15:18
12	LODV		20230623-013	Perchlorate6850c.lcm	1x	227501	6/23/2023 15:24
13	IB		20230623-014	Perchlorate6850c.lcm	1x		6/23/2023 15:29
14	ICS		20230623-015	Perchlorate6850c.lcm	1x	32103024	6/23/2023 15:35
15	CCV		20230623-016	Perchlorate6850c.lcm	1x	227251	6/23/2023 15:41
16	EQ2300301-01		20230623-017	Perchlorate6850c.lcm	1x		6/23/2023 15:46
17	EQ2300301-02		20230623-018	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 15:52
18	EQ2300301-03		20230623-019	Perchlorate6850c.lcm	1x		6/23/2023 16:09
19	E2300548-001		20230623-020	Perchlorate6850c.lcm	1x		6/23/2023 16:03
20	E2300548-002		20230623-021	Perchlorate6850c.lcm	1x		6/23/2023 16:14
21	E2300548-003		20230623-022	Perchlorate6850c.lcm	1x	DNU-IS	6/23/2023 16:20
22	EQ2300301-04		20230623-023	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 16:25
23	EQ2300301-05		20230623-024	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 16:31
24	E2300549-001		20230623-025	Perchlorate6850c.lcm	1x	227251	6/23/2023 16:36
25	E2300549-002		20230623-026	Perchlorate6850c.lcm	1x	DNU-RR	6/23/2023 16:42
26	CCV		20230623-027	Perchlorate6850c.lcm	1x	227251	6/23/2023 16:47
27	E2300549-003		20230623-028	Perchlorate6850c.lcm	1x		6/23/2023 16:53
28	E2300549-004		20230623-029	Perchlorate6850c.lcm	1x		6/23/2023 16:58
29	E2300557-001		20230623-030	Perchlorate6850c.lcm	1x		6/23/2023 17:04
30	E2300559-001		20230623-031	Perchlorate6850c.lcm	1000x		6/23/2023 17:10
31	E2300559-002		20230623-032	Perchlorate6850c.lcm	500x		6/23/2023 17:15
32	E2300559-003		20230623-033	Perchlorate6850c.lcm	1000x		6/23/2023 17:21
33	E2300559-004		20230623-034	Perchlorate6850c.lcm	1x		6/23/2023 17:26
34	E2300559-005		20230623-035	Perchlorate6850c.lcm	10x		6/23/2023 17:32
35	E2300559-006		20230623-036	Perchlorate6850c.lcm	10x		6/23/2023 17:37
36	K2306641-001		20230623-037	Perchlorate6850c.lcm	1x		6/23/2023 17:43
37	CCV		20230623-038	Perchlorate6850c.lcm	1x	227251	6/23/2023 17:48

20230626-808705

Injection Log

LCMS01 -Shimadzu 8050

1st Review: XM
2nd Review: GC

ICAL Date: 6/23/2023
Cal. Std. xp: 07/31/2023
ICAL ID: EC2300010

Mobile Phases : **A:**20mM ammonium acetate in water 32103046 **B:**Acetonitrile 226552

	Sample Name		File Name	Acquisition Method	Dilution	Comments	Date/Time
38	EQ2300307-03		20230626-038	Perchlorate6850c.lcm	1x		6/26/2023 13:12
39	E2300575-001		20230626-039	Perchlorate6850c.lcm	1x		6/26/2023 13:18
40	E2300575-002		20230626-040	Perchlorate6850c.lcm	1x		6/26/2023 13:24
41	E2300575-003		20230626-041	Perchlorate6850c.lcm	1x		6/26/2023 13:29
42	E2300575-004		20230626-042	Perchlorate6850c.lcm	1x		6/26/2023 13:35
43	E2300575-005		20230626-043	Perchlorate6850c.lcm	1x		6/26/2023 13:40
44	E2300575-006		20230626-044	Perchlorate6850c.lcm	1x		6/26/2023 13:46
45	E2300587-001		20230626-045	Perchlorate6850c.lcm	1x		6/26/2023 13:51
46	E2300587-002		20230626-046	Perchlorate6850c.lcm	1x		6/26/2023 13:57
47	CCV		20230626-047	Perchlorate6850c.lcm	1x	227251	6/26/2023 14:02
48	E2300587-003		20230626-048	Perchlorate6850c.lcm	1x		6/26/2023 14:08
49	E2300587-004		20230626-049	Perchlorate6850c.lcm	1x		6/26/2023 14:13
50	E2300587-005		20230626-050	Perchlorate6850c.lcm	5000x		6/26/2023 14:19
51	E2300587-006		20230626-051	Perchlorate6850c.lcm	1x		6/26/2023 14:25
52	E2300587-007		20230626-052	Perchlorate6850c.lcm	1x		6/26/2023 14:30
53	E2300587-008		20230626-053	Perchlorate6850c.lcm	1x		6/26/2023 14:36
54	E2300587-009		20230626-054	Perchlorate6850c.lcm	1x		6/26/2023 14:41
55	E2300587-010		20230626-055	Perchlorate6850c.lcm	1x		6/26/2023 14:47
56	E2300571-008		20230626-056	Perchlorate6850c.lcm	1x		6/26/2023 14:52
57	E2300571-009		20230626-057	Perchlorate6850c.lcm	1x		6/26/2023 14:58
58	CCV		20230626-058	Perchlorate6850c.lcm	1x	227251	6/26/2023 15:03
59	EQ2300303-02		20230626-059	Perchlorate6850c.lcm	1x		6/26/2023 15:09
60	CCV		20230626-060	Perchlorate6850c.lcm	1x	227251	6/26/2023 15:16

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300559
Project:	HS23060739	**Date Analyzed:**	6/23/23 15:41

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20230623\20230623-016	**Lab Code:**	EQ2300308-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	808638
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,284	3.65
	Upper Limit ==>	201,426	5.65
	Lower Limit ==>	67,142	1.65
Associated Analyses			
Continuing Calibration Verification	EQ2300308-01	138,529	3.65
Method Blank	EQ2300301-01	171,554	3.65
Duplicate Lab Control Sample	EQ2300301-03	176,324	3.65

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: HS23060739

Service Request: E2300559
Date Analyzed: 6/23/23 16:47

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

File ID: I:\LCMS01\DATA\20230623\20230623-027
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2300308-02
Analysis Lot: 808638
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,284	3.65
	Upper Limit ==>	201,426	5.65
	Lower Limit ==>	67,142	1.65
Associated Analyses			
Continuing Calibration Verification	EQ2300308-02	149,278	3.64
MW5_060923	E2300559-001	115,394	3.64
18CPTMW08DW_060923	E2300559-002	149,616	3.64
18CPTMW08SW_060923	E2300559-003	138,686	3.64
18CPTMW04SW_060923	E2300559-004	182,193	3.65
18CPTMW04_060923	E2300559-005	110,896	3.64
18CPTMW04_060923_a	E2300559-006	100,491	3.64

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:**	E2300559
Project:	HS23060739	**Date Analyzed:**	6/23/23 17:48

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20230623\20230623-038	**Lab Code:**	EQ2300308-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	808638
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,284	3.65
	Upper Limit ==>	201,426	5.65
	Lower Limit ==>	67,142	1.65
Associated Analyses			
Continuing Calibration Verification	EQ2300308-03	156,027	3.64
Lab Control Sample	EQ2300301-02	185,428	3.64

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:**	E2300559
Project:	HS23060739	**Date Analyzed:**	6/23/23 18:49

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20230623\20230623-049	**Lab Code:**	EQ2300308-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	808638
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,284	3.65
	Upper Limit ==>	201,426	5.65
	Lower Limit ==>	67,142	1.65
Associated Analyses			
Continuing Calibration Verification	EQ2300308-04	158,580	3.64

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: HS23060739

Service Request: E2300559
Date Analyzed: 6/23/23

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\20230623\20230623-016

Calibration Date: 6/23/23
Calibration ID: EC2300010
Analysis Lot: 808638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.91	0.1579	0.1564	-0.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23060739

Service Request: E2300559
Date Analyzed: 6/23/23

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\20230623\20230623-027

Calibration Date: 6/23/23
Calibration ID: EC2300010
Analysis Lot: 808638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.86	0.1579	0.1558	-1.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23060739

Service Request: E2300559
Date Analyzed: 6/23/23

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\20230623\20230623-038

Calibration Date: 6/23/23
Calibration ID: EC2300010
Analysis Lot: 808638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.81	0.1579	0.1550	-1.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS23060739

Service Request: E2300559
Date Analyzed: 6/23/23

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\20230623\20230623-049

Calibration Date: 6/23/23
Calibration ID: EC2300010
Analysis Lot: 808638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.97	0.1579	0.1574	-0.3	NA	± 15 %	Average RF

Insight Report

Printed at 6/26/2023 9:45:37 AM

LODV

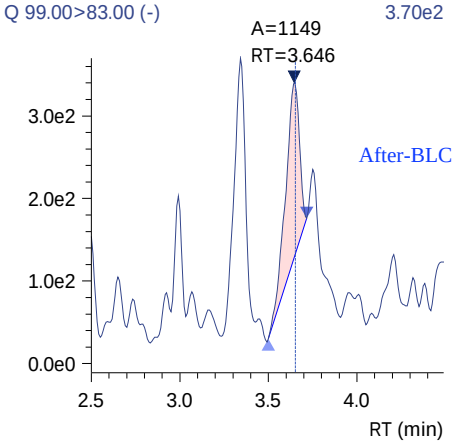
Sample ID: LODV
Date Acquired: 6/23/2023 3:24:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-013.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.646	1149	168606	0.0431	ng/mL	101.00 >85.00	43.93	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.646	168606	168606	1.0000	ng/mL	----	----	

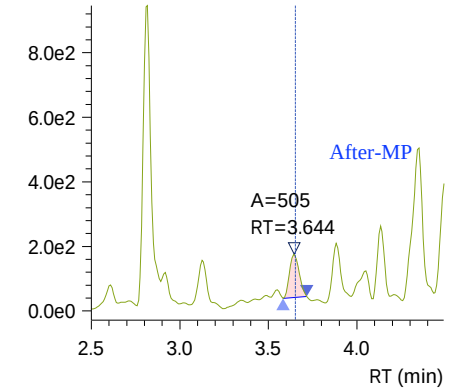
Perchlorate

Conc 0.0431
R#1 43.93 (35.79)

Q 99.00>83.00 (-) 3.70e2



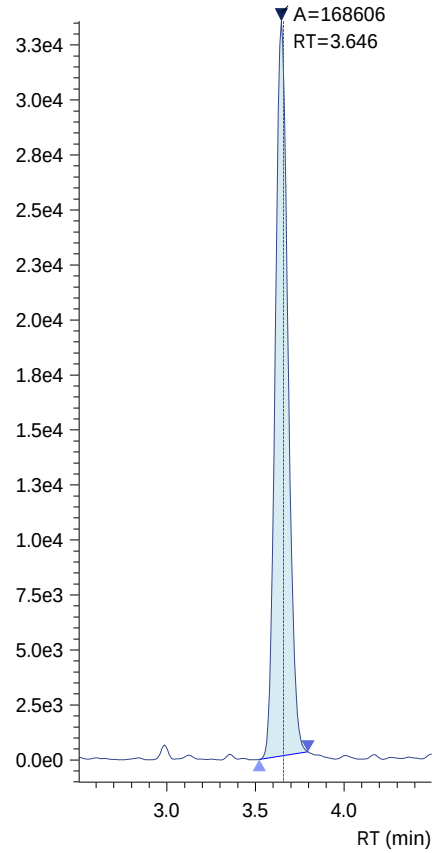
R1 101.00>85.00 (-) 9.46e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.36e4



Insight Report

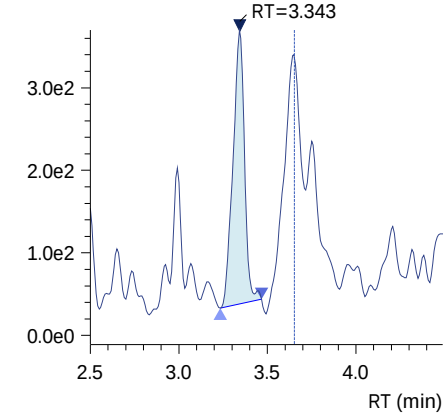
LODV

Sample ID: LODV
Date Acquired: 6/23/2023 3:24:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-013.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 0

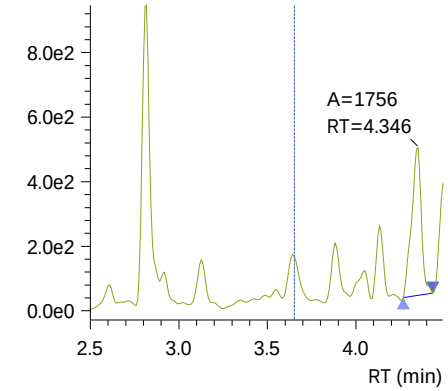
Perchlorate

Conc 0.0555
R#1 0.00 (35.79)

Q 99.00>83.00 (-) A=1491 3.70e2



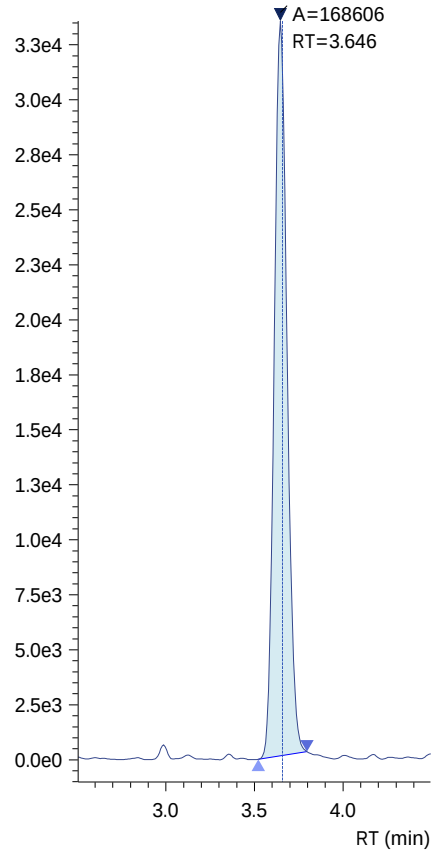
R1 101.00>85.00 (-) 9.46e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.36e4



Insight Report

Printed at 6/26/2023 9:45:37 AM

IB

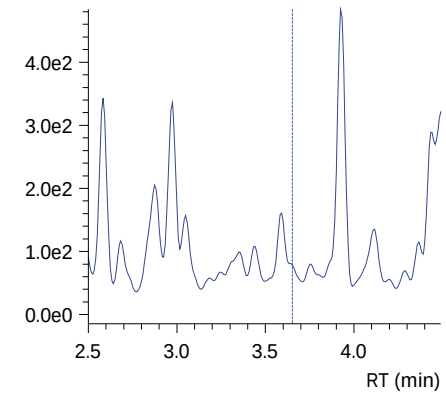
Sample ID: IB
Date Acquired: 6/23/2023 3:29:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-014.lcd
Vial: 4 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	166162	----	ng/mL	101.00 >85.00	0.00	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.646	166162	166162	1.0000	ng/mL	----	----	

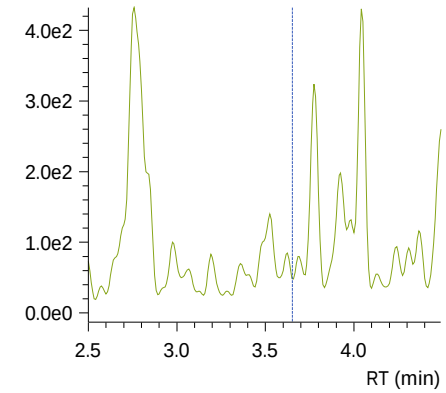
Perchlorate

Conc ----
R#1 0.00 (35.79)

Q 99.00>83.00 (-) 4.84e2



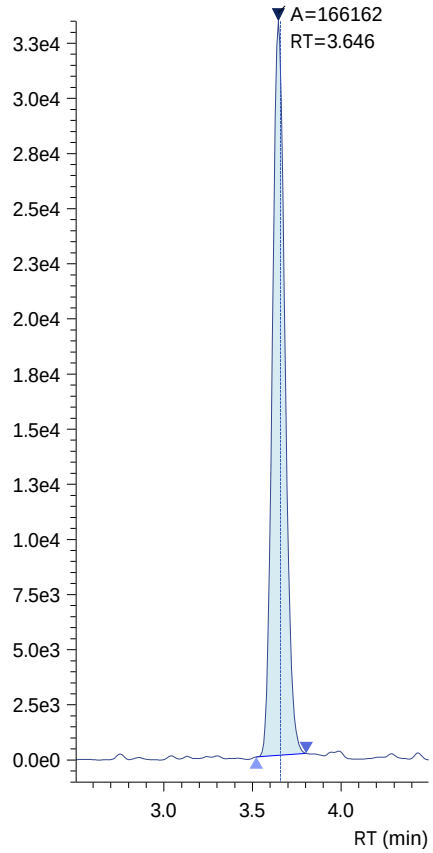
R1 101.00>85.00 (-) 4.32e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.35e4



Insight Report

Printed at 6/26/2023 9:45:37 AM

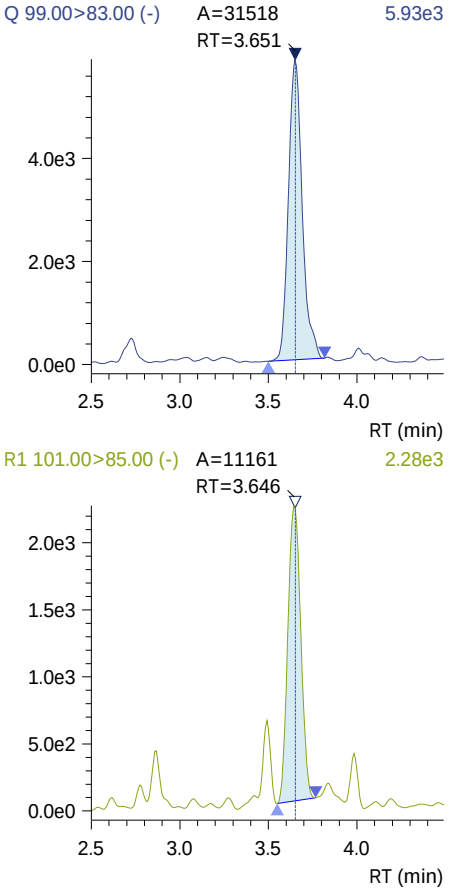
ICS

Sample ID: ICS
Date Acquired: 6/23/2023 3:35:12 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-015.lcd
Vial: 2 | Inj. Volume: 10.0000uL | Tray: 0

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.651	31518	184619	1.0812	ng/mL	101.00 >85.00	35.41	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.645	1846 19	184619	1.0000	ng/mL	----	----	

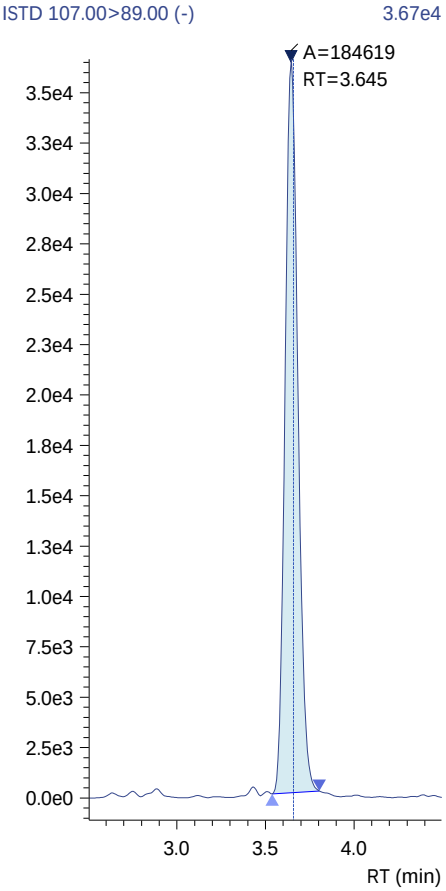
Perchlorate

Conc 1.0812
R#1 35.41 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

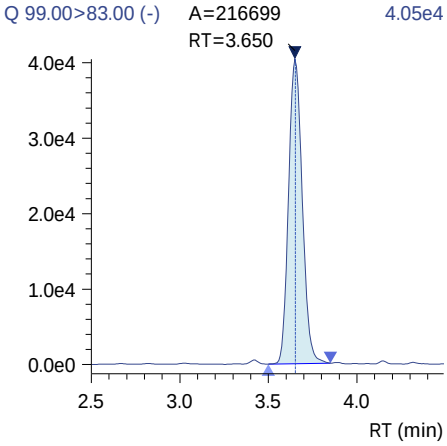
CCV

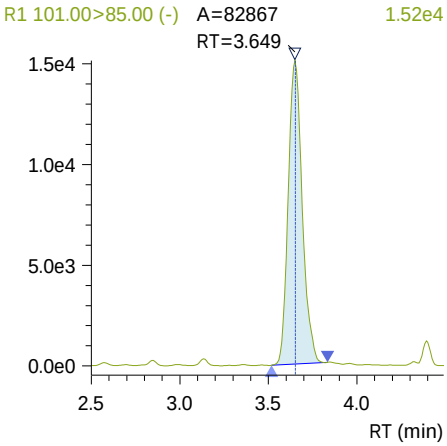
Sample ID: CCV
Date Acquired: 6/23/2023 3:41:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-016.lcd
Vial: 7 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.650	216699	138529	9.9066	ng/mL	101.00 >85.00	38.24	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.646	138529	138529	1.0000	ng/mL	----	----	

Perchlorate

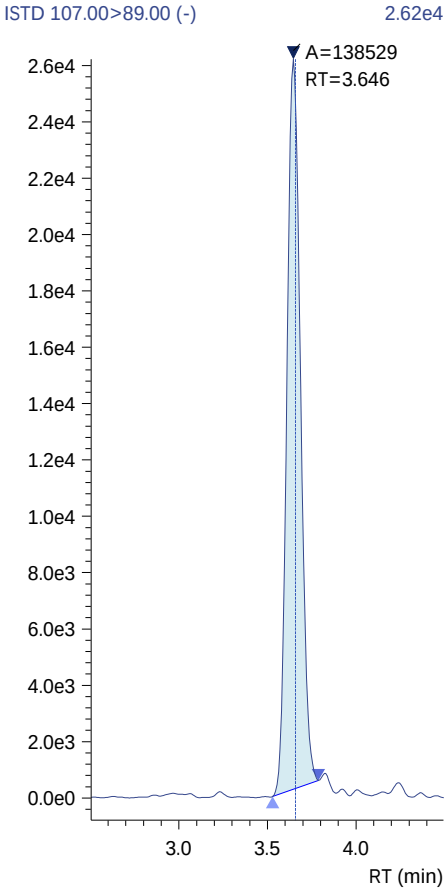
Conc 9.9066
R#1 38.24 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

EQ2300301-01

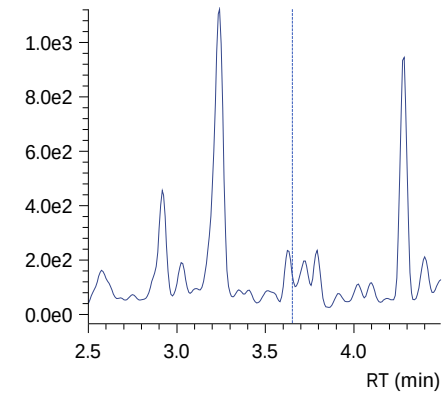
Sample ID: EQ2300301-01
Date Acquired: 6/23/2023 3:46:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-017.lcd
Vial: 1 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	171554	----	ng/mL	101.00 >85.00	0.00	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.646	171554	171554	1.0000	ng/mL	----	----	

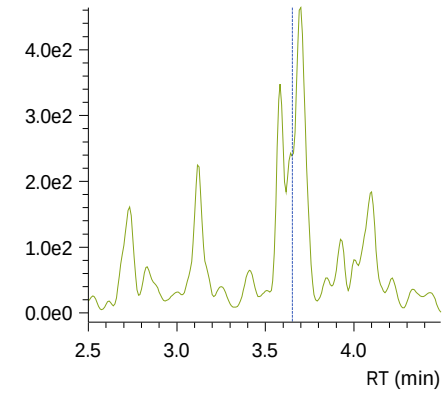
Perchlorate

Conc ----
R#1 0.00 (35.79)

Q 99.00>83.00 (-) 1.12e3



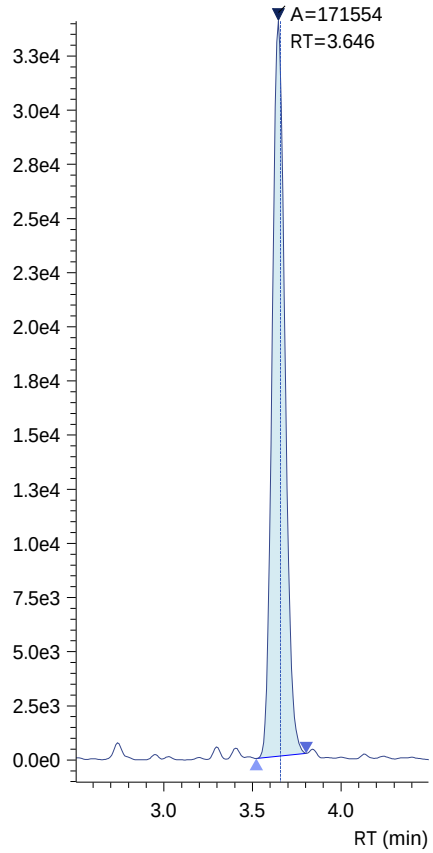
R1 101.00>85.00 (-) 4.64e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.41e4



Insight Report

Printed at 6/26/2023 9:45:37 AM

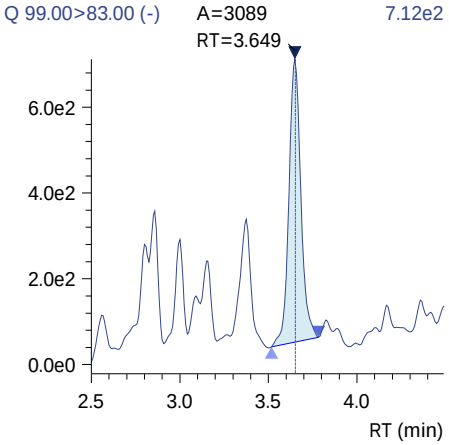
EQ2300301-03

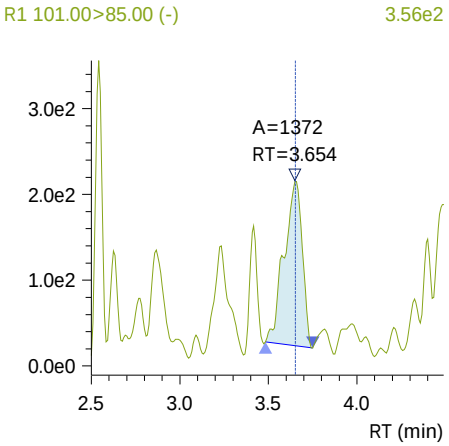
Sample ID: EQ2300301-03
Date Acquired: 6/23/2023 4:09:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-019.lcd
Vial: 3 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.649	3089	176324	0.1110	ng/mL	101.00 >85.00	44.40	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.645	1763 24	176324	1.0000	ng/mL	----	----	

Perchlorate

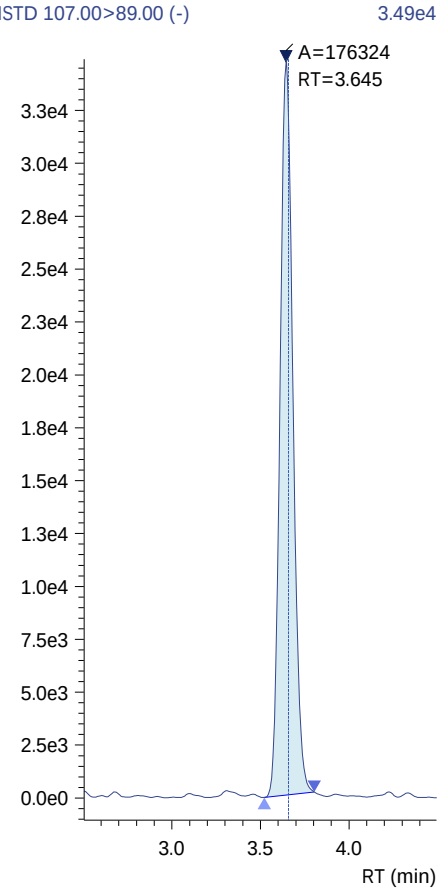
Conc 0.1110
R#1 44.40 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

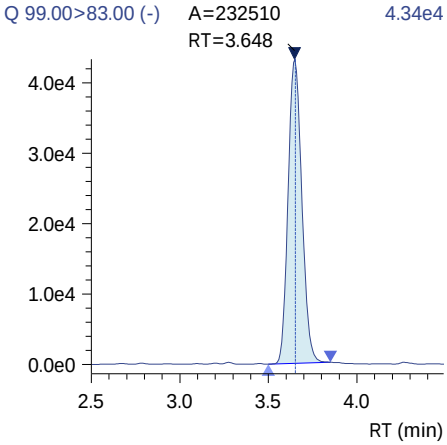
CCV

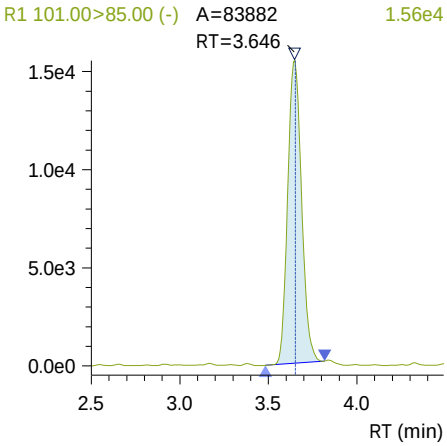
Sample ID: CCV
Date Acquired: 6/23/2023 4:47:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-027.lcd
Vial: 7 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.648	2325 10	149278	9.8640	ng/mL	101.00 >85.00	36.08	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.644	1492 78	149278	1.0000	ng/mL	----	----	

Perchlorate

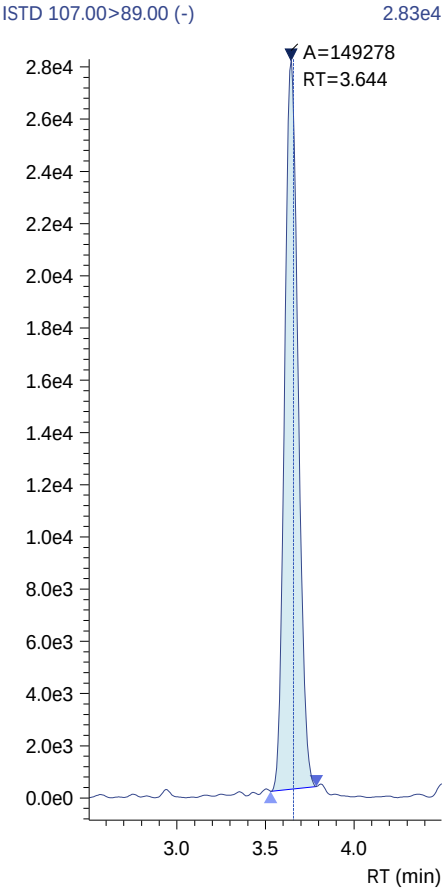
Conc 9.8640
R#1 36.08 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

E2300559-001x1k

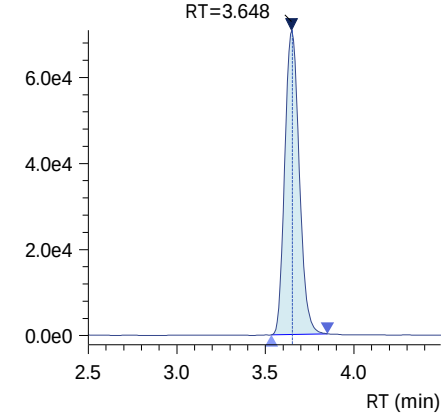
Sample ID: E2300559-001
Date Acquired: 6/23/2023 5:10:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-031.lcd
Vial: 14 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.648	4022 16	115394	22.07 42	ng/mL	101.00 >85.00	36.30	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.643	1153 94	115394	1.0000	ng/mL	----	----	

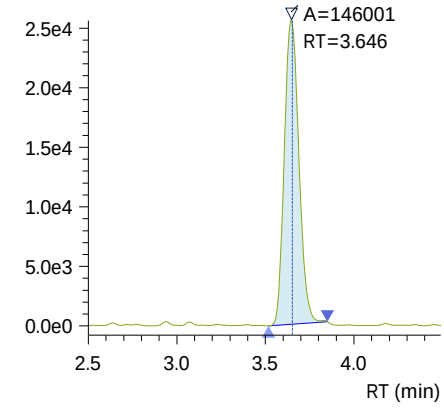
Perchlorate

Conc 22.0742
R#1 36.30 (35.79)

Q 99.00>83.00 (-) A=402216 RT=3.648 7.10e4



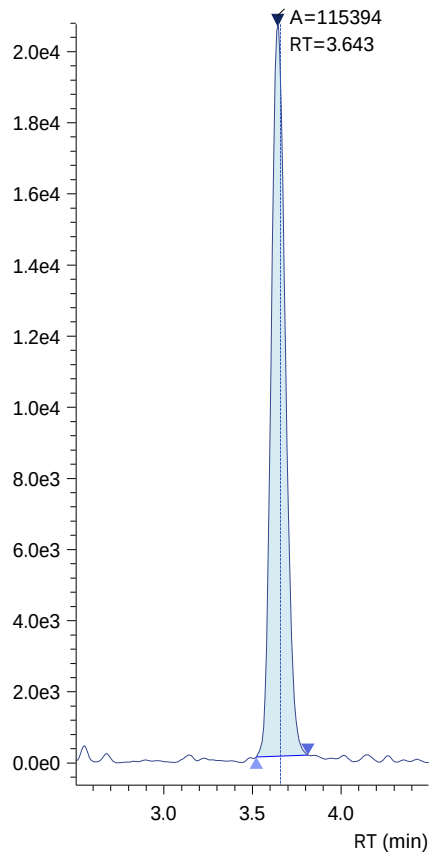
R1 101.00>85.00 (-) 2.56e4



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 2.08e4



Insight Report

Printed at 6/26/2023 9:45:37 AM

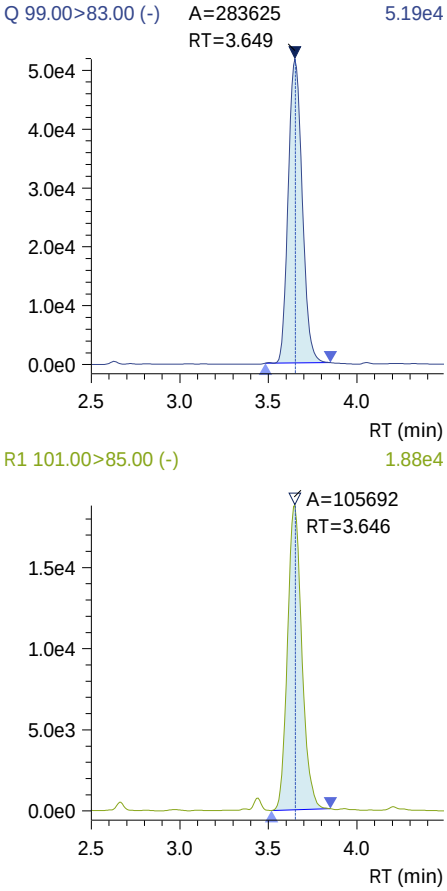
E2300559-002x500

Sample ID: E2300559-002
Date Acquired: 6/23/2023 5:15:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-032.lcd
Vial: 15 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.649	283625	149616	12.0053	ng/mL	101.00 >85.00	37.27	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.644	149616	149616	1.0000	ng/mL	----	----	

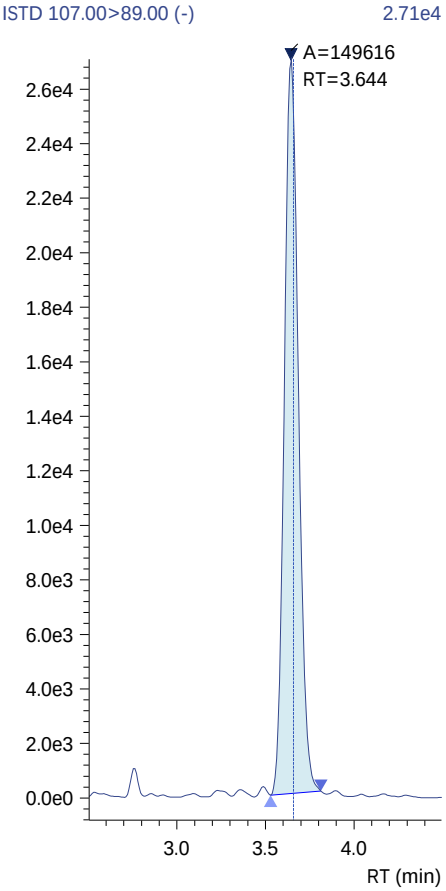
Perchlorate

Conc 12.0053
R#1 37.27 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

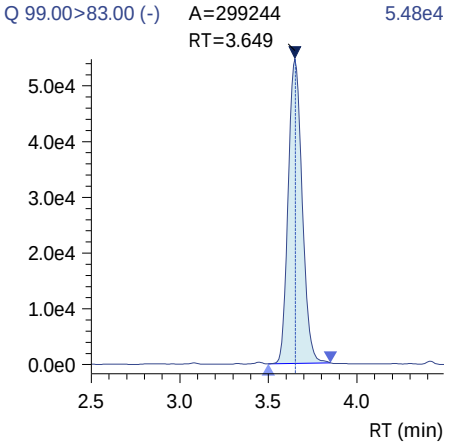
E2300559-003x1k

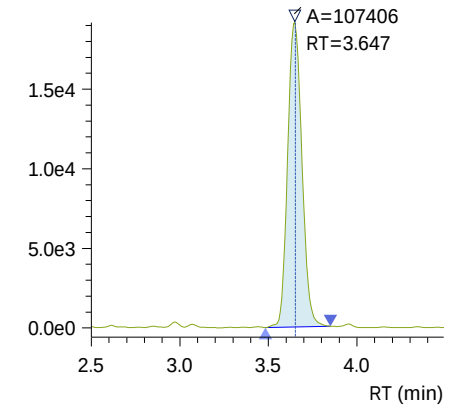
Sample ID: E2300559-003
Date Acquired: 6/23/2023 5:21:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-033.lcd
Vial: 16 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.649	299244	138686	13.6648	ng/mL	101.00 >85.00	35.89	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.644	138686	138686	1.0000	ng/mL	----	----	

Perchlorate

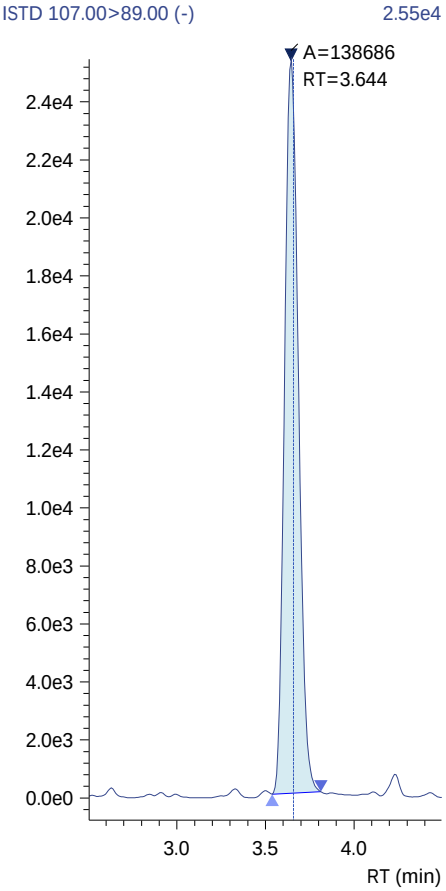
Conc 13.6648
R#1 35.89 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

E2300559-004

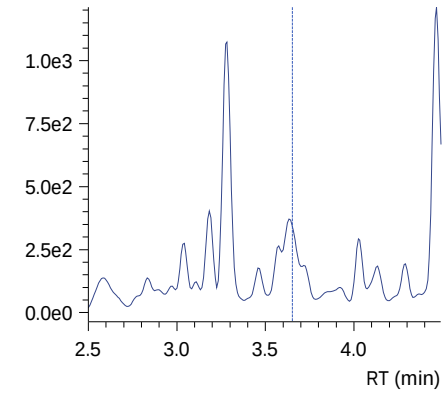
Sample ID: E2300559-004
Date Acquired: 6/23/2023 5:26:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-034.lcd
Vial: 17 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	ND(W/B)	----	----	182193	----	ng/mL	101.00 >85.00	0.00	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.645	182193	182193	1.0000	ng/mL	----	----	

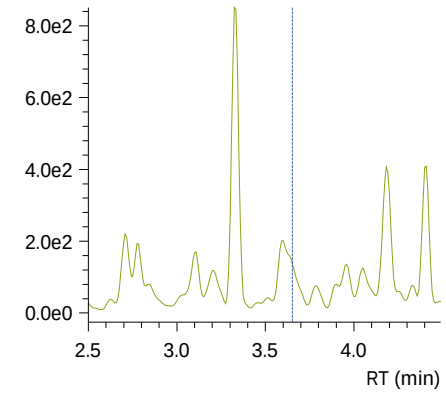
Perchlorate

Conc ----
R#1 0.00 (35.79)

Q 99.00>83.00 (-) 1.21e3



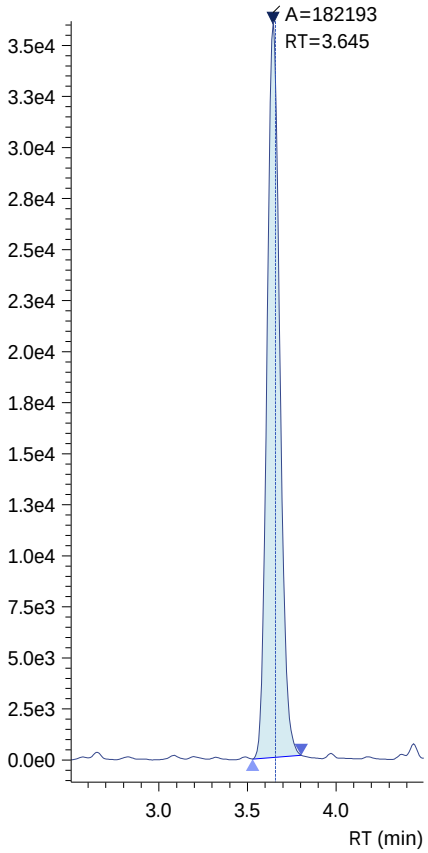
R1 101.00>85.00 (-) 8.51e2



Sodium Perchlorate-18O4_IS

Conc 1.0000

ISTD 107.00>89.00 (-) 3.62e4



Insight Report

Printed at 6/26/2023 9:45:37 AM

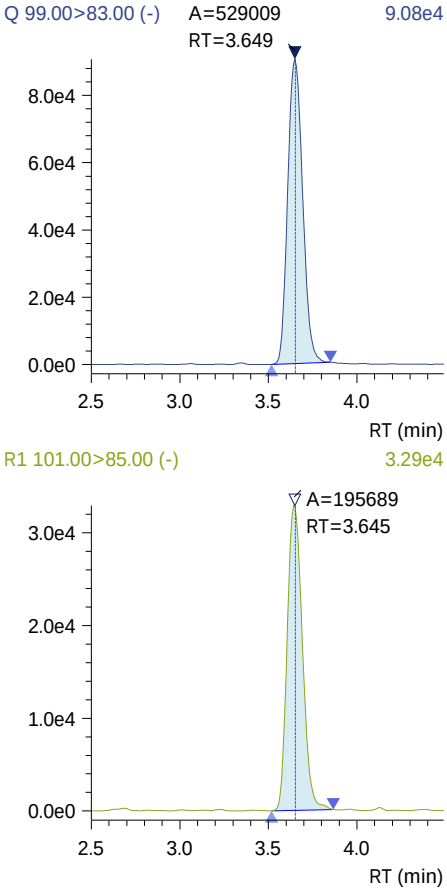
E2300559-005x10

Sample ID: E2300559-005
Date Acquired: 6/23/2023 5:32:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-035.lcd
Vial: 18 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.649	529009	110896	30.2104	ng/mL	101.00 >85.00	36.99	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.644	110896	110896	1.0000	ng/mL	----	----	

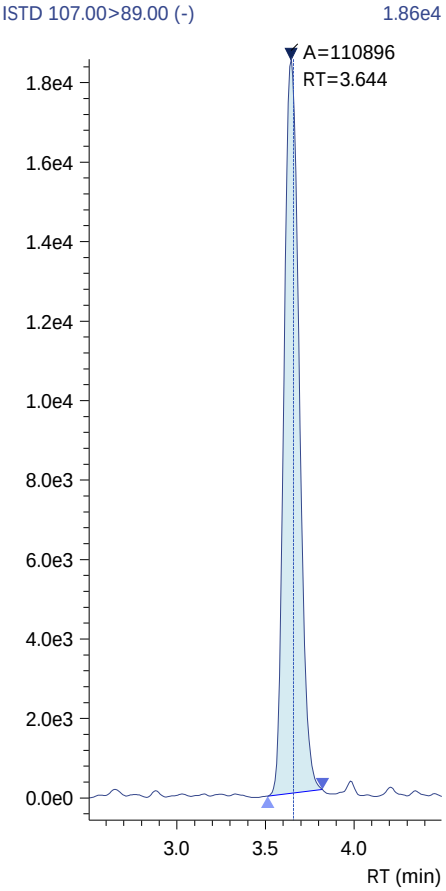
Perchlorate

Conc 30.2104
R#1 36.99 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

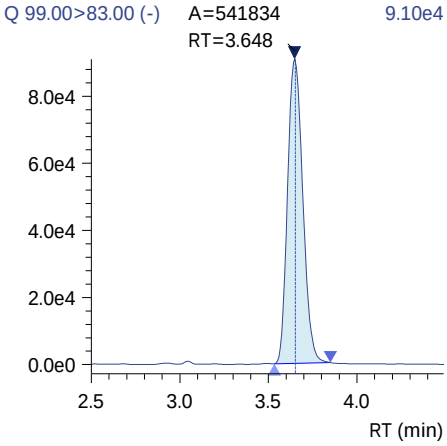
E2300559-006x10

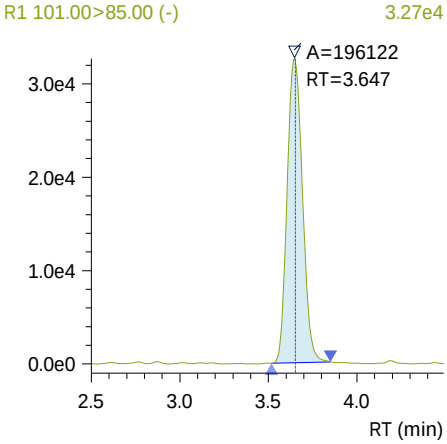
Sample ID: E2300559-006
Date Acquired: 6/23/2023 5:37:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-036.lcd
Vial: 19 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.648	541834	100491	34.1468	ng/mL	101.00 >85.00	36.20	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.644	100491	100491	1.0000	ng/mL	----	----	

Perchlorate

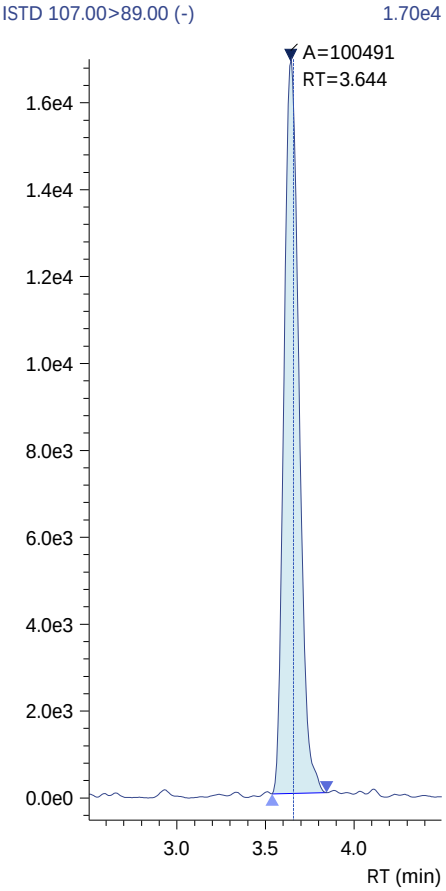
Conc 34.1468
R#1 36.20 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

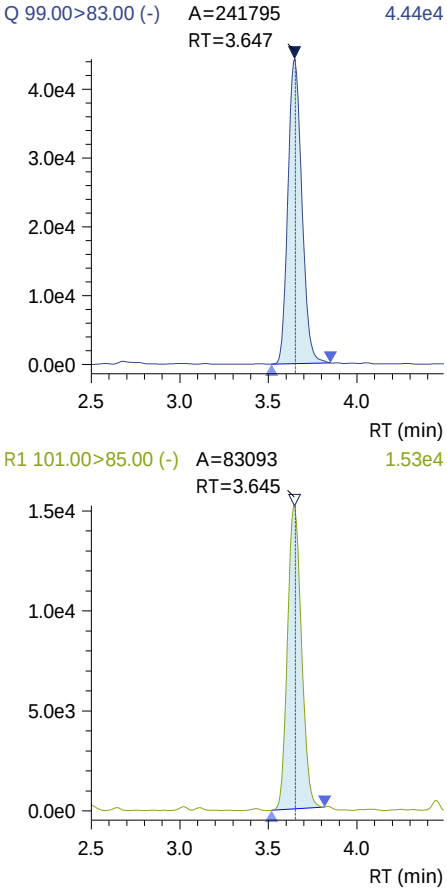
CCV

Sample ID: CCV
Date Acquired: 6/23/2023 5:48:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-038.lcd
Vial: 7 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.647	241795	156027	9.8142	ng/mL	101.00 >85.00	34.37	25.05-46.52
Sodium Perchlorate-18O4_IS	Auto	3.643	156027	156027	1.0000	ng/mL	----	----	

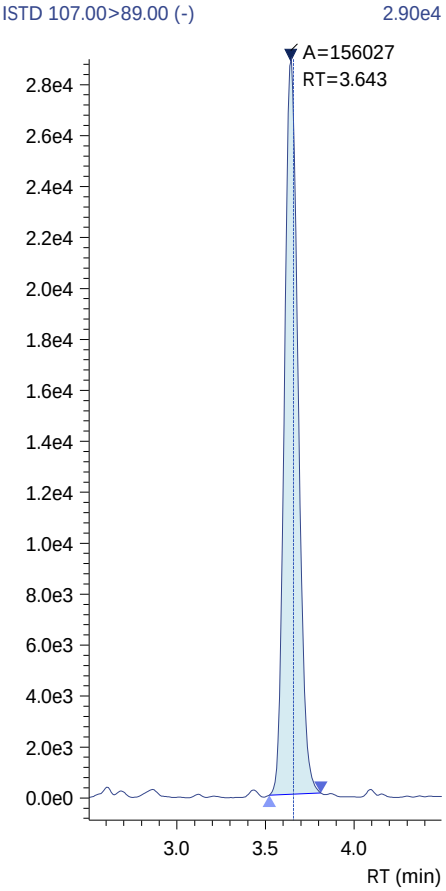
Perchlorate

Conc 9.8142
R#1 34.37 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

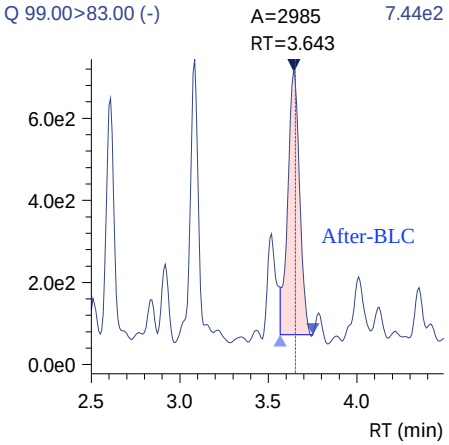
EQ2300301-02

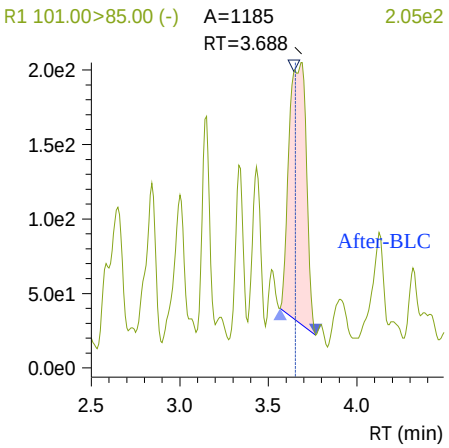
Sample ID: EQ2300301-02
Date Acquired: 6/23/2023 6:27:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-045.lcd
Vial: 25 | Inj. Volume: 10.0000uL | Tray: 3

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	M	3.643	2985	185428	0.1019	ng/mL	101.00 >85.00	39.69	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.644	1854 28	185428	1.0000	ng/mL	----	----	

Perchlorate

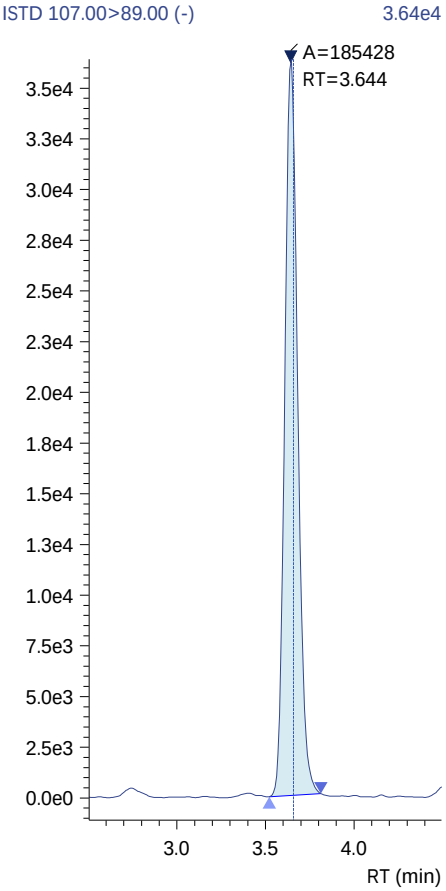
Conc 0.1019
R#1 39.69 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

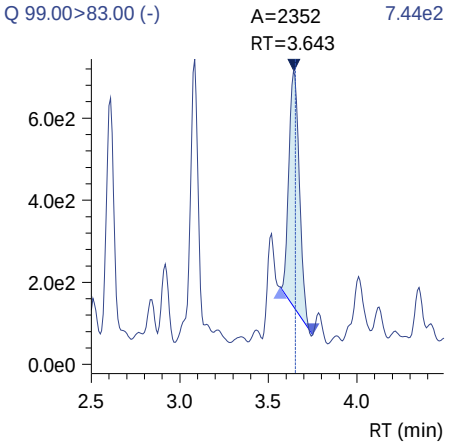
Printed at 6/26/2023 9:48:04 AM

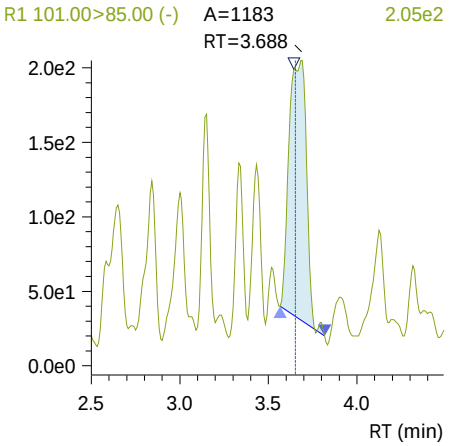
EQ2300301-02

Sample ID: EQ2300301-02
Date Acquired: 6/23/2023 6:27:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-045.lcd
Vial: 25 | Inj. Volume: 10.0000uL | Tray: 3

Perchlorate

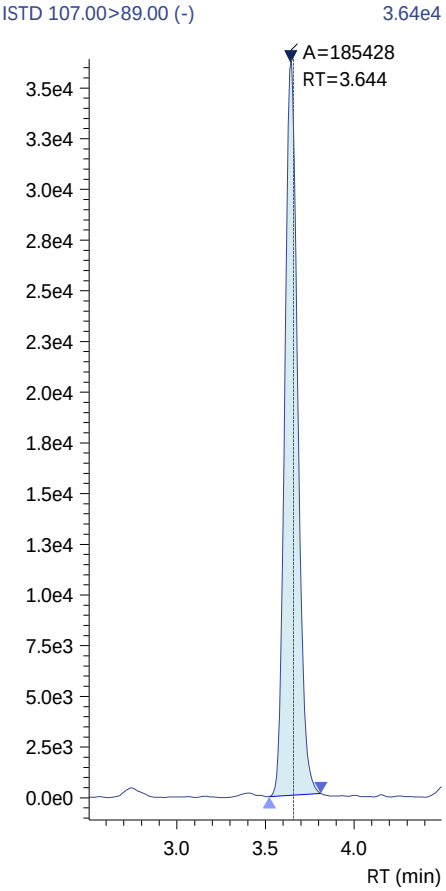
Conc 0.0796
R#1 50.29 (35.79)





Sodium Perchlorate-18O4_IS

Conc 1.0000



Insight Report

Printed at 6/26/2023 9:45:37 AM

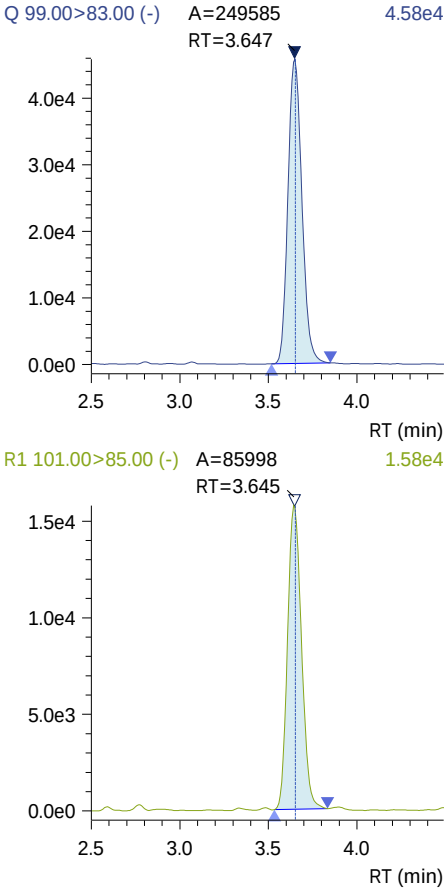
CCV

Sample ID: CCV
Date Acquired: 6/23/2023 6:49:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20230623\20230623-046.lcd
Vial: 7 | Inj. Volume: 10.0000uL | Tray: 2

Name	Mode ID	Found RT	Area	ISTD Area	Conc.	Unit	Ref 1 m/z	Ref 1 Actual Ratio	Comment 1
Perchlorate	Auto	3.647	249585	158580	9.9673	ng/mL	101.00 >85.00	34.46	25.05-46.52
Sodium Perchlorate-18O4 _IS	Auto	3.644	158580	158580	1.0000	ng/mL	----	----	

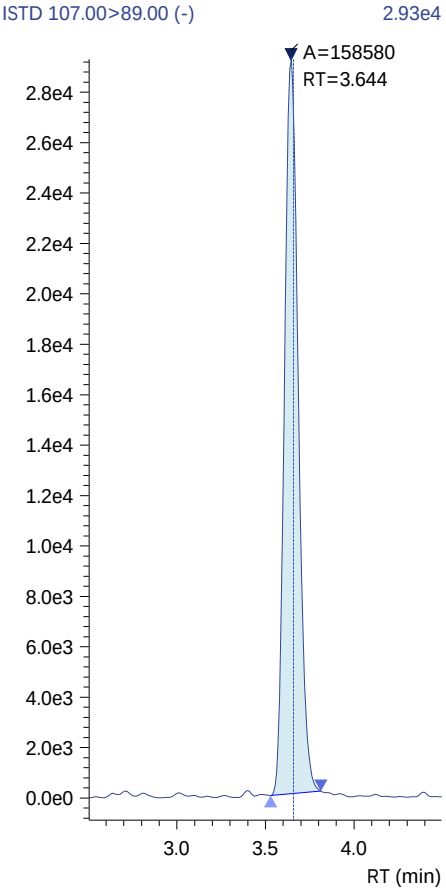
Perchlorate

Conc 9.9673
R#1 34.46 (35.79)



Sodium Perchlorate-18O4_IS

Conc 1.0000



HS23060999 LHAAP Site1824 Cover Page

ALS WO# HS23060999

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

Table of Contents

HS23060999 LHAAP Site1824 Cover Page
- CoverPage
- HS23060999 LHAAP Site1824 Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - 102_061323
  - 18CPTMW03SW_061323
  - 120_061323
  - MW14_061323
  - 18CPTMW22DW_061323
  - 18CPTMW22R_061323
  - 18CPTMW22SW_061323
  - Trip Blank
  - Weight/Volume Log
  - Dates Report
  - QC
  - Acronyms
  - Certifications
  - SampleReceiptCheckList
  - COC
  - HS23060999-E2300570 Perchlorate Final Report Level II

Table of Contents (continued)

HS23060999-MSVOA-SW8260
- Form 1 - Sample Results
- Form 2 - Surrogates
- Form 3A - MS/MSD
- Form 3B - LCS/LCSD
- Form 4 - MB Assoc
- Form 5 - Tune
- Form 6 - ICAL
- Form 6I - ICV
- Form 7 - CCV
- Form 8 - ISTD
- Run Log
- Raw Data VOA6 438076
- Raw Data VOA6 439205
- Raw Data VOA6 439273

HS23060999-MSSEMI-SW8270SIM
- Form 1 - Sample Results
- Form 2 - Surrogates
- Form 3B - LCS/LCSD
- Form 4 - MB Assoc
- Form 5 - Tune
- Form 6 - ICAL
- Form 6I - ICV
- Form 7 - CCV
- Prep Log
- Run Log
- Raw Data SV 6 439923
- Raw Data SV 6 439307

HS23060999 - ME - HG_W_DODICP_W_DOD
- Form 11 - ICPMS06 Internal Standard Association
- Form 13 - HG04_440017 Run Log
- Form 13 - ICPMS06_440069 Run Log
- Form 2 - HG04_440017 CCV
- Form 2 - ICPMS06_440069 CCV
- Form 3 - HG04_440017 CCB

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

right solutions.
right partner.

WorkOrder: HS23060999

LHAAP /Site18/24

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

21-Jun-2023

HS23060999 LHAAP Site1824 Final

ALS WO# HS23060999

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

June 28, 2023

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

Work Order: **HS23060999**

Laboratory Results for: **LHAAP /Site18/24**

Dear Marcia Olive,

ALS Environmental received 8 sample(s) on Jun 14, 2023 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: DAYNA.FISHER
James Guin

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Work Order: HS23060999

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23060999-01	102_061323	Groundwater		13-Jun-2023 06:50	14-Jun-2023 09:40	☐
HS23060999-02	18CPTMW03SW_061323	Groundwater		13-Jun-2023 07:35	14-Jun-2023 09:40	☐
HS23060999-03	120_061323	Groundwater		13-Jun-2023 09:30	14-Jun-2023 09:40	☐
HS23060999-04	MW14_061323	Groundwater		13-Jun-2023 10:20	14-Jun-2023 09:40	☐
HS23060999-05	18CPTMW22DW_061323	Groundwater		13-Jun-2023 11:10	14-Jun-2023 09:40	☐
HS23060999-06	18CPTMW22R_061323	Groundwater		13-Jun-2023 11:50	14-Jun-2023 09:40	☐
HS23060999-07	18CPTMW22SW_061323	Groundwater		13-Jun-2023 12:30	14-Jun-2023 09:40	☐
HS23060999-08	Trip Blank	Water		13-Jun-2023 00:00	14-Jun-2023 09:40	☐

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP /Site18/24
Work Order: HS23060999

Work Order Comments

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

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 195305

Sample ID: 120_061323 (HS23060999-03)

• The surrogate recoveries could not be determined due to dilution below the calibration range.

Sample ID: MW14_061323 (HS23060999-04)

• The surrogate recoveries could not be determined due to dilution below the calibration range.

• Surrogate 2-Fluorobiphenyl recovered outside control limits

GCMS Volatiles by Method SW8260

Batch ID: R439273

Sample ID: 18CPTMW22SW_061323 (HS23060999-07MS)

• MS and/or MSD recovered outside control limits for multiple compounds

Batch ID: R439205

Sample ID: HS23060722-05MS

• MS and MSD are for an unrelated sample

Metals by Method SW7470A

Batch ID: 196820

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

Metals by Method SW6020A

Batch ID: 196608

Sample ID: HS23060722-06MS

• MS and MSD are for an unrelated sample

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 102_061323
Collection Date: 13-Jun-2023 06:50

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 19:20
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 19:20
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 19:20
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 19:20
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 19:20
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 102_061323
Collection Date: 13-Jun-2023 06:50

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 19:20
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 19:20
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:20
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:20
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 19:20*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 19:20*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 19:20*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 19:20*

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 102_061323
Collection Date: 13-Jun-2023 06:50

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 22-Jun-2023		Analyst: JC
Aluminum	**1.22**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-Jun-2023 17:03
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	28-Jun-2023 17:03
Arsenic	**0.000461**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Barium	**0.0501**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Beryllium	**0.000279**	J	**0.000200**	**0.000500**	**0.00200**	**mg/L**	1	28-Jun-2023 17:03
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:03
Calcium	**1.07**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-Jun-2023 17:03
Chromium	**0.00159**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Cobalt	**0.00130**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Copper	**0.00216**	J	**0.00100**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Iron	**1.34**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:03
Lead	**0.00120**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Magnesium	**0.940**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:03
Manganese	**0.0105**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Nickel	**0.00327**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Potassium	**0.420**		**0.0180**	**1.00**	**0.200**	**mg/L**	1	28-Jun-2023 17:03
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-Jun-2023 17:03
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-Jun-2023 17:03
Sodium	**10.9**		**0.0140**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:03
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:03
Vanadium	**0.00951**		**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
Zinc	**0.0110**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:03
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 27-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	27-Jun-2023 19:58
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	28-Jun-2023 13:51

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW03SW_061323
Collection Date: 13-Jun-2023 07:35

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 19:41
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 19:41
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 19:41
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 19:41
Benzene	**1.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 19:41
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 19:41
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW03SW_061323
Collection Date: 13-Jun-2023 07:35

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
cis-1,2-Dichloroethene	**33**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 19:41
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 19:41
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 19:41
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 19:41
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
trans-1,2-Dichloroethene	**1.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 19:41
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Trichloroethene	**9.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 19:41
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 19:41
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 19:41*
Surr: 4-Bromofluorobenzene	*96.3*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 19:41*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 19:41*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 19:41*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**0.097**		**0.010**	**0.0050**	**0.010**	**ug/L**	1	19-Jun-2023 15:20
Surr: 2-Fluorobiphenyl	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 15:20*
Surr: 4-Terphenyl-d14	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 15:20*
Surr: Nitrobenzene-d5	*95.8*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 15:20*

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW03SW_061323
Collection Date: 13-Jun-2023 07:35

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 22-Jun-2023		Analyst: JC
Aluminum	**0.0464**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-Jun-2023 17:05
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	28-Jun-2023 17:05
Arsenic	**0.00448**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:05
Barium	**0.539**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:05
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:05
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:05
Calcium	**106**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-Jun-2023 17:05
Chromium	**0.00941**		**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:05
Cobalt	**0.00162**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-Jun-2023 17:05
Copper	0.00250	U	0.00100	0.00250	0.00500	mg/L	1	28-Jun-2023 17:05
Iron	**9.91**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:05
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	28-Jun-2023 17:05
Magnesium	**19.0**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:05
Manganese	**0.682**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:05
Nickel	**0.00403**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:05
Potassium	**102**		**0.0180**	**1.00**	**0.200**	**mg/L**	1	28-Jun-2023 17:05
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-Jun-2023 17:05
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-Jun-2023 17:05
Sodium	**214**		**0.280**	**1.00**	**4.00**	**mg/L**	20	28-Jun-2023 18:15
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:05
Vanadium	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	28-Jun-2023 17:05
Zinc	**0.00565**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:05
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 27-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	27-Jun-2023 20:00
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	28-Jun-2023 13:51

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 120_061323
Collection Date: 13-Jun-2023 09:30

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
1,1,1-Trichloroethane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
1,1,2,2-Tetrachloroethane	12	U	12	12	25	ug/L	25	19-Jun-2023 14:29
1,1,2-Trichloroethane	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
1,1-Dichloroethane	**13**	J	**5.0**	**12**	**25**	**ug/L**	25	19-Jun-2023 14:29
1,1-Dichloroethene	**85**		**5.0**	**12**	**25**	**ug/L**	25	19-Jun-2023 14:29
1,1-Dichloropropene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
1,2,3-Trichlorobenzene	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
1,2,3-Trichloropropane	12	U	12	12	25	ug/L	25	19-Jun-2023 14:29
1,2,4-Trichlorobenzene	12	U	12	12	25	ug/L	25	19-Jun-2023 14:29
1,2,4-Trimethylbenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
1,2-Dibromo-3-chloropropane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
1,2-Dibromoethane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
1,2-Dichlorobenzene	12	U	12	12	25	ug/L	25	19-Jun-2023 14:29
1,2-Dichloroethane	**28**		**5.0**	**12**	**25**	**ug/L**	25	19-Jun-2023 14:29
1,2-Dichloropropane	12	U	12	12	25	ug/L	25	19-Jun-2023 14:29
1,3,5-Trimethylbenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
1,3-Dichlorobenzene	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
1,3-Dichloropropane	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
1,4-Dichlorobenzene	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
2,2-Dichloropropane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
2-Butanone	12	U	12	12	50	ug/L	25	19-Jun-2023 14:29
2-Chlorotoluene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
2-Hexanone	12	U	25	12	50	ug/L	25	19-Jun-2023 14:29
4-Chlorotoluene	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
4-Isopropyltoluene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
4-Methyl-2-pentanone	12	U	18	12	50	ug/L	25	19-Jun-2023 14:29
Acetone	12	U	10	12	50	ug/L	25	19-Jun-2023 14:29
Benzene	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
Bromobenzene	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
Bromochloromethane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
Bromodichloromethane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
Bromoform	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
Bromomethane	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
Carbon disulfide	12	U	15	12	50	ug/L	25	19-Jun-2023 14:29
Carbon tetrachloride	12	U	12	12	25	ug/L	25	19-Jun-2023 14:29
Chlorobenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Chloroethane	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Chloroform	**16**	J	**5.0**	**12**	**25**	**ug/L**	25	19-Jun-2023 14:29

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 120_061323
Collection Date: 13-Jun-2023 09:30

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
cis-1,2-Dichloroethene	**960**		**5.0**	**12**	**25**	**ug/L**	25	19-Jun-2023 14:29
cis-1,3-Dichloropropene	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
Dibromochloromethane	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Dibromomethane	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
Dichlorodifluoromethane	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Ethylbenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Hexachlorobutadiene	12	U	25	12	25	ug/L	25	19-Jun-2023 14:29
Isopropylbenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
m,p-Xylene	25	U	12	25	50	ug/L	25	19-Jun-2023 14:29
Methylene chloride	12	U	10	12	50	ug/L	25	19-Jun-2023 14:29
n-Butylbenzene	12	U	10	12	25	ug/L	25	19-Jun-2023 14:29
n-Propylbenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Naphthalene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
o-Xylene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
sec-Butylbenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Styrene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
tert-Butylbenzene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Tetrachloroethene	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Toluene	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
trans-1,2-Dichloroethene	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
trans-1,3-Dichloropropene	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
Trichloroethene	**7,500**		**50**	**120**	**250**	**ug/L**	250	19-Jun-2023 15:33
Trichlorofluoromethane	12	U	7.5	12	25	ug/L	25	19-Jun-2023 14:29
Vinyl chloride	12	U	5.0	12	25	ug/L	25	19-Jun-2023 14:29
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*25*	*19-Jun-2023 14:29*
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*250*	*19-Jun-2023 15:33*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*25*	*19-Jun-2023 14:29*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*250*	*19-Jun-2023 15:33*
Surr: Dibromofluoromethane	*103*			**0**	*80-119*	*%REC*	*25*	*19-Jun-2023 14:29*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*250*	*19-Jun-2023 15:33*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*25*	*19-Jun-2023 14:29*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*250*	*19-Jun-2023 15:33*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**120**		**10**	**5.0**	**10**	**ug/L**	1000	19-Jun-2023 17:45
Surr: 2-Fluorobiphenyl	*0*	*S*		0	*40-140*	*%REC*	*1000*	*19-Jun-2023 17:45*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*1000*	*19-Jun-2023 17:45*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*1000*	*19-Jun-2023 17:45*

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

ALS Houston, US

Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: LHAAP /Site18/24

WorkOrder:HS23060999

Sample ID: 120_061323

Lab ID:HS23060999-03

Collection Date: 13-Jun-2023 09:30

Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	28-Jun-2023 13:51

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: MW14_061323
Collection Date: 13-Jun-2023 10:20

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,1,1-Trichloroethane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,1,2,2-Tetrachloroethane	5.0	U	5.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,1-Dichloroethane	**42**		**2.0**	**5.0**	**10**	**ug/L**	10	19-Jun-2023 13:47
1,1-Dichloroethene	**220**		**2.0**	**5.0**	**10**	**ug/L**	10	19-Jun-2023 13:47
1,1-Dichloropropene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2,3-Trichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2,3-Trichloropropane	5.0	U	5.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2,4-Trichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2,4-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2-Dibromo-3-chloropropane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2-Dibromoethane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2-Dichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,2-Dichloroethane	**210**		**2.0**	**5.0**	**10**	**ug/L**	10	19-Jun-2023 13:47
1,2-Dichloropropane	5.0	U	5.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,3,5-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,3-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,3-Dichloropropane	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
1,4-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
2,2-Dichloropropane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
2-Butanone	5.0	U	5.0	5.0	20	ug/L	10	19-Jun-2023 13:47
2-Chlorotoluene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
2-Hexanone	5.0	U	10	5.0	20	ug/L	10	19-Jun-2023 13:47
4-Chlorotoluene	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
4-Isopropyltoluene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
4-Methyl-2-pentanone	5.0	U	7.0	5.0	20	ug/L	10	19-Jun-2023 13:47
Acetone	5.0	U	4.0	5.0	20	ug/L	10	19-Jun-2023 13:47
Benzene	**6.1**	J	**2.0**	**5.0**	**10**	**ug/L**	10	19-Jun-2023 13:47
Bromobenzene	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Bromochloromethane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Bromodichloromethane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Bromoform	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Bromomethane	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Carbon disulfide	5.0	U	6.0	5.0	20	ug/L	10	19-Jun-2023 13:47
Carbon tetrachloride	5.0	U	5.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Chlorobenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Chloroethane	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Chloroform	**11**		**2.0**	**5.0**	**10**	**ug/L**	10	19-Jun-2023 13:47

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: MW14_061323
Collection Date: 13-Jun-2023 10:20

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
cis-1,2-Dichloroethene	**2,100**		**20**	**50**	**100**	**ug/L**	100	19-Jun-2023 14:08
cis-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Dibromochloromethane	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Dibromomethane	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Dichlorodifluoromethane	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Ethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Hexachlorobutadiene	5.0	U	10	5.0	10	ug/L	10	19-Jun-2023 13:47
Isopropylbenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
m,p-Xylene	10	U	5.0	10	20	ug/L	10	19-Jun-2023 13:47
Methylene chloride	5.0	U	4.0	5.0	20	ug/L	10	19-Jun-2023 13:47
n-Butylbenzene	5.0	U	4.0	5.0	10	ug/L	10	19-Jun-2023 13:47
n-Propylbenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Naphthalene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
o-Xylene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
sec-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Styrene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
tert-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Tetrachloroethene	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Toluene	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
trans-1,2-Dichloroethene	**29**		**2.0**	**5.0**	**10**	**ug/L**	10	19-Jun-2023 13:47
trans-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Trichloroethene	**15,000**		**20**	**50**	**100**	**ug/L**	100	19-Jun-2023 14:08
Trichlorofluoromethane	5.0	U	3.0	5.0	10	ug/L	10	19-Jun-2023 13:47
Vinyl chloride	**16**		**2.0**	**5.0**	**10**	**ug/L**	10	19-Jun-2023 13:47
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*10*	*19-Jun-2023 13:47*
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*100*	*19-Jun-2023 14:08*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*10*	*19-Jun-2023 13:47*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*100*	*19-Jun-2023 14:08*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*10*	*19-Jun-2023 13:47*
Surr: Dibromofluoromethane	*100.0*			**0**	*80-119*	*%REC*	*100*	*19-Jun-2023 14:08*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*10*	*19-Jun-2023 13:47*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*100*	*19-Jun-2023 14:08*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**10**		**1.0**	**0.50**	**1.0**	**ug/L**	100	19-Jun-2023 18:03
Surr: 2-Fluorobiphenyl	*1260*	*S*		**0**	*40-140*	*%REC*	*100*	*19-Jun-2023 18:03*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*100*	*19-Jun-2023 18:03*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*100*	*19-Jun-2023 18:03*

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: MW14_061323
Collection Date: 13-Jun-2023 10:20

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 22-Jun-2023		Analyst: JC
Aluminum	**0.148**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-Jun-2023 17:07
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	28-Jun-2023 17:07
Arsenic	**0.00178**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:07
Barium	**0.238**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:07
Beryllium	**0.00194**	J	**0.000200**	**0.000500**	**0.00200**	**mg/L**	1	28-Jun-2023 17:07
Cadmium	**0.000805**	J	**0.000200**	**0.000500**	**0.00200**	**mg/L**	1	28-Jun-2023 17:07
Calcium	**112**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-Jun-2023 17:07
Chromium	**0.0383**		**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:07
Cobalt	**0.0254**		**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-Jun-2023 17:07
Copper	**0.00454**	J	**0.00100**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:07
Iron	**108**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:07
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	28-Jun-2023 17:07
Magnesium	**70.5**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:07
Manganese	**4.74**		**0.0140**	**0.0500**	**0.100**	**mg/L**	20	28-Jun-2023 18:17
Nickel	**0.0901**		**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:07
Potassium	**11.9**		**0.0180**	**1.00**	**0.200**	**mg/L**	1	28-Jun-2023 17:07
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-Jun-2023 17:07
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-Jun-2023 17:07
Sodium	**482**		**0.280**	**1.00**	**4.00**	**mg/L**	20	28-Jun-2023 18:17
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:07
Vanadium	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	28-Jun-2023 17:07
Zinc	**0.378**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:07
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 27-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	27-Jun-2023 20:09
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	28-Jun-2023 13:51

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22DW_061323
Collection Date: 13-Jun-2023 11:10

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 20:02
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 20:02
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 20:02
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 20:02
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 20:02
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22DW_061323
Collection Date: 13-Jun-2023 11:10

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 20:02
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 20:02
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:02
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Trichloroethene	**2.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 20:02
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:02
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 20:02*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 20:02*
Surr: Dibromofluoromethane	*100.0*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 20:02*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 20:02*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	0.0050	U	0.010	0.0050	0.010	ug/L	1	19-Jun-2023 16:14
Surr: 2-Fluorobiphenyl	*110*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:14*
Surr: 4-Terphenyl-d14	*112*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:14*
Surr: Nitrobenzene-d5	*94.5*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:14*

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22DW_061323
Collection Date: 13-Jun-2023 11:10

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 22-Jun-2023		Analyst: JC
Aluminum	**0.0474**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-Jun-2023 17:09
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	28-Jun-2023 17:09
Arsenic	**0.00765**		**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:09
Barium	**0.134**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:09
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:09
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:09
Calcium	**13.9**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-Jun-2023 17:09
Chromium	**0.00119**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:09
Cobalt	**0.000413**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-Jun-2023 17:09
Copper	0.00250	U	0.00100	0.00250	0.00500	mg/L	1	28-Jun-2023 17:09
Iron	**4.74**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:09
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	28-Jun-2023 17:09
Magnesium	**7.11**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:09
Manganese	**0.0857**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:09
Nickel	**0.00105**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:09
Potassium	**2.86**		**0.0180**	**1.00**	**0.200**	**mg/L**	1	28-Jun-2023 17:09
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-Jun-2023 17:09
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-Jun-2023 17:09
Sodium	**292**		**0.280**	**1.00**	**4.00**	**mg/L**	20	28-Jun-2023 18:19
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:09
Vanadium	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	28-Jun-2023 17:09
Zinc	**0.00325**	J	**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:09
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 27-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	27-Jun-2023 20:11
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	28-Jun-2023 13:51

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22R_061323
Collection Date: 13-Jun-2023 11:50

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	17-Jun-2023 20:23
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	17-Jun-2023 20:23
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	17-Jun-2023 20:23
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 20:23
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	17-Jun-2023 20:23
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22R_061323
Collection Date: 13-Jun-2023 11:50

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	17-Jun-2023 20:23
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	17-Jun-2023 20:23
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	17-Jun-2023 20:23
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Trichloroethene	**0.83**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	17-Jun-2023 20:23
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	17-Jun-2023 20:23
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2023 20:23*
Surr: 4-Bromofluorobenzene	*97.5*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2023 20:23*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2023 20:23*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2023 20:23*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	**0.22**		**0.010**	**0.0050**	**0.010**	**ug/L**	1	19-Jun-2023 16:32
Surr: 2-Fluorobiphenyl	*109*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:32*
Surr: 4-Terphenyl-d14	*103*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:32*
Surr: Nitrobenzene-d5	*108*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:32*

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22R_061323
Collection Date: 13-Jun-2023 11:50

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 22-Jun-2023		Analyst: JC
Aluminum	**1.59**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-Jun-2023 17:10
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	28-Jun-2023 17:10
Arsenic	**0.000831**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Barium	**0.0539**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Beryllium	**0.000311**	J	**0.000200**	**0.000500**	**0.00200**	**mg/L**	1	28-Jun-2023 17:10
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:10
Calcium	**0.679**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-Jun-2023 17:10
Chromium	**0.00231**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Cobalt	**0.00480**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Copper	**0.00203**	J	**0.00100**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Iron	**1.83**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:10
Lead	**0.00143**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Magnesium	**0.796**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:10
Manganese	**0.0321**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Nickel	**0.00251**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Potassium	**0.188**	J	**0.0180**	**1.00**	**0.200**	**mg/L**	1	28-Jun-2023 17:10
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-Jun-2023 17:10
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-Jun-2023 17:10
Sodium	**18.5**		**0.0140**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:10
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:10
Vanadium	**0.0102**		**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
Zinc	**0.00867**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:10
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 27-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	27-Jun-2023 20:20
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	28-Jun-2023 13:51

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22SW_061323
Collection Date: 13-Jun-2023 12:30

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	19-Jun-2023 13:26
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	19-Jun-2023 13:26
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	19-Jun-2023 13:26
Acetone	**15**		**0.40**	**0.50**	**2.0**	**ug/L**	1	19-Jun-2023 13:26
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	19-Jun-2023 13:26
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22SW_061323
Collection Date: 13-Jun-2023 12:30

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	19-Jun-2023 13:26
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	19-Jun-2023 13:26
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:26
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Trichloroethene	**0.83**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	19-Jun-2023 13:26
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:26
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*19-Jun-2023 13:26*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*1*	*19-Jun-2023 13:26*
Surr: Dibromofluoromethane	*99.7*			**0**	*80-119*	*%REC*	*1*	*19-Jun-2023 13:26*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*19-Jun-2023 13:26*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 16-Jun-2023		Analyst: JL
1,4-Dioxane	0.0050	U	0.010	0.0050	0.010	ug/L	1	19-Jun-2023 16:50
Surr: 2-Fluorobiphenyl	*113*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:50*
Surr: 4-Terphenyl-d14	*110*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:50*
Surr: Nitrobenzene-d5	*96.0*			**0**	*40-140*	*%REC*	*1*	*19-Jun-2023 16:50*

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: 18CPTMW22SW_061323
Collection Date: 13-Jun-2023 12:30

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020A**				Prep:SW3010A / 22-Jun-2023		Analyst: JC
Aluminum	**0.122**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-Jun-2023 17:12
Antimony	0.00125	U	0.000400	0.00125	0.00500	mg/L	1	28-Jun-2023 17:12
Arsenic	**0.00142**	J	**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
Barium	**0.222**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:12
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:12
Calcium	**31.9**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-Jun-2023 17:12
Chromium	**0.0577**		**0.000400**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
Cobalt	**0.000149**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
Copper	0.00250	U	0.00100	0.00250	0.00500	mg/L	1	28-Jun-2023 17:12
Iron	**0.0372**	J	**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:12
Lead	0.00125	U	0.000600	0.00125	0.00500	mg/L	1	28-Jun-2023 17:12
Magnesium	**0.463**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-Jun-2023 17:12
Manganese	**0.00845**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
Nickel	**0.000864**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
Potassium	**336**		**0.360**	**20.0**	**4.00**	**mg/L**	20	28-Jun-2023 18:21
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-Jun-2023 17:12
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-Jun-2023 17:12
Sodium	**298**		**0.280**	**1.00**	**4.00**	**mg/L**	20	28-Jun-2023 18:21
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-Jun-2023 17:12
Vanadium	**0.00132**	J	**0.000600**	**0.00125**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
Zinc	**0.00334**	J	**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-Jun-2023 17:12
MERCURY BY SW7470A		**Method:SW7470A**				Prep:SW7470A / 27-Jun-2023		Analyst: JS
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	27-Jun-2023 20:21
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: KR
Subcontract Analysis	See Attached		0	0		NA	1	28-Jun-2023 13:51

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: Trip Blank
Collection Date: 13-Jun-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	19-Jun-2023 13:05
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
2-Hexanone	0.50	U	1.0	0.50	2.0	ug/L	1	19-Jun-2023 13:05
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
4-Methyl-2-pentanone	0.50	U	0.70	0.50	2.0	ug/L	1	19-Jun-2023 13:05
Acetone	0.50	U	0.40	0.50	2.0	ug/L	1	19-Jun-2023 13:05
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Carbon disulfide	0.50	U	0.60	0.50	2.0	ug/L	1	19-Jun-2023 13:05
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
Sample ID: Trip Blank
Collection Date: 13-Jun-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23060999
Lab ID:HS23060999-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
cis-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Hexachlorobutadiene	0.50	U	1.0	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	19-Jun-2023 13:05
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	19-Jun-2023 13:05
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	19-Jun-2023 13:05
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	19-Jun-2023 13:05
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*1*	*19-Jun-2023 13:05*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*1*	*19-Jun-2023 13:05*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*1*	*19-Jun-2023 13:05*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*19-Jun-2023 13:05*

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

ALS Houston, US Date: 28-Jun-23

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

Batch ID: 195305 **Start Date:** 16 Jun 2023 12:10 **End Date:** 16 Jun 2023 12:10
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23060999-02	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060999-03	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060999-04	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060999-05	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060999-06	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat
HS23060999-07	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 196608 **Start Date:** 22 Jun 2023 14:30 **End Date:** 22 Jun 2023 14:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23060999-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-07		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 196820 **Start Date:** 27 Jun 2023 11:00 **End Date:** 27 Jun 2023 11:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23060999-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23060999-07		10 (mL)	10 (mL)	1	120 plastic HNO3

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 195305 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Groundwater	
HS23060999-02	18CPTMW03SW_061323	13 Jun 2023 07:35		16 Jun 2023 12:10	19 Jun 2023 15:20	1
HS23060999-03	120_061323	13 Jun 2023 09:30		16 Jun 2023 12:10	19 Jun 2023 17:45	1000
HS23060999-04	MW14_061323	13 Jun 2023 10:20		16 Jun 2023 12:10	19 Jun 2023 18:03	100
HS23060999-05	18CPTMW22DW_061323	13 Jun 2023 11:10		16 Jun 2023 12:10	19 Jun 2023 16:14	1
HS23060999-06	18CPTMW22R_061323	13 Jun 2023 11:50		16 Jun 2023 12:10	19 Jun 2023 16:32	1
HS23060999-07	18CPTMW22SW_061323	13 Jun 2023 12:30		16 Jun 2023 12:10	19 Jun 2023 16:50	1
Batch ID: 196608 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS23060999-01	102_061323	13 Jun 2023 06:50		22 Jun 2023 14:30	28 Jun 2023 17:03	1
HS23060999-02	18CPTMW03SW_061323	13 Jun 2023 07:35		22 Jun 2023 14:30	28 Jun 2023 18:15	20
HS23060999-02	18CPTMW03SW_061323	13 Jun 2023 07:35		22 Jun 2023 14:30	28 Jun 2023 17:05	1
HS23060999-04	MW14_061323	13 Jun 2023 10:20		22 Jun 2023 14:30	28 Jun 2023 18:17	20
HS23060999-04	MW14_061323	13 Jun 2023 10:20		22 Jun 2023 14:30	28 Jun 2023 17:07	1
HS23060999-05	18CPTMW22DW_061323	13 Jun 2023 11:10		22 Jun 2023 14:30	28 Jun 2023 18:19	20
HS23060999-05	18CPTMW22DW_061323	13 Jun 2023 11:10		22 Jun 2023 14:30	28 Jun 2023 17:09	1
HS23060999-06	18CPTMW22R_061323	13 Jun 2023 11:50		22 Jun 2023 14:30	28 Jun 2023 17:10	1
HS23060999-07	18CPTMW22SW_061323	13 Jun 2023 12:30		22 Jun 2023 14:30	28 Jun 2023 18:21	20
HS23060999-07	18CPTMW22SW_061323	13 Jun 2023 12:30		22 Jun 2023 14:30	28 Jun 2023 17:12	1
Batch ID: 196820 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Groundwater	
HS23060999-01	102_061323	13 Jun 2023 06:50		27 Jun 2023 11:00	27 Jun 2023 19:58	1
HS23060999-02	18CPTMW03SW_061323	13 Jun 2023 07:35		27 Jun 2023 11:00	27 Jun 2023 20:00	1
HS23060999-04	MW14_061323	13 Jun 2023 10:20		27 Jun 2023 11:00	27 Jun 2023 20:09	1
HS23060999-05	18CPTMW22DW_061323	13 Jun 2023 11:10		27 Jun 2023 11:00	27 Jun 2023 20:11	1
HS23060999-06	18CPTMW22R_061323	13 Jun 2023 11:50		27 Jun 2023 11:00	27 Jun 2023 20:20	1
HS23060999-07	18CPTMW22SW_061323	13 Jun 2023 12:30		27 Jun 2023 11:00	27 Jun 2023 20:21	1
Batch ID: R439205 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS23060999-01	102_061323	13 Jun 2023 06:50			17 Jun 2023 19:20	1
HS23060999-02	18CPTMW03SW_061323	13 Jun 2023 07:35			17 Jun 2023 19:41	1
HS23060999-05	18CPTMW22DW_061323	13 Jun 2023 11:10			17 Jun 2023 20:02	1
HS23060999-06	18CPTMW22R_061323	13 Jun 2023 11:50			17 Jun 2023 20:23	1
Batch ID: R439273 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS23060999-08	Trip Blank	13 Jun 2023 00:00			19 Jun 2023 13:05	1
Batch ID: R439273 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS23060999-03	120_061323	13 Jun 2023 09:30			19 Jun 2023 15:33	250
HS23060999-03	120_061323	13 Jun 2023 09:30			19 Jun 2023 14:29	25
HS23060999-04	MW14_061323	13 Jun 2023 10:20			19 Jun 2023 14:08	100
HS23060999-04	MW14_061323	13 Jun 2023 10:20			19 Jun 2023 13:47	10
HS23060999-07	18CPTMW22SW_061323	13 Jun 2023 12:30			19 Jun 2023 13:26	1

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R440102 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS23060999-01	102_061323	13 Jun 2023 06:50			28 Jun 2023 13:51	1
HS23060999-02	18CPTMW03SW_061323	13 Jun 2023 07:35			28 Jun 2023 13:51	1
HS23060999-03	120_061323	13 Jun 2023 09:30			28 Jun 2023 13:51	1
HS23060999-04	MW14_061323	13 Jun 2023 10:20			28 Jun 2023 13:51	1
HS23060999-05	18CPTMW22DW_061323	13 Jun 2023 11:10			28 Jun 2023 13:51	1
HS23060999-06	18CPTMW22R_061323	13 Jun 2023 11:50			28 Jun 2023 13:51	1
HS23060999-07	18CPTMW22SW_061323	13 Jun 2023 12:30			28 Jun 2023 13:51	1

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 196608 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-196608** Units: **mg/L** Analysis Date: **28-Jun-2023 16:37**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391179** PrepDate: **22-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.00500	0.0100								U
Antimony	0.00125	0.00500								U
Arsenic	0.00125	0.00500								U
Barium	0.00250	0.00500								U
Beryllium	0.000500	0.00200								U
Cadmium	0.000500	0.00200								U
Calcium	0.0500	0.500								U
Chromium	0.00125	0.00500								U
Cobalt	0.000500	0.00500								U
Copper	0.00250	0.00500								U
Iron	0.0500	0.200								U
Lead	0.00125	0.00500								U
Magnesium	0.0500	0.200								U
Manganese	0.00250	0.00500								U
Nickel	0.00125	0.00500								U
Potassium	1.00	0.200								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U
Sodium	0.1797	0.200								J
Thallium	0.000500	0.00200								U
Vanadium	0.00125	0.00500								U
Zinc	0.00250	0.00500								U

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 196608 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

LCS Sample ID: **LCS-196608** Units: **mg/L** Analysis Date: **28-Jun-2023 16:39**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391180** PrepDate: **22-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1025	0.0100	0.1	0	102	84 - 117				
Antimony	0.04749	0.00500	0.05	0	95.0	85 - 117				
Arsenic	0.04748	0.00500	0.05	0	95.0	84 - 116				
Barium	0.04561	0.00500	0.05	0	91.2	86 - 114				
Beryllium	0.04748	0.00200	0.05	0	95.0	83 - 121				
Cadmium	0.04639	0.00200	0.05	0	92.8	87 - 115				
Calcium	4.818	0.500	5	0	96.4	87 - 118				
Chromium	0.04652	0.00500	0.05	0	93.0	85 - 116				
Cobalt	0.04668	0.00500	0.05	0	93.4	86 - 115				
Copper	0.05547	0.00500	0.05	0	111	85 - 118				
Iron	4.746	0.200	5	0	94.9	87 - 118				
Lead	0.04629	0.00500	0.05	0	92.6	88 - 115				
Magnesium	4.964	0.200	5	0	99.3	83 - 118				
Manganese	0.04664	0.00500	0.05	0	93.3	87 - 115				
Nickel	0.0475	0.00500	0.05	0	95.0	85 - 117				
Potassium	4.778	0.200	5	0	95.6	87 - 115				
Selenium	0.04732	0.00500	0.05	0	94.6	80 - 120				
Silver	0.04641	0.00500	0.05	0	92.8	85 - 116				
Sodium	5.042	0.200	5	0	101	85 - 117				
Vanadium	0.04528	0.00500	0.05	0	90.6	86 - 115				
Zinc	0.05419	0.00500	0.05	0	108	83 - 119				

LCS Sample ID: **LCS-196608** Units: **mg/L** Analysis Date: **28-Jun-2023 17:56**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391298** PrepDate: **22-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Thallium	0.04315	0.00200	0.05	0	86.3	82 - 116				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 196608 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MS Sample ID: **HS23060722-06MS** Units: **mg/L** Analysis Date: **28-Jun-2023 16:45**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391183** PrepDate: **22-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1304	0.0100	0.1	0.03528	95.1	84 - 117				
Antimony	0.04862	0.00500	0.05	0.000022	97.2	85 - 117				
Arsenic	0.04958	0.00500	0.05	0.000466	98.2	84 - 116				
Barium	0.07556	0.00500	0.05	0.0284	94.3	86 - 114				
Beryllium	0.05086	0.00200	0.05	0.000059	102	83 - 121				
Cadmium	0.04531	0.00200	0.05	0.000128	90.4	87 - 115				
Calcium	133.3	0.500	5	139.1	-117	87 - 118				SO
Chromium	0.05111	0.00500	0.05	0.005369	91.5	85 - 116				
Cobalt	0.04919	0.00500	0.05	0.002226	93.9	86 - 115				
Copper	0.04826	0.00500	0.05	0.001363	93.8	85 - 118				
Iron	4.979	0.200	5	0.1498	96.6	87 - 118				
Lead	0.04611	0.00500	0.05	0.000089	92.0	88 - 115				
Magnesium	67.95	0.200	5	68.53	-11.7	83 - 118				SO
Manganese	0.3914	0.00500	0.05	0.369	44.7	87 - 115				SO
Nickel	0.08592	0.00500	0.05	0.04403	83.8	85 - 117				S
Potassium	5.514	0.200	5	0.8914	92.5	87 - 115				
Selenium	0.04988	0.00500	0.05	-0.000259	100	80 - 120				
Silver	0.04365	0.00500	0.05	-0.000053	87.4	85 - 116				
Sodium	351	0.200	5	371.8	-417	85 - 117				SEO
Thallium	0.04167	0.00200	0.05	0.000629	82.1	82 - 116				
Vanadium	0.0502	0.00500	0.05	0.00278	94.8	86 - 115				
Zinc	0.05183	0.00500	0.05	0.00379	96.1	83 - 119				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 196608 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MSD Sample ID: **HS23060722-06MSD** Units: **mg/L** Analysis Date: **28-Jun-2023 16:47**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391184** PrepDate: **22-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1264	0.0100	0.1	0.03528	91.2	84 - 117	0.1304	3.08	20	
Antimony	0.04723	0.00500	0.05	0.000022	94.4	85 - 117	0.04862	2.9	20	
Arsenic	0.04882	0.00500	0.05	0.000466	96.7	84 - 116	0.04958	1.54	20	
Barium	0.07688	0.00500	0.05	0.0284	97.0	86 - 114	0.07556	1.73	20	
Beryllium	0.04991	0.00200	0.05	0.000059	99.7	83 - 121	0.05086	1.89	20	
Cadmium	0.04775	0.00200	0.05	0.000128	95.2	87 - 115	0.04531	5.25	20	
Calcium	132.2	0.500	5	139.1	-139	87 - 118	133.3	0.832	20	SO
Chromium	0.05008	0.00500	0.05	0.005369	89.4	85 - 116	0.05111	2.03	20	
Cobalt	0.04774	0.00500	0.05	0.002226	91.0	86 - 115	0.04919	2.98	20	
Copper	0.04753	0.00500	0.05	0.001363	92.3	85 - 118	0.04826	1.53	20	
Iron	4.837	0.200	5	0.1498	93.7	87 - 118	4.979	2.89	20	
Lead	0.04661	0.00500	0.05	0.000089	93.0	88 - 115	0.04611	1.1	20	
Magnesium	66.94	0.200	5	68.53	-31.8	83 - 118	67.95	1.49	20	SO
Manganese	0.3823	0.00500	0.05	0.369	26.6	87 - 115	0.3914	2.33	20	SO
Nickel	0.08483	0.00500	0.05	0.04403	81.6	85 - 117	0.08592	1.27	20	S
Potassium	5.402	0.200	5	0.8914	90.2	87 - 115	5.514	2.06	20	
Selenium	0.04792	0.00500	0.05	-0.000259	96.4	80 - 120	0.04988	4	20	
Silver	0.04425	0.00500	0.05	-0.000053	88.6	85 - 116	0.04365	1.38	20	
Sodium	343.9	0.200	5	371.8	-558	85 - 117	351	2.03	20	SEO
Thallium	0.04292	0.00200	0.05	0.000629	84.6	82 - 116	0.04167	2.95	20	
Vanadium	0.04905	0.00500	0.05	0.00278	92.5	86 - 115	0.0502	2.32	20	
Zinc	0.05008	0.00500	0.05	0.00379	92.6	83 - 119	0.05183	3.43	20	

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 196608 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS23060722-06PDS** Units: **mg/L** Analysis Date: **28-Jun-2023 16:49**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391185** PrepDate: **22-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1267	0.0100	0.1	0.03528	91.4	80 - 120				
Antimony	0.09682	0.00500	0.1	0.000022	96.8	80 - 120				
Arsenic	0.09754	0.00500	0.1	0.000466	97.1	80 - 120				
Barium	0.1233	0.00500	0.1	0.0284	94.9	80 - 120				
Beryllium	0.1033	0.00200	0.1	0.000059	103	80 - 120				
Cadmium	0.09369	0.00200	0.1	0.000128	93.6	80 - 120				
Chromium	0.098	0.00500	0.1	0.005369	92.6	80 - 120				
Cobalt	0.09494	0.00500	0.1	0.002226	92.7	80 - 120				
Copper	0.09394	0.00500	0.1	0.001363	92.6	80 - 120				
Iron	9.75	0.200	10	0.1498	96.0	80 - 120				
Lead	0.09498	0.00500	0.1	0.000089	94.9	80 - 120				
Potassium	10.21	0.200	10	0.8914	93.2	80 - 120				
Selenium	0.09654	0.00500	0.1	-0.000259	96.8	80 - 120				
Silver	0.09288	0.00500	0.1	-0.000053	92.9	80 - 120				
Thallium	0.08824	0.00200	0.1	0.000629	87.6	80 - 120				
Vanadium	0.09786	0.00500	0.1	0.00278	95.1	80 - 120				
Zinc	0.09871	0.00500	0.1	0.00379	94.9	80 - 120				

PDS Sample ID: **HS23060722-06PDS** Units: **mg/L** Analysis Date: **28-Jun-2023 18:06**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391303** PrepDate: **22-Jun-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	179.7	2.50	50	129.1	101	80 - 120				
Magnesium	111.1	1.00	50	63.39	95.5	80 - 120				
Manganese	0.8288	0.0250	0.5	0.3473	96.3	80 - 120				
Nickel	0.522	0.0250	0.5	0.03966	96.5	80 - 120				
Sodium	394.5	1.00	50	342.4	104	80 - 120				O

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 196608 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

SD Sample ID: **HS23060722-06SD** Units: **mg/L** Analysis Date: **28-Jun-2023 16:43**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391182** PrepDate: **22-Jun-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.02923	0.0500					0.03528	0	10	J
Antimony	0.00625	0.0250					0.000022	0	10	U
Arsenic	0.00625	0.0250					0.000466	0	10	U
Barium	0.02805	0.0250					0.0284	1.25	10	
Beryllium	0.00250	0.0100					0.000059	0	10	U
Cadmium	0.00250	0.0100					0.000128	0	10	U
Chromium	0.004374	0.0250					0.005369	0	10	J
Cobalt	0.001953	0.0250					0.002226	0	10	J
Copper	0.0125	0.0250					0.001363	0	10	U
Iron	0.0983	1.00					0.1498	0	10	J
Lead	0.00625	0.0250					0.000089	0	10	U
Potassium	0.5781	1.00					0.8914	0	10	J
Selenium	0.0125	0.0250					-0.000259	0	10	U
Silver	0.00250	0.0250					-0.000053	0	10	U
Thallium	0.00250	0.0100					0.000629	0	10	U
Vanadium	0.01835	0.0250					0.00278	0	10	J
Zinc	0.0125	0.0250					0.00379	0	10	U

SD Sample ID: **HS23060722-06SD** Units: **mg/L** Analysis Date: **28-Jun-2023 18:00**
Client ID: Run ID: **ICPMS06_440069** SeqNo: **7391300** PrepDate: **22-Jun-2023** DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Calcium	130.7	12.5					129.1	1.25	10	
Magnesium	65.32	5.00					63.39	3.06	10	
Manganese	0.3492	0.125					0.3473	0.555	10	
Nickel	0.0374	0.125					0.03966	0	10	J
Sodium	353.8	5.00					342.4	3.33	10	

The following samples were analyzed in this batch: HS23060999-01 HS23060999-02 HS23060999-04 HS23060999-05 HS23060999-06 HS23060999-07

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 196820 (0) **Instrument: HG04** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-196820** Units: **mg/L** Analysis Date: **27-Jun-2023 19:35**
Client ID: Run ID: **HG04_440017** SeqNo: **7388460** PrepDate: **27-Jun-2023** DF: **1**

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

LCS Sample ID: **LCS-196820** Units: **mg/L** Analysis Date: **27-Jun-2023 19:56**
Client ID: Run ID: **HG04_440017** SeqNo: **7388461** PrepDate: **27-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00503	0.000200	0.005	0	101	82 - 119				

MS Sample ID: **HS23060999-02MS** Units: **mg/L** Analysis Date: **27-Jun-2023 20:03**
Client ID: **18CPTMW03SW_061323** Run ID: **HG04_440017** SeqNo: **7388464** PrepDate: **27-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.000200	0.005	-0.00001100	99.6	82 - 119				

MSD Sample ID: **HS23060999-02MSD** Units: **mg/L** Analysis Date: **27-Jun-2023 20:07**
Client ID: **18CPTMW03SW_061323** Run ID: **HG04_440017** SeqNo: **7388465** PrepDate: **27-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00499	0.000200	0.005	-0.00001100	100	82 - 119	0.004970	0.402	20	

The following samples were analyzed in this batch: HS23060999-01 HS23060999-02 HS23060999-04 HS23060999-05 HS23060999-06 HS23060999-07

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: 195305 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-195305** Units: **ug/L** Analysis Date: **19-Jun-2023 12:38**
Client ID: Run ID: **SV-6_439307** SeqNo: **7371873** PrepDate: **16-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.0050	0.030								U
Surr: 2-Fluorobiphenyl	*0.08836*	*0*	*0.08*	*0*	*110*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08665*	*0*	*0.08*	*0*	*108*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.0821*	*0*	*0.08*	*0*	*103*	*40 - 140*				

LCS Sample ID: **LCS1-195305** Units: **ug/L** Analysis Date: **19-Jun-2023 12:56**
Client ID: Run ID: **SV-6_439307** SeqNo: **7371874** PrepDate: **16-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07743	0.030	0.08	0	96.8	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08727*	*0*	*0.08*	*0*	*109*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08357*	*0*	*0.08*	*0*	*104*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.07742*	*0*	*0.08*	*0*	*96.8*	*40 - 140*				

LCSD Sample ID: **LCSD1-195305** Units: **ug/L** Analysis Date: **19-Jun-2023 13:14**
Client ID: Run ID: **SV-6_439307** SeqNo: **7371875** PrepDate: **16-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07928	0.030	0.08	0	99.1	40 - 140	0.07743	2.35	20	
Surr: 2-Fluorobiphenyl	*0.08954*	*0*	*0.08*	*0*	*112*	*40 - 140*	*0.08727*	*2.57*	*20*	
Surr: 4-Terphenyl-d14	*0.08768*	*0*	*0.08*	*0*	*110*	*40 - 140*	*0.08357*	*4.79*	*20*	
Surr: Nitrobenzene-d5	*0.07887*	*0*	*0.08*	*0*	*98.6*	*40 - 140*	*0.07742*	*1.86*	*20*	

The following samples were analyzed in this batch: HS23060999-02 HS23060999-03 HS23060999-04 HS23060999-05 HS23060999-06 HS23060999-07

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 13:23**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369574** PrepDate: DF: **1**

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 13:23**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369574** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	0.50	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	0.50	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*51.46*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.92*	*1.0*	*50*	*0*	*97.8*	*85 - 114*				
Surr: Dibromofluoromethane	*50.82*	*1.0*	*50*	*0*	*102*	*80 - 119*				
Surr: Toluene-d8	*53.41*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 12:40**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369573** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.12	1.0	20	0	95.6	78 - 124				
1,1,1-Trichloroethane	19.15	1.0	20	0	95.7	74 - 131				
1,1,2,2-Tetrachloroethane	18.86	1.0	20	0	94.3	71 - 121				
1,1,2-Trichloroethane	19.18	1.0	20	0	95.9	80 - 119				
1,1-Dichloroethane	19.68	1.0	20	0	98.4	77 - 125				
1,1-Dichloroethene	18.91	1.0	20	0	94.6	71 - 131				
1,1-Dichloropropene	19.35	1.0	20	0	96.7	78 - 125				
1,2,3-Trichlorobenzene	19.91	1.0	20	0	99.6	69 - 129				
1,2,3-Trichloropropane	20.1	1.0	20	0	101	73 - 122				
1,2,4-Trichlorobenzene	19.27	1.0	20	0	96.3	69 - 130				
1,2,4-Trimethylbenzene	19.42	1.0	20	0	97.1	76 - 124				
1,2-Dibromo-3-chloropropane	20.01	1.0	20	0	100	62 - 128				
1,2-Dibromoethane	19.49	1.0	20	0	97.4	77 - 121				
1,2-Dichlorobenzene	19.13	1.0	20	0	95.6	80 - 119				
1,2-Dichloroethane	20.27	1.0	20	0	101	73 - 128				
1,2-Dichloropropane	19.87	1.0	20	0	99.3	78 - 122				
1,3,5-Trimethylbenzene	19.19	1.0	20	0	95.9	75 - 124				
1,3-Dichlorobenzene	18.98	1.0	20	0	94.9	80 - 119				
1,3-Dichloropropane	19.64	1.0	20	0	98.2	80 - 119				
1,4-Dichlorobenzene	18.82	1.0	20	0	94.1	79 - 118				
2,2-Dichloropropane	21.02	1.0	20	0	105	60 - 139				
2-Butanone	36.49	2.0	40	0	91.2	56 - 143				
2-Chlorotoluene	19.13	1.0	20	0	95.6	79 - 122				
2-Hexanone	41.8	2.0	40	0	105	57 - 139				
4-Chlorotoluene	19.81	1.0	20	0	99.0	78 - 122				
4-Isopropyltoluene	19.11	1.0	20	0	95.5	77 - 127				
4-Methyl-2-pentanone	39.82	2.0	40	0	99.6	67 - 130				
Acetone	36.87	2.0	40	0	92.2	39 - 160				
Benzene	19.05	1.0	20	0	95.3	79 - 120				
Bromobenzene	18.64	1.0	20	0	93.2	80 - 120				
Bromochloromethane	19.56	1.0	20	0	97.8	78 - 123				
Bromodichloromethane	19.21	1.0	20	0	96.1	79 - 125				
Bromoform	18.99	1.0	20	0	94.9	66 - 130				
Bromomethane	20.25	1.0	20	0	101	53 - 141				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230617** Units: **ug/L** Analysis Date: **17-Jun-2023 12:40**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369573** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	37.45	2.0	40	0	93.6	64 - 133				
Carbon tetrachloride	18.74	1.0	20	0	93.7	72 - 136				
Chlorobenzene	19.48	1.0	20	0	97.4	82 - 118				
Chloroethane	20.93	1.0	20	0	105	60 - 138				
Chloroform	19.27	1.0	20	0	96.4	79 - 124				
Chloromethane	20.82	1.0	20	0	104	50 - 139				
cis-1,2-Dichloroethene	19.37	1.0	20	0	96.8	78 - 123				
cis-1,3-Dichloropropene	19.89	1.0	20	0	99.5	75 - 124				
Dibromochloromethane	19.35	1.0	20	0	96.8	74 - 126				
Dibromomethane	19.87	1.0	20	0	99.3	79 - 123				
Dichlorodifluoromethane	19.87	1.0	20	0	99.4	32 - 152				
Ethylbenzene	19.08	1.0	20	0	95.4	79 - 121				
Hexachlorobutadiene	18.29	1.0	20	0	91.5	66 - 134				
Isopropylbenzene	19.19	1.0	20	0	95.9	72 - 131				
m,p-Xylene	39.74	2.0	40	0	99.4	80 - 121				
Methylene chloride	19.29	2.0	20	0	96.4	74 - 124				
Naphthalene	19.76	1.0	20	0	98.8	61 - 128				
n-Butylbenzene	20.02	1.0	20	0	100	75 - 128				
n-Propylbenzene	19.5	1.0	20	0	97.5	76 - 126				
o-Xylene	19.28	1.0	20	0	96.4	78 - 122				
sec-Butylbenzene	18.75	1.0	20	0	93.7	77 - 126				
Styrene	19.92	1.0	20	0	99.6	78 - 123				
tert-Butylbenzene	18.77	1.0	20	0	93.9	78 - 124				
Tetrachloroethene	18.59	1.0	20	0	93.0	74 - 129				
Toluene	19.64	1.0	20	0	98.2	80 - 121				
trans-1,2-Dichloroethene	18.78	1.0	20	0	93.9	75 - 124				
trans-1,3-Dichloropropene	19.98	1.0	20	0	99.9	73 - 127				
Trichloroethene	18.91	1.0	20	0	94.6	79 - 123				
Trichlorofluoromethane	19.71	1.0	20	0	98.5	65 - 141				
Vinyl chloride	19.32	1.0	20	0	96.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*55.25*	*1.0*	*50*	*0*	*111*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.77*	*1.0*	*50*	*0*	*106*	*85 - 114*				
Surr: Dibromofluoromethane	*54.46*	*1.0*	*50*	*0*	*109*	*80 - 119*				
Surr: Toluene-d8	*50.42*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23060722-05MS** Units: **ug/L** Analysis Date: **17-Jun-2023 14:26**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369577** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.13	1.0	20	0	111	78 - 124				
1,1,1-Trichloroethane	21.53	1.0	20	0	108	74 - 131				
1,1,2,2-Tetrachloroethane	22.27	1.0	20	0	111	71 - 121				
1,1,2-Trichloroethane	22.32	1.0	20	0	112	80 - 119				
1,1-Dichloroethane	26.73	1.0	20	5.87	104	77 - 125				
1,1-Dichloroethene	50.29	1.0	20	28.53	109	71 - 131				
1,1-Dichloropropene	23.42	1.0	20	0	117	78 - 125				
1,2,3-Trichlorobenzene	22.81	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	23.28	1.0	20	0	116	73 - 122				
1,2,4-Trichlorobenzene	23.53	1.0	20	0	118	69 - 130				
1,2,4-Trimethylbenzene	24.35	1.0	20	0	122	76 - 124				
1,2-Dibromo-3-chloropropane	23.23	1.0	20	0	116	62 - 128				
1,2-Dibromoethane	22.39	1.0	20	0	112	77 - 121				
1,2-Dichlorobenzene	23	1.0	20	0	115	80 - 119				
1,2-Dichloroethane	22.52	1.0	20	0	113	73 - 128				
1,2-Dichloropropane	21.79	1.0	20	0	109	78 - 122				
1,3,5-Trimethylbenzene	24.53	1.0	20	0	123	75 - 124				
1,3-Dichlorobenzene	23.44	1.0	20	0	117	80 - 119				
1,3-Dichloropropane	22.9	1.0	20	0	115	80 - 119				
1,4-Dichlorobenzene	22.91	1.0	20	0	115	79 - 118				
2,2-Dichloropropane	23.8	1.0	20	0	119	60 - 139				
2-Butanone	35.54	2.0	40	0	88.8	56 - 143				
2-Chlorotoluene	24.19	1.0	20	0	121	79 - 122				
2-Hexanone	47.34	2.0	40	0	118	57 - 139				
4-Chlorotoluene	24.54	1.0	20	0	123	78 - 122				S
4-Isopropyltoluene	25.14	1.0	20	0	126	77 - 127				
4-Methyl-2-pentanone	47.74	2.0	40	0	119	67 - 130				
Acetone	34.24	2.0	40	0	85.6	39 - 160				
Benzene	21.98	1.0	20	0	110	79 - 120				
Bromobenzene	22.55	1.0	20	0	113	80 - 120				
Bromochloromethane	19.53	1.0	20	0	97.7	78 - 123				
Bromodichloromethane	21.12	1.0	20	0	106	79 - 125				
Bromoform	21.24	1.0	20	0	106	66 - 130				
Bromomethane	20.15	1.0	20	0	101	53 - 141				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23060722-05MS** Units: **ug/L** Analysis Date: **17-Jun-2023 14:26**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369577** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.11	2.0	40	0	97.8	64 - 133				
Carbon tetrachloride	23.31	1.0	20	0	117	72 - 136				
Chlorobenzene	22.88	1.0	20	0	114	82 - 118				
Chloroethane	21.98	1.0	20	0	110	60 - 138				
Chloroform	20.12	1.0	20	0	101	79 - 124				
Chloromethane	21.19	1.0	20	0	106	50 - 139				
cis-1,2-Dichloroethene	20.78	1.0	20	0	104	78 - 123				
cis-1,3-Dichloropropene	21.58	1.0	20	0	108	75 - 124				
Dibromochloromethane	22.04	1.0	20	0	110	74 - 126				
Dibromomethane	21.53	1.0	20	0	108	79 - 123				
Dichlorodifluoromethane	21.09	1.0	20	0	105	32 - 152				
Ethylbenzene	23.49	1.0	20	0	117	79 - 121				
Hexachlorobutadiene	24.33	1.0	20	0	122	66 - 134				
Isopropylbenzene	24.24	1.0	20	0	121	72 - 131				
m,p-Xylene	47.9	2.0	40	0	120	80 - 121				
Methylene chloride	18.89	2.0	20	0	94.4	74 - 124				
Naphthalene	23.12	1.0	20	0	116	61 - 128				
n-Butylbenzene	26.53	1.0	20	0	133	75 - 128				S
n-Propylbenzene	25.61	1.0	20	0	128	76 - 126				S
o-Xylene	23.05	1.0	20	0	115	78 - 122				
sec-Butylbenzene	25.39	1.0	20	0	127	77 - 126				S
Styrene	23.01	1.0	20	0	115	78 - 123				
tert-Butylbenzene	24.95	1.0	20	0	125	78 - 124				S
Tetrachloroethene	24.07	1.0	20	0	120	74 - 129				
Toluene	23.37	1.0	20	0	117	80 - 121				
trans-1,2-Dichloroethene	20.39	1.0	20	0	102	75 - 124				
trans-1,3-Dichloropropene	21.94	1.0	20	0	110	73 - 127				
Trichloroethene	22.02	1.0	20	0	110	79 - 123				
Trichlorofluoromethane	23.23	1.0	20	0	116	65 - 141				
Vinyl chloride	22	1.0	20	0	110	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.68*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.96*	*1.0*	*50*	*0*	*97.9*	*85 - 114*				
Surr: Dibromofluoromethane	*49.14*	*1.0*	*50*	*0*	*98.3*	*80 - 119*				
Surr: Toluene-d8	*52.94*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23060722-05MSD** Units: **ug/L** Analysis Date: **17-Jun-2023 14:47**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369578** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.8	1.0	20	0	109	78 - 124	22.13	1.51	20	
1,1,1-Trichloroethane	21.66	1.0	20	0	108	74 - 131	21.53	0.593	20	
1,1,2,2-Tetrachloroethane	22.9	1.0	20	0	114	71 - 121	22.27	2.78	20	
1,1,2-Trichloroethane	22.11	1.0	20	0	111	80 - 119	22.32	0.947	20	
1,1-Dichloroethane	26.49	1.0	20	5.87	103	77 - 125	26.73	0.923	20	
1,1-Dichloroethene	47.7	1.0	20	28.53	95.9	71 - 131	50.29	5.27	20	
1,1-Dichloropropene	22.72	1.0	20	0	114	78 - 125	23.42	3.01	20	
1,2,3-Trichlorobenzene	23.72	1.0	20	0	119	69 - 129	22.81	3.91	20	
1,2,3-Trichloropropane	25.69	1.0	20	0	128	73 - 122	23.28	9.83	20	S
1,2,4-Trichlorobenzene	23.43	1.0	20	0	117	69 - 130	23.53	0.446	20	
1,2,4-Trimethylbenzene	24.1	1.0	20	0	121	76 - 124	24.35	1.01	20	
1,2-Dibromo-3-chloropropane	23.35	1.0	20	0	117	62 - 128	23.23	0.524	20	
1,2-Dibromoethane	22.47	1.0	20	0	112	77 - 121	22.39	0.383	20	
1,2-Dichlorobenzene	23.24	1.0	20	0	116	80 - 119	23	1.04	20	
1,2-Dichloroethane	22.37	1.0	20	0	112	73 - 128	22.52	0.668	20	
1,2-Dichloropropane	21.88	1.0	20	0	109	78 - 122	21.79	0.413	20	
1,3,5-Trimethylbenzene	24.64	1.0	20	0	123	75 - 124	24.53	0.448	20	
1,3-Dichlorobenzene	23.09	1.0	20	0	115	80 - 119	23.44	1.49	20	
1,3-Dichloropropane	22.86	1.0	20	0	114	80 - 119	22.9	0.179	20	
1,4-Dichlorobenzene	22.58	1.0	20	0	113	79 - 118	22.91	1.45	20	
2,2-Dichloropropane	23.33	1.0	20	0	117	60 - 139	23.8	1.99	20	
2-Butanone	40.91	2.0	40	0	102	56 - 143	35.54	14	20	
2-Chlorotoluene	23.72	1.0	20	0	119	79 - 122	24.19	1.96	20	
2-Hexanone	48.78	2.0	40	0	122	57 - 139	47.34	3.01	20	
4-Chlorotoluene	24.53	1.0	20	0	123	78 - 122	24.54	0.0422	20	S
4-Isopropyltoluene	24.91	1.0	20	0	125	77 - 127	25.14	0.914	20	
4-Methyl-2-pentanone	48.23	2.0	40	0	121	67 - 130	47.74	1.03	20	
Acetone	35.79	2.0	40	0	89.5	39 - 160	34.24	4.43	20	
Benzene	21.51	1.0	20	0	108	79 - 120	21.98	2.2	20	
Bromobenzene	22.93	1.0	20	0	115	80 - 120	22.55	1.67	20	
Bromochloromethane	19.88	1.0	20	0	99.4	78 - 123	19.53	1.78	20	
Bromodichloromethane	20.95	1.0	20	0	105	79 - 125	21.12	0.827	20	
Bromoform	21.85	1.0	20	0	109	66 - 130	21.24	2.84	20	
Bromomethane	20.23	1.0	20	0	101	53 - 141	20.15	0.366	20	

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439205 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23060722-05MSD** Units: **ug/L** Analysis Date: **17-Jun-2023 14:47**
Client ID: Run ID: **VOA6_439205** SeqNo: **7369578** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	38.18	2.0	40	0	95.4	64 - 133	39.11	2.42	20	
Carbon tetrachloride	22.81	1.0	20	0	114	72 - 136	23.31	2.15	20	
Chlorobenzene	22.33	1.0	20	0	112	82 - 118	22.88	2.43	20	
Chloroethane	21.24	1.0	20	0	106	60 - 138	21.98	3.45	20	
Chloroform	20.03	1.0	20	0	100	79 - 124	20.12	0.453	20	
Chloromethane	21.29	1.0	20	0	106	50 - 139	21.19	0.467	20	
cis-1,2-Dichloroethene	20.67	1.0	20	0	103	78 - 123	20.78	0.519	20	
cis-1,3-Dichloropropene	21.74	1.0	20	0	109	75 - 124	21.58	0.717	20	
Dibromochloromethane	22.03	1.0	20	0	110	74 - 126	22.04	0.0225	20	
Dibromomethane	21.93	1.0	20	0	110	79 - 123	21.53	1.83	20	
Dichlorodifluoromethane	20.93	1.0	20	0	105	32 - 152	21.09	0.772	20	
Ethylbenzene	22.84	1.0	20	0	114	79 - 121	23.49	2.78	20	
Hexachlorobutadiene	24.31	1.0	20	0	122	66 - 134	24.33	0.0778	20	
Isopropylbenzene	23.72	1.0	20	0	119	72 - 131	24.24	2.14	20	
m,p-Xylene	47.36	2.0	40	0	118	80 - 121	47.9	1.13	20	
Methylene chloride	19.15	2.0	20	0	95.8	74 - 124	18.89	1.4	20	
Naphthalene	24.24	1.0	20	0	121	61 - 128	23.12	4.71	20	
n-Butylbenzene	25.9	1.0	20	0	130	75 - 128	26.53	2.38	20	S
n-Propylbenzene	25.19	1.0	20	0	126	76 - 126	25.61	1.65	20	
o-Xylene	22.56	1.0	20	0	113	78 - 122	23.05	2.17	20	
sec-Butylbenzene	24.92	1.0	20	0	125	77 - 126	25.39	1.88	20	
Styrene	22.64	1.0	20	0	113	78 - 123	23.01	1.63	20	
tert-Butylbenzene	24.76	1.0	20	0	124	78 - 124	24.95	0.772	20	
Tetrachloroethene	23.47	1.0	20	0	117	74 - 129	24.07	2.54	20	
Toluene	22.98	1.0	20	0	115	80 - 121	23.37	1.7	20	
trans-1,2-Dichloroethene	20.82	1.0	20	0	104	75 - 124	20.39	2.09	20	
trans-1,3-Dichloropropene	21.46	1.0	20	0	107	73 - 127	21.94	2.24	20	
Trichloroethene	21.83	1.0	20	0	109	79 - 123	22.02	0.848	20	
Trichlorofluoromethane	22.26	1.0	20	0	111	65 - 141	23.23	4.27	20	
Vinyl chloride	21.4	1.0	20	0	107	58 - 137	22	2.74	20	
Surr: 1,2-Dichloroethane-d4	*50.7*	*1.0*	*50*	*0*	*101*	*81 - 118*	*51.68*	*1.92*	*20*	
Surr: 4-Bromofluorobenzene	*49.44*	*1.0*	*50*	*0*	*98.9*	*85 - 114*	*48.96*	*0.991*	*20*	
Surr: Dibromofluoromethane	*49.36*	*1.0*	*50*	*0*	*98.7*	*80 - 119*	*49.14*	*0.442*	*20*	
Surr: Toluene-d8	*52.32*	*1.0*	*50*	*0*	*105*	*89 - 112*	*52.94*	*1.17*	*20*	

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID:	R439205 (0)	Instrument:	VOA6	Method:	VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:	HS23060999-01	HS23060999-02	HS23060999-05	HS23060999-06

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230619** Units: **ug/L** Analysis Date: **19-Jun-2023 12:44**
Client ID: Run ID: **VOA6_439273** SeqNo: **7371042** PrepDate: DF: **1**

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

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-230619** Units: **ug/L** Analysis Date: **19-Jun-2023 12:44**
Client ID: Run ID: **VOA6_439273** SeqNo: **7371042** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	0.50	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	0.50	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*53.13*	*1.0*	*50*	*0*	*106*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.12*	*1.0*	*50*	*0*	*96.2*	*85 - 114*				
Surr: Dibromofluoromethane	*50.32*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*52.28*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230619** Units: **ug/L** Analysis Date: **19-Jun-2023 12:02**
Client ID: Run ID: **VOA6_439273** SeqNo: **7371041** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.46	1.0	20	0	97.3	78 - 124				
1,1,1-Trichloroethane	20.24	1.0	20	0	101	74 - 131				
1,1,2,2-Tetrachloroethane	17.78	1.0	20	0	88.9	71 - 121				
1,1,2-Trichloroethane	19.4	1.0	20	0	97.0	80 - 119				
1,1-Dichloroethane	20.1	1.0	20	0	100	77 - 125				
1,1-Dichloroethene	22.11	1.0	20	0	111	71 - 131				
1,1-Dichloropropene	19.92	1.0	20	0	99.6	78 - 125				
1,2,3-Trichlorobenzene	18.26	1.0	20	0	91.3	69 - 129				
1,2,3-Trichloropropane	18.48	1.0	20	0	92.4	73 - 122				
1,2,4-Trichlorobenzene	18.59	1.0	20	0	92.9	69 - 130				
1,2,4-Trimethylbenzene	19.31	1.0	20	0	96.6	76 - 124				
1,2-Dibromo-3-chloropropane	17.37	1.0	20	0	86.8	62 - 128				
1,2-Dibromoethane	19.7	1.0	20	0	98.5	77 - 121				
1,2-Dichlorobenzene	19.56	1.0	20	0	97.8	80 - 119				
1,2-Dichloroethane	20.49	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	19.68	1.0	20	0	98.4	78 - 122				
1,3,5-Trimethylbenzene	19.38	1.0	20	0	96.9	75 - 124				
1,3-Dichlorobenzene	18.62	1.0	20	0	93.1	80 - 119				
1,3-Dichloropropane	19.51	1.0	20	0	97.6	80 - 119				
1,4-Dichlorobenzene	19.57	1.0	20	0	97.9	79 - 118				
2,2-Dichloropropane	22.44	1.0	20	0	112	60 - 139				
2-Butanone	36.82	2.0	40	0	92.0	56 - 143				
2-Chlorotoluene	18.36	1.0	20	0	91.8	79 - 122				
2-Hexanone	38.03	2.0	40	0	95.1	57 - 139				
4-Chlorotoluene	19.87	1.0	20	0	99.4	78 - 122				
4-Isopropyltoluene	19.49	1.0	20	0	97.5	77 - 127				
4-Methyl-2-pentanone	38.6	2.0	40	0	96.5	67 - 130				
Acetone	44.2	2.0	40	0	110	39 - 160				
Benzene	19.29	1.0	20	0	96.4	79 - 120				
Bromobenzene	18.6	1.0	20	0	93.0	80 - 120				
Bromochloromethane	19.6	1.0	20	0	98.0	78 - 123				
Bromodichloromethane	19.77	1.0	20	0	98.9	79 - 125				
Bromoform	19.2	1.0	20	0	96.0	66 - 130				
Bromomethane	23.18	1.0	20	0	116	53 - 141				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-230619** Units: **ug/L** Analysis Date: **19-Jun-2023 12:02**
Client ID: Run ID: **VOA6_439273** SeqNo: **7371041** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	38.36	2.0	40	0	95.9	64 - 133				
Carbon tetrachloride	19.61	1.0	20	0	98.1	72 - 136				
Chlorobenzene	20.03	1.0	20	0	100	82 - 118				
Chloroethane	22.8	1.0	20	0	114	60 - 138				
Chloroform	19.61	1.0	20	0	98.1	79 - 124				
Chloromethane	23.51	1.0	20	0	118	50 - 139				
cis-1,2-Dichloroethene	19.73	1.0	20	0	98.7	78 - 123				
cis-1,3-Dichloropropene	20.06	1.0	20	0	100	75 - 124				
Dibromochloromethane	19.14	1.0	20	0	95.7	74 - 126				
Dibromomethane	20.31	1.0	20	0	102	79 - 123				
Dichlorodifluoromethane	19.64	1.0	20	0	98.2	32 - 152				
Ethylbenzene	19.5	1.0	20	0	97.5	79 - 121				
Hexachlorobutadiene	19.17	1.0	20	0	95.9	66 - 134				
Isopropylbenzene	19.72	1.0	20	0	98.6	72 - 131				
m,p-Xylene	42.21	2.0	40	0	106	80 - 121				
Methylene chloride	18.94	2.0	20	0	94.7	74 - 124				
Naphthalene	17.78	1.0	20	0	88.9	61 - 128				
n-Butylbenzene	21.17	1.0	20	0	106	75 - 128				
n-Propylbenzene	18.92	1.0	20	0	94.6	76 - 126				
o-Xylene	19.47	1.0	20	0	97.3	78 - 122				
sec-Butylbenzene	18.59	1.0	20	0	92.9	77 - 126				
Styrene	21.13	1.0	20	0	106	78 - 123				
tert-Butylbenzene	18.33	1.0	20	0	91.7	78 - 124				
Tetrachloroethene	19.06	1.0	20	0	95.3	74 - 129				
Toluene	19.74	1.0	20	0	98.7	80 - 121				
trans-1,2-Dichloroethene	19.67	1.0	20	0	98.4	75 - 124				
trans-1,3-Dichloropropene	20.09	1.0	20	0	100	73 - 127				
Trichloroethene	19.58	1.0	20	0	97.9	79 - 123				
Trichlorofluoromethane	22.7	1.0	20	0	114	65 - 141				
Vinyl chloride	22.44	1.0	20	0	112	58 - 137				
Surr: 1,2-Dichloroethane-d4	*55.22*	*1.0*	*50*	*0*	*110*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.51*	*1.0*	*50*	*0*	*105*	*85 - 114*				
Surr: Dibromofluoromethane	*54.95*	*1.0*	*50*	*0*	*110*	*80 - 119*				
Surr: Toluene-d8	*50.49*	*1.0*	*50*	*0*	*101*	*89 - 112*				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23060999-07MS** Units: **ug/L** Analysis Date: **19-Jun-2023 14:50**
Client ID: **18CPTMW22SW_061323** Run ID: **VOA6_439273** SeqNo: **7371048** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.85	1.0	20	0	109	78 - 124				
1,1,1-Trichloroethane	22.67	1.0	20	0	113	74 - 131				
1,1,2,2-Tetrachloroethane	22.01	1.0	20	0	110	71 - 121				
1,1,2-Trichloroethane	21.2	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	20.72	1.0	20	0	104	77 - 125				
1,1-Dichloroethene	24.65	1.0	20	0	123	71 - 131				
1,1-Dichloropropene	23.53	1.0	20	0	118	78 - 125				
1,2,3-Trichlorobenzene	21.92	1.0	20	0	110	69 - 129				
1,2,3-Trichloropropane	22.77	1.0	20	0	114	73 - 122				
1,2,4-Trichlorobenzene	22.31	1.0	20	0	112	69 - 130				
1,2,4-Trimethylbenzene	24.74	1.0	20	0	124	76 - 124				
1,2-Dibromo-3-chloropropane	21.52	1.0	20	0	108	62 - 128				
1,2-Dibromoethane	21.17	1.0	20	0	106	77 - 121				
1,2-Dichlorobenzene	23.26	1.0	20	0	116	80 - 119				
1,2-Dichloroethane	23.28	1.0	20	0	116	73 - 128				
1,2-Dichloropropane	21.5	1.0	20	0	107	78 - 122				
1,3,5-Trimethylbenzene	24.99	1.0	20	0	125	75 - 124				S
1,3-Dichlorobenzene	23.43	1.0	20	0	117	80 - 119				
1,3-Dichloropropane	21.65	1.0	20	0	108	80 - 119				
1,4-Dichlorobenzene	23.31	1.0	20	0	117	79 - 118				
2,2-Dichloropropane	24.11	1.0	20	0	121	60 - 139				
2-Butanone	35.77	2.0	40	0	89.4	56 - 143				
2-Chlorotoluene	24.23	1.0	20	0	121	79 - 122				
2-Hexanone	41.79	2.0	40	0	104	57 - 139				
4-Chlorotoluene	24.96	1.0	20	0	125	78 - 122				S
4-Isopropyltoluene	26.29	1.0	20	0	131	77 - 127				S
4-Methyl-2-pentanone	41	2.0	40	0	103	67 - 130				
Acetone	51.42	2.0	40	15.25	90.4	39 - 160				
Benzene	21.74	1.0	20	0	109	79 - 120				
Bromobenzene	23.21	1.0	20	0	116	80 - 120				
Bromochloromethane	20.1	1.0	20	0	100	78 - 123				
Bromodichloromethane	21.49	1.0	20	0	107	79 - 125				
Bromoform	21.9	1.0	20	0	109	66 - 130				
Bromomethane	23.84	1.0	20	0	119	53 - 141				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS23060999-07MS** Units: **ug/L** Analysis Date: **19-Jun-2023 14:50**
Client ID: **18CPTMW22SW_061323** Run ID: **VOA6_439273** SeqNo: **7371048** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.18	2.0	40	0	97.9	64 - 133				
Carbon tetrachloride	25.01	1.0	20	0	125	72 - 136				
Chlorobenzene	23.71	1.0	20	0	119	82 - 118				S
Chloroethane	25.16	1.0	20	0	126	60 - 138				
Chloroform	20.66	1.0	20	0	103	79 - 124				
Chloromethane	24.72	1.0	20	0	124	50 - 139				
cis-1,2-Dichloroethene	20.64	1.0	20	0	103	78 - 123				
cis-1,3-Dichloropropene	21.4	1.0	20	0	107	75 - 124				
Dibromochloromethane	21.21	1.0	20	0	106	74 - 126				
Dibromomethane	22.01	1.0	20	0	110	79 - 123				
Dichlorodifluoromethane	22.63	1.0	20	0	113	32 - 152				
Ethylbenzene	23.6	1.0	20	0	118	79 - 121				
Hexachlorobutadiene	25.6	1.0	20	0	128	66 - 134				
Isopropylbenzene	25.03	1.0	20	0	125	72 - 131				
m,p-Xylene	50.18	2.0	40	0	125	80 - 121				S
Methylene chloride	18.98	2.0	20	0	94.9	74 - 124				
Naphthalene	21.49	1.0	20	0	107	61 - 128				
n-Butylbenzene	27.93	1.0	20	0	140	75 - 128				S
n-Propylbenzene	26.05	1.0	20	0	130	76 - 126				S
o-Xylene	23.51	1.0	20	0	118	78 - 122				
sec-Butylbenzene	26.46	1.0	20	0	132	77 - 126				S
Styrene	23.96	1.0	20	0	120	78 - 123				
tert-Butylbenzene	25.63	1.0	20	0	128	78 - 124				S
Tetrachloroethene	24.02	1.0	20	0	120	74 - 129				
Toluene	23.73	1.0	20	0	119	80 - 121				
trans-1,2-Dichloroethene	21.4	1.0	20	0	107	75 - 124				
trans-1,3-Dichloropropene	21.68	1.0	20	0	108	73 - 127				
Trichloroethene	23.38	1.0	20	0.8273	113	79 - 123				
Trichlorofluoromethane	26.23	1.0	20	0	131	65 - 141				
Vinyl chloride	25.45	1.0	20	0	127	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.91*	*1.0*	*50*	*0*	*104*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.83*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*50.37*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*52.42*	*1.0*	*50*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23060999-07MSD** Units: **ug/L** Analysis Date: **19-Jun-2023 15:12**
Client ID: **18CPTMW22SW_061323** Run ID: **VOA6_439273** SeqNo: **7371049** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.05	1.0	20	0	100	78 - 124	21.85	8.58	20	
1,1,1-Trichloroethane	20.3	1.0	20	0	102	74 - 131	22.67	11	20	
1,1,2,2-Tetrachloroethane	19.25	1.0	20	0	96.3	71 - 121	22.01	13.3	20	
1,1,2-Trichloroethane	19.72	1.0	20	0	98.6	80 - 119	21.2	7.23	20	
1,1-Dichloroethane	19.11	1.0	20	0	95.5	77 - 125	20.72	8.07	20	
1,1-Dichloroethene	22.29	1.0	20	0	111	71 - 131	24.65	10.1	20	
1,1-Dichloropropene	21.19	1.0	20	0	106	78 - 125	23.53	10.5	20	
1,2,3-Trichlorobenzene	20.89	1.0	20	0	104	69 - 129	21.92	4.8	20	
1,2,3-Trichloropropane	20.04	1.0	20	0	100	73 - 122	22.77	12.8	20	
1,2,4-Trichlorobenzene	20.46	1.0	20	0	102	69 - 130	22.31	8.63	20	
1,2,4-Trimethylbenzene	22.89	1.0	20	0	114	76 - 124	24.74	7.79	20	
1,2-Dibromo-3-chloropropane	18.96	1.0	20	0	94.8	62 - 128	21.52	12.6	20	
1,2-Dibromoethane	19.62	1.0	20	0	98.1	77 - 121	21.17	7.58	20	
1,2-Dichlorobenzene	21.94	1.0	20	0	110	80 - 119	23.26	5.82	20	
1,2-Dichloroethane	21.48	1.0	20	0	107	73 - 128	23.28	8.04	20	
1,2-Dichloropropane	19.76	1.0	20	0	98.8	78 - 122	21.5	8.43	20	
1,3,5-Trimethylbenzene	23.25	1.0	20	0	116	75 - 124	24.99	7.22	20	
1,3-Dichlorobenzene	21.74	1.0	20	0	109	80 - 119	23.43	7.46	20	
1,3-Dichloropropane	20.41	1.0	20	0	102	80 - 119	21.65	5.89	20	
1,4-Dichlorobenzene	21.66	1.0	20	0	108	79 - 118	23.31	7.32	20	
2,2-Dichloropropane	21.66	1.0	20	0	108	60 - 139	24.11	10.7	20	
2-Butanone	31.84	2.0	40	0	79.6	56 - 143	35.77	11.6	20	
2-Chlorotoluene	22.14	1.0	20	0	111	79 - 122	24.23	9.03	20	
2-Hexanone	39.64	2.0	40	0	99.1	57 - 139	41.79	5.28	20	
4-Chlorotoluene	22.93	1.0	20	0	115	78 - 122	24.96	8.47	20	
4-Isopropyltoluene	24.09	1.0	20	0	120	77 - 127	26.29	8.74	20	
4-Methyl-2-pentanone	39.89	2.0	40	0	99.7	67 - 130	41	2.76	20	
Acetone	47.93	2.0	40	15.25	81.7	39 - 160	51.42	7.03	20	
Benzene	19.72	1.0	20	0	98.6	79 - 120	21.74	9.72	20	
Bromobenzene	20.56	1.0	20	0	103	80 - 120	23.21	12.1	20	
Bromochloromethane	18.45	1.0	20	0	92.3	78 - 123	20.1	8.51	20	
Bromodichloromethane	19.9	1.0	20	0	99.5	79 - 125	21.49	7.71	20	
Bromoform	19.31	1.0	20	0	96.5	66 - 130	21.9	12.6	20	
Bromomethane	21.25	1.0	20	0	106	53 - 141	23.84	11.5	20	

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID: R439273 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS23060999-07MSD** Units: **ug/L** Analysis Date: **19-Jun-2023 15:12**
Client ID: **18CPTMW22SW_061323** Run ID: **VOA6_439273** SeqNo: **7371049** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	34.79	2.0	40	0	87.0	64 - 133	39.18	11.9	20	
Carbon tetrachloride	22.02	1.0	20	0	110	72 - 136	25.01	12.7	20	
Chlorobenzene	21.61	1.0	20	0	108	82 - 118	23.71	9.28	20	
Chloroethane	22.58	1.0	20	0	113	60 - 138	25.16	10.8	20	
Chloroform	18.61	1.0	20	0	93.1	79 - 124	20.66	10.4	20	
Chloromethane	22.82	1.0	20	0	114	50 - 139	24.72	7.98	20	
cis-1,2-Dichloroethene	19.15	1.0	20	0	95.7	78 - 123	20.64	7.5	20	
cis-1,3-Dichloropropene	19.86	1.0	20	0	99.3	75 - 124	21.4	7.47	20	
Dibromochloromethane	19.64	1.0	20	0	98.2	74 - 126	21.21	7.68	20	
Dibromomethane	20.51	1.0	20	0	103	79 - 123	22.01	7.05	20	
Dichlorodifluoromethane	19.87	1.0	20	0	99.3	32 - 152	22.63	13	20	
Ethylbenzene	20.69	1.0	20	0	103	79 - 121	23.6	13.1	20	
Hexachlorobutadiene	22.79	1.0	20	0	114	66 - 134	25.6	11.6	20	
Isopropylbenzene	22.03	1.0	20	0	110	72 - 131	25.03	12.8	20	
m,p-Xylene	44.95	2.0	40	0	112	80 - 121	50.18	11	20	
Methylene chloride	17.75	2.0	20	0	88.7	74 - 124	18.98	6.7	20	
Naphthalene	19.93	1.0	20	0	99.7	61 - 128	21.49	7.49	20	
n-Butylbenzene	25.45	1.0	20	0	127	75 - 128	27.93	9.31	20	
n-Propylbenzene	22.52	1.0	20	0	113	76 - 126	26.05	14.5	20	
o-Xylene	20.96	1.0	20	0	105	78 - 122	23.51	11.5	20	
sec-Butylbenzene	24.31	1.0	20	0	122	77 - 126	26.46	8.48	20	
Styrene	21.91	1.0	20	0	110	78 - 123	23.96	8.95	20	
tert-Butylbenzene	23.36	1.0	20	0	117	78 - 124	25.63	9.26	20	
Tetrachloroethene	21.32	1.0	20	0	107	74 - 129	24.02	11.9	20	
Toluene	21.12	1.0	20	0	106	80 - 121	23.73	11.7	20	
trans-1,2-Dichloroethene	19.25	1.0	20	0	96.3	75 - 124	21.4	10.5	20	
trans-1,3-Dichloropropene	20	1.0	20	0	100	73 - 127	21.68	8.05	20	
Trichloroethene	21.43	1.0	20	0.8273	103	79 - 123	23.38	8.69	20	
Trichlorofluoromethane	24.14	1.0	20	0	121	65 - 141	26.23	8.28	20	
Vinyl chloride	22.55	1.0	20	0	113	58 - 137	25.45	12.1	20	
Surr: 1,2-Dichloroethane-d4	*51.63*	*1.0*	*50*	*0*	*103*	*81 - 118*	*51.91*	*0.546*	*20*	
Surr: 4-Bromofluorobenzene	*49.29*	*1.0*	*50*	*0*	*98.6*	*85 - 114*	*50.83*	*3.08*	*20*	
Surr: Dibromofluoromethane	*50.11*	*1.0*	*50*	*0*	*100*	*80 - 119*	*50.37*	*0.523*	*20*	
Surr: Toluene-d8	*52.43*	*1.0*	*50*	*0*	*105*	*89 - 112*	*52.42*	*0.0224*	*20*	

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: HS23060999

QC BATCH REPORT

Batch ID:	R439273 (0)	Instrument:	VOA6	Method:	VOLATILES ORGANICS BY METHOD 8260C

The following samples were analyzed in this batch:	HS23060999-03	HS23060999-04	HS23060999-07	HS23060999-08

ALS Houston, US Date: 28-Jun-23

Client: Bhate Environmental Associates, Inc.
Project: LHAAP /Site18/24
WorkOrder: **HS23060999**

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

ALS Houston, US Date: 28-Jun-23

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-37	30-Jun-2023
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352; 2022-2023	31-Jul-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US Date: 28-Jun-23

Sample Receipt Checklist

Work Order ID: HS23060999 **Date/Time Received:** 14-Jun-2023 09:40

Client Name: Bhate Environmental **Received by:** Corey Grandits

Completed By:	/S/ Corey Grandits	15-Jun-2023 23:04	**Reviewed by:**	/S/ Nieka.Carson	16-Jun-2023 07:40
	eSignature	Date/Time		eSignature	Date/Time

Matrices: W Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
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):	2.3UC/2.2C	IR31
Cooler(s)/Kit(s):	Red	
Date/Time sample(s) sent to storage:	6/15/23	

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:

bhate

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: ____ of ____

Project/Phase No: JVPCIBH.0001

COC Number(1): ____

LIMS Number: ____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 18/24

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hh:mm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	PERCHLORATE	TOTAL METALS	1, 4 - DIOXANE	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
102_061323	13 Jun 2023	0650	-	N		WG	5	X	X	X					
18CpTMW03Sw_061323	13 Jun 2023	0735	-	N		WG	6	X	X	X	X				
120_061323	13 Jun 2023	0930	-	N		WG	5	X	X		X				
MW14_061323	13 Jun 2023	1020		N		WG	6	X	X	X	X				
18CpTMW22Dw_061323	13 Jun 2023	1110		N		WG	6	X	X	X	X				
18CpTMW22R_061323	13 Jun 2023	1150	-	N		WG	6	X	X	X	X				
18CpTMW22Sw_061323	13 Jun 2023	1230	-	N		WG	6	X	X	X	X				
Trip Blank	13 Jun 2023		-	TB		WG	2	X							
			-												
			-												
			-												

Sample Analysis Requested (5) | Quality Assurance Samples (6)

HS23060999
Bhate Environmental Associates, Inc.
LHAAP 18 24

COMMENTS: STANDARD TAT

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (Signed)	Date	Time
1. Scott Beesinger	6/13/23	1330	1. CG	6.14.23	0940
2.			2.		1231
3.			3.		2.30

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: ____ Shipped ____ No.:

Method of Shipment: ____

Fed Ex ____ Airbill Number: ____

Analytical Lab: ALS 10450 Stancliff Rd, Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: Dane Wacasey Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999.01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

ALS

XA SGRA
ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date:
Name:
Company:
CUSTODY SEAL
Seal Broken By:
Date:

June 27, 2023 Service Request No:E2300570

James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099

Laboratory Results for: HS23060999

Dear James,

Enclosed are the results of the sample(s) submitted to our laboratory June 19, 2023
For your reference, these analyses have been assigned our service request number **E2300570.**

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.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

Certificate of Analysis

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - US	**Service Request No.:**	E2300570
Project:	HS23060999	**Date Received:**	06/19/23
Sample Matrix:	Ground Water		

CASE NARRATIVE

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

Sample Receipt

Seven samples were received for analysis at ALS Environmental in Houston on 06/19/23.

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:

EQ2300303: 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 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:**E2300570
Project: HS23060999

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2300570-001	102_061323	6/13/2023	0650
E2300570-002	18CPTMW03SW_061323	6/13/2023	0735
E2300570-003	120_061323	6/13/2023	0930
E2300570-004	MW14_061323	6/13/2023	1020
E2300570-005	18CPTMW22DW_061323	6/13/2023	1110
E2300570-006	18CPTMW22R_061323	6/13/2023	1150
E2300570-007	18CPTMW22SW_061323	6/13/2023	1230

Service Request Summary

Folder #: **E2300570**
Client Name: ALS Environmental - US
Project Name: HS23060999
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 06/19/23
Internal Due Date: 6/28/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23060999
EDD: BASIC_WQC_CASNo_LOD

7 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	Semivoa GCMS: ClO4 DOD/6850
E2300570-001	102_061323	Ground Water	06/13/23 0650	**IV**
E2300570-002	18CPTMW03SW_061323	Ground Water	06/13/23 0735	**IV**
E2300570-003	120_061323	Ground Water	06/13/23 0930	**IV**
E2300570-004	MW14_061323	Ground Water	06/13/23 1020	**IV**
E2300570-005	18CPTMW22DW_061323	Ground Water	06/13/23 1110	**IV**
E2300570-006	18CPTMW22R_061323	Ground Water	06/13/23 1150	**IV**
E2300570-007	18CPTMW22SW_061323	Ground Water	06/13/23 1230	**IV**

Service Request Summary

Folder #: **E2300570**
Client Name: ALS Environmental - US
Project Name: HS23060999
Project Number:

Report To: James Guin
ALS Environmental - US
10450 Stancliff Rd #210
Houston, TX 77099
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number:
E-mail: james.guin@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 06/19/23
Internal Due Date: 6/28/2023
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS23060999
EDD: BASIC_WQC_CASNo_LOD

7 120 mL-Plastic Bottle Natural WM Unpreserved
Location: EHRMS-AirArch 1
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	(Auto) The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
I	Internal standard not within the specified limits. See case narrative.
I	The reference ion ratio was outside acceptance criteria, which may indicate a potential bias to this result.
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.

Data Qualifiers

Lab Standard

M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
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
Arizona Department of Health Services	AZ0793_2024	5/27/2024
Arkansas Department of Environmental Quality	88-00356	3/27/2024
Department of Defense	L22-90	3/31/2024
Department of Defense	L23-358	5/31/2025
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Illinois Environmental Protection Agency	2000322023-11	6/30/2024
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2022	6/30/2023
Louisiana Department of Health and Hospitals	LA028-2023	12/31/2023
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	6/30/2023
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2024
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209423	4/24/2024
New Jersey Department of Environmental Protection	TX008-2023	6/30/2023
New York Department of Health	11707	3/31/2024
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Pennsylvania Department of Environmental Protection	68-03441-016	6/30/2023
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Concervation	TN04016-2023	4/30/2024
Texas Commision on Environmental Quality	T104704231-23-30	4/30/2024
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS

Chain of Custody

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
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: Texas

COC ID: 22055

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	James Guin
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	James.Guin@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:	HS23060999
TSR:	Holly Tignac

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS23060999-01**	**102_061323**	**Groundwater**	**13 Jun 2023 06:50**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			28 Jun 2023
2.	**HS23060999-02**	**18CPTMW03SW_061323**	**Groundwater**	**13 Jun 2023 07:35**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			28 Jun 2023
3.	**HS23060999-03**	**120_061323**	**Groundwater**	**13 Jun 2023 09:30**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			28 Jun 2023
4.	**HS23060999-04**	**MW14_061323**	**Groundwater**	**13 Jun 2023 10:20**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			28 Jun 2023
5.	**HS23060999-05**	**18CPTMW22DW_061323**	**Groundwater**	**13 Jun 2023 11:10**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			28 Jun 2023
6.	**HS23060999-06**	**18CPTMW22R_061323**	**Groundwater**	**13 Jun 2023 11:50**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			28 Jun 2023
7.	**HS23060999-07**	**18CPTMW22SW_061323**	**Groundwater**	**13 Jun 2023 12:30**
	6850 DoD Level II and Level IV reports in separate pdf; DoD Excel EDD			28 Jun 2023

Subcontract Chain of Custody

SAMPLING STATE: Texas **COC ID:** 22055

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

QC Level: DOD IV (DoD Data Package)

Relinquished By:		Date/Time:	
Received By:		Date/Time:	6-14-23 0802
Cooler ID(s):		Temperature(s):	

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

Client: ALS Intl Date: 6/19/23 WO#:

Time Received: 0900 Received by: CS BO#: NA

Matrices: Solid/Sludge (Water) Oil Wipes Hydrocarbon Liquid Other

Kit ID/Cooler ID	Trip Blank ID	Cooler Temp (C) Observed/Corrected	IR #	Temp BLK Present?
Blue	-	3.1 / 3.0	31	(Y) N
		/		Y N
		/		Y N
		/		Y N
		/		Y N

Delivery Method: FedEx UPS Greyhound (ALS) Client Other

Date/Time of Unpacking: 6/19/23 Unpacked by:

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)
Chain of Custody present?	(Yes)	No	
Chain of Custody signed when relinquished and received?	(Yes)	No	
Chain of Custody - Sampler's name present?	(Yes)	No	
Chain of Custody agrees with sample labels?	(Yes)	No	
Samples in proper container/bottle?	(Yes)	No	
VOA/TX1005/1006 Solids in hermetically Sealed Vials:	Yes	No	(No VOA/TX1005/1006 Solid)
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	
Water - VOA vials have zero headspace?	Yes	No	(N/A) No VOA submitted
Non-VOA waters preserved with HCl, H2SO4, HNO3 are pH <2?			Yes No (N/A)
Waters preserved with NaOH/Ascorbic acid are pH>12?	Yes	No	(N/A)
pH adjusted?	Yes*	No	(N/A) *See Preservation Logbook

pH adjusted by: _____ pH Paper Lot: _____

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
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 Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 421764 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 6/21/23 08:37

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2300570-001	102_061323	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2300570-002	18CPTMW03SW_061323	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2300570-003	120_061323	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2300570-004	MW14_061323	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2300570-005	18CPTMW22DW_061323	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2300570-006	18CPTMW22R_061323	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2300570-007	18CPTMW22SW_061323	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2300571-001	AWD3_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2300571-002	18CPTMW12SW_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2300571-003	18CPTMW12DW_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2300571-004	MW7_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2300571-005	130_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2300571-006	130_061423_a	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2300571-007	MW8_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2300571-008	18WW06_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2300571-009	18WW02_061423	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2300589-001	LM-23-06-DTW-02(I)	.01	6850/ClO4			Water	10mL	
18	EQ2300303-01	MB		6850/ClO4 DOD			Liquid	10mL	
19	EQ2300303-02	LCS		6850/ClO4 DOD			Liquid	10mL	
20	EQ2300303-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
21	R2305214-008	2306091036C ST-3-486	.01	6850/ClO4			Water	10mL	
22	R2305402-005	2306121431C ST-3-666	.01	6850/ClO4			Water	10mL	
23	R2305457-006	2306141413C BW-7-211	.01	6850/ClO4			Water	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 227236 Logbook Ref: Perchlorate (1st Source) Expires On: 07/31/2023

EQ2300303-02 1.00µL EQ2300303-03 1.00µL

Name: Perchlorate Internal Standard 1ug/mL Inventory ID 227244 Logbook Ref: Perchlorate Internal Standard Expires On: 07/31/2023

E2300570-001	100.00µL	E2300570-002	100.00µL	E2300570-003	100.00µL	E2300570-004	100.00µL	E2300570-005	100.00µL	E2300570-006	100.00µL
E2300570-007	100.00µL	E2300571-001	100.00µL	E2300571-002	100.00µL	E2300571-003	100.00µL	E2300571-004	100.00µL	E2300571-005	100.00µL
E2300571-006	100.00µL	E2300571-007	100.00µL	E2300571-008	100.00µL	E2300571-009	100.00µL	E2300589-001	100.00µL	EQ2300303-01	100.00µL
EQ2300303-02	100.00µL	EQ2300303-03	100.00µL	R2305214-008	100.00µL	R2305402-005	100.00µL	R2305457-006	100.00µL		

Preparation Information Benchsheet

Prep Run#: 421764 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/XMI **Prep Method:** Method **Prep Date/Time:** 6/21/23 08:37

Preparation Materials

Water HPLC Grade	HPLC water 5/18/23CG (229314)	6850 Amber Glass screw vial	2mL Screw Top Vial (221894)	6850 0.45um syringe filters	6850 0.45um syringe (229005)
6850 Luer-Lok Syringes	luer-lock syringes (228116)				

Preparation Steps

Step: Preparation
Started: 6/21/23 08:37
Finished: 6/23/23 13:26
By: XMI
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	6/13/23 0650
Sample Matrix:	Ground Water	**Date Received:**	6/19/23
Sample Name:	102_061323	**Units:**	µg/L
Lab Code:	E2300570-001	**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	**57.3**		0.500	0.250	0.125	5	6/21/23	6/26/23 10:45	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	6/13/23 0735
Sample Matrix:	Ground Water	**Date Received:**	6/19/23
Sample Name:	18CPTMW03SW_061323	**Units:**	µg/L
Lab Code:	E2300570-002	**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	**0.688**		0.100	0.0500	0.0250	1	6/21/23	6/26/23 10:50	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	6/13/23 0930
Sample Matrix:	Ground Water	**Date Received:**	6/19/23
Sample Name:	120_061323	**Units:**	µg/L
Lab Code:	E2300570-003	**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	**11900**		500	250	125	5000	6/21/23	6/26/23 11:01	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	6/13/23 1020
Sample Matrix:	Ground Water	**Date Received:**	6/19/23
Sample Name:	MW14_061323	**Units:**	µg/L
Lab Code:	E2300570-004	**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	**241000**		500	250	125	5000	6/21/23	6/26/23 11:07	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	6/13/23 1110
Sample Matrix:	Ground Water	**Date Received:**	6/19/23
Sample Name:	18CPTMW22DW_061323	**Units:**	µg/L
Lab Code:	E2300570-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.568**		0.100	0.0500	0.0250	1	6/21/23	6/26/23 11:12	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	6/13/23 1150
Sample Matrix:	Ground Water	**Date Received:**	6/19/23
Sample Name:	18CPTMW22R_061323	**Units:**	µg/L
Lab Code:	E2300570-006	**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	**0.147**		0.100	0.0500	0.0250	1	6/21/23	6/26/23 11:18	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	6/13/23 1230
Sample Matrix:	Ground Water	**Date Received:**	6/19/23
Sample Name:	18CPTMW22SW_061323	**Units:**	µg/L
Lab Code:	E2300570-007	**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	**12200**		100	50.0	25.0	1000	6/21/23	6/26/23 11:23	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2300303-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	6/21/23	6/26/23 09:50	421764	808705	

Accuracy & Precision

ALS Environmental - Houston Specialties Laboratory
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (281)530-5656 Fax (281)530-5887
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Analyzed:**	6/26/23
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:	421764

	Lab Control Sample EQ2300303-02			Duplicate Lab Control Sample EQ2300303-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0934	0.100	93	0.0922	0.100	92	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:**	E2300570
Project:	HS23060999	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300303-02	**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	**0.0934**	J	0.100	0.0500	0.0250	1	6/21/23	6/26/23 15:09	421764	808705	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2300570
Project:	HS23060999	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2300303-03	**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	**0.0922**	J	0.100	0.0500	0.0250	1	6/21/23	6/26/23 10:01	421764	808705	

HS23060999-MSVOA-SW8260

ALS WO# HS23060999

01195288

right solutions.
right partner.

Form 1

Organic Analysis Data Sheet

Volatiles by EPA 8260

Workorder

HS23060999

Client

Bhate Environmental Associates, Inc.

Project

LHAAP /Site18/24

06/23/2023

ALS Environmental–Houston Laboratory
10450 Stancliff Road, Suite 210, Houston, TX 77099
Phone (281) 530-5656 Fax (281) 530-5887
www.alsglobal.com

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-01

102_061323

Collected	Received	Matrix	Basis
06/13/23 06:50	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 19:20	VOA6_439205	X061724.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 19:20	VOA6_439205	X061724.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-01

102_061323

Collected	Received	Matrix	Basis
06/13/23 06:50	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:20	VOA6_439205	X061724.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-02

18CPTMW03SW_061323

Collected	Received	Matrix	Basis
06/13/23 07:35	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 19:41	VOA6_439205	X061725.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 19:41	VOA6_439205	X061725.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Benzene	ug/L	1.4		0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-02

18CPTMW03SW_061323

Collected	Received	Matrix	Basis
06/13/23 07:35	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
cis-1,2-Dichloroethene	ug/L	33		0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
trans-1,2-Dichloroethene	ug/L	1.0		0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Trichloroethene	ug/L	9.8		0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 19:41	VOA6_439205	X061725.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-03 | **120_061323**

Collected	Received	Matrix	Basis
06/13/23 09:30	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,1,1-Trichloroethane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,1,2,2-Tetrachloroethane	ug/L	25	U	12	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,1,2-Trichloroethane	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,1-Dichloroethane	ug/L	13	J	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,1-Dichloroethene	ug/L	85		5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,1-Dichloropropene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2,3-Trichlorobenzene	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2,3-Trichloropropane	ug/L	25	U	12	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2,4-Trichlorobenzene	ug/L	25	U	12	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2,4-Trimethylbenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2-Dibromo-3-chloropropane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2-Dibromoethane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2-Dichlorobenzene	ug/L	25	U	12	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2-Dichloroethane	ug/L	28		5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,2-Dichloropropane	ug/L	25	U	12	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,3,5-Trimethylbenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,3-Dichlorobenzene	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,3-Dichloropropane	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
1,4-Dichlorobenzene	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
2,2-Dichloropropane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
2-Butanone	ug/L	50	U	12	50	50	25	06/19/23 14:29	VOA6_439273	X061912.D
2-Chlorotoluene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
2-Hexanone	ug/L	50	U	25	50	50	25	06/19/23 14:29	VOA6_439273	X061912.D
4-Chlorotoluene	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
4-Isopropyltoluene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
4-Methyl-2-pentanone	ug/L	50	U	18	50	50	25	06/19/23 14:29	VOA6_439273	X061912.D
Acetone	ug/L	50	U	10	50	50	25	06/19/23 14:29	VOA6_439273	X061912.D
Benzene	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Bromobenzene	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Bromochloromethane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Bromodichloromethane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Bromoform	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-03

120_061323

Collected	Received	Matrix	Basis
06/13/23 09:30	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Carbon disulfide	ug/L	50	U	15	50	50	25	06/19/23 14:29	VOA6_439273	X061912.D
Carbon tetrachloride	ug/L	25	U	12	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Chlorobenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Chloroethane	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Chloroform	ug/L	16	J	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Chloromethane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
cis-1,2-Dichloroethene	ug/L	960		5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
cis-1,3-Dichloropropene	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Dibromochloromethane	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Dibromomethane	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Dichlorodifluoromethane	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Ethylbenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Hexachlorobutadiene	ug/L	25	U	25	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Isopropylbenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
m,p-Xylene	ug/L	50	U	12	50	50	25	06/19/23 14:29	VOA6_439273	X061912.D
Methylene chloride	ug/L	50	U	10	50	50	25	06/19/23 14:29	VOA6_439273	X061912.D
Naphthalene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
n-Butylbenzene	ug/L	25	U	10	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
n-Propylbenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
o-Xylene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
sec-Butylbenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Styrene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
tert-Butylbenzene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Tetrachloroethene	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Toluene	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
trans-1,2-Dichloroethene	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
trans-1,3-Dichloropropene	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Trichloroethene	ug/L	7,500		50	250	250	250	06/19/23 15:33	VOA6_439273	X061915.D
Trichlorofluoromethane	ug/L	25	U	7.5	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D
Vinyl chloride	ug/L	25	U	5.0	25	25	25	06/19/23 14:29	VOA6_439273	X061912.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-04 | **MW14_061323**

Collected	Received	Matrix	Basis
06/13/23 10:20	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,1,1-Trichloroethane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,1,2,2-Tetrachloroethane	ug/L	10	U	5.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,1,2-Trichloroethane	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,1-Dichloroethane	ug/L	42		2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,1-Dichloroethene	ug/L	220		2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,1-Dichloropropene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2,3-Trichlorobenzene	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2,3-Trichloropropane	ug/L	10	U	5.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2,4-Trichlorobenzene	ug/L	10	U	5.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2,4-Trimethylbenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2-Dibromo-3-chloropropane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2-Dibromoethane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2-Dichlorobenzene	ug/L	10	U	5.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2-Dichloroethane	ug/L	210		2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,2-Dichloropropane	ug/L	10	U	5.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,3,5-Trimethylbenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,3-Dichlorobenzene	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,3-Dichloropropane	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
1,4-Dichlorobenzene	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
2,2-Dichloropropane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
2-Butanone	ug/L	20	U	5.0	20	20	10	06/19/23 13:47	VOA6_439273	X061910.D
2-Chlorotoluene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
2-Hexanone	ug/L	20	U	10	20	20	10	06/19/23 13:47	VOA6_439273	X061910.D
4-Chlorotoluene	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
4-Isopropyltoluene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
4-Methyl-2-pentanone	ug/L	20	U	7.0	20	20	10	06/19/23 13:47	VOA6_439273	X061910.D
Acetone	ug/L	20	U	4.0	20	20	10	06/19/23 13:47	VOA6_439273	X061910.D
Benzene	ug/L	6.1	J	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Bromobenzene	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Bromochloromethane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Bromodichloromethane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Bromoform	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-04 | **MW14_061323**

Collected	Received	Matrix	Basis
06/13/23 10:20	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Carbon disulfide	ug/L	20	U	6.0	20	20	10	06/19/23 13:47	VOA6_439273	X061910.D
Carbon tetrachloride	ug/L	10	U	5.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Chlorobenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Chloroethane	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Chloroform	ug/L	11		2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Chloromethane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
cis-1,2-Dichloroethene	ug/L	2,100		20	100	100	100	06/19/23 14:08	VOA6_439273	X061911.D
cis-1,3-Dichloropropene	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Dibromochloromethane	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Dibromomethane	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Dichlorodifluoromethane	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Ethylbenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Hexachlorobutadiene	ug/L	10	U	10	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Isopropylbenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
m,p-Xylene	ug/L	20	U	5.0	20	20	10	06/19/23 13:47	VOA6_439273	X061910.D
Methylene chloride	ug/L	20	U	4.0	20	20	10	06/19/23 13:47	VOA6_439273	X061910.D
Naphthalene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
n-Butylbenzene	ug/L	10	U	4.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
n-Propylbenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
o-Xylene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
sec-Butylbenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Styrene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
tert-Butylbenzene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Tetrachloroethene	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Toluene	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
trans-1,2-Dichloroethene	ug/L	29		2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
trans-1,3-Dichloropropene	ug/L	10	U	2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Trichloroethene	ug/L	15,000		20	100	100	100	06/19/23 14:08	VOA6_439273	X061911.D
Trichlorofluoromethane	ug/L	10	U	3.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D
Vinyl chloride	ug/L	16		2.0	10	10	10	06/19/23 13:47	VOA6_439273	X061910.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-05

18CPTMW22DW_061323

Collected	Received	Matrix	Basis
06/13/23 11:10	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 20:02	VOA6_439205	X061726.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 20:02	VOA6_439205	X061726.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-05

18CPTMW22DW_061323

Collected	Received	Matrix	Basis
06/13/23 11:10	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Trichloroethene	ug/L	2.0		0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:02	VOA6_439205	X061726.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-06

18CPTMW22R_061323

Collected	Received	Matrix	Basis
06/13/23 11:50	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 20:23	VOA6_439205	X061727.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 20:23	VOA6_439205	X061727.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-06

18CPTMW22R_061323

Collected	Received	Matrix	Basis
06/13/23 11:50	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Trichloroethene	ug/L	0.83	J	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 20:23	VOA6_439205	X061727.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-07

18CPTMW22SW_061323

Collected	Received	Matrix	Basis
06/13/23 12:30	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/19/23 13:26	VOA6_439273	X061909.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/19/23 13:26	VOA6_439273	X061909.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Acetone	ug/L	15		0.40	2.0	2.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-07

18CPTMW22SW_061323

Collected	Received	Matrix	Basis
06/13/23 12:30	06/14/23 09:40	Groundwater	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Trichloroethene	ug/L	0.83	J	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:26	VOA6_439273	X061909.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-08

Trip Blank

Collected	Received	Matrix	Basis
06/13/23 00:00	06/14/23 09:40	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/19/23 13:05	VOA6_439273	X061908.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/19/23 13:05	VOA6_439273	X061908.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

HS23060999-08

Trip Blank

Collected	Received	Matrix	Basis
06/13/23 00:00	06/14/23 09:40	Water	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
Bromomethane	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Carbon disulfide	ug/L	2.0	U	0.60	2.0	2.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Carbon tetrachloride	ug/L	1.0	U	0.50	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Chlorobenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Chloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Chloroform	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Chloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
cis-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
cis-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Dibromochloromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Dibromomethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Dichlorodifluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Ethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Hexachlorobutadiene	ug/L	1.0	U	1.0	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Isopropylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
m,p-Xylene	ug/L	2.0	U	0.50	2.0	2.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Methylene chloride	ug/L	2.0	U	0.40	2.0	2.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Naphthalene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
n-Butylbenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
n-Propylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
o-Xylene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
sec-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Styrene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
tert-Butylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Tetrachloroethene	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Toluene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
trans-1,2-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
trans-1,3-Dichloropropene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Trichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Trichlorofluoromethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D
Vinyl chloride	ug/L	1.0	U	0.20	1.0	1.0	1	06/19/23 13:05	VOA6_439273	X061908.D

Form 1 - Organic Analysis Data Sheet

Client Bhate Environmental Associates, Inc.

Project LHAAP /Site18/24

Workorder **HS23060999**

Volatiles by EPA 8260

VBLKW-230617

VBLKW-230617

Collected	Received	Matrix	Basis
NA	NA	Aqueous	Wet

Analyte	Units	Result	Q	DL	LOD	LOQ	DF	Analysis Date	Run ID	DataFile
1,1,1,2-Tetrachloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1,1-Trichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1,2,2-Tetrachloroethane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1,2-Trichloroethane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1-Dichloroethene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,1-Dichloropropene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,3-Trichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,3-Trichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,4-Trichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2,4-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dibromo-3-chloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dibromoethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dichlorobenzene	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dichloroethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,2-Dichloropropane	ug/L	1.0	U	0.50	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,3,5-Trimethylbenzene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,3-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,3-Dichloropropane	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
1,4-Dichlorobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2,2-Dichloropropane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2-Butanone	ug/L	2.0	U	0.50	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2-Chlorotoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
2-Hexanone	ug/L	2.0	U	1.0	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
4-Chlorotoluene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
4-Isopropyltoluene	ug/L	1.0	U	0.30	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
4-Methyl-2-pentanone	ug/L	2.0	U	0.70	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Acetone	ug/L	2.0	U	0.40	2.0	2.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Benzene	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromobenzene	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromochloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromodichloromethane	ug/L	1.0	U	0.20	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D
Bromoform	ug/L	1.0	U	0.40	1.0	1.0	1	06/17/23 13:23	VOA6_439205	X061707.D